

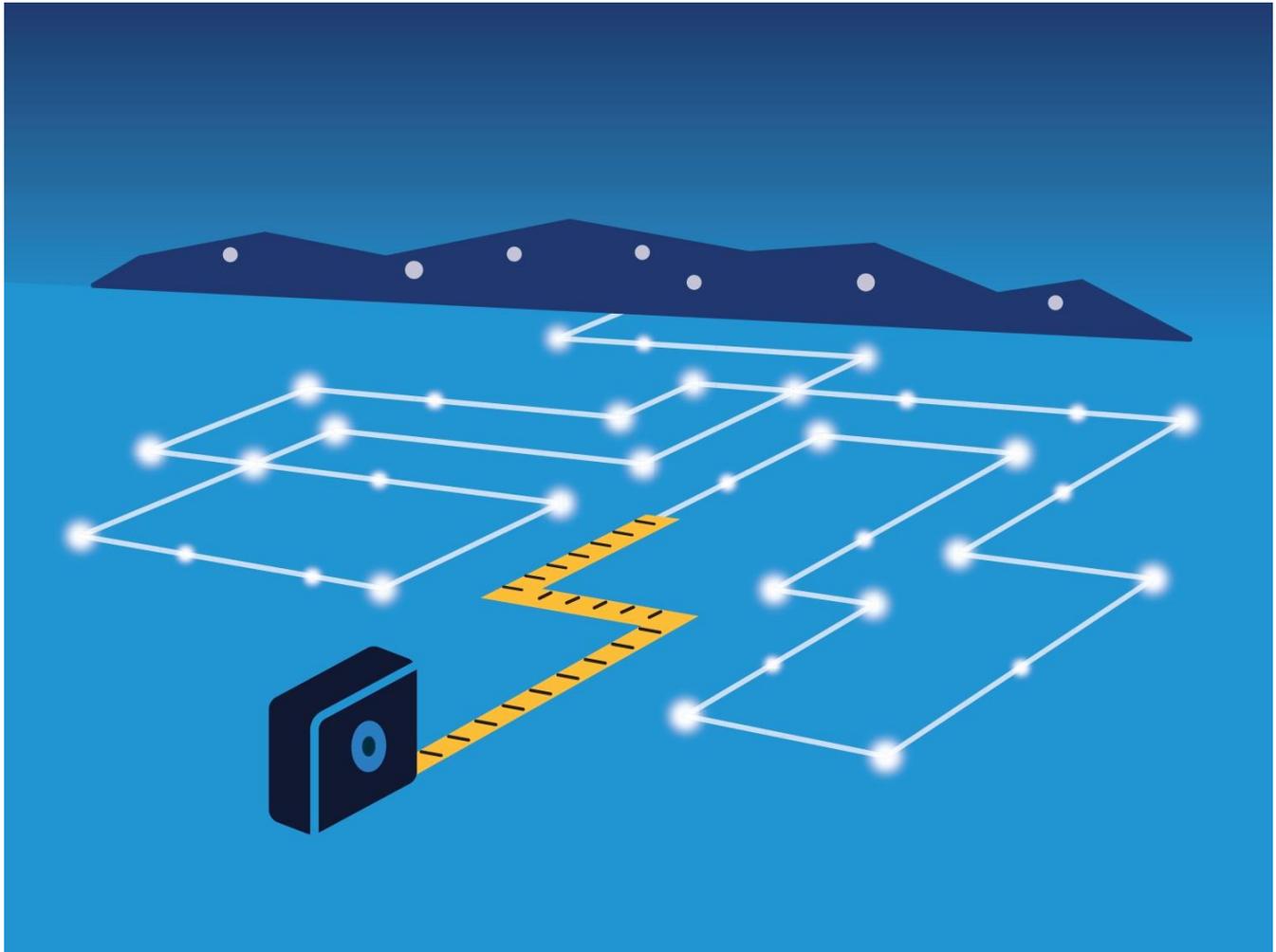


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# 2019 California Low-Income Needs Assessment

Final Report: Volume 3 of 3: Supporting Documentation

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## Appendix A. Research Plan

### Changes and Revisions Made to the Research Plan

During the course of the 2019 LINA project, the research and study teams agreed to make some changes to the original research plan due to a variety of circumstances and challenges. The major changes to the plan are outlined below. We also documented the major changes and a few minor changes with footnotes and table notes that begin with “UPDATE” in the research plan included in this appendix.

- We originally planned to conduct focus groups with a sample of up to 20 ESA contractors and in-depth interviews (IDIs) with a sample of up to 16 additional contractors to get their perspectives on the health, comfort, and safety (HCS) impacts of select ESA measures. Due to challenges recruiting the appropriate contractors for focus groups, and the resulting impacts on the budget and timeline, we worked with the study team to revise the plan to conduct the IDIs instead. We then completed IDIs with a total of 12 ESA contractors, including at least two contractors per IOU and at least one contractor involved in ESA enrollments and assessments and in the installation of each of the three measure types (e.g., heating, cooling, and enclosure measures). See Vol. 2, Appendix B for details about the ESA contractor IDI methods and dispositions; see Vol. 2 Appendix E for detailed results.
- We also originally planned to conduct IDIs with staff at up to 20 CARE capitation agencies and community-based organizations (CBOs) that provide services to immigrant and non-English-speaking clients to get staff perspectives on trends in and barriers to enrollments among these groups. After conducting interviews with staff at seven of the agencies that had been active in assisting clients with CARE enrollments during the previous year, we were not seeing a diversity of perspectives and experiences. We worked with the study team to revise the plan to shift remaining resources to conducting a literature review of studies about trends in immigrants’ enrollments in public assistance programs (including best practices and barriers) to triangulate with the findings from the CARE capitation agency IDIs and the customer survey. See Vol 2, Appendix B for details about the CARE capitation agency IDI methods and disposition, as well as the literature review parameters and selected studies; see Vol. 2, Appendix C for detailed results.
- Next, in the original research plan, we outlined a broad strategy for conducting analyses with IOUs’ CARE enrollment data to determine whether available data fields could be used to determine or contribute to a better understanding of participants’ CARE-eligibility, the PE process at which participants are likely to be removed from CARE, and participants’ length of time on CARE, as well as to report results from these analyses. However, the enrollment data we received were inconsistent across the IOUs and did not include a few key fields needed for some of the analyses. For example, only PG&E provided reasons for why participants were removed from CARE (e.g., due to ineligibility, nonresponse, etc.), but only for a few of their past participant customers. Due to these limitations, we conducted only the analyses that were possible with the data we received. See Vol. 2, Appendix C for detailed results from these analyses.
- Last, we originally planned to ask surveyed customers about their awareness of, participation in, and barriers to participate in CARE, ESA, and other IOU programs and about the practices, processes, information, and additional services needed to lessen their hardships. However, due to limited space in the customer survey and survey budget constraints, we were unable to include many questions about these topics. The study team agreed that these topics were lower priority relative to the other topics we asked about in the survey. We did use CARE and ESA enrollment data on the backend to identify which customers were CARE/ESA participants for the analyses to contribute to addressing the research objectives. See Vol. 2, Appendices C through F, for details results from the customer survey.

## Research Plan for the 2019 LINA

### Program Description

California's low-income programs, the Energy Savings Assistance (ESA) program and the California Alternate Rates for Energy (CARE) program, developed in the 1980s in recognition that access to energy is a necessity and all residents of the state should be able to afford essential electricity and gas supplies.

Both programs are ratepayer-funded and administered by the Investor-Owned Utilities (IOUs), designed to serve households with incomes at or below 200% of the annually released Federal Poverty Guideline (with some exceptions to the federal guidelines limits applying).<sup>1</sup> The programs' purposes are to improve the quality of life for California's low-income population and ensure eligible customers receive necessary assistance to save energy, reduce energy bills, and mitigate potential health, comfort, and safety (HCS) issues associated with inefficient or energy intensive equipment and housing.

CARE is offered to income-qualified residential customers to mitigate economic burden of their gas and electric bills. Through the CARE program, qualified customers receive a discount of 20% on their natural gas bills and between 30-35% on their energy bills. With a 2017-2020 budget of \$5.2 billion, the program currently provides subsidies to more than four million IOU customer households, about 31% of IOU residential customers.

ESA uses a direct-install approach to provide a variety of measures including home weatherization, energy-efficient appliances, and energy education services at no cost to qualified customers. With a 2017-2020 budget of approximate \$1.85 billion, ESA is intended to assist California's low-income population to lower energy costs, reduce the financial burden of energy bills, and improve quality of life related to physical HCS.

### Research Objectives and Questions

The 2019 LINA project will provide new information about characteristics of the low-income households in California that are: eligible for CARE and ESA services, use alternative fuels (with no access to natural gas), and who live in areas with low service reliability (as indicated by the System Average Interruption Duration Index [SAIDI] and System Average Interruption Frequency Index [SAIFI]). The research objectives (ROs) and research questions (RQs) of the LINA are as follows:

- RO 1a: Informing the CARE post-enrollment (PE) processes: recertification and verification (including traditional and high usage)
  - RQ 1a.1: How many customers are retained and lost at different junctures and for what reasons?
  - RQ 1a.2: What are the characteristics, including the energy burden, of customers who are retained and lost?
  - RQ 1a.3: What do we know about participants following verification or recertification, such as enrollment channels, methods of establishing initial eligibility, and sources of income documents for recertification/verification or re-enrollment, length of time on CARE, usage levels, usage patterns, mobility, and demographic profiles?

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<sup>1</sup> Customers may also be eligible for CARE if they are enrolled in public assistance programs such as Medicaid/Medi-Cal, Women, Infants and Children Program (WIC), Healthy Families A & B, National School Lunch's Free Lunch Program (NSL), Food Stamps/SNAP, Low Income Home Energy Assistance Program (LIHEAP), Head Start Income Eligible (Tribal Only), Supplemental Security Income (SSI), Bureau of Indian Affairs General Assistance, and Temporary Assistance for Needy Families (TANF) or Tribal TANF.

- RO 1b: Informing CARE Marketing, Education & Outreach (ME&O): Unaware, unwilling, eligible, and not enrolled
  - RQ 1b.1: What are the characteristics, including the energy burden, of eligible customers who are on vs not on CARE?
  - RQ 1b.2: What practices/processes may facilitate enrollments with relevant sub-populations that have unique barriers or concerns? (e.g., undocumented immigrants, non-English speaking customers, the elderly and disabled)
- RO 2: Examining customer non-energy impacts specifically related to the health, comfort, and safety (HCS) impacts of specific ESA measures
  - RQ 2.1: What are ESA customers' experiences with and perceptions of the non-energy impacts and overall benefits of specific ESA measures?
  - RQ 2.2: What are ESA contractors' experiences with and perceptions of the non-energy impacts and overall benefits of specific ESA measures?
  - RQ 2.3: What are the conditions under which select ESA measures provide more or less health, safety, and comfort benefits?
- RO 3: Assessing hardships of households without access to electricity and/or natural gas and who may rely on wood, delivered fuels, diesel, or other fuels (alt-fuels households)
  - RQ 3.1: What is the energy burden and unique hardships of alt-fuel households (focusing on customers with and possibly with no electricity and natural gas)?
  - RQ 3.2: How does energy burden/hardships vary by various characteristics (type of fuel, uses of fuel, usage, climate region, household size)?
  - RQ 3.3: What are the key issues/drivers of the burden/hardship they experience?
  - RQ 3.4: To what extent and how much can the programs (and California Department of Community Services and Development [CSD]) mitigate burden/hardships for alt-fuel households?
- RO 4: Assessing hardships of customers in areas with less reliable energy services due to frequent and/or long service interruptions as indicated SAIDI/SAIFI
  - RQ 4.1: What is the energy burden and unique hardships of customers with less reliable service?
  - RQ 4.2: How does energy burden/hardships vary by various characteristics (type of fuel, uses of fuel, usage, CZ, household size)?
  - RQ 4.3: What are key issues/drivers of the burden or hardship they experience?
  - RQ 4.4: To what extent can the CARE and ESA programs address needs/mitigate burden/hardships for these customers?

## Overall Research Approach

We will answer the LINA research questions through analysis of both primary and secondary data. The primary data will consist of surveys of IOU customers that are or might be eligible for CARE and who have or have not participated in ESA, interviews with representatives of CARE capitation agencies and community-based organizations (CBOs) that serve the CARE-eligible community, and interviews and focus groups with ESA contractors. Secondary data will include program tracking data; consumption, billing, and bill payment data;

reliability (SAIDI/SAIFI) data; ESA and CARE impact data; and data from external sources, such as the U.S. Census.

The following subsections provide a high-level summary of how the research team will use data from the above-identified sources to answer the LINA research objectives. The next section following (“Research Tasks”) provides details on how we will identify, sample, and reach each interview or survey group, how we will develop the survey and interview instruments, and the specific data analyses we will carry out.

### **Research Objective 1a: Informing the CARE post-enrollment (PE) processes: recertification and verification (including traditional and high usage)**

The research team will use data from the IOUs’ CARE program databases and a survey of current and past CARE participants to address this objective.<sup>2</sup> The CARE program database will provide data on customer characteristics and on certification, recertification, and verification activities. The customer survey will provide additional data on customer characteristics and on program awareness and experiences with the CARE program and its processes. Using these data, the team will conduct the following types of analyses and comparisons:

- RQ 1a.1: Analyze the number of customers who remained in and were removed from CARE at different key junctures in the program processes, and reasons for removal.<sup>3</sup>
- RQ 1a.2: Use survey responses of past CARE customers to determine whether they are program eligible or ineligible.
- RQ 1a.2: Identify differences between current and past CARE participants by comparing them on key customer characteristics, including energy burden, identified from the CARE database, from secondary data on community characteristics, and from the customer survey.
- RQ 1a.2: Compare current and past CARE participants on sources of program awareness, reasons for participating, experience with program processes and providing income documentation, and impact of CARE on reducing hardship, to identify possible causes of drop-out.<sup>4</sup>
- RQ 1a.3: Compare current and past CARE participants to assess whether the results of verification and recertification are related to: enrollment channel, methods of establishing initial eligibility, income documentation for recertification/verification or re-enrollment, length of time on CARE, usage levels, usage patterns, mobility, and demographic profiles.<sup>5</sup>

### **Research Objective 1b: Informing CARE ME&O: Unaware, unwilling, eligible, and not enrolled**

The research team will use data from the IOUs’ non-CARE Customer Account database, CARE program database, secondary/third-party data sources, a survey of current CARE participants and CARE-eligible nonparticipants, and interviews with staff at CARE capitation agencies and CBOs to address this objective.<sup>6</sup>

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<sup>2</sup> “CARE program database” refers to the IOUs’ database of customers who participated in CARE; this may be a stand-alone database or part of an IOU’s Customer Account database with flags and related data fields for past and current CARE participants.

<sup>3</sup> UPDATE: We did not receive “reasons for removal” from IOUs in the CARE enrollment data we requested and thus could not complete this analysis.

<sup>4</sup> UPDATE: The research team did not have space in the customer survey to ask about sources of program awareness and thus could not complete that aspect of the analysis.

<sup>5</sup> UPDATE: Due to inconsistencies and the incompleteness of CARE enrollment data. The research team received from the IOUs, the team was limited in which analyses could be conducted regarding PE process and other CARE program data fields.

<sup>6</sup> “Non-CARE customer account database” refers to the IOUs’ databases of non-CARE customers who have never participated in CARE; this may be a standalone database (separate from CARE participants) or part of an IOU’s Customer Account database with flags and

Customer account data will provide demographic data that the research team will match to secondary/third-party data on community characteristics in targeted regions with a high percentage of income-eligible customers (e.g., at the zip code level, or smaller geographical area if feasible). The CARE program database will provide data on CARE customer characteristics. The customer survey will provide additional data on non-CARE and CARE customer characteristics and on program awareness, participation barriers, financial/health status and hardship, energy usage/costs, ESA participation and knowledge of energy efficiency, and public assistance participation. Using these data, the team will conduct the following types of analyses and comparisons:

- RQ 1b.1: Identify differences between current CARE participants and CARE-eligible nonparticipants by comparing them on key customer characteristics, including energy burden, identified from the CARE database, from secondary data on community characteristics, and from the customer survey.
- RQ 1b.1: Use CARE capitation agency and CBO interviews to identify key barriers to CARE participation (e.g. income, household size and type, education, age, ethnicity, language, mobility, employment status, climate region, community characteristics, awareness/interest, participation barriers, financial/health status and hardship, energy usage/costs, ESA participation and knowledge of energy efficiency, and public assistance participation).<sup>7</sup>
- RQ 1b.2: Use customer data, third-party data, and survey responses to identify CARE-eligible nonparticipants belonging to relevant sub-population (e.g., undocumented immigrants, non-English speaking customers, the elderly and disabled) and then comparing them to CARE-eligible customers not in those groups on: level or type of vulnerability (financial, health, climate, remoteness, etc.), participation awareness/interest/attitudes, barriers to participation, and ways to overcome barriers.

## **Research Objective 2: Examine customer non-energy impacts specifically related to the health, comfort, and safety (HCS) impacts of specific ESA measures**

The research team will use data from the IOUs' CARE and ESA program databases, secondary data on community characteristics, the survey of CARE and ESA participants, focus groups and interviews with ESA contractors to address this objective. Customer account data will provide demographic data that the research team will match to secondary data on community characteristics. The CARE and ESA program databases will provide data on customer characteristics, installed ESA HCS measures and other services (e.g., education), whether an ESA project was a new or retreatment project, contractor type, and QA/QC inspection. The customer survey will provide additional data on customer characteristics and on perceptions of the HCS impacts of specific ESA measures, HCS-related hardships, financial/health hardships, energy usage/costs/savings, knowledge of energy efficiency, and public assistance program participation. Using these data, the team will conduct the following types of analyses and comparisons:

- RQ 2.1: Assess ESA customers' experiences with and perceptions of the non-energy impacts and overall benefits of specific ESA measures, for new and retreatment projects.
- RQ 2.1: Compare ESA participants with ESA nonparticipants (from the CARE customer surveys) to assess differences in financial/health hardship and energy burden by those treated vs. not treated by ESA, controlling for demographic, housing, and community characteristics and climate region.

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related data fields for non-CARE customers. The research team will use secondary/third-party data sources to identify targeted regions with high percentages of income-eligible customers (at the zip code level, or smaller geographical region if feasible), and will request from the IOUs a sample of non-CARE customers who reside in these areas to reach CARE-eligible nonparticipants (see Tasks 3 and 4).  
<sup>7</sup> UPDATE: The research team also conducted a literature review with several studies about trends in immigrants' enrollments, best practices to enrolling, and barriers to enrolling in public assistance programs.

- RQ 2.2: Use the ESA contractor focus groups and interviews to identify trends in contractors' experiences, perceptions, practices, attitudes, and barriers/challenges with their projects that include non-energy HCS measures. Analyzing how these trends differ by contractor type and firmographics, contractors' types of projects and measures, and contractors' service territory characteristics.
- RQ2.3: Assess how ESA customers' experiences with and perceptions of the non-energy impacts of specific ESA measures relate to demographic and housing characteristics, climate region, community characteristics, HCS-related hardships, financial/health hardships, energy usage/costs/savings, installed ESA measures, contractor type and performance rating, QA/QC inspection, energy education, knowledge of energy efficiency, and CARE and public assistance program participation.

### **Research Objective 3: Assess hardships of households without access to natural gas and who may rely on wood, delivered fuels, diesel, or other fuels (alt-fuels households)**

The research team will use data from the IOUs' non-CARE Customer Account database, the surveys of alt-fuels households and of CARE and ESA participants, and (secondarily) IOUs' CARE and ESA program database to address this objective.<sup>8,9</sup> Customer account data and the CARE and ESA program databases will provide data on customer characteristics. The customer survey will provide additional data on customer characteristics and on energy usage/cost to calculate the energy burden and modified energy burden of alt-fuels households; fuel uses, sources, and reasons for using alt-fuels; HCS-related hardships, financial/health hardship, hardship and benefits of using only electricity or alternative fuels; awareness of CARE, ESA, or public assistance programs; knowledge of energy efficiency; participation in and barriers to participate in CARE and/or ESA; and, practices/processes/information and additional services needed to lessen their unique hardships and overcome barriers to CARE and ESA participation. Using these data, the team will conduct the following types of analyses and comparisons:

- RQ 3.1: Use energy usage/cost data, income, household size, and sources of income results to calculate the energy burden and modified energy burden of alt-fuels households.
- RQ3.1: Use survey responses about HCS-related hardships, financial/health hardship, and hardship and benefits of using only electricity or alternative fuels to identify unique burdens and benefits experienced by alt-fuels households.
- RQ3.2: Examine how energy burden/hardships vary by key characteristics (e.g., demographic and housing characteristics, CARE/ESA/public assistance participation, climate region, median income and poverty levels, fuel sources and uses, knowledge of energy efficiency, etc.).
- RQ3.3: Use regression analysis to identify the key drivers of alt-fuels households' energy burden and hardships from among those identified above.
- RQ3.4: Assess alt-fuel households' survey responses about awareness of, participation in, and barriers to participate in CARE and/or ESA, practices/processes/information and additional services needed to lessen their unique hardships and overcome barriers to CARE and ESA participation, and reasons for using alt-fuels. Examine how those responses vary by key customer characteristics (see above). Examine how energy burden, hardships, and other factors differ between alt-fuels

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<sup>8</sup> "ESA program database" refers to the IOUs' database of customers who participated in ESA; this may be a standalone database or part of an IOU's Customer Account database with flags and related data fields for ESA participants.

<sup>9</sup> The research team will use secondary/third-party data to identify targeted regions with high percentages of alt-fuels households (at the zip code level, or smaller geographical area if feasible) and will request from the study team a sample of non-CARE and CARE customers who reside in these areas (see Tasks 3 and 4).

households who participated in CARE and/or ESA compared to those who have not participated to measure the potential impact of these programs.<sup>10</sup>

#### **Research Objective 4: Assess hardships of customers in areas with less reliable energy services due to frequent and/or long service interruptions as indicated SAIDI/SAIFI**

The research team will use data from the IOUs' non-CARE Customer Account database, CARE and ESA program databases, the surveys of CARE and ESA participants, and geographically coded SAIDI/SAIFI reliability data to address this objective.<sup>11</sup> Customer account data and the CARE and ESA program databases will provide data on customer characteristics. The customer survey will provide additional data on customer characteristics and hardships. Using these data, the team will conduct the following types of analyses and comparisons:

- RQ 4.1: Use energy usage/cost data, income, household size, and sources of income to calculate the energy burden and modified energy burden of customers in areas with low and high service reliability. Analyze survey responses about HCS-related hardships, financial/health hardship, and hardship associated with low service reliability to identify unique burdens experienced by customers in these areas.
- RQ 4.2: Assess how energy burden and related hardships vary by key characteristics (e.g., demographic and housing characteristics, awareness of or participation in CARE/ESA/public assistance participation, climate region, median income and poverty levels, fuel sources and uses, SAIDI/SAIFI value categories, perceived impact of service interruptions).
- RQ 4.3: Use regression analysis to identify which characteristics are the key drivers of energy burden and hardships among low service reliability customers.
- RQ4.4: Assess low service reliability customers' survey responses about awareness of, participation in, and barriers to participate in CARE and/or ESA, practices/processes/information and additional services needed to lessen their unique hardships and overcome barriers to CARE and ESA participation. Examine how those responses vary by key customer characteristics (see above). Examine how energy burden, hardships, and other factors differ between low service reliability customers who participated in CARE and/or ESA vs. those who have not participated to measure the potential impact of these programs.<sup>12</sup>

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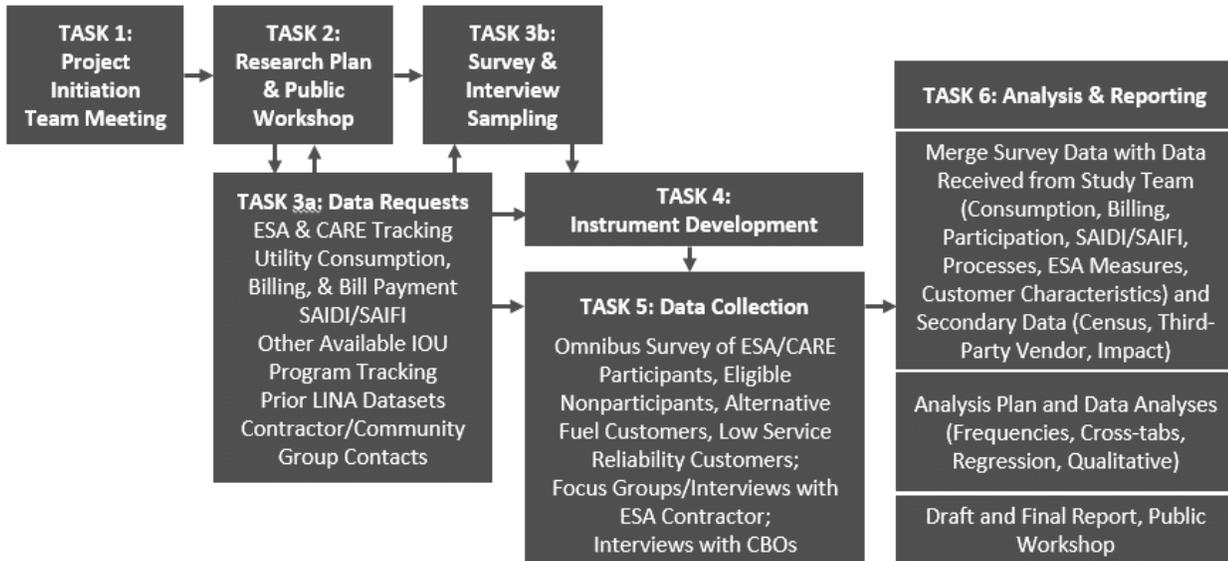
<sup>10</sup> UPDATE: Due to space limitations in the customer survey, the research team was not able to include questions about alt-fuels customers' awareness of, participation in, and barriers to participate in CARE and/or ESA programs and about the practices, processes, information, and additional services needed to lessen their unique hardships. The team was able to conduct some analyses on the backend using CARE and ESA enrollment data and included one question in the survey about participation in other IOU energy assistance or efficiency programs.

<sup>11</sup> The research team will use SAIDI/SAIFI data linked to zip code areas to identify targeted regions with low service reliability (at the zip code level, or smaller geographical area if feasible) and will request from the study team a sample of non-CARE, CARE, and ESA customers who reside in these areas (see Tasks 3 and 4).

<sup>12</sup> UPDATE: Due to space limitations in the customer survey, the research team was not able to include questions about low service reliability customers' awareness of, participation in, and barriers to participate in CARE, ESA, and/or other IOU energy assistance or efficiency programs and about the practices, processes, information, and additional services needed to lessen their unique hardships. The team was able to conduct some analyses on the backend using CARE and ESA enrollment data.

Figure 1 outlines the overall research plan. The following section provides details on each of the research tasks shown in the figure.

Figure 1. Overview of Research Plan



## Research Tasks

The following sections detail how the research team will perform each task. Task 1, Project Initiation, has been accomplished. Task 2 relates to the development and finalization of the Research Plan (this document) and Public Workshop. Task 3 describes the data the research team is requesting from the IOUs and additional secondary data sources the team will use for sampling and analyses. Task 4 presents the preliminary sampling plans for each surveyed or interviewed groups; it includes an overview of the sampling plan followed by a discussion of how the research team will finalize the plan for each group. Task 5 describes how the research team will develop the data collection instruments and what topics each instrument will cover. Task 6 explains the research team’s plan for implementing the surveys and interviews, including recruitment of survey/interview participants. Task 7 expands on the discussion in the previous section (Overall Research Approach) to describe how the research team will analyze the collected data to address the research objectives. Finally, Task 8 outlines how the research team will work with the study team to manage the project. In addition, the *Overview of Data Collection and Sources for Each Research Question Section* presents a table that links the research questions to data sources and collection tasks.

### Task 1: Project Initiation

Opinion Dynamics and DNV GL key staff (“the research team”) attended a Project Initiation (PI) meeting with representatives of the IOUs (SCE, PG&E, SDG&E, and SCG) and CPUC’s Energy Division (“the study team”) by teleconference on February 14, 2018. The research team and study team reviewed the scope, priorities, and goals of the project, the CARE & ESA programs, previous LINA studies, potential challenges, methodologies, data sharing protocols, upcoming deadlines, regular communications, project budget, and the schedule of tasks and deliverables. The meeting also clarified the study team’s expectations regarding the development of the research plan, data requests, and work schedules.

## Task 2: Research Plan and Public Workshop

The research team developed the research plan (this document) based on review of existing documentation, including annual reports, program applications, and database parameters; feedback from the study team; and, interviews with CARE and ESA program staff. Additional revisions will be considered following feedback resulting from the public workshop and subsequent input received from stakeholders. A final research plan will incorporate relevant feedback to be approved by Energy Division and include a more detailed IOU data request (see Task 3a) to commence additional data collection activities.

- **Deliverables:** Draft and final research plan; draft and final public workshop slides; public workshop meeting notes.

## Task 3: Requested IOU Data and the Secondary Data and Third-Party Data Sources to Be Used for Sampling and Analyses

### Task 3a: Requested IOU Data

The research team used information from interviews with CARE and ESA program staff, program documents and applications, and previous reports and presentations to identify what CARE and ESA program data are tracked by and available from the IOUs. The team drafted a preliminary data request that includes the specific data fields, descriptions of and intended use of the data fields, and the research questions the data fields will help to answer (this task). The research team will revise and finalize the IOU data requests during and after finalization of the research plan (Task 2) and may submit additional requests to obtain any other data needed to serve the research.

Table 1 summarizes the research team’s requested data fields from the IOUs’ CARE databases, non-CARE Customer Account database, ESA databases, and SAIDI/SAIFI indices, and their intended purposes for conducting the research and addressing the objectives. Additional detail on how the requested data will be used for survey and interview sampling is provided in Task 4 and on how the requested data will be used in specific analyses in Table 1.

Table 1. Summary of Requested Data and Intended Purposes

Data Sources and Fields	Intended Purpose(s)
<b>IOUs’ CARE databases for 2015 to 2017</b>	
Current and past CARE participants’ contact information (e.g., name, address, phone, email), language preference, preferred method of communication	To develop survey sample and implement surveys of current and past CARE participants, alt-fuels households (using zip code/location), and customers in low service reliability areas (using zip code/location).
Customers’ fuel sources, level of energy usage (to identify high-users), monthly energy usage, and monthly bill amounts, issues with bill payment history, annual income and income sources, household size, and participation in public assistance programs	Calculation of energy burden/modified energy burden (bill amounts), and hardship metrics for current and past CARE participants, alt-fuels households, and customers in low service reliability areas. Compare survey responses to identify differences in energy usage characteristics, energy burden, and hardships among various groups and subgroups (current and past CARE participants, CARE-eligible nonparticipants, ESA participants, alt-fuel customers, and customers in areas with low service reliability).

Data Sources and Fields	Intended Purpose(s)
<p>Data on various CARE processes available via application, enrollment channels, and renewals, including method of, date of, and other enrollment information; verification, recertification, and attrition dates; verification and recertification outreach methods and response methods; reasons for ineligibility and attrition; high-usage customer processes (inform, ESA participation, appeal, recertification) dates and results.</p>	<p>Develop current and past CARE participant sampling strata. Use as standalone data and merged with survey responses to provide information relating to CARE enrollment, recertification, and verification processes, and how program participation and its outcomes differ for current and past CARE participants.</p>
<p>Current and past participant characteristics: annual income and income sources, household size, participation in public assistance programs, fixed income, climate region, ESA participation, medical baseline.</p>	<p>Develop CARE participant survey sample strata and identify eligible nonparticipants (using zip code/location). Merge with survey responses to provide information on differences between current and past CARE participants and, to the extent possible, between current CARE participants and CARE-eligible nonparticipants, ESA participants and nonparticipants, customers who use and do not use alt-fuels, customers who live and do not live in low reliability service areas.</p>
<p><b>IOUs' non-CARE Customer Account Databases for most current customers</b></p>	
<p>Customer contact information (e.g., name, address, phone, email) and language preference for non-CARE customers living in regions (at the zip code level, or smaller geographical areas if feasible) with high percentages of income-eligible customers</p>	<p>Develop survey samples of CARE-eligible nonparticipants (using zip code/location and secondary/third-party income data).</p>
<p>Customers' fuel sources, level of energy usage (to identify high-users), monthly energy usage, and monthly bill amounts, and issues with bill payment history</p>	<p>Calculation energy burden, modified energy burden, and hardship metrics. Compare survey responses to identify differences in energy usage characteristics, energy burden, and hardships among various groups and subgroups (current and past CARE participants, CARE-eligible nonparticipants, ESA participants, alt-fuel customers, and customers in areas with low service reliability).</p>
<p>CARE-eligible nonparticipant characteristics: climate region, ESA participation, FERA participation, medical baseline.</p>	<p>Merge with survey responses to provide information on differences between current CARE participants and CARE-eligible nonparticipants.</p>
<p><b>IOUs' ESA databases for 2015 to 2017</b></p>	
<p>ESA participant contact information (e.g., name, address, phone, email) and language preference</p>	<p>Develop survey samples and implement surveys for ESA participants, alt-fuels households (using zip code/location), and customers in low service reliability areas (using zip code/location).</p>
<p>Customers' fuel sources, level of energy usage (to identify high-users), monthly energy usage, and monthly bill amounts, issues with bill payment history, annual income and income sources, household size, and participation in public assistance programs</p>	<p>Calculation of energy burden/modified energy burden (bill amounts), and hardship metrics for ESA participants, alt-fuels households, and customers in low service reliability areas. Compare survey responses to identify differences in energy usage characteristics, energy burden, and hardships among various groups and subgroups (current and past CARE participants, CARE-eligible nonparticipants, ESA participants, alt-fuel customers, and customers in areas with low service reliability).</p>

Data Sources and Fields	Intended Purpose(s)
<p>ESA participant characteristics, including climate region, participation date, enrollment channel, occupancy status, housing type, housing characteristics, space heating equipment and fuel types, water heating equipment and fuel types, household income and qualification method, household size and age groups, ethnicity, CARE or FERA participation, home assessment results, contractor serving property, measures installed or upgraded, energy education indicator, new or retreatment project indicator, and QA/QC inspection indicator and results.</p>	<p>Develop survey sample by identifying ESA participants with HCS-related measures, and alt-fuels households without gas or electric heat. Merge with survey data to assess how respondent household and program participation characteristics relate to reported program experiences and financial and health hardships. Facilitate comparisons within ESA participant strata and between ESA participants and nonparticipants.</p>
<p>ESA contractor contact information (e.g., company and contractor name, address, phone, email) and characteristics, including type of contractor (e.g., HVAC, plumbing, weatherization, assessments, etc.), dates serving ESA customers, number of ESA projects, number of mandatory and random inspections, and inspection results (pass/fail)</p>	<p>Develop sample of ESA contractors to interview about their and their customers' perceptions and experiences with HCS-related measures and outcomes, and conditions that lead to more or less HCS benefits. Compare contractor interview results by key contractor characteristics.</p>
<p><b>IOUs' current service reliability (SAIDI/SAIFI) data</b></p>	
<p>SAIDI/SAIFI index values linked to geographies (e.g. zip codes, counties, etc.)</p>	<p>Identify areas with low service reliability from which to sample customers to survey them about their hardships and energy burden, characteristics, and perceptions of CARE/ESA and the programs' potential for mitigating hardships/burden.</p>
<p><b>Current CBOs from IOUs, CSD, and Low-Income Oversight Board</b></p>	
<p>Contact information for Community Based Organizations (CBOs) supporting undocumented and documented immigrants, non-English speakers, and the disabled and elderly, including CBOs' contact info, staff, targeted constituents, and additional information or collateral/marketing materials collected or filed by the IOUs.</p>	<p>Develop CBO interview sample. Interview CBO staff to identify key barriers to CARE participation and learn about whether and how CARE serves vulnerable populations.</p>

After receiving the available data, the research team will review the data to provide visibility to how to obtain sample as well as the nature of the information that can be analyzed and what may be worth soliciting from primary research such as interviews and surveys.

- **Deliverables:** Draft and final memos with request for data sources, including the specific data fields, and descriptions and intended uses of each data field; signed non-disclosure agreements with IOUs for data sharing.

### Task 3b: Secondary and Third-Party Data Sources

The research team identified several sources of secondary and third-party data that will be used to inform the sampling plan (Task 4) and to incorporate into analyses addressing the research objectives (Task 7). Table 2 lists the sources the team will use and the intended purpose(s) of each source. During the course of the project, the research team will update the study team with any additional secondary or third-party sources needed to serve the research.

**Table 2. Summary of Secondary and Third-Party Data Sources**

Data Source	Intended Purpose(s)
2016 American Community Survey (ACS five-year estimates) and 2015 American Housing Survey (AHS) (U.S. Census Bureau data)	Inform survey sampling of current/past CARE participants, CARE-eligible nonparticipants, ESA participants, alt-fuels households, and customers in areas with low service reliability using population estimates and characteristics to identify targeted regions (e.g., zip codes, zip code tabulation areas) with high percentages of 1) income-eligible customers and 2) alt-fuels households
Athens Research and other third-party vendors (e.g. Marketing Systems Group, USA.com, etc.)	Analyze comparisons of various subgroups by community characteristics (e.g., median income, poverty levels, race/ethnicity, etc.) and their effects on awareness, participation, hardships, and energy burden, etc.
2009 California Residential Appliance Saturation Study (RASS)	Inform survey sampling, population estimates, and characteristics of alt fuel households from RASS results
California Department of Community Services and Development (CSD)	Supplement survey sample using list of potential alt-fuels households from CSD
2016-17 California Time-Of-Use Opt-In Pilot Survey (TOU Opt-In)	Develop survey questions to measure financial and health hardship for use in surveys of current/past CARE participants, CARE-eligible nonparticipants, ESA participants, alt-fuels households, and customers in areas with low service reliability
Previous LINA Surveys	Develop survey questions to measure characteristics, energy burden, awareness, satisfaction, and other topics for current/past CARE participants, CARE-eligible nonparticipants, and ESA participants and contractors

**Task 4: Preliminary Sampling Plan for Surveys, Interviews, and Focus Groups**

After receiving the requested IOU customer data that will be used for developing customer samples (Task 3a) and acquiring the secondary and third-party data that will be used for targeting areas for sampling (Task 3b), the research team will:

1. Review the data sources and calculate the total numbers of each group and sub-group of customers, contractors, and CBOs
2. Revise and finalize the sampling plans for each group based on the available counts and population estimates in targeted areas, including additional details about the various customer strata, the sampling methodology, the sample frame counts, and expected response rates and number of survey or interview completes.
3. Create the samples for each group to be used for the surveys, interviews, and focus groups

Table 3 shows the research team’s preliminary overall sampling plan for collecting data from each group that will be surveyed or interviewed. For each group, the table shows the relevant timeframe of program participation, the source(s) that the research team expects to use to develop the sample, the target sample sizes, and the data collection methods. Following the table are subsections that describe in more detail the sampling plan for each group.

Table 3. Preliminary Overall Sampling Plan for Surveys, Interviews, and Focus Groups

Survey/Interview Sub-Groups	Timeframe	Data Source(s)	Sample Size	Data Collection Methods
CARE participants	Current CARE participant during 2015-17	CARE databases integrated with secondary and third-party data <sup>a</sup>	360	Web + Mail + Phone Surveys
Past CARE participants	Removed from CARE during 2015-17		280	
CARE-eligible nonparticipant customers	Never participated in CARE as of the end of 2017		Non-CARE Customer Account databases integrated with secondary and third-party data <sup>b</sup>	
ESA participants	Participated in ESA during 2015-17	ESA databases integrated with secondary and third-party data <sup>a</sup>	360	Web + Mail + Phone Surveys
Low-income alternative-fuels households	Identified as using alt-fuels during 2015-17	ESA databases, CSD, and CARE and non-CARE Customer Account databases integrated with secondary and third-party data <sup>c</sup>	~68	
Low-income customers in areas with low service reliability	Identified as living in low service reliability areas in 2015-17	SAIDI/SAIFI data, ESA databases, and CARE and non-CARE Customer Account databases integrated with secondary and third-party data <sup>d</sup>	~68	
Low-Income Customer Surveys Total			1,416	
ESA contractors <sup>e</sup>	Currently active as of the end of 2017	ESA databases	~36 (~20 for focus groups, ~16 for IDs)	Focus Groups & Phone Interviews
CARE Capitation Agencies & Community-Based Organizations (CBOs) <sup>f</sup>		IOUs, previous and online research	~20	Phone Interviews

<sup>a</sup> For survey samples of current and past CARE participants and ESA participants, the research team will use data from secondary sources and a third-party vendor to identify and categorize targeted areas with high proportions of low-income residents in each IOU’s service territory and will use the customer lists from the IOUs’ CARE and ESA databases to sample to participants who reside in these areas (see more detail in subtasks 4a and 4d below).

<sup>b</sup> For survey samples of CARE-eligible nonparticipants, the research team will use data from secondary sources and a third-party vendor to identify and categorize targeted regions with high percentages of income-eligible customers in each IOU’s service territory (at the zip code level, or smaller geographical region if feasible) and will use the customer lists from the IOU’s non-CARE Customer Account databases to sample CARE nonparticipants who reside in these high income-eligible areas (see more detail in subtasks 4a and 4d below).

<sup>c</sup> For the alt-fuels households survey sample, the research team will use data from 1) IOUs’ ESA databases to sample ESA participants whose home assessment indicated they use alt-fuels for heating, 2) secondary sources and a third-party vendor to identify and categorize targeted areas with high proportions of households who use alt-fuels for heating in each IOU’s service territory to sample CARE participants (from IOUs’ CARE databases) and CARE-eligible nonparticipants (from the IOUs’ non-CARE Customer Account databases) who reside in these alt-fuels areas, and 3) lists of alt-fuels households from the CSD to supplement the alt-fuels households sample (see more detail in subtask 4f below).

<sup>d</sup> For the survey sample customers in low service reliability areas, the research team will use SAIDI/SAIFI data from the IOUs to identify and categorize targeted areas with low service reliability in each IOU’s service territory to sample current CARE participants (from IOUs’ CARE databases), CARE-eligible nonparticipants (from the IOUs’ non-CARE Customer Account databases), and ESA participants (from IOUs’ ESA databases) who reside in these areas (see more detail in subtask 4g below).

<sup>e</sup> UPDATE: The research team encountered challenges recruiting the appropriate ESA contractors to participate in focus groups and worked with the study team to reduce the scope of this task. The research team instead conducted IDIs with 12 ESA contractors.

<sup>f</sup> UPDATE: The research team interviewed staff at seven CARE capitation agencies/CBOs that were active in CARE enrollments during the previous year and did not get a wide diversity of perspectives and experiences. The research and study teams decided to shift remaining resources to conducting a literature review of studies about trends in immigrants use of and barriers to enrolling in public assistance programs.

Each of the proposed samples for current and past CARE participants, CARE-eligible nonparticipants, and ESA participants will satisfy 90/10 confidence/ precision at the IOU level. The total sample for each of these survey group will satisfy 90/5 confidence/precision at the state-level and will provide at least 80% power of detecting a 12 percentage-point difference between any two groups at an alpha of .05. The samples for alternative fuels households and customers in areas with low service reliability will satisfy 90/10 confidence/precision at the state level. In any analyses reporting results from the combined samples, we will apply data weights to adjust for differences in sampling ratios.

The interviews with ESA contractors and CBOs do not target any specific confidence/precision level. The research team's experience indicates that the sample sizes for these groups are sufficient to provide an understanding of the range of existing issues.

- **Deliverables:** Revised and final sampling plans for each group to be surveyed or interviewed.

#### Task 4a: Preliminary Survey Sampling Plan for Current and Past CARE Participants

The research team will develop the survey samples and strata for current and past CARE participants during 2015 to 2017 using the requested CARE participant data from the IOUs' CARE program databases (see Task 3). Table 4 shows the preliminary sampling plan for surveying current and past CARE participants, the participant strata the research team will develop, and proposed sample sizes.<sup>13</sup>

The research team will create a survey sample frame large enough to achieve 360 total survey completes from current CARE participants and 280 total survey completes from past CARE participants, and will include the following strata:

- *IOU service territory:* the team will stratify current and past CARE participants by their IOU based on their proportion of the total current and past CARE customers in the IOUs' service territories to enhance representativeness of the sample and make comparisons across IOUs.
- *Regions with high percentages of income-eligible customers:* the team will use secondary/third-party data to identify targeted regions that have a high percentage of income-eligible customers (at the zip code level, or smaller geographical region if feasible) and will stratify the sample to include about 75% of current and past CARE participants residing in these targeted regions for comparisons with CARE-eligible nonparticipants (see Task 4b) and about 25% who do not reside in these areas to enhance the statewide representativeness of the survey sample.
- *CARE program processes:* the team will stratify the sample by whether current and past CARE participants recertified, verified, or remained after high-user designation to enable comparisons between customers who remained or were removed at each stage; within the past CARE participant strata, the team also will attempt to achieve survey completes from those who were removed due to ineligibility and those removed due to another reason, such as not responding to requests to recertify, verify, etc. to permit comparisons between these sub-strata.

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<sup>13</sup> After cleaning and reviewing the requested CARE data from the IOUs, the team may revise the strata and sample sizes.

- **ESA participation:** the team will stratify the sample to include about 75% ESA nonparticipants and 25% ESA participants to enable comparisons between CARE and ESA participants and CARE-only participants.

Table 4. Preliminary Sampling Plan for Surveys of Current and Past CARE Participants

Group	Sources	Sample Sizes <sup>a</sup>
<b>Current CARE participants during 2015-2017</b>		<b>360</b>
IOU service territory	IOU's CARE databases	Proportional <sup>c</sup>
Reside in regions with high percentages of income-eligible customers <sup>b</sup>	Secondary/third-party data sources	272
Do not reside in regions with high percentages of income-eligible customers <sup>b</sup>		88
Have not yet been requested to recertify or verify	IOU's CARE databases	97
Remained after recertification		98
Remained after verification		97
Remained after designated high user		68
ESA participant <sup>d</sup>	IOU's CARE databases	92
ESA nonparticipant <sup>d</sup>		268
<b>Past CARE participants removed during 2015-2017</b>		<b>280</b>
IOU service territory	IOU's CARE databases	Proportional <sup>c</sup>
Reside in regions with high percentages of income-eligible customers <sup>b</sup>	Secondary/third-party data sources	210
Do not reside in regions with high percentages of income-eligible customers <sup>b</sup>		70
Removed after recertification request	IOU's CARE databases	106
Due to ineligibility <sup>e</sup>		34
Due to other reason(s) (e.g., nonresponse, etc.) <sup>e</sup>		72
Removed after verification request		106
Due to ineligibility <sup>e</sup>		34
Due to other reason(s) (e.g., nonresponse, etc.) <sup>e</sup>		72
Removed after designated a high user		68
ESA participant <sup>d</sup>	IOU's CARE databases	68
ESA nonparticipant <sup>d</sup>		212

<sup>a</sup> The research team may adjust sample sizes after reviewing data requested from IOU databases and acquired from second sources or third-party vendors.

<sup>b</sup> The research team will use secondary/third-party data to identify regions with high percentages of income-eligible customers (at the zip code level, or smaller geographical region if feasible).

<sup>c</sup> Will be based on the proportion of each of the four IOU's CARE customers out of the total of all the IOUs' CARE customers; to be determined with the requested CARE data.

<sup>d</sup> UPDATE: The research team did not stratify the current or past CARE participants by ESA participation to reduce the complexity of the sampling design and because there was a sufficient number of ESA participants in the current and past CARE participant samples without stratification.

<sup>e</sup> UPDATE: The research team could not stratify past participants removed after recertification or after income verification requests based on their reasons for removal because the team did not receive the removal reasons from the IOUs.

#### Task 4b: Preliminary Survey Sampling Plan for CARE-Eligible Nonparticipants

To develop a survey sample of CARE-eligible nonparticipants, the research team will first acquire secondary/third-party data to identify and categorize targeted regions with high proportions of low-income residents (e.g., 80% or more residents, 60% to 79% are income-eligible) in each IOU's service territory (at the zip code level, or smaller geographical region if feasible). This is similar to the approach other evaluators have used in past LINA studies.

Next, the research team will request and use lists of customers who never participated in CARE from the IOUs' non-CARE Customer Account databases to identify and sample those customers who reside in the targeted low-income zip code areas. If needed, the team also will purchase income and household size data from a third-party vendor to further limit the customer list to those who likely meet the CARE eligibility criteria, which is similar to what was done for the California Time-Of-Use Opt-In Pilot study for identifying CARE-eligible nonparticipants.

Table 5 shows the preliminary sampling plan for surveying CARE-eligible nonparticipants, the nonparticipant strata the research team will develop, and proposed sample sizes.<sup>14</sup> The research team will create a survey sample frame large enough to achieve 280 total survey completes from CARE-eligible nonparticipants and will include the following strata:

- *IOU service territory*: the team will stratify CARE-eligible nonparticipants by their IOU based on proportion of CARE-eligible nonparticipants in targeted regions with high percentages of income-eligible customers in each IOU service territory to enhance representativeness of the sample and make comparisons across IOUs.
- *Awareness of CARE*: the team will attempt to stratify CARE-eligible nonparticipants by whether they report in the customer survey that are aware or unaware of CARE to facilitate comparisons; if available, the team will use data requested from IOUs about whether non-CARE customers were offered CARE as a proxy for customers' awareness.
- *ESA participation*: the team will stratify CARE-eligible nonparticipants by their participation in ESA using proportional sampling based on proportion of CARE-eligible nonparticipants in targeted regions with high percentages of income-eligible customers who have and have not participated in ESA to facilitate comparisons between CARE-eligible ESA participants and nonparticipants.

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<sup>14</sup> After cleaning and reviewing the requested CARE data from the IOUs, the team may revise the strata and sample sizes.

Table 5. Preliminary Sampling Plan for Survey of CARE-Eligible Nonparticipants

Group	Sources	Sample Sizes <sup>a</sup>
<b>CARE-eligible nonparticipant customers who never participated</b>	<b>Non-CARE customers in IOUs' Customer Account databases in regions with high percentages of income-eligible customers from secondary/third-party data <sup>b</sup></b>	<b>280</b>
IOU service territory	IOUs' Customer Account databases	Proportional <sup>c</sup>
Aware of and/or offered CARE <sup>e</sup>	Customer Survey	TBD
Unaware of/not offered CARE <sup>e</sup>		TBD
ESA participant	IOUs' ESA databases	Proportional <sup>d</sup>
ESA nonparticipant		

<sup>a</sup> The research team may adjust sample sizes after reviewing data requested from IOU databases and acquired from second sources or third-party vendors.

<sup>b</sup> The research team will use secondary/third-party data to identify regions with high proportions of income-eligible customers (at the zip code level, or smaller geographical region if feasible).

<sup>c</sup> Will be based on the proportion of CARE-eligible nonparticipants in each of the four IOU's service territory out of the total of CARE-eligible nonparticipants in all the IOUs' service territories; to be determined with pre-requested IOU non-CARE Customer Account data for targeted low-income areas.

<sup>d</sup> Will be based on the proportion of CARE-eligible nonparticipants who have and have not participated in ESA; to be determined with the requested ESA program data.

<sup>e</sup> UPDATE: The research team was unable to stratify CARE-eligible nonparticipants by their awareness of CARE but did obtain respondents who were aware of CARE and others who were not aware of CARE.

**Task 4c: Preliminary Interview Sampling Plan for Community-Based Organizations (CBOs) Interview Sampling Plan**

The research team will develop a sample of CBOs to interview using lists and information provided from the IOUs, the CSD, and the Low-Income Oversight Board. If needed, the team also will review previous research studies and online sources to supplement the CBO interview sample. As shown in Table 6, the research team will interview up to 20 CBOs that were active as of the end of 2017 and will attempt to stratify the CBO sample by the IOU service territory in which they are active and the targeted constituents they primarily serve: immigrants (undocumented and documented), non-English speaking households, and the disabled and elderly.<sup>15</sup>

<sup>15</sup> After cleaning and reviewing the requested CARE data from the IOUs, the team may revise the strata and sample sizes. UPDATE: The research team interviewed staff at seven CARE capitation agencies/CBOs that were active in CARE enrollments during the previous year and did not get a wide diversity of perspectives and experiences. The research and study teams decided to shift remaining resources to conducting a literature review of studies about trends in immigrants use of and barriers to enrolling in public assistance programs.

Table 6. Preliminary Sampling Plan for Interviews with of CBOs Serving Immigrants, Non-English Speakers, and the Disabled/Elderly

Group	Sources	Sample Sizes <sup>a</sup>
<b>CBOs serving immigrants, non-English speakers, and disabled/elderly</b>	Lists from IOUs, CSD, Low-Income Oversight Board, previous studies, and online research	<b>Up to 20</b>
IOU service territory		Up to 5 per IOU
Immigrants (undocumented and documented)	Information available in CBO lists and interview screening questions	Up to 8
Non-English speakers		Up to 6
Disabled and elderly		Up to 6

<sup>a</sup> The research team may adjust sample sizes after reviewing data lists of active CBOs. UPDATE: The research team interviewed staff at seven CARE capitation agencies/CBOs that were active in CARE enrollments during the previous year and did not get a wide diversity of perspectives and experiences. The research and study teams decided to shift remaining resources to conducting a literature review of studies about trends in immigrants use of and barriers to enrolling in public assistance programs.

#### Task 4d: Preliminary Survey Sampling Plan for ESA Participants

The research team will develop the survey samples and strata for ESA participants who received HCS-related measures (heating, cooling, or weatherization and enclosure) during 2015 to 2017 using the requested ESA participant data from the IOUs’ ESA databases (see Task 3). Table 7 shows the preliminary sampling plan for surveying ESA participants, the participant strata the research team will develop, and proposed sample sizes.<sup>16</sup>

The research team will create a survey sample frame large enough to achieve 360 total survey completes from ESA and will include the following strata:

- *IOU service territory*: the team will stratify ESA participants by their IOU based on their proportion of total ESA customers in the IOUs’ service territories to enhance representativeness of the sample and make comparisons across IOUs.
- *Regions with high percentages of income-eligible customers*: the team will use secondary/third-party data to identify targeted regions that have a high percentage of income-eligible customers (at the zip code level, or smaller geographical region if feasible) and will stratify the sample to include about 75% of ESA participants residing in these targeted regions for comparisons with CARE participants and CARE-eligible nonparticipants (see Task 4b), and about 25% who do not reside in these areas to enhance the statewide representativeness of the survey sample.
- *HCS-related ESA measures*: the team will stratify the sample by ESA participants who received heating measures, cooling measures, weatherization/enclosure measures, and a combination of these measures to permit comparisons based on measure type(s) and conditions.
- *Housing type*: the team will stratify the ESA participant sample by whether they live in single-family, multifamily, or manufactured home housing types to permit statistical comparisons between housing types.
- *CARE participation*: the team will stratify the sample by whether ESA participants also participate in CARE using proportional sampling to enable comparisons between ESA and CARE participants and ESA-only participants.

<sup>16</sup> After cleaning and reviewing the requested CARE data from the IOUs, the team may revise the strata and sample sizes.

Table 7. Preliminary Sampling Plan for Survey of ESA Participants

Group	Sources	Sample Sizes <sup>a</sup>
<b>ESA participants during 2015 to 2017</b>		<b>360</b>
IOU service territory	IOUs' ESA databases	Proportional <sup>c</sup>
Reside in regions with high percentages of income-eligible customers <sup>b</sup>	Secondary/third-party data sources	272
Do not reside in regions with high percentages of income-eligible customers <sup>b</sup>		88
Heating measures	IOUs' ESA databases	90
Cooling measures		90
Weatherization/enclosure measures		90
Two or more above measures		90
Single family housing type <sup>e</sup>	IOUs' ESA databases	224
Multi-family housing type <sup>e</sup>		68
Manufactured home housing type <sup>e</sup>		68
CARE participant <sup>f</sup>	IOUs' ESA databases	Proportional <sup>d</sup>
CARE-eligible nonparticipant <sup>f</sup>		

<sup>a</sup> The research team may adjust sample sizes after reviewing data requested from IOU databases and acquired from second sources or third-party vendors.

<sup>b</sup> The research team will use secondary/third-party data to identify regions with high percentages of income-eligible customers (at the zip code level, or smaller geographical region if feasible).

<sup>c</sup> Will be based on the proportion of ESA participants in each of the four IOU's service territory out of the total ESA participants in all the IOUs' service territories; to be determined with the requested ESA program data.

<sup>d</sup> Will be based on the proportion of ESA participants who are and are not participating in CARE; to be determined with the requested ESA program data.

<sup>e</sup> UPDATE: The research team was unable to stratify ESA participants by housing type because it was not included in ESA data provided by all the IOUs.

<sup>f</sup> UPDATE: The research team did not stratify the ESA participants by CARE participation to reduce the complexity of the sampling design and because there was a sufficient number of CARE participants in the ESA participant sample without stratification.

#### Task 4e: Preliminary Focus Group and Interview Sampling Plan for ESA Contractors

The research team will create a sample of ESA contractors who are currently active in the program for contractor focus groups and interviews using data requested from the IOUs' ESA database. <sup>17</sup> As shown in Table 8, the research team will include enough contractors in the focus groups sample to recruit up to 20 contractors in four focus groups (five per group) and enough contractors in the interview sample for up to 16 contractor interviews. The team will stratify ESA contractors based on their IOU service territory, proximity to a focus group facility, level of ESA project activity (moderate/high vs. moderate/low number of projects), and trade (e.g., HVAC, weatherization, etc.).

<sup>17</sup> UPDATE: The research team encountered challenges recruiting the appropriate ESA contractors to participate in focus groups and worked with the study team to reduce the scope of this task. The research team instead conducted IDIs with 12 ESA contractors, including at least two in each IOU territory and at least one who specializes in ESA enrollments and assessments and in the installation of the targeted heating, cooling, and enclosure ESA measures.

Table 8. Preliminary Sampling Plan for Focus Groups and Interviews with ESA Contractors

Group	Sources	Focus Group Sample Sizes <sup>a</sup>	Interview Sample Sizes <sup>a</sup>
ESA Contractors currently active	IOUs' ESA databases	Up to 20	Up to 16
IOU service territory		Up to 5 per IOU	Up to 4 per IOU
Located close to focus group facilities	IOUs' ESA databases	Up to 20	None
Located far from focus group facilities		None	Up to 16
Moderate to high number of ESA projects <sup>b</sup>	IOUs' ESA databases	Up to 10	Up to 8
Low to moderate number of ESA projects <sup>b</sup>		Up to 10	Up to 8
Trade (e.g., HVAC, weatherization, etc.) <sup>b</sup>	IOUs' ESA databases and recruitment screener	TBD	TBD

<sup>a</sup> The research team may adjust sample sizes after reviewing data lists of active ESA contractors. UPDATE: The research team encountered challenges recruiting the appropriate ESA contractors to participate in focus groups and worked with the study team to reduce the scope of this task. The research team instead conducted IDIs with 12 ESA contractors.

<sup>b</sup> The research team will determine thresholds for the 'number of projects' categories and the sample sizes for contractor trade strata after reviewing the ESA contractor data requested from the IOUs. UPDATE: The research team focused instead on stratifying interviewed ESA contractors by IOU service territory (e.g., at least two from each IOU) and services performed (e.g., at least one contractor who specializes in enrollments/assessments and in the installation of targeted ESA heating, cooling, and enclosure measures).

#### Task 4f: Preliminary Survey Sampling Plan for Alternative-Fuels Households

The research team will use several sources to develop the sample of alt-fuels households that do not use gas or electricity for heating:

- ESA home assessment results from the IOUs' ESA databases to identify ESA participants without gas or electric heating
- Secondary/third-party data to identify targeted regions (at the zip code level, or smaller geographical region if feasible) with high percentages of households using alt-fuels for heating, and single-fuel CARE participants and eligible nonparticipants in these regions from the IOUs' CARE and non-CARE Customer Accounts databases
- Lists of customers served by CSD with indicators of using alt-fuels for heating

The team also will review the California Residential Appliance Saturation Survey for an overview of the alt-fuels household market both to support the sampling of this group as well as to inform the development of survey questions relevant to understanding the burden of this group.

As shown in Table 9, the research team will sample enough alt-fuels households to complete 68 total surveys and will stratify the sample based on:

- *IOU service territory*: the team will stratify alt-fuels households by their IOU based on their proportion of the total alt-fuels population in targeted regions in the IOUs' service territories (at the zip code level, or smaller geographical region if feasible) to enhance representativeness of the sample.
- *Customer type (sample source)*: the team will proportionally stratify alt-fuels households by whether they are a current CARE participant, a CARE-eligible nonparticipant (residing in zip code areas with high proportions of income eligible customers), or an ESA participant based on the total number of the alt-fuels households in targeted regions in the IOUs' customer databases (CARE, ESA, non-CARE Customer Accounts) to enhance the representativeness of the sample and permit comparisons with low-income non-alt-fuels households; alt-fuels households from the CSD will be binned, if possible,

into one of the three customer type categories by matching them with customer accounts in the IOUs’ databases.

Table 9. Preliminary Sampling Plan for Survey of Alt-Fuels Households

Group	Sources	Sample Sizes <sup>a</sup>
Alternative-fuels households	ESA home assessment results from IOUs’ ESA databases (for customers without electric/gas heating); secondary/third-party data sources for areas with high proportions of households using alt-fuels for heating	68
IOU service territory	Customer databases	Proportional <sup>c</sup>
Single-fuel CARE participants	CARE database	Proportional <sup>d</sup>
Single-fuel CARE-eligible nonparticipants	Customers in IOUs’ non-CARE Customer Account databases in regions with high percentages of income-eligible customers from secondary/third-party data <sup>b</sup>	
ESA participants without gas/electric heat	ESA database	
CSD-provided list of alt-fuels households	CSD	Bin into one of three categories above <sup>e</sup>

<sup>a</sup> The research team may adjust sample sizes after reviewing data requested from IOU databases and acquired from second sources or third-party vendors.

<sup>b</sup> The research team will use secondary/third-party data to identify regions with high percentages of income-eligible customers (at the zip code level, or smaller geographical region if feasible).

<sup>c</sup> Will be based on the proportion of alt-fuels customers in each of the four IOU’s service territory out of the total alt-fuels customers in all the IOUs’ service territories; to be determined with the requested CARE and ESA , and pre-requested non-CARE Customer Account data for targeted alt-fuels areas.

<sup>d</sup> Will be based on the proportion of alt-fuels customers who have and have not participated in CARE and/or ESA out of the total alt-fuels customers; to be determined with the requested CARE and ESA , and pre-requested non-CARE Customer Account data for targeted alt-fuels areas.

<sup>e</sup> The research team will work with the study team/IOUs to lookup the alt-fuels households included in the lists from the CSD to determine their customer type (e.g., CARE participant, eligible nonparticipant, ESA participant). UPDATE: The research team did not need lists from the CSD after reviewing the customer data provided by the IOUs, which was sufficient for the sampling plan.

**Task 4g: Preliminary Survey Sampling Plan for Customers in Areas with Low Service Reliability**

The research team will create the sample of customers in areas with low service reliability by first using the requested IOUs’ SAIDI/SAIFI data to identify the zip code areas with low service reliability. The team will then request from the IOUs the CARE participants, eligible nonparticipants (in regions with high percentages of income-eligible customers), and ESA participants who reside in the targeted areas with low service reliability. As shown in Table 10, the team will create a large enough sample of customers to achieve 68 survey completes and will stratify the sample by:

- *IOU service territory*: the team will stratify low service reliability customers by their IOU based on their proportion of the total number of customers in low service reliability areas in the IOUs’ service territories to enhance representativeness of the sample and make comparisons across IOUs.
- *Customer type (sample source)*: the team will proportionally stratify low service reliability customers by whether they are a current CARE participant, a CARE-eligible nonparticipant (in targeted regions with high percentages of income-eligible customers), or an ESA participant based on the total number of low service reliability customers in the IOUs’ customer databases (CARE, ESA, non-CARE

Customer Accounts) to enhance the representativeness of the sample and permit comparisons with low-income customers who don't live in low service reliability areas.

Table 10. Preliminary Sampling Plan for Survey of Customers in Areas with Low Service Reliability

Group	Sources	Sample Sizes <sup>a</sup>
Customers in areas with low service reliability	IOUs' SAIDI/SAIFI data matched to low service reliability regions	68
IOU service territory	IOUs' customer databases	Proportional <sup>c</sup>
CARE participants	IOUs' CARE databases	Proportional <sup>d</sup>
CARE-eligible nonparticipants	Customers in IOUs' non-CARE Customer Account databases in regions with high percentages of income-eligible customers from secondary/third-party data <sup>b</sup>	
ESA participants	IOUs' ESA databases	

<sup>a</sup> The research team may adjust sample sizes after reviewing data requested from IOU databases and acquired from second sources or third-party vendors. UPDATE: The research team did not receive SAIDI/SAIFI data from IOUs with enough time to use the data to develop a stratified sampling plan for low and high service reliability customers. The team instead used a convenience sampling approach by matching all the survey respondents to SAIDI/SAIFI data on the backend after the survey was completed.

<sup>b</sup> The research team will use secondary/third-party data to identify regions with high percentages of income-eligible customers (at the zip code level, or smaller geographical region if feasible).

<sup>c</sup> Will be based on the proportion of customers in each of the four IOUs' low reliability service territories out of the total customers in all the IOUs' low reliability service territories; to be determined with the requested CARE and ESA , and pre-requested non-CARE Customer Account data for targeted low service reliability areas (from SAIDI/SAIFI values).

<sup>d</sup> Will be based on the proportion of customers in low service reliability areas who have and have not participated in CARE and/or ESA out of the total customers in these areas; to be determined with the requested CARE and ESA , and pre-requested non-CARE Customer Account data for targeted low service reliability areas (from SAIDI/SAIFI values).

### Task 5: Instrument Development and Topics for Surveys, Interviews, and Focus Groups

During the development of the customer survey samples (Task 4), the research team will collaborate with the study team to draft an omnibus survey instrument designed to collect data from the samples of current and past CARE participants, CARE-eligible nonparticipants, ESA participants, alt-fuels households, and customers in low service reliability areas (see Task 5a). After developing the samples of CBOs and ESA contractors (Task 4), the team will draft interview guides to collect data from the CBOs (Task 5b) and interview and focus group guides to collect data from the ESA contractors (Task 5c). In the subsections below, the team outlines the survey topics that will be asked to each of the low-income customer groups, the ESA contractors, and the CBOs.

In addition, the research team will perform quality assurance on each interview guide and survey instrument. The research team's internal Survey Review Team will perform a thorough review of the drafts before sending the drafts to the study team for review and multiple tests with the final guides and instruments before implementation and fielding (Task 6).

- **Deliverables:** Draft and final survey instruments, interview guides, and focus group guides.

#### Task 5a: Low-Income Customer Omnibus Survey Topics

Before drafting the low-income customer omnibus survey instrument, the research team will review data requested from the IOUs and from other secondary/third-party sources (Task 3) to identify which aspects of the research objectives and questions will need to be addressed by data collected from the customer survey. The research team also will review past LINA surveys and other relevant customer or residential surveys such

as the California TOU Opt-In Pilot survey, the RASS, the Residential Energy Consumption Survey (RECS), the CDC's Behavioral Risk Factor Surveillance Study (BRFSS) survey (for health-related questions), the Consumer Financial Protection Bureau's (CFPB) Financial Well-Being survey, and others for potential survey questions and ideas.

The research team will design the omnibus survey for implantation with web and phone survey modes (Task 6), and for an average survey length of about 20 minutes. As shown in Table 11, the team identified 18 total topics to include in the omnibus survey to address the five research objectives: 14 of the topics will be asked of alt-fuels households, customers in low service reliability areas, and past CARE participants; 13 of the topics will be asked of current CARE participants and ESA participants; and, 10 of the topics will be asked of CARE eligible-nonparticipants. The preliminary analysis plan in Task 7 outlines how the topics and specific questions will be used in analyses.

Table 11. Omnibus Customer Survey Topics, Associated Research Objectives/Questions, and Intended Purposes, by Customer Group

Omnibus Customer Survey Topics	Current CARE Participants	Past CARE Participants	CARE-Eligible Nonparticipants	ESA Participants	Alt-Fuels Households	Low Service Reliability Customers	Research Objectives	Intended Purposes
Customer demographic characteristics: annual household income, income sources, household size, education, age, ethnicity, language, mobility, employment status	✓	✓	✓	✓	✓	✓	Objectives 1, 2, 3, and 4	Identify customer characteristics related to CARE discontinuation or that may mitigate the relationship between HCS hardship and ESA measures, to help identify areas for intervention. Identify how alt-fuels and low-service-reliability households differ from other households to shed light on hardships for those groups.
Customer housing characteristics: housing type, fuel sources and end-uses, heating/cooling equipment	✓	✓	✓	✓	✓	✓	Objectives 2, 3, and 4	Identify housing characteristics related that may mitigate the relationship between HCS hardship and ESA measures, to help identify areas for intervention. Identify how alt-fuels and low-service-reliability households differ from other households to shed light on hardships for those groups.
How customers learned about CARE and/or ESA, and reasons for participating <sup>a</sup>	✓	✓		✓	✓	✓	Objectives 1, 3, and 4	Determine how source of CARE awareness relates to CARE discontinuation, to help identify areas for intervention. Identify how alt-fuels and low-service-reliability households differ from other households to shed light on hardships for those groups.
Satisfaction with CARE and/or ESA, and program processes and (for ESA) installed measures	✓	✓		✓			Objectives 1 and 2	Determine how satisfaction relates to CARE discontinuation or may mitigate the relationship between HCS hardship and ESA measures, to help identify areas for intervention.

Omnibus Customer Survey Topics	Current CARE Participants	Past CARE Participants	CARE-Eligible Nonparticipants	ESA Participants	Alt-Fuels Households	Low Service Reliability Customers	Research Objectives	Intended Purposes
Awareness of and interest in CARE and/or ESA, including attitudes toward and reasons for not participating		✓ <sup>b</sup>	✓ <sup>b</sup>		✓	✓	Objectives 1, 3, and 4	Determine how awareness and interest relate to CARE discontinuation, to help identify areas for intervention. Identify how alt-fuels and low-service-reliability households differ from other households to shed light on hardships for those groups.
Perceived barriers to and concerns about CARE and/or ESA participation	✓	✓ <sup>b</sup>	✓ <sup>b</sup>	✓	✓	✓	Objectives 1, 2, 3, and 4	Determine how perceived barriers and concerns relate to CARE discontinuation or may mitigate the relationship between HCS hardship and ESA measures, to help identify areas for intervention. Identify how alt-fuels and low-service-reliability households differ from other households to shed light on hardships for those groups.
Practices, processes, or information (ME&O) to help overcome participation barriers and hardships <sup>c</sup>	✓	✓	✓	✓	✓	✓	Objectives 1, 2, 3, and 4	Determine how practices, processes, and information relate to CARE discontinuation or may mitigate the relationship between HCS hardship and ESA measures, to help identify areas for intervention. Identify how alt-fuels and low-service-reliability households differ from other households to shed light on hardships for those groups.
Financial and health status and hardships (difficulty paying bills, methods used to pay bills, concern about affording energy and other basic needs, financial well-being index, frequency of being in poor health, etc.)	✓	✓	✓	✓	✓	✓	Objectives 1, 2, 3, and 4	Determine how financial and health status hardships relate to CARE discontinuation or may mitigate the relationship between HCS hardship and ESA measures, to help identify areas for intervention. Identify how alt-fuels and low-service-reliability households differ from other households to shed light on hardships for those groups.

Omnibus Customer Survey Topics	Current CARE Participants	Past CARE Participants	CARE-Eligible Nonparticipants	ESA Participants	Alt-Fuels Households	Low Service Reliability Customers	Research Objectives	Intended Purposes
Health, comfort, and safety status and hardships (too hot, too cold, air quality, noise quality, hot water, working appliances, infiltration, etc.)	✓	✓	✓	✓	✓	✓	Objectives 2, 3, and 4	Identify the ESA measures that may best reduce HCS hardship. Identify how alt-fuels and low-service-reliability households differ from other households to shed light on hardships for those groups.
Unique hardships and benefits associated with limited access to electricity and/or natural gas (ease/difficulty getting and using fuels, limits on using appliances/equipment, etc.)					✓		Objective 3	Identify unique hardships for alt-fuels households.
Unique hardships associated with limited service reliability (inability to plan ahead, reliance on others with service, etc.)						✓	Objective 4	Identify unique hardships for households with low service reliability.
Perceived impact of CARE and/or ESA in (potentially) reducing hardships/burden and (for ESA) improving HCS <sup>c</sup>	✓	✓	✓	✓	✓	✓	Objectives 1 and 2	Determine how perceived impact of CARE and/or ESA relate to CARE discontinuation or may mitigate the relationship between HCS hardship and ESA measures, to help identify areas for intervention.
Changes in hardships/burdens before and after CARE and/or ESA participation <sup>a</sup>	✓	✓		✓	✓	✓	Objectives 1, 2, 3, and 4	Determine how changes in hardships and burdens relate to CARE discontinuation or may mitigate the relationship between HCS hardship and ESA measures, to help identify areas for intervention. Identify how alt-fuels and low-service-reliability households differ from other households to shed light on hardships for those groups.

Omnibus Customer Survey Topics	Current CARE Participants	Past CARE Participants	CARE-Eligible Nonparticipants	ESA Participants	Alt-Fuels Households	Low Service Reliability Customers	Research Objectives	Intended Purposes
Additional services that may help mitigate hardships and/or energy burden <sup>c</sup>	✓	✓	✓	✓	✓	✓	Objectives 1, 2, 3, and 4	Identify additional services that may promote CARE retention and mitigate hardships and/or energy burden for low-income customers.
How ESA participation influences CARE participation, and how CARE participation influences ESA participation <sup>a</sup>	✓	✓		✓			Objectives 1 and 2	Determine how the CARE and ESA programs can help promote or support each other.
Knowledge, awareness, and use of energy efficiency behaviors/ equipment, participation in energy efficiency programs	✓	✓	✓	✓	✓ <sup>b</sup>	✓	Objectives 1, 2, 3, and 4	Determine how knowledge, awareness, and engagement in energy efficiency relate to CARE discontinuation or may mitigate the relationship between HCS hardship and ESA measures, to help identify areas for intervention. Identify how alt-fuels and low-service-reliability households differ from other households to shed light on hardships for those groups.
Reasons for and perceived impact of using alt-fuels on hardship/energy burden					✓		Objective 3	Shed light on hardships for alt-fuels households to identify ways the IOUs may better serve them.
Perceived service reliability (frequency and length of interruptions) and impact on hardship/energy burden						✓	Objective 4	Shed light on hardships for households with low service reliability to identify ways the IOUs may better serve them.

<sup>a</sup> UPDATE: The research was unable to include questions about the topic(s) due to space limitations in the customer survey.

<sup>b</sup> UPDATE: The research team asked questions about the topic(s) to only this/these group/s.

<sup>c</sup> UPDATE: The research team was able to infer about these topics using customers’ responses to other questions and/or from IOU customer data and other sources.

### Task 5b: CARE Capitation Agency and Community Based Organization Interview Guide Development and Topics

The research team will collaborate with the study team to develop interview guides for staff of up to 20 CBOs involved in low-income communities, particularly immigrants (undocumented and documented), non-English speakers, and the elderly and disabled who have low or no CARE participation (see Task 4c for sampling plan).<sup>18</sup> The research team will design the interview guides to address factors related to successful customer enrollment and recertification, including barriers and challenges to CARE participation; how the program and CBOs may address those barriers and challenges; and the impact of CARE on participants, particularly as these factors affect those subgroups identified above.

The CBO interview guides will include questions about the following topics:

- Screening/recruitment questions about CBOs' targeted constituents and territory, and awareness and ability to discuss the CARE program
- CBOs' constituents' CARE awareness, eligibility, and enrollment
- Ways to reach CBO constituents and channels they are likely to use to participate in CARE
- Barriers and challenges CBO constituents must overcome to participate in CARE (and ESA)
- Changes to or additional services, processes, practices, and ME&O needed to improve participation among CBO constituents and help them overcome barriers to participation
- The ways CBOs can help their constituents participate in CARE
- CBO constituents' demographic and housing characteristics as they relate to CARE participation (e.g., eligibility, mobility, etc.)
- The extent to which CARE has helped the CBOs' constituents who have participated in CARE and how the participants differ from CBO constituents who have not participated
- **Deliverables:** Draft and final interview guides.

### Task 5c: ESA Contractor Focus Group and Interview Guide Development and Topics

The research team will collaborate with the study team to design a recruitment screener and a discussion guide to conduct a total of four focus groups with a up to 20 ESA contractors (five contractors per focus group and one focus group for each IOU; see Task 4e for sampling plan).<sup>19</sup> The research team also will work with the study team to develop a phone interview guide for interviews with up to 16 contractors who are unable to attend the focus groups (see Task 4e for sampling plan).<sup>20</sup>

The research team will design similar focus group and interview guides to address contractors' experiences, perceptions, practices, attitudes, and barriers/challenges with their projects that include non-energy HCS measures.

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<sup>18</sup> UPDATE: The research team worked with the study team to reduce the scope to conduct interviews with staff at seven CARE capitation agencies/CBOs that provide services to immigrant and non-English-speaking clients, and shifted remaining resources to conducting a literature review about trends in immigrants enrollments in and barriers to enrolling in public assistance programs.

<sup>19</sup> UPDATE: Due to challenges recruiting the appropriate ESA contractors to participate in focus groups, the research and study teams decided to focus resources on conducting the IDIs with ESA contractors instead.

<sup>20</sup> UPDATE: The research team conducted IDIs with 12 ESA contractors, including at least two in each IOU territory and at least one who specializes in ESA enrollments/assessments and in the installation of the targeted ESA heating, cooling, and enclosure measures.

The focus group and interview guides will include questions about the following topics:

- Screening/recruitment questions about contractors' interest, ability, and availability to participate, their proximity to the focus group facility, their service territory, their trade (e.g., HVAC, weatherization, etc.), and number of ESA projects.
- ESA program processes and measures as related to improving or worsening HCS benefits.
- The non-energy HCS impacts of select ESA measures (e.g. heating/cooling, weatherization).
- Whether and how contractors consider and measure HCS impacts for their ESA projects, and ways this can be improved (e.g. home assessments).
- Conditions of participant households under which ESA measures provide more or fewer HCS benefits.
- Contractors' expectations and challenges related to improving non-energy HCS impacts in participant households.
- Contractors' perceptions of customers who need HCS improvements and the barriers they or their customers face for making HCS improvements.
- Contractors' firmographic characteristics.
- **Deliverables:** Draft and final focus group protocols, recruitment screener, and guide; draft and final phone interview guides.

## **Task 6: Recruitment and Implementation Approaches for Surveys, Interviews, and Focus Groups**

### **Task 6a: Low-Income Customer Omnibus Survey for Current and Past CARE Participants, CARE-Eligible Nonparticipants, ESA Participants, Alt-Fuels Households, and Customers in Low Service Reliability Areas**

After developing the customer sample frames (Task 4) and survey instruments (Task 5), the research team and its fielding partner, Washington State University's (WSU) Social and Economic Sciences Research Center (SESRC), implement the low-income customer omnibus survey to collect data from sampled current and past CARE participants, CARE-eligible nonparticipants, ESA participants, alt-fuels households, and customers in low service reliability areas. The research team will closely monitor the survey implementation, including response rates and quotas for the customer groups and strata, and will work with the SESRC to target different groups or strata as needed.

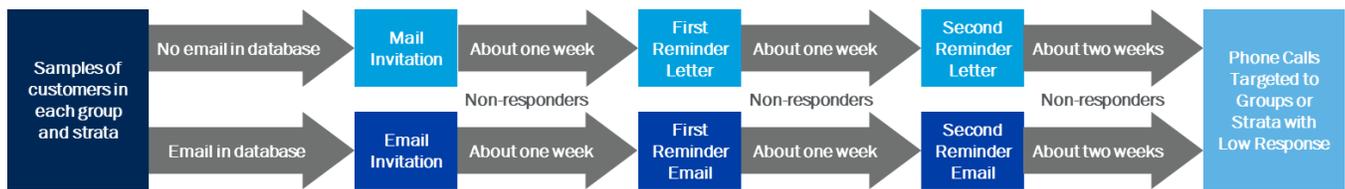
For the omnibus survey implementation, the research team will use three modes to contact customers (mail, email, and telephone) and two modes for customers to complete the survey (web and phone). The web and phone surveys will be programmed to display the appropriate survey questions to each of the customer groups and strata (see subsections below). Before fielding the surveys, the research team's internal Survey Review Team will perform multiple tests with the final programmed instruments, and the SESRC will field the surveys with five customers in each customer group for a pre-launch test.

The research team will send email invitations to take an online version of the survey to the sampled customers with email addresses (which the team estimates from prior experience to be about two-thirds of records, on average). The research team will send an IOU-branded letter via U.S. mail to the sampled customers without email contact data, inviting them to participate in the online survey. The emails and letters will include a short URL and a unique passcode to take the survey online and will include a phone number to call if participants wish to take the survey over the phone.

The research team will then send two reminder emails and letters to all sampled participants who have yet to respond to the survey. The first reminder will be sent about one week after the invitation and the second reminder will be sent about one week after the first reminder. Two weeks after sending the final reminders, the team will conduct out-bound survey calls to participants who have yet to responded to the survey and will target groups or strata with low response rates to fulfill remaining quotas. Figure 2 displays the low-income customer omnibus survey implementation approach.

To encourage participation and minimize non-response bias, the research team will offer \$25 VISA gift cards for all customers who qualify and complete the survey. The team also will offer all surveys, invitations, and reminders in both English and Spanish.<sup>21</sup> The surveys will take about 20 minutes to complete, on average.

Figure 2. Approach to Low-Income Customer Omnibus Survey Implementation



- **Deliverables:** Draft and final survey timelines; draft and final survey contacts (email, letters, phone scripts); online and phone survey pretesting; survey fielding and regular updates on fielding status; documentation and testing of Spanish translations; documentation of survey incentives; and survey disposition report.

### Task 6b: CARE Capitation Agencies and Community Based Organizations

The research team (Opinion Dynamics staff) will conduct in-depth phone interviews (IDIs) with staff of up to 20 CBOs that serve CARE-eligible customers, particularly those who may be hard to reach via a survey or interview (e.g., non-English speakers, immigrants, and the elderly and disabled) (see Task 4c for the sampling plan).<sup>22</sup> Before each interview, the team’s interviewers will confirm the CBO’s targeted constituents and territory in order to meet CBO strata quotas. The interviews will require up to 60 minutes, and to maximize participation, the research team will offer \$25 incentives to each CBO staff who completes an interview.

- **Deliverables:** Draft and final interview schedules; interview disposition results.

### Task 6c: ESA Contractors

The research team will recruit 20 ESA contractors to participate in four focus groups (five contractors per group and one group per IOU; see Task 4e for the sampling plan).<sup>23</sup> The team will conduct one focus group in a central location within each of the four IOU’s service territory to maximize coverage of the IOUs’ regions. The team’s interviewers will use phone calls and possibly emails to screen and recruit ESA contractors based on interest, ability, and availability to participate and their proximity to the focus group facility, and will confirm contractors’ trade (e.g., HVAC, weatherization, etc.) and number of ESA projects to meet contractor strata

<sup>21</sup> The research team’s previous experience surveying low-income customers for the California IOUs suggests that about 15% of completed surveys will be in Spanish.

<sup>22</sup> UPDATE: The research team worked with the study team to reduce the scope to conduct interviews with staff at seven CARE capitation agencies/CBOs that provide services to immigrant and non-English-speaking clients, and shifted remaining resources to conducting a literature review about trends in immigrants enrollments in and barriers to enrolling in public assistance programs. In addition, the research team provided interviewed staff with \$50 gift cards instead of \$25 gift cards.

<sup>23</sup> UPDATE: Due to challenges recruiting the appropriate ESA contractors to participate in focus groups, the research and study teams decided to focus resources on conducting the IDIs with ESA contractors instead.

quotas. Members of the research team will moderate the focus groups and also will live stream and record the video and audio of the focus groups. Each focus group will require up to two hours, and to increase participation and discussion in the focus groups, the team will offer a \$100 incentive to each participant.

The research team (Opinion Dynamics staff) also will conduct in-depth phone interviews with up to 16 ESA contractors (four per IOU; see Task 4e for the sampling plan).<sup>24</sup> The team's interviewers will use phone calls and possibly emails to recruit and screen contractors who were unable to participate in the focus groups due to distance from the facility, and to confirm contractors' trade (e.g., HVAC, weatherization, etc.) and number of ESA projects to meet contractor strata quotas. The interviews will require up to 60 minutes, and to maximize participation in the interviews, the team will provide \$50 incentives to each contractor who completes an interview.

- **Deliverables:** Draft and final focus group and interview schedules; focus group and interview disposition results; focus group video/audio recordings.

## Task 7: Preliminary Analysis Plan

This section presents the research team's preliminary plan for analyzing the primary and secondary data to address the LINA research objectives. The preliminary plan describes the analysis methods, the data types that will be included, including the hardship indicators/indices and energy burden metrics to be constructed from other variables, and the rationale for the analyses. Following an overview of the analysis methods, the preliminary plan presents more specific plans for each research objective. The research team will revise this draft analysis plan following the public workshop to review this research plan and will submit the revised analysis plan to the study team before drafting the survey instruments and interview guides (Task 5: Instrument Development and Topics for Surveys, Interviews, and Focus Groups) and will finalize the plan after receiving the study team's comments.

- **Deliverables:** Draft and final Analysis Plan.

## Overview of Analysis Methods

The research team will clean and merge the survey data reported by current and past CARE participants with the requested and available variables from the CARE databases and any secondary or third-party vendor data for targeted low-income areas.

The research team will use univariate (frequencies, means), bivariate (cross-tabulations), and multivariate (ANOVA, regression) methods to develop point estimates and analyze relationships and patterns in the data collected from the programs, third-party vendors, secondary sources, and the surveys, interviews, and focus groups. The team will analyze results both across and by IOUs to report overall results and IOU-specific results. If needed, the team will apply post-stratification weights to the survey data to improve the representativeness of respondents to the low-income population (as was done for the 2016 LINA).

The research team will conduct exploratory and confirmatory factor analyses using survey responses and variables in the CARE, ESA, and customer databases and secondary and third-party data to create indices or indicators of financial/health hardship, HCS-related hardship, alt-fuels-related hardship, and hardships associated with living in low service reliability areas. For example, the team will use exploratory factor analysis to identify the factor structure of variables included in the analysis and will then use confirmatory factor analysis to confirm the factor that best measures hardships. The team will standardize the index/indicator

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<sup>24</sup> UPDATE: The research team conducted IDIs with 12 ESA contractors, including at least two in each IOU territory and at least one who specializes in ESA enrollments/assessments and in the installation of the targeted ESA heating, cooling, and enclosure measures.

scores for use in frequency, cross-tabulation, and regression analyses. The team will provide more details in the revised analysis plan, after receiving the data requested from the study team and drafting the survey instrument.

The research team will use *SPSS*, *Excel*, and other quantitative analytical tools to analyze data from CARE, ESA, and customer databases, secondary or third-party vendor data, and customer surveys. The team will use *Nvivo* and other qualitative analytical tool to analyze results from the contractor focus groups and interviews and the CBO interviews. The following sub-sections describe which data sources and analytical methods the research team will likely need to use to answer each research question.

### **Research Objective 1a: Informing the CARE Post-enrollment (PE) Processes: Recertification and Verification (Including Traditional and High Usage)**

The research team will use data from the IOU CARE program databases and the survey of current and past CARE participants to identify possible factors related to retention and loss of CARE participants. Specifically, the team will examine whether participant retention/loss may be related to aspects of the enrollment, recertification, or verification processes, to customer characteristics, to customers' experiences with the program, or to some combination of factors.

The team plans to use the following data types from the CARE program databases:

- Enrollment date, channel, methods of establishing initial eligibility.
- Recertification date(s), channel, income documentation, outcome (recertified or not), reasons for no recertification (over income, did not respond).<sup>25</sup>
- Verification date(s), selection method (high-usage or sampled), methods or information used to determine eligibility, outcome (eligible or ineligible), reasons for ineligibility, appeal date(s) and results.<sup>26</sup>
- Customer characteristics: location, language preference, preferred mode of communication, household size and income, public assistance participation, fuel source, energy usage, bill payment history, medical baseline, and ESA participation.

The team will use the above data, together with secondary data on community characteristics, to analyze the number of customers who remained in and were removed from CARE for various reasons throughout the program processes and how rates and reasons for retention and removal may be related to the customer and community characteristics assessed. These analyses will allow the team to identify factors that may increase CARE customer loss and point to strategies for preventing loss.

In addition to reporting descriptive information about the CARE population, the team will examine bivariate relationships among selected outcome variables (e.g., recertification outcome) and various other variables (e.g., length of time enrolled, income documentation, language preference, household size). The team will then use multivariate analyses (e.g., multiple regression, analysis of covariance) to assess the pattern of interrelationships among the variables, to shed more light on what combinations of factors may lead to retention or loss of CARE customers.

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<sup>25</sup> UPDATE: The research team did not receive "reasons for no recertification" from the IOUs, and did not receive recertification channel or removal date from SDG&E, and thus could not perform analyses with these data fields.

<sup>26</sup> UPDATE: The research team did not receive "reasons for ineligibility" or "outcomes" from the IOUs, and did not receive verification channel or removal date from SDG&E, and thus could not perform analyses with these data fields.

The team will merge the CARE program data with survey responses from current and past CARE customers to provide for deeper exploration of possible correlates of CARE customer retention and loss. The survey data may include:

- Additional customer characteristics (household size and type, income, education, age, ethnicity, language, mobility, employment status, energy usage/costs/burden, financial/health status and hardship indices).
- Program-related awareness and experiences (sources of program awareness, satisfaction with program processes, impact of CARE on reducing hardship).
- Participation barriers (e.g., difficulty providing income documentation) and ways to overcome them.
- Knowledge of energy efficiency.
- Reasons for dropping out of CARE.

Again, the team will report descriptive information and will examine both bivariate and multivariate relationships among the above variables and the recertification and verification outcome variables, including reasons for ineligibility.

In addition to the above, the research will use survey data on income level and other variables related to CARE eligibility to estimate the proportions of past CARE customers who are currently eligible and ineligible. This will help by providing an estimate of the program's level of penetration.

The research team will supplement the above analyses with insights drawn from the interviews with CBO contacts (described in Task 5b: CARE Capitation Agency and Community Based Organization Interview Guide Development and Topics). The team will conduct qualitative analyses of those interviews to identify findings on factors related to successful recertification, including customer characteristics; barriers and challenges to CARE participation; how the program and CBOs may address those barriers and challenges; and the impact of CARE on participants.

### **Research Objective 1b: Informing CARE ME&O: Unaware, Unwilling, Eligible, and Not Enrolled**

The research team will use data from the survey of current CARE participants and CARE-eligible nonparticipants, supplemented with secondary data on community characteristics, to identify reasons that some CARE-eligible customers are not enrolled, whether it is because they are unaware of the program or unwilling to participate. The survey data may include:

- Customer characteristics (household size and type, income, education, age, ethnicity, language, mobility, employment status, energy usage/costs/burden, financial/health status and hardship indices).
- Participation awareness, interest, and attitudes.
- Barriers to participation (e.g., difficulty providing income documentation) and (among CARE participants) ways of overcoming barriers.

In addition to reporting descriptive information about the non-CARE population, the team will examine differences between the CARE and non-CARE customers on the above variables to highlight factors that may prevent CARE enrollment. By including secondary data on community characteristics (e.g., median income, ethnicity, climate, remoteness), the team will examine whether such community characteristics may pose barriers to participation above and beyond individual characteristics. The team also will examine how various sub-groups of CARE-eligible nonparticipants (e.g., immigrants, non-English speaking customers, the elderly

and disabled) compare on the above variables to determine whether certain challenges or barriers are more applicable to some sub-groups than others.

The team will use multivariate analyses (e.g., multiple regression, analysis of covariance) to assess the pattern of interrelationships among the variables, to shed light on what combinations of factors may promote or hinder enrollment.

The research team will supplement the above analyses with insights drawn from the interviews with CBO contacts (described in Task 5b: CARE Capitation Agency and Community Based Organization Interview Guide Development and Topics). The team will conduct qualitative analyses of those interviews to identify findings related to CARE awareness; factors related to eligibility and enrollment, including customer characteristics as well as what channels may be most effective for various subgroups of customers; barriers and challenges to CARE participation; and how the program and CBOs may address those barriers and challenges. The CBO interviews will be particularly valuable in supplementing the information on immigrants (undocumented and documented), non-English speakers, and the elderly and disabled, who have low or no CARE participation.

### **Research Objective 2: Examine Customer Non-Energy Impacts Specifically Related to the Health, Comfort, and Safety (HCS) Impacts of Specific ESA Measures**

The research team will use data from the IOU ESA program databases and the survey of ESA participants to examine the degree to which certain ESA measures may be related to specific non-energy impacts related to reduction of health, comfort, and safety (HCS) hardships and to assess the degree to which any such relationships may be a function of community, household, or customer characteristics.

The team plans to use the following data types from the ESA database:

- Participation information (date(s), income qualification type, application channel, installed and replaced measures, energy education received, home assessment results, new or retreatment project, QA/QC activities, contractor information).
- Community characteristics (e.g., climate region).
- Customer and household characteristics (own/rent home, housing type and vintage, space heating type and fuel, water heating type, income, household size, disability, age, ethnicity, usage, bill history, CARE and FERA participation).

The customer survey will provide additional data on customer characteristics and on perceptions of the HCS impacts and overall benefits of, and satisfaction with, specific ESA measures, HCS-related hardships, financial/health hardships, energy usage/costs/savings/burden, knowledge of energy efficiency, and public assistance program participation.

Using the above data, the research team will both report descriptive data on ESA customers' experiences with and perceptions of the benefits and non-energy impacts of specific ESA measures, for new and retreatment projects, and examine bivariate and multivariate relationships between those experiences and perceptions and a range of other variables. Specifically, the team will assess how ESA customers' experiences with and perceptions of the benefits and non-energy impacts of specific ESA measures relate to demographic and housing characteristics; climate region; community characteristics; financial/health hardships; energy usage, costs, and savings; contractor type and performance ratings; QA/QC inspection data; receipt of energy education; knowledge of energy efficiency; and CARE and public assistance program participation.

Incorporating the above types of variables into multivariate analyses will allow the research team to characterize the conditions under which specific ESA measures provide more or less HCS benefits. For

example, using information from the home assessment will allow the team to analyze the conditions of participants' homes before their ESA participation – did they have a working heating system or water heater before ESA participation – and examine whether those conditions are related to the level of HCS benefit. Similarly, the team will be able to examine whether those customers whose projects were done by contractors with good QA/QC records have greater or less HCS.

The fact that the research team will assess HCS hardships in both the ESA and CARE customer surveys will allow the team to assess how ESA participants and CARE participants not treated by ESA differ on HCS indices. In analyzing that difference, the team will control for demographic, housing, and community characteristics and climate region variables assessed in both surveys.

The research team will supplement the results with key insights gained from the qualitative analyses of ESA contractor focus group and interview data. The team will analyze the ESA contractor focus groups and interviews to identify trends in contractors' experiences, perceptions, practices, attitudes, and barriers/challenges with their projects that include non-energy HCS measures. The team will analyze how these trends differ by contractor type and firmographics, contractors' types of projects and measures, and contractors' service territory characteristics.

### **Research Objective 3: Assess Hardships of Households without Access to Electricity and/or Natural Gas and Who May Rely on Wood, Delivered Fuels, Diesel, or Other Fuels (Alt-fuels Households)**

The research team will use data from the IOUs' non-CARE Customer Account, CARE, and ESA databases and from the surveys of alt-fuels households and of CARE and ESA participants to assess the hardships of alt-fuels households, including how their hardships differ from those of other customers.

The team plans to use the following data types from the non-CARE Customer Account, CARE, and ESA databases:

- Energy usage/cost.
- CARE/ESA/public assistance participation.
- Climate region.
- Fuel sources and uses.

Survey data may include:

- Customer characteristics (household size and type, income, education, age, ethnicity, language, mobility, employment status, energy usage/costs, financial/health status and hardship indices).
- HCS-related hardships, financial/health hardship, and hardship and benefits of using only electricity or alternative fuels.
- Awareness of, participation in, and barriers to participate in CARE and/or ESA, practices/processes/information and additional services needed to lessen their unique hardships and overcome barriers to CARE and ESA participation.
- Reasons for using alt-fuels.
- Knowledge of energy efficiency.

The team will supplement the IOU database and survey data with secondary data on community characteristics (e.g., median income).

The research team will provide descriptive data on survey responses to shed light on issues specific to alt-fuels households and will conduct both bivariate and multivariate analyses to gain even deeper insights.

Descriptive analyses will include analyses of survey responses to questions about HCS-related hardships, financial/health hardship, and hardship and benefits of using only electricity or alternative fuels, to identify unique burdens and benefits experienced by alt-fuels households. The research team also will analyze alt-fuel households' survey responses to questions about awareness of, participation in, and barriers to participate in CARE and/or ESA; practices, processes, information, and additional services needed to lessen their unique hardships and overcome barriers to CARE and ESA participation, and reasons for using alt-fuels. This information will help determine to what extent and how programs can address their needs and mitigate burdens and hardships.

The research team will use energy usage/cost data from the customer database and self-reported energy usage/costs, income, household size, and sources of income results from the customer survey to calculate the energy burden and modified energy burden of alt-fuels households. In addition to reporting descriptive information on the burden indices, the research team will conduct bivariate and multivariate analyses to examine how those indices relate to the community and customer characteristics variables described above. For example, the team will measure how energy burden and hardships are affected by participation in or awareness of CARE, ESA, or public assistance programs, fuel uses and sources, knowledge of energy efficiency, climate region, and demographic and housing characteristics. This will provide information on which alt-fuels households have the greatest burden.

Finally, since the research team will assess many of the same customer characteristics (including the energy burden indices) in the surveys of both alt-fuels and other customers, the team will compare alt-fuels households with other customers to identify characteristics unique to alt-fuels households.

#### **Research Objective 4: Assess hardships of customers in areas with less reliable energy services due to frequent and/or long service interruptions as indicated SAIDI/SAIFI**

The research team will use data from the IOU customer and program databases, the surveys of customers in areas with less reliable energy services, and secondary data to assess the hardships specific to customers in those areas and how their hardships differ from those of other customers.

The team plans to use the following data types from the non-CARE Customer Account, CARE, and ESA databases:

- Energy usage/cost.
- CARE/ESA/public assistance participation.
- Climate region.
- Fuel sources and uses.

Survey data may include:

- Customer characteristics (household size and type, income, education, age, ethnicity, language, mobility, employment status, energy usage/costs, financial/health status and hardship indices).
- HCS-related hardships, financial/health hardships, and other hardships specific to low service reliability.
- Awareness of, participation in, and barriers to participate in CARE and/or ESA, practices/processes/information and additional services needed to lessen their unique hardships.

- Knowledge of energy efficiency.

The team will supplement the IOU database and survey data with secondary data on community characteristics (e.g., median income).

The research team will provide descriptive data on survey responses to shed light on issues specific to households in low-service-reliability areas and will conduct both bivariate and multivariate analyses to gain deeper insights.

Descriptive analyses will include analyses of survey responses to questions about HCS-related hardships, financial/health hardship, and other hardships specific to low service reliability, to identify unique burdens experienced by these households. The research team also will analyze these households' survey responses to questions about awareness of, participation in, and barriers to participate in CARE and/or ESA; and information on practices, processes, and additional services needed to lessen their unique hardships and overcome barriers to CARE and ESA participation. This information will help determine to what extent and how programs can address their needs and mitigate burdens and hardships.

The research team will use energy usage/cost data from the customer database and self-reported energy usage/costs, income, household size, and sources of income results from the customer survey to calculate the energy burden and modified energy burden of households in low-service-reliability areas. In addition to reporting descriptive information on the burden indices, the research team will conduct bivariate and multivariate analyses to examine how those indices relate to the community and customer characteristics variables described above. For example, the team will measure how energy burden and hardships are affected by participation in or awareness of CARE, ESA, or public assistance programs, fuel uses and sources, knowledge of energy efficiency, climate region, and demographic and housing characteristics. This will provide information on which households have the greatest burden.

Finally, since the research team will assess many of the same customer characteristics (including the energy burden indices) in the surveys of both low-service-reliability and other customers, the team will compare the low-service-reliability households with other customers to identify characteristics unique to the former.

## **Task 8: Draft & Final Report and Public Workshop**

The research team will document the results from the LINA research in a draft and final report and will present the results to staff and stakeholders in a public workshop. The research team will structure the report, to the extent possible, to be similar to previous LINA study reports for consistency and the report will include an executive summary, introduction, methods section, results sections, conclusions and recommendations, and appendices that will include frequency and other results tables, the analysis plan, survey instruments, interview guides, focus group guides, disposition tables and results, data collection protocols, the sampling plan, and data requests.

The research team will work with the study team to schedule the public workshop before submitting a draft report. After scheduling the workshop, the team will submit the draft report and public workshop presentation slides to the study team for feedback. The team will then make any necessary revisions and, a few days before the workshop, will send the draft report and workshop slides to all staff and stakeholders for review. The research team will then host the workshop and present results. After the workshop, the study team and stakeholders will complete their review of the report and provide feedback. The research team will revise as necessary to finalize the report and will submit the final report by December 12, 2019.

- **Deliverables:** Draft and final reports; draft and final public workshop slides; public workshop for staff and stakeholders; meeting notes and summary from the workshop.

## **Task 9: Project Management**

The research and study teams will attend regular check-in meetings once per week or as needed to track progress on the project and discuss any questions, issues, plans, deliverables, etc. The research team also will provide monthly status reports outlining tasks accomplished in the previous month, anticipated accomplishments in the upcoming month, issues for the client to consider, changes in the timeline and/or tasks, and monthly budget expenditures and totals.

In addition, the research team drafted an overall schedule of project milestones and deliverables. Throughout the study, the research and study teams will update the overall project timeline as needed and will draft and distribute more detailed two-week or monthly timelines to keep track of ongoing upcoming activities and upcoming deadlines.

## Overview of Data Collection and Sources for Each Research Question

Table 12. Data Sources and Collection Tasks for Each Research Question

List of Research Questions (RQ), by Objective	How the Research Will Address the Questions			Opinion Dynamics & DNV GL Roles	Data Needs
	Customer Survey	Database & Secondary Data	Contractor Focus Groups/IDIs & CBO IDIs		
<b>RQ</b>	<b>Objective 1A: Informing the CARE post-enrollment (PE) processes: recertification and verification (including traditional and high usage)</b>				
1: How many customers are retained and removed at different junctures of the program and for what reasons?	The customer survey of past and current CARE participants will include topics about eligibility (income, household size, etc.) and reasons for participating and dropping out. Analyses for this research question will primarily rely on data from CARE databases (see next column).	The team will use available data from the CARE database, secondary sources (e.g., Census), and third-party vendors to identify areas with high concentrations of low-income, CARE-eligible households and to develop the survey sample of current and past CARE participants. The team will use data available process data from the CARE database regarding enrollment, recertification, verification, attrition, appeals, traditional vs. high users, energy usage/costs, merged with survey data, to analyze patterns in participant retention and attrition, potential misclassification of eligible and ineligible customers, and differences across customer characteristics.	Interviews with CBOs will include topics about how program processes retain eligible and remove ineligible customers, and reasons their customers do or do not participate, based on their interactions with their constituents.	Opinion Dynamics: Develop and implement survey and interviews; share analysis of collected survey and interview data.  DNV GL: Develop sample frame with customer list and secondary data; conduct longitudinal analysis of CARE participation (certification/verification/recertification); share analysis of database and secondary data.	Current and past CARE participant contact information, language preference, method of IOU communications, bill type Names and contact information of CBOs Longitudinal data on program processes (enrollment, recertification, verification, appeals) Available customer characteristics (income, income sources, household (HH) size, public assistance, housing type, climate region, ESA participation, traditional vs. high user, fuel source, energy usage and costs, issues with bill payment history) Community characteristics (median income, poverty levels, population estimates; likely available only through secondary sources) for identifying areas with high concentrations of low-income households and immigrants
2: What are characteristics of customers who are retained in CARE and customers who are removed from CARE?	The customer survey of past and current CARE participants will include questions about multiple customer characteristics, perceptions, and attitudes that may differ by CARE participation and processes (e.g., income, income sources, household size, education, age, ethnicity, language, mobility, employment status, satisfaction with CARE and processes, sources of awareness, participation barriers, financial and health status/hardships, perceived impact of CARE on financial/health status, changes in financial/health status, ESA participation, knowledge of energy efficiency, practices/processes/ME&O and additional services needed to better facilitate and improve participation).		CBO interviews will include topics about their perceptions regarding differences among CARE-eligible and ineligible groups, based on their experience serving their constituents.		
3: What do we know about participants following verification or recertification, such as enrollment channels, methods of establishing initial eligibility, and sources of income documents for recertification/verification or re-enrollment, length of time on CARE, usage levels, usage patterns, mobility, and demographic profiles?			CBO interviews will include topics about specific CARE program processes and requirements, potential barriers to participation and practices/ processes/ information to help overcome barriers.		
<b>RQ</b>	<b>Objective 1B: Informing CARE ME&amp;O: Unaware, unwilling, eligible, and not enrolled</b>				
1: What are the characteristics of customers who are eligible and enrolled and customers who are eligible but not enrolled in CARE?	The customer survey of CARE-eligible nonparticipants will include topics about their characteristics that may differ from current and past CARE participants (e.g. income, income sources, household size, education, age, ethnicity, language, mobility, employment status, awareness of and interest in CARE, attitudes toward and reasons for not participating, barriers to participation, financial/health status and hardships, knowledge of energy efficiency). See RO 1A above for characteristics collected for current and past CARE participants for comparisons with CARE-eligible nonparticipants.	The team will use available data from the CARE database, secondary sources (e.g., Census), and third-party vendors to identify areas with high concentrations of low-income, CARE-eligible, and vulnerable households, and to develop the survey sample of CARE-eligible nonparticipants. The team may also use third-party vendor customer lists, income and household size characteristics to develop the sample of CARE-eligible nonparticipants.	CBO interviews will include topics for RO 1A above, but with a focus on vulnerable sub-populations and eligible nonparticipants (e.g., immigrants, non-English speakers, elderly/disabled). The interviews also will include topics about barriers to participation for these groups and what is needed to reach them and facilitate their participation.		
2: What practices/processes may facilitate enrollments with relevant sub-populations that have unique barriers or concerns?	The customer survey will include question topics about what practices/processes/ME&O can facilitate participation in CARE, including barriers to and concerns about participation and ways to overcome barriers, ME&O and additional services needed to participate.				

List of Research Questions (RQ), by Objective	How the Research Will Address the Questions			Opinion Dynamics & DNV GL Roles	Data Needs
	Customer Survey	Database & Secondary Data	Contractor Focus Groups/IDIs & CBO IDIs		
<b>RQ</b>	<b>Objective 2: Examining customer non-energy impacts specifically related to the health, comfort, and safety (HCS) impacts of specific ESA measures</b>				
1: What are customers' perceptions of non-energy impacts of specific ESA measures?	The customer survey will include topics about customers' perceptions and experiences with non-energy HCS impacts of specific ESA measures: satisfaction with ESA participation, processes, and installed measures; reasons for participating in ESA; HCS status and hardship; perceived impact of ESA participation/measures on HCS and financial/health status and hardship; changes in HCS and financial/health status before and after ESA.	The team will use available participant data from the ESA database, secondary sources (e.g., Census), and third-party vendors to identify areas with high concentrations of low-income, ESA-eligible households and to develop the survey sample of ESA participants.	Not applicable	Opinion Dynamics: Develop and implement survey and interviews; conduct analyses of survey and interview data.  DNV GL: Develop sample frame with customer list and secondary data; merge billing/ impact/ usage data from impact analysis and database into survey data; conduct analyses of merged billing/survey data.	ESA participant contact information, language preference, method of IOU communications, bill type ESA contractor contact information and available firmographics (e.g. type, number of ESA projects and inspections, participation date, performance rating) ESA project and measure data (home assessment results, installed, repaired, upgraded measures, application method, energy education, participation date, QA/QC inspection and results, contractor, new or retreatment project) ESA participant characteristics (income, household size, age, ethnicity, climate region, housing type, tenure, heating/cooling/water heating equipment, fuel sources, CARE customer, public assistance, energy usage/costs/savings) Impact data (from ESA impact study) Community characteristics (median income, poverty levels, population estimates; likely available only through secondary sources)
2: What are contractors' perceptions of non-energy benefits of specific ESA measures?	Not applicable	The team will use project-level and participant characteristic data from the ESA database to analyze conditions of participants' households before and after ESA participation, including installed/upgraded/repaired measures, home assessment results, QA/QC and gas inspection results, types of equipment in the home, demographic and housing characteristics, ESA contractor, energy usage/costs/savings.	ESA contractor interviews and focus groups will include topics about ESA program process and measures as related to impacting HCS, non-energy HCS impacts of select measures, whether and how contractors consider and measure HCS impacts for their projects, conditions of participant households under which ESA measures provide more or less HCS, contractors' expectations and challenges related to improving HCS impacts, contractors' perceptions of customers who need HCS improvements and the barriers they or their customers face for making HCS improvements, firmographic characteristics.		
3: What are the conditions under which select ESA measures provide more or less health, safety, and comfort benefits?	The customer survey will include topics about the conditions under which ESA measures provide more or less HCS benefits, including the customer characteristics: demographic (income, income sources, HH size, education, age, ethnicity, mobility, language, employment status) and housing characteristics (housing type, tenure, fuel sources and end-uses, equipment types), satisfaction with ESA program/measures, barriers/concerns about participation, HCS-related and financial/health status and hardships, knowledge of energy efficiency. The ESA participant database may also contain multiple indicators of conditions before/after participation (see next column).	The team will use billing and impact data from the ESA impact analysis, merged with survey and ESA database data, to analyze the link between HCS and savings. The team will use lists of ESA contractor and firmographics available in the ESA database to link contractors with participant projects and create the contractor sample for focus groups and IDIs.			

List of Research Questions (RQ), by Objective	How the Research Will Address the Questions			Opinion Dynamics & DNV GL Roles	Data Needs
	Customer Survey	Database & Secondary Data	Contractor Focus Groups/IDIs & CBO IDIs		
<b>RQ</b>	<b>Objective 3: Assessing hardships of households without access to electricity and/or natural gas and who may rely on wood, delivered fuels, diesel, or other fuels (alt-fuels households)</b>				
1: What is the energy burden and unique hardships of alt-fuel households (focusing on customers with and possibly with no electricity and natural gas)?	The customer survey will include questions needed to calculate energy burden and hardships (if not available in customer database): energy usage/costs, income, income sources, household size, financial/health status and hardships, HCS status and hardships, hardships and benefits associated with using alt-fuels.	The team will use IOU customer data, and/or secondary or third-party vendor data to identify areas with high-concentrations of alt-fuels, electricity-only households (and possibly non-IOU alt-fuels households) to create the survey sample. The team will use available energy usage/cost data, CARE/ESA participation data, and secondary data about community characteristics, merged with survey data, to measure energy burden and characterize alt-fuels households.	Not Applicable	Opinion Dynamics: Develop and implement survey; conduct analyses of survey data.  DNV GL: Develop sample frame with customer list and secondary data.	Contact information of electricity-only customers, language preference, method of IOU communications, bill type  Fuel sources, energy usage/costs, climate region, available demographic or housing characteristics, CARE or ESA participant  Community characteristics (median income, poverty levels, population estimates; likely available only through secondary sources) for identifying areas with high concentrations of alt-fuels households
2: How does energy burden/hardships vary by various characteristics (type of fuel, uses of fuel, usage, climate region, household size)?	The customer survey will include questions about alt-fuels household characteristics that will enable the team to compare by energy burden/hardships and identify key drivers of burden/hardship: income, income sources, household size, age, education, ethnicity, language, mobility, employment status, housing type, tenure, fuel sources and end-uses, heating/cooling equipment, sources of awareness of and participation in CARE/ESA, barriers to participation in CARE/ESA, knowledge of energy efficiency.				
3: What are the key issues/drivers of the burden/hardship they experience?					
4: To what extent and how much can the programs (and CSD) mitigate burden/hardships for alt-fuel households?	The customer survey will include question topics about how programs can mitigate burden/hardships: CARE/ESA participation and awareness, reasons for participation/nonparticipation, knowledge of energy efficiency, practices/processes/ME&O and additional services needed to facilitate participation, perceived impact of participation on reducing burden/hardships.				

List of Research Questions (RQ), by Objective	How the Research Will Address the Questions			Opinion Dynamics & DNV GL Roles	Data Needs
	Customer Survey	Database & Secondary Data	Contractor Focus Groups/IDIs & CBO IDIs		
<b>RQ</b>	<b>Objective 4: Assessing hardships of customers in areas with less reliable energy services due to frequent and/or long service interruptions as indicated SAIDI/SAIFI</b>				
1: What is the energy burden and unique hardships of customers with less reliable service?	The customer survey will include questions needed to calculate energy burden and hardships (if not available in customer database): energy usage/costs, income, income sources, household size, financial/health status and hardships, HCS status and hardships, hardships and benefits associated with using alt-fuels.				
2: How does energy burden/hardships vary by various characteristics (type of fuel, uses of fuel, usage, CZ, HH size)?	The customer survey will include questions about low service reliability household characteristics that will enable the team to compare by energy burden/hardships and identify key drivers of burden/hardship: income, income sources, household size, age, education, ethnicity, language, mobility, employment status, housing type, tenure, fuel sources and end-uses, heating/cooling equipment, sources of awareness of and participation in CARE/ESA, barriers to participation in CARE/ESA, knowledge of energy efficiency.	The team will use IOU customer data, SAIDI/SAIFI values and geographic indicators, and/or secondary or third-party vendor data to identify areas with high-concentrations customers in areas with low service reliability to create the survey sample.		Opinion Dynamics: Develop and implement survey; conduct analyses of survey data.	SAIDI/SAIFI values and matching geographies (zip codes, counties, etc.)
3: What are key issues/drivers of the burden or hardship they experience?		The team will use available energy usage/cost data, CARE/ESA participation data, and secondary data about community characteristics, merged with survey data and SAIDI/SAIFI data, to measure energy burden and characterize customers in areas with low service reliability.	Not Applicable	DNV GL: Develop sample frame with SAIDI/SAIFI data, customer list, and secondary data; merge SAIDI/SAIFI data with survey data and share analyses of merged data.	Contact information of customers in areas with low service reliability, language preference, method of IOU communications, bill type
4: To what extent can the CARE and ESA programs address needs/mitigate burden/hardships for these customers?	The customer survey will include question topics about how programs can mitigate burden/hardships: CARE/ESA participation and awareness, reasons for participation/nonparticipation, knowledge of energy efficiency, practices/processes/ME&O and additional services needed to facilitate participation, perceived impact of participation on reducing burden/hardships.				Fuel sources, energy usage/costs, climate region, available demographic or housing characteristics, CARE or ESA participant Community characteristics (median income, poverty levels, population estimates; likely available only through secondary sources)

## Appendix B. Customer Survey Instrument

### General Introduction

Thank you for participating in our survey! We are conducting this survey to get feedback from customers like you about your energy needs and your opinions about some of services and programs offered by [IOU]. Your feedback will help us to improve these services and programs and make them more affordable.

### Current CARE Participants [ASK TO THIS GROUP ONLY]

[ASK SECTION ONLY TO CURRENT CARE PARTICIPANTS]

#### CARE Status for Survey Programming

CURRENT CARE STATUS = 1 IF ENROLLED BUT NOT REQUESTED TO RECERTIFY OR VERIFY

CURRENT CARE STATUS = 2 IF SUCCESSFULLY RECERTIFIED AND NOT REQUESTED TO VERIFY

CURRENT CARE STATUS = 3 IF SUCCESSFULLY VERIFIED

CURRENT CARE STATUS = 4 IF SUCCESSFULLY COMPLETED HIGH USER PROCESS

#### Screening Questions

First, we want to make sure you are an appropriate member of your household to complete our survey.

Q01\_S1. [IOU] offers the California Alternate Rates for Energy, or CARE, program, which provides up to a 35% discount on the monthly energy bills of customers who are eligible based on their annual household income and number of household members.

Our records show that your household is currently enrolled in [IOU]'s CARE program and receives a discount on your monthly energy bill. Are you knowledgeable enough about your household's participation in the [IOU] CARE discount program to answer questions about it?

1. Yes → SKIP TO Q1
2. No
98. Don't know [THANK AND TERMINATE]
99. Refused [THANK AND TERMINATE]

S1. [IF Q1\_0 = NO; PHONE ONLY] Many of the questions in this survey are about your household's experience with the [IOU] CARE discount and it is important that we hear from someone in your home who knows something about it.

May I speak with the person in your household who knows something about your household's participation in the [IOU] CARE discount program to complete the survey?

1. Yes
2. No [THANK AND TERMINATE]
98. Don't know [THANK AND TERMINATE]
99. Refused [THANK AND TERMINATE]

- S2. [IF Q1\_0 = NO; WEB ONLY] Many of the questions in this survey are about your household's experience with the [IOU] CARE discount and it is important that we hear from someone in your home who knows something about it. Please have the person who knows something about the [IOU] CARE discount your household currently receives complete the rest of the survey. If they are not available now, you can exit the survey and start back where you left off when the appropriate person is available.

## CARE Participation

- Q1. [ASK ALL CURRENT CARE] Thinking about the last time you had to complete an application for the [IOU] CARE discount program, did someone outside your household help complete the application?
1. Yes, someone outside my household helped complete the CARE application
  2. No, nobody outside my household helped complete the CARE application
  98. Don't know
  99. Refused
- Q2. [IF Q1 = 1 (SOMEONE HELPED WITH CARE FORM)] Who helped you complete the application for the [IOU] CARE discount?
1. A [IOU] representative, Energy Advisor, or automated system
  2. A friend or family member
  3. A social services agency or community organization
  4. A contractor
  5. Other (specify):
  98. Don't know
  99. Refused
- Q3. [SURVEY WILL DISPLAY APPROPRIATE QUESTION WORDING DEPENDING ON CARE STATUS]
- [IF CURRENT CARE STATUS = 1 (ENROLLED, NOT YET REQUESTED TO RECERTIFY OR VERIFY)]  
How difficult were the following aspects of enrolling in [IOU]'s CARE discount?
- [IF CURRENT CARE STATUS = 2 OR 3 (SUCCESSFULLY RECERTIFIED AND NOT REQUESTED TO VERIFY) OR (SUCCESSFULLY VERIFIED)]  
How difficult were the following aspects of renewing your enrollment in [IOU]'s CARE discount? You would have done this in response to a letter requesting that you provide updated eligibility information to continue getting the CARE discount.
- [IF CURRENT CARE STATUS = 4 (SUCCESSFULLY COMPLETED HIGH USER PROCESS)]  
How difficult were the following aspects of reducing your household's monthly energy usage to continue getting the CARE discount.

[ALL] Please use a scale from 0, meaning “not at all difficult,” to 10, meaning “extremely difficult?”

How difficult was .... [REPEAT IF NEEDED]

	0 – Not at all difficult	1-9	10 – Extremely difficult	97. NA	98. DK
[IF CURRENT CARE STATUS = 1, 2, 3, OR 4] A. Understanding what information was needed from you					
[IF CURRENT CARE STATUS = 1, 2, 3, OR 4] B. Gathering the required information					
[IF CURRENT CARE STATUS = 1, 2, 3 OR 4] C. Completing the application (after you understood and gathered the required information)					
[IF CURRENT CARE STATUS = 1, 2, 3, OR 4] D. Submitting the application to [IOU]					
[IF CURRENT CARE STATUS = 4] E. Going through the assessment to identify free energy-saving appliances and equipment					
[IF CURRENT CARE STATUS = 4] F. Understanding recommendations on how to reduce our energy usage					
[IF CURRENT CARE STATUS = 4] G. Getting the free appliances and equipment installed					
[IF CURRENT CARE STATUS = 4] H. Reducing your household’s monthly energy usage					

Q4. [ASK ALL CURRENT CARE] Please describe in your own words any issues or difficulties you experienced when you [INSERT PHRASE HERE BASED ON LOGIC BELOW]...

[CURRENT CARE STATUS=1, INSERT “enrolled in the [IOU] CARE discount.”]  
 [CURRENT CARE STATUS=2, INSERT “were required to renew your enrollment in for the [IOU] CARE discount by submitting updated information to [IOU].”]  
 [CURRENT CARE STATUS=3, INSERT “required to verify your household’s eligibility for the [IOU] CARE discount by submitting updated information and proof of your income or public assistance to [IOU].”]  
 [CURRENT CARE STATUS=4, INSERT “were required by [IOU] to reduce your household’s energy usage to keep getting the [IOU] CARE discount.”]

- 1. [OPEN-ENDED RESPONSE]
- 2. Did not experience any issues or difficulties
- 98. Don't know
- 99. Refused

Q5. [ASK ALL CURRENT CARE] How much do you agree with the following statements about the [IOU] CARE discount? Please answer on a scale from 0, meaning “do not agree at all,” to 10, meaning “completely agree.”

The CARE discount ...?

	0 – Do not agree at all	1-9	10 – Completely Agree	97. NA	98. DK
A. Helped improve your household's overall financial situation					
B. Helped you pay your household's energy bills on time					
C. Reduced the amount you worry about being able to pay your energy bills					
D. Helped your household stay out of debt or out of deeper debt					
E. Helped you afford other basic needs					
[ASK IF CURRENT CARE STATUS = 1] F. Has been worth the effort to enroll					
[ASK IF CURRENT CARE STATUS = 2 or 3] G. Has been worth the effort to renew your enrollment to continue receiving the CARE discount					
[ASK IF CURRENT CARE STATUS = 4] H. Has been worth the effort to go through the process of reducing your energy use to continue receiving the CARE discount					

## Past CARE Participants [ASK TO THIS GROUP ONLY]

[ASK SECTION ONLY TO PAST CARE PARTICIPANTS]

### Past CARE Status for Survey Programming

PAST CARE STATUS = 1 IF REQUESTED TO RECERTIFY BUT NOT REQUESTED TO VERIFY

PAST CARE STATUS = 2 IF REQUESTED TO VERIFY

PAST CARE STATUS = 3 IF DEEMED HIGH USER

### Screening Questions

First, we just want to make sure you are an appropriate person in your household to complete our survey.

Q6\_S4. [IOU] offers the California Alternate Rates for Energy, or CARE, program, which provides up to a 35% discount on the monthly energy bills of customers who are eligible based on their annual household income and number of household members.

Our records show that your household was enrolled in [IOU]’s CARE program and received a discount on at least some of your energy bills during the past three years. Are you knowledgeable enough

about your household's previous participation in the [IOU] CARE discount program to answer questions about it?

1. Yes → SKIP TO Q6
  2. No
  98. Don't know [THANK AND TERMINATE]
  99. Refused [THANK AND TERMINATE]
- S3. [IF Q6\_0 = NO; PHONE ONLY] Many of the questions in this survey are about your household's prior experience in the [IOU] CARE program. Can I speak with the person in your household who knows something about your household's participation in the [IOU] CARE discount program to complete the survey?
1. Yes
  2. No [THANK AND TERMINATE]
  98. Don't know [THANK AND TERMINATE]
  99. Refused [THANK AND TERMINATE]
- S4. [IF Q6\_0 = NO; WEB ONLY] Many of the questions in this survey are about your household's prior experience in the [IOU] CARE program. Please have the person who knows something about the [IOU] CARE discount your household used to receive complete the rest of the survey. If they are not available now, you can exit the survey and start back where you left off when the appropriate person is available.

## Past CARE Participation

- Q6. [ASK ALL PAST CARE] Thinking about the last time you had to complete an application for the [IOU] CARE discount program, did someone outside your household help complete the application?
1. Yes, someone outside my household helped complete the CARE application
  2. No, nobody outside my household helped complete the CARE application
  98. Don't know
  99. Refused
- Q7. [IF Q6 = 1 (SOMEONE HELPED WITH CARE FORM)] Who helped you complete the application for the [IOU] CARE discount?
1. A [IOU] representative, Energy Advisor, or automated system
  2. A friend or family member
  3. A social services agency or community organization
  4. A contractor
  5. Other (specify):
  98. Don't know
  99. Refused
- Q8. [ASK ALL PAST CARE] Why is your household no longer receiving the CARE discount on your monthly [IOU] bills? [WEB: Select all that apply. PHONE: Do not read, ask "Anything else?" after response, and use options to probe and code responses.]
1. We were no longer eligible for the discount
  2. We didn't need the CARE discount anymore
  3. We forgot to renew our application for the CARE discount

- 4. We didn't know how to continue getting the discount
- 5. We didn't want to provide the personal information to continue getting the CARE discount
- 6. We were too busy / it was too much trouble to get the information they were asking for
- 7. [DISPLAY IF PAST CARE STATUS = 3] Our energy usage was too high and we didn't know how to or couldn't reduce it
- 8. [DISPLAY IF PAST CARE STATUS = 3] We didn't want to reduce our energy usage
- 9. [DISPLAY IF PAST CARE STATUS = 3] We were required to have a home assessment and we didn't want one
- 10. Other (specify):
- 98. Don't know [EXCLUSIVE]
- 99. Refused [EXCLUSIVE]

Q9. [SURVEY WILL DISPLAY APPROPRIATE QUESTION WORDING DEPENDING ON CARE STATUS]

[IF PAST CARE STATUS = 1 OR 2 (REQUESTED TO RECERTIFY BUT NOT REQUESTED TO VERIFY) OR (REQUESTED TO VERIFY)]

How difficult were the following aspects of renewing your enrollment in [IOU]'s CARE discount? You would have done this in response to a letter requesting that you provide updated eligibility information to continue getting the CARE discount.

[IF PAST CARE STATUS = 3 (DEEMED HIGH USER)]

How difficult were the following aspects of reducing your household's monthly energy usage to continue getting the CARE discount.

[ALL] Please use a scale from 0, meaning "not at all difficult," to 10, meaning "extremely difficult?"]

How difficult was ...? [REPEAT IF NEEDED]

	0 - Not at all difficult	1-9	10 - Extremely difficult	97. NA	98. DK
[IF PAST CARE STATUS = 1, 2, OR 3] A. Understanding what information was needed from you					
[IF PAST CARE STATUS = 1, 2, OR 3] B. Gathering the required information					
[IF PAST CARE STATUS = 1, 2, OR 3] C. Completing the application (after you understood and gathered the required information)					
[IF PAST CARE STATUS = 1, 2, OR 3] D. Submitting the application to [IOU]					
[IF PAST CARE STATUS = 3] E. Going through the assessment to identify free energy-saving appliances and equipment you may have been eligible for					
[IF PAST CARE STATUS = 3] F. Understanding recommendations on how to reduce our energy usage					
[IF PAST CARE STATUS = 3] G. Getting the applicable appliances and equipment installed					
[IF PAST CARE STATUS = 3] H. Reducing your household's monthly energy usage					

Q9aa. [ASK ALL PAST CARE] Please describe in your own words any issues or difficulties you experienced when you [INSERT PHRASE HERE BASED ON LOGIC BELOW]...

[PAST CARE STATUS=1, INSERT “were required to renew your enrollment for the [IOU] CARE discount by submitting updated information to [IOU].”]

[PAST CARE STATUS=2, INSERT “required to verify your household’s eligibility for the [IOU] CARE discount by submitting updated information and proof of your income or public assistance to [IOU].”]

[PAST CARE STATUS=3, INSERT “were required by [IOU] to reduce your household’s energy usage to keep getting the [IOU] CARE discount.”]

- 1. [OPEN-ENDED RESPONSE]
- 2. Did not experience any issues or difficulties
- 98. Don't know
- 99. Refused

Q10. [ASK ALL PAST CARE] How much do you agree with the following statements about the [IOU] CARE discount during the time that your household received it? Please answer on a scale from 0, meaning “do not agree at all,” to 10, meaning “completely agree.”

The CARE discount ...?

	0 – Do not agree at all	1-9	10 – Completely agree	97. NA	98. DK
A. Helped improve your household's overall financial situation					
B. Helped you pay your household's energy bills on time					
C. Reduced the amount you worry about being able to pay your energy bills					
D. Helped your household stay out of debt or out of deeper debt					
E. Helped you afford other basic needs					
[ASK IF PAST CARE STATUS = 1 or 2] F. Seemed worth the effort to renew your eligibility to continue receiving the CARE discount					
[ASK IF PAST CARE STATUS = 3] G. Seemed worth the effort to go through the process of reducing your energy use to continue receiving the CARE discount					

## CARE-Eligible Nonparticipants [ASK TO THIS GROUP ONLY]

[ASK SECTION ONLY TO CARE NONPARTICIPANTS]

### Screening Questions

First, we just want to make sure you are the best person in your household to complete our survey.

Q11\_S7. Are you involved in making any decisions about your household’s energy usage and [IOU] bills?

- 1. Yes → SKIP TO S10

- 2. No
- 98. Don't know [THANK AND TERMINATE]
- 99. Refused [THANK AND TERMINATE]

S5. [IF Q11\_0 = NO; PHONE ONLY] This survey is about your household's experience with [IOU] and its energy services. May I speak with the person in your household who knows about your household's energy usage and [IOU] bills to complete the survey?

- 1. Yes
- 2. No [THANK AND TERMINATE]
- 98. Don't know [THANK AND TERMINATE]
- 99. Refused [THANK AND TERMINATE]

S6. [IF Q11\_0 = NO; WEB ONLY] This survey is about your household's experience with [IOU] and its energy services. Please have the person who knows about your household's energy usage and [IOU] bills complete the rest of the survey. If they are not available now, you can exit the survey and start back where you left off when the appropriate person is available.

Q11\_S10. How many people live in your home at least six months of the year, including yourself?

[EITHER INSERT NUMERIC RESPONSE BOX OR IF RESPONSE LIST, INCLUDE THESE OPTIONS:]

- 1. 1
- 2. 2
- 3. 3
- 4. 4
- 5. 5
- 6. 6
- 7. 7
- 8. 8
- 9. 9
- 10. 10
- 11. 11
- 12. 12
- 13. 13
- 14. 14
- 15. 15
- 16. 16
- 17. 17
- 18. 18
- 19. 19
- 20. 20 or more
- 98. Don't know [THANK AND TERMINATE]
- 99. Refused [THANK AND TERMINATE]

Q11\_S11. In 2017, was your household's total income more than [INSERT INCOME CATEGORY FROM TABLE BELOW THAT QUALIFIES HOUSEHOLD FOR CARE PARTICIPATION GIVEN HOUSEHOLD SIZE]?

- 1. Yes [THANK AND TERMINATE]
- 2. No
- 98. Don't know [THANK AND TERMINATE]
- 99. Refused [THANK AND TERMINATE]

Household Size	Income Eligibility Upper Limit
1-2	\$32,920
3	\$41,560
4	\$50,200
5	\$58,840
6	\$67,480
7	\$76,120
8	\$84,760
9	\$93,400
10	\$102,040
11	\$110,680
12	\$119,320
13	\$127,960
14	\$136,600
15	\$145,240
16	\$153,880
17	\$162,520
18	\$171,160
19	\$179,800
20 or more	\$188,440

### CARE Program Awareness

Q11. [ASK ALL CARE ELIGIBLE] [IOU] offers an energy rate discount program that provides up to a 35% discount on the monthly energy bills of customers who are eligible based on their annual household income and number of household members. The program is called the California Alternate Rates for Energy, or CARE. Have you ever heard of the [IOU] CARE discount program?

- 1. Yes
- 2. No → SKIP TO Q14
- 98. Don't know
- 99. Refused

Q12. [ASK IF Q11 = 1 (YES)] Has your household ever received the [IOU] CARE discount?

- 1. Yes
- 2. No
- 98. Don't know
- 99. Refused

Q13. [ASK IF Q12=1 (YES)] Why is your household no longer receiving the CARE discount on your [IOU] monthly energy bills? [WEB: Select all that apply. PHONE: Do not read, ask “Anything else?” after response, and use options to probe and code responses.]

- 1. We were no longer eligible for the discount
- 2. We didn't need the CARE discount anymore
- 3. We forgot to renew our application for the CARE discount

4. We didn't know how to continue getting the discount
5. We didn't want to provide the personal information to continue getting the CARE discount
6. We were too busy / it was too much trouble to get the information they were asking for
7. Our energy usage was too high and we didn't know how to or couldn't reduce it
8. We didn't want to reduce our energy usage
9. We were required to have a home assessment and we didn't want one
10. Other (specify):
98. Don't know [EXCLUSIVE]
99. Refused [EXCLUSIVE]

Q14. [ASK ALL CARE ELIGIBLE] If you qualified, would you be interested in applying for CARE to receive a discount on your [IOU] monthly energy bills?

1. Yes
2. No
98. DON'T KNOW
99. REFUSED

Q15. [ASK IF Q14 = 2 (NO, NOT INTERESTED)] Why aren't you interested in applying for the [IOU] CARE discount? [WEB: Select all that apply. PHONE: Do not read, ask "Anything else?" after response, and use options to probe and code responses.]

1. I don't think my household will be eligible
2. I don't have time to apply
3. I don't want to share any information about my household with [IOU]
4. I don't know what is involved and/or how to apply
5. I don't need the discount because my energy bills are already affordable
6. The discount will not make enough difference to help my household's financial situation
7. My household moves frequently or will be moving to another residence soon
8. Other (specify):
98. Don't know [EXCLUSIVE]
99. Refused [EXCLUSIVE]

Q16. [IF Q11 AND Q14 = YES (AWARE & INTERESTED)] Why hasn't your household applied for [IOU]'s CARE discount? [WEB: Select all that apply. PHONE: Do not read, ask "Anything else?" after response, and use options to probe and code responses.]

1. I thought my household was enrolled and receives the CARE discount
2. I don't know how to enroll or what is involved
3. I started to apply but didn't know how to complete or submit the application
4. I tried to apply in the past but my household was not qualified
5. I've been too busy or forgot about it
6. I don't think my household would qualify
7. I don't need the discount because my energy bills are already affordable
8. I think other people need the discount more than us
9. The discount will not make enough difference to help my household's financial situation
10. I don't want to share any information about my household with [IOU]
11. My household moves frequently or will be moving to another residence soon
12. Other (specify):
98. Don't know [EXCLUSIVE]
99. Refused [EXCLUSIVE]

- Q17. [ASK ALL CARE ELIGIBLE] What services, if any, could [IOU] reasonably offer that would help you better control or afford your household's energy usage and bills?
1. [OPEN-ENDED RESPONSE]
  2. None
  98. Don't know
  99. Refused

## ESA Participants [ASK TO THIS GROUP ONLY]

[ASK SECTION ONLY TO ESA PARTICIPANTS]

### Screening Questions

Q18\_S12. [IOU]'s Energy Savings Assistance, or ESA, program provides a free energy assessment and installation of energy-saving appliances and equipment in the homes of eligible customers. Our records show that, around [MONTH YEAR OF ESA PARTICIPATION], your home's [INSERT ESA MEASURES] through the [IOU] ESA program.

This survey is about whether there have been any changes to your home's comfort, safety, or energy bills since your home received the ESA equipment and services from [IOU]. Do you know about this answer some questions or is someone else the right person to talk to?

1. Yes → SKIP TO Q18
  2. No
  98. Don't know [THANK AND TERMINATE]
  99. Refused [THANK AND TERMINATE]
- S7. Is that person available to talk to right now?
1. Yes → [WAIT FOR OTHER PERSON, REPEAT INTRO and SKIP TO Q18]
  2. No, [THANK AND TERMINATE]
  98. Don't know [THANK AND TERMINATE]
  99. Refused [THANK AND TERMINATE]
- S8. PHONE VERSION: May I speak with the person in your household who knows about any changes to your home's comfort, safety, or energy bills since your home received the ESA equipment and services from [IOU] to complete the survey?
1. Yes
  2. No [THANK AND TERMINATE]
  98. Don't know [THANK AND TERMINATE]
  99. Refused [THANK AND TERMINATE]
- S9. [IF S4 = NO; WEB ONLY] Please have the person who knows about any changes to your home's comfort, safety, or energy bills since your home received the ESA equipment and services from [IOU] complete the rest of the survey. If they are not available now, you can exit the survey and start back where you left off when the appropriate person is available.

## ESA Participation

Q18. Overall, how satisfied are you with your experience working with [IOU]’s ESA program to receive the equipment and services in your home, using a scale from 0, meaning “not at all satisfied” to 10, meaning “completely satisfied?”

- 1. [PROGRAMMING: INSERT SATISFACTION SCALE]
- 98. Don't know
- 99. Refused

Q19. Next, I am going to ask about a few of the specific items or services that your home received from the ESA program. For each item I name, please tell me how satisfied you are, on the same scale from 0, meaning “not at all satisfied,” to 10, meaning “completely satisfied.” First, how satisfied are you with the [INSERT FIRST MEASURE LISTED AND THEN READ EACH ITEM]?

	0 – Not at all satisfied	1-9	10 – Completely satisfied	98. Don't Know
[IF ESA_FURNACE_CleanTune= 1] A. The cleaning and tuning of your heating furnace system				
[IF ESA_FURNACE_Repair = 1] B. The repair of your heating furnace system				
[IF ESA_FURNACE_Replace= 1] C. The new heating furnace system				
[IF ESA_FURNACE_RepairReplace= 1] D. The repair or replacement of your heating furnace system				
[IF ESA_CAC_CleanTune = 1] E. The cleaning and tuning of your central air-conditioning system				
[IF ESA_CAC_Replace = 1] F. The new central air-conditioning system				
[IF ESA_CAC_Repair = 1] G. The repair of your central air-conditioning system				
[IF ESA_RAC_Replace = 1] H. The new room or window air-conditioning unit(s)				
[IF ESA_HEATPUMP_Replace = 1] I. The new heat-pump system				
[IF ESA_HEATPUMP_Repair= 1] J. The repair of your heat-pump system				
[IF ESA_EvapCooler = 1] K. The new evaporative cooler(s)				
[IF ESA_AIRSEALING_ONLY = 1] L. The work that was done to make your home less drafty and more insulated, like sealing around doors and windows				
[IF ESA_AtticInsulation_Only = 1] M. The insulation installed in your attic to make your home less drafty and more insulated				
[IF ESA_AirSealing_and_AtticInsulation = 1] N. The work that was done to make your home less drafty and more insulated, like sealing around doors and windows and installing insulation in the attic				

Q20. [ASK ALL ESA PARTICIPANTS] During the year before you received the ESA program equipment and services in your home, about how often did you or other members of your household experience any the following inside your home? *For the first two items about cool and hot temperatures, please consider only the times of the year that are cold and hot where you live.*

	1. Never	2. A few times	3. Sometimes	4. Many times	5. Most or all the time	98. Don't know
A. Uncomfortably cool temperatures on the cold days or nights of the year						
B. Uncomfortably warm temperatures on the hot days or nights of the year						
C. Drafts coming from outside						
D. Mold, mildew, fungus, or moisture						
E. Pests such as rodents or insects						

Q21. [IF ANY PART OF Q20 > 1 (OCCURRED AT LEAST RARELY)] Thinking about the times the following conditions occurred inside your home during the year before you received the ESA equipment and services, about how many of the times did they cause any harm to you or other members of your household?

	1. Never	2. A few of the times	3. Some of the times	4. Most of the times	5. All of the times	98. Don't know
[IF Q20.A > 1] A. Uncomfortably cool temperatures on the cold days or nights of the year						
[IF Q20.B > 1] B. Uncomfortably warm temperatures on the hot days or nights of the year						
[IF Q20.C > 1] C. Drafts coming from outside						
[IF Q20.D > 1] D. Mold, mildew, fungus, or moisture						
[IF Q20.E > 1] E. Pests such as rodents or insects						

Q22. [ASK ALL ESA PARTICIPANTS] Now, thinking about the time since you received the ESA program equipment and services, about how often did you or other members of your household experience any of the following inside your home? *For the first two items about cool and hot temperatures, please consider only the times of the year that are cold and hot where you live.*

	1. Never	2. A few times	3. Sometimes	4. Many times	5. Most of all of the time	98. Don't know
A. Uncomfortably cool temperatures on the cold days or nights of the year						
B. Uncomfortably warm temperatures on the hot days or nights of the year						
C. Drafts coming from outside						
D. Mold, mildew, fungus, or moisture						
E. Pests such as rodents or insects						

Q23. [IF ANY PART OF Q22 > 1 (OCCURRED AT LEAST RARELY)] Thinking about the times the following conditions occurred inside your home since your household received the ESA program equipment and services, about how often did they cause any harm to you or other members of your household?

	1. Never	2. A few of the times	3. Some of the times	4. Most of the times	5. All of the times	98. Don't know
[IF Q22.A > 1] A. Uncomfortably cool temperatures on the cold days or nights of the year						
[IF Q22.B > 1] B. Uncomfortably warm temperatures on the hot days or nights of the year						
[IF Q22.C > 1] C. Drafts coming from outside						
[IF Q22.D > 1] D. Mold, mildew, fungus, or moisture						
[IF Q22.E > 1] E. Pests such as rodents or insects						

Q24. [ASK IF ESA PARTICIPANT RECEIVED HEATING MEASURE] How much, if at all, did the [ESA HEATING MEASURES] from the ESA program affect the comfort of your home? Use a scale from 0 to 10 where 0 means “made a lot worse,” 5 means “did not cause any change,” and 10 means “made a lot better.” [PROGRAMMING: INSERT SCALE]

Q25. [ASK IF ESA PARTICIPANT RECEIVED HEATING MEASURE] How much, if at all, did the [ESA HEATING MEASURES] from the ESA program affect the health of your household members, including yourself? If it affected different members in different ways, please try to identify the overall or “average” affect.

Use a scale from 0 to 10 where 0 means “made a lot worse,” 5 means “did not cause any change,” and 10 means “made a lot better.” [PROGRAMMING: INSERT SCALE]

- Q26. [ASK IF ESA PARTICIPANT RECEIVED COOLING MEASURE] How much, if at all, did the [ESA COOLING MEASURES] from the ESA program affect the comfort of your home? Use a scale from 0 to 10 where 0 means “made a lot worse,” 5 means “did not cause any change,” and 10 means “made a lot better.” [PROGRAMMING: INSERT SCALE]
- Q27. [ASK IF ESA PARTICIPANT RECEIVED COOLING MEASURE] How much, if at all, did the [ESA COOLING MEASURES] from the ESA program affect the health of your household members, including yourself? If it affected different members in different ways, please try to identify the overall or “average” affect. Use a scale from 0 to 10 where 0 means “made a lot worse,” 5 means “did not cause any change,” and 10 means “made a lot better.” [PROGRAMMING: INSERT SCALE]
- Q28a. [ASK IF ESA PARTICIPANT RECEIVED HEATING/COOLING COMBO MEASURE] How much, if at all, did the [ESA HEATING/COOLING COMBO MEASURES] from the ESA program affect the comfort of your home? Use a scale from 0 to 10 where 0 means “made a lot worse,” 5 means “did not cause any change,” and 10 means “made a lot better.” [PROGRAMMING: INSERT SCALE]
- Q28b. [ASK IF ESA PARTICIPANT RECEIVED HEATING/COOLING COMBO MEASURE] How much, if at all, did the [ESA HEATING/COOLING COMBO MEASURES] from the ESA program affect the health of your household members, including yourself? If it affected different members in different ways, please try to identify the overall or “average” affect. Use a scale from 0 to 10 where 0 means “made a lot worse,” 5 means “did not cause any change,” and 10 means “made a lot better.” [PROGRAMMING: INSERT SCALE]
- Q29a. [ASK IF ESA PARTICIPANT RECEIVED WEATHERIZATION/ENCLOSURE MEASURE] How much, if at all, did the [ESA WEATHERIZATION/ENCLOSURE MEASURES] from the ESA program affect the comfort of your home? Use a scale from 0 to 10 where 0 means “made a lot worse,” 5 means “did not cause any change,” and 10 means “made a lot better.” [PROGRAMMING: INSERT SCALE]
- Q29b. [ASK IF ESA PARTICIPANT RECEIVED WEATHERIZATION/ENCLOSURE MEASURE] How much, if at all, did the [ESA WEATHERIZATION/ENCLOSURE MEASURES] from the ESA program affect the health of your household members, including yourself? If it affected different members in different ways, please try to identify the overall or “average” affect. Use a scale from 0 to 10 where 0 means “made a lot worse,” 5 means “did not cause any change,” and 10 means “made a lot better.” [PROGRAMMING: INSERT SCALE]
- Q30a. [ASK ALL ESA PARTICIPANTS] Overall, how would you rate each of the following about your home? Please consider only the physical characteristics of your home that can impact your home’s indoor temperature, air quality, ventilation, and energy usage, such as the quality and performance of your home’s windows, doors, walls, ceilings, and floors, and any energy-using equipment like your appliances, heating and cooling equipment, water heating equipment, and lighting. Use a scale from 0, meaning “extremely poor,” to 10, meaning “extremely good.”

	0 – Extremel y poor	1	2	3	4	5 – Not good but not poor	6	7	8	9	10 – Extremel y good	98. Don’t Know
A. The overall comfort of your home												
B. The overall safety of your home												

	0 – Extremel y poor	1	2	3	4	5 – Not good but not poor	6	7	8	9	10 – Extremel y good	98. Don't Know
C. Your home as a healthy place to live												

Q30b. When the [IOU] ESA program contractor visited your home, did that person answer your questions or give advice about how your household and the items installed in your home could help with ...  
 [Interviewer instruction: insert item A, “saving energy,” and then repeat following with each additional item: And did they answer your questions or give advice about how those items could help with...]

	1. Yes	2. No	98. Don't recall
A. ...saving energy?			
B. ...improving your home's comfort?			
C. ...improving your home's safety?			
D. ...making your home a healthier place to live?			

Q31. What do you think [IOU] could do or change about the ESA program so that the health, comfort, or safety of customers' homes is improved? [WEB: Select all that apply. PHONE: Do not read, ask “Anything else?” after response, and use options to code responses.]

- 1. Nothing [EXCLUSIVE]
- 2. Get more feedback on what makes homes unhealthy, uncomfortable, or unsafe
- 3. Include more equipment or items that improve health, comfort, and safety problems
- 4. Better explain how the items offered through ESA can improve health, comfort, and safety
- 5. Better explain what customers can do or change to improve health, comfort, and safety
- 6. Other (specify):
- 98. Don't know [EXCLUSIVE]
- 99. Refused [EXCLUSIVE]

Q32 [IF Q31.3 IS SELECTED] What additional equipment could [IOU] provide to improve the health, comfort, or safety of customers' homes?

- 1. [OPEN-ENDED RESPONSE]
- 98. Don't know
- 99. Refused

## Heating & Cooling Characteristics [ASK ALL]

Now we have a few questions about some of the equipment in your home you use for cooling and heating, water heating, and cooking.

Q33. [ASK ALL] Which of the following items do you have for cooling your home on hot days and/or nights [IF ESA PARTICIPANT → INSERT “, including any cooling equipment your household received through [IOU]’s ESA program]? Please select all the cooling equipment you have.

	1. Have	2. Don't Have	98. Don't Know
A. Central air conditioner			

	1. Have	2. Don't Have	98. Don't Know
B. Window room air conditioner(s)			
C. Portable air conditioner(s)			
D. Evaporative or swamp cooler			
E. Heat pump			
F. Ceiling fan(s)			
G. Portable fans			
H. Other (specify)			

Q34. [ASK IF AT TWO OR MORE ITEMS IN Q33A-H = 1 (HAS COOLING EQUIPMENT)] Which one of the following items do you use most often to cool your home? [PROGRAMMING: DISPLAY ONLY ITEMS SELECTED IN O. SELECT ONLY ONE RESPONSE.]

	Use Most Often
A. Central air conditioner	
B. Window room air conditioner(s)	
C. Portable air conditioner(s)	
D. Evaporative or swamp cooler	
E. Heat pump	
F. Ceiling fan(s)	
G. Portable fans	
H. Other (specify)	

Q35. [ASK IF AT LEAST ONE ITEM IN Q33A-H = 1 (HAS COOLING EQUIPMENT)] How many rooms in your home are not cooled with the cooling equipment in your home? *Please do not include "rooms" like hallways, closets, or pantries.*

- 1. None
- 2. 1
- 3. 2
- 4. 3
- 5. 4
- 6. 5
- 7. 6
- 8. 7 or more
- 98. Don't know
- 99. Refused

Q36. [ASK ALL] Which of the following items do you have for heating your home on cold days and/or nights [IF ESA PARTICIPANT → INSERT “, including any heating equipment your household received through [IOU]’s ESA program]? Please select all the heating equipment you have.

	1. Have	2. Don't Have	98. Don't Know
A. Central or household furnace			
B. Radiant or hydronic heating system			
C. Heat pump			
D. Wall, cadet, or space heater(s)			

	1. Have	2. Don't Have	98. Don't Know
E. Baseboard heating			
F. Fireplace			
G. Stove or oven			
H. Other (specify)			

Q37. [ASK IF TWO OR MORE ITEMS IN Q36A-H = 1 (HAS HEATING EQUIPMENT)] Which one of the following items do you use most often to heat your home? [PROGRAMMING: DISPLAY ONLY ITEMS SELECTED IN 0. SELECT ONLY ONE RESPONSE.]

	Use Most Often
A. Central or household furnace	
B. Radiant or hydronic heating system	
C. Heat pump	
D. Wall, cadet, or space heater(s)	
E. Baseboard heating	
F. Fireplace	
G. Stove or oven	
H. Other (specify)	

Q38. [ASK IF AT LEAST ONE ITEM Q36A-H = 1 (HAS HEATING EQUIPMENT)] How many rooms in your home are not heated with the heating equipment in your home? *Please do not include "rooms" like hallways, closets, or pantries.*

- 1. None
- 2. 1
- 3. 2
- 4. 3
- 5. 4
- 6. 5
- 7. 6
- 8. 7 or more
- 98. Don't know
- 99. Refused

Q39. [ASK ALL] Which of the following items do you have in your home for cooking?

	1. Have	2. Don't Have	98. Don't Know
A. Microwave			
B. Stove top			
C. Oven			
D. Hot plate			
E. Fireplace			
F. Grill or BBQ [IF NEEDED: can be inside or outside]			
G. Other (specify):			

Q40. [IF AT LEAST ONE ITEM Q39A-G = 1 (HAS COOKING EQUIPMENT)] Thinking about the times you do cook your meals at your home during a typical year, how often do you use the following items? [PROGRAMMING: DISPLAY ONLY ITEMS SELECTED IN Q39]

	1. A few meals a year or less	2. A few meals a month	3. A few meals a week	4. Nearly every meal or more
A. Microwave				
B. Stove top				
C. Oven				
D. Hot plate				
E. Fireplace				
F. Grill or BBQ [IF NEEDED: can be inside or outside)				
G. Other (specify):				

Q41. [ASK ALL] Please indicate which energy sources are used to run each of the following types of equipment in your home? Select all that apply for each item.

	1. Electricity	2. Natural gas	3. Propane	4. Oil, kerosene, or diesel	5. Wood or pellets	6. Solar	7. Other	98. Don't know
A. Home heating								
B. Water heater								
C. Cooking appliances (not including an outdoor grill or BBQ)								

Q42. [IF Q41A = 1, 2, 6 OR 7 AND OA = 3, 4, OR 5 (USES ELECTRICITY/NATURAL GAS AND PROPANE, OIL/KEROSENE/DIESEL, OR WOOD/PELLETS)] Which of the following energy sources do you use most often to heat your home?

- 1. [IF OA = 1] Electricity
- 2. [IF OA = 2] Natural Gas
- 3. [IF OA = 3] Propane
- 4. [IF OA = 4] Oil, kerosene, or diesel
- 5. [IF OA = 5] Wood or pellets
- 6. [IF OA = 6] Solar
- 7. [IF OA = 7] Other energy source
- 98. Don't know
- 99. Refused

### Alt-Fuels Customers Questions [ASK ALL]

[ASK SECTION IF Q41A = 3, 4, OR 5 AND OA != 1, 2, 6 OR 7 (USES ONLY PROPANE, OIL/KEROSENE/DIESEL, OR WOOD/PELLETS FOR HOME HEATING; Q41B = 3, 4, OR 5 (USES PROPANE, OIL/KEROSENE/DIESEL, OR WOOD/PELLETS FOR WATER HEATING); Q41C = 3, 4, OR 5 (USES PROPANE, OIL/KEROSENE/DIESEL, OR

WOOD/PELLETS FOR COOKING); OR, Q42 = 3, 4, OR 5 (USES PROPANE, OIL/KEROSENE/DIESEL, OR WOOD/PELLETS PRIMARILY FOR HOME HEATING] , OTHERWISE SKIP TO NEXT SECTION]

Q43. Why do you use [INSERT FUEL TYPES 3, AND 4, AND 5 SELECTED IN Q41A-C] in your home instead of electricity or natural gas?

[WEB: Select all that apply. PHONE: Do not read, ask “Anything else?” after response, and use options to probe and code responses.]

	A. Propane	B. Oil/Kerosene/Diesel	C. Wood/Pellets
A. I can't get electricity service	1. Yes 2. No 98. Don't know	1. Yes 2. No 98. Don't know	1. Yes 2. No 98. Don't know
B. I can't get natural gas service	1. Yes 2. No 98. Don't know	1. Yes 2. No 98. Don't know	1. Yes 2. No 98. Don't know
C. The energy sources I use are affordable	1. Yes 2. No 98. Don't know	1. Yes 2. No 98. Don't know	1. Yes 2. No 98. Don't know
D. The energy sources I use are convenient	1. Yes 2. No 98. Don't know	1. Yes 2. No 98. Don't know	1. Yes 2. No 98. Don't know
E. The energy sources I use are good for the environment	1. Yes 2. No 98. Don't know	1. Yes 2. No 98. Don't know	1. Yes 2. No 98. Don't know
F. The energy sources I use are safe	1. Yes 2. No 98. Don't know	1. Yes 2. No 98. Don't know	1. Yes 2. No 98. Don't know
G. I prefer to be off the grid	1. Yes 2. No 98. Don't know	1. Yes 2. No 98. Don't know	1. Yes 2. No 98. Don't know
H. Other reasons (please specify)	1. Yes 2. No 98. Don't know	1. Yes 2. No 98. Don't know	1. Yes 2. No 98. Don't know

Q44. What are the disadvantages, if any, of using [INSERT FUEL TYPES 3, AND 4, AND 5 SELECTED IN Q41A-C]? [WEB: Select all that apply. PHONE: Do not read, ask “Anything else?” after response, and use options to probe and code responses.]

	A. Propane	B. Oil/Kerosene/Diesel	C. Wood/Pellets
A. It is expensive	1. Yes 2. No 98. Don't know	1. Yes 2. No 98. Don't know	1. Yes 2. No 98. Don't know
B. It is not convenient	1. Yes 2. No 98. Don't know	1. Yes 2. No 98. Don't know	1. Yes 2. No 98. Don't know
C. It is bad for the environment	1. Yes 2. No 98. Don't know	1. Yes 2. No 98. Don't know	1. Yes 2. No 98. Don't know

	A. Propane	B. Oil/Kerosene/Diesel	C. Wood/Pellets
D. It is not safe	1. Yes 2. No 98. Don't know	1. Yes 2. No 98. Don't know	1. Yes 2. No 98. Don't know
E. Other reasons (please specify)	1. Yes 2. No 98. Don't know	1. Yes 2. No 98. Don't know	1. Yes 2. No 98. Don't know

Q45. Overall, do you think using [INSERT FUEL TYPES 3, AND 4, AND 5 SELECTED IN Q41A-C] is more of an advantage, more of a disadvantage, or about the same compared to electricity or natural gas?

	1. More of an advantage	2. Advantages and disadvantages are equal	3. More of a disadvantage	98. Don't know
A. Propane				
B. Oil/Kerosene/Diesel				
C. Wood/Pellets				

Q46a. In 2017, how much does your household spend on [INSERT FUEL TYPES 3, AND 4, AND 5 SELECTED IN Q41A-C]? Please enter the costs as numbers in the space(s) below and your best estimate is fine.

[PROGRAMMING: DISPLAY IF SELECTED IN 0A-C]

- 1. Propane: \$[NUMERICAL RESPONSE] 98. Don't know
- 2. Oil, kerosene, or diesel: \$[NUMERICAL RESPONSE] 98. Don't know
- 3. Wood or pellets: \$[NUMERICAL RESPONSE] 98. Don't know

Q46b. [ASK WEB ONLY OF ALL ALT FUEL CUSTOMERS] [IF ESA PARTICIPANT → INSERT “Aside from the equipment and services your household received through [IOU]’s ESA program,”] Has your household received any [IF ESA PARTICIPANT → INSERT “other”] energy-saving equipment or services from a utility or through a federal or state-sponsored program during the past two years? It may have included kitchen or laundry appliances, heating or cooling equipment, new windows, insulation, water saving devices, or water heating equipment.

- 1. Yes
- 2. No → SKIP TO Q47
- 98. Don't know
- 99. Refused

Q46c. [ASK WEB ONLY IF Q46b = 1 (YES)] Which organization(s) provided your household with the equipment? [WEB: Select all that apply.] [Read list only if needed]

- 1. PG&E
- 2. SCE
- 3. SoCal Gas
- 4. SDG&E
- 5. CA Department of Community Services and Development
- 96. Other, please specify: [OPEN-ENDED RESPONSE]
- 98. Don't know [EXCLUSIVE]
- 99. Refused

## Service Reliability and Low Service Reliability Customers Questions [ASK ALL]

[ASK ALL UNTIL SCREENED OUT OR COMPLETED SECTION] Next, we have a few questions about electricity outages your household may have experienced during the past year.

Q47. During the past year, about how many times was your home without electricity for any amount of time because of an outage? Please do not include any electricity outages caused by a fire, flood, or other incidents that occurred only at your home. Please do include any electricity outages caused by a fire, flood, strong winds, or other incidents that occurred in your neighborhood, community, or region.

1. None → SKIP TO 0
2. 1 or 2 times
3. 3 or 4 times
4. 5 or 6 times
5. 7 or 8 times
6. 9 or 10 times
7. More than 10 times
98. Don't know
99. Refused

Q48. [IF Q47 > 1 (1 OR MORE OUTAGES)] Thinking about all the times your home was without electricity during the past year due to an outage, what was the average or most common amount of time your home was without electricity? What is the longest amount of time your home was without electricity? Your best estimate is fine.

	1. Average amount of time without electricity	2. Longest amount of time without electricity
A. Less than 15 minutes		
B. 15 minutes to less than an hour		
C. One hour to less than six hours		
D. Six hours to less than 12 hours		
E. 12 hours to less than a day		
F. One to two days		
G. More than two days		
H. Don't know		

Q49. [IF Q47 > 1 (1 OR MORE OUTAGES)] Overall, how much difficulty did it cause your household to be without electricity due to the outage(s) you experienced in the past two years? Please answer on a scale from 0, meaning no difficulty, to 10, meaning great difficulty.

Q50. [ASK IF Q49 > 2] Please briefly describe the difficulties you experienced due to an outage(s).

1. [OPEN-ENDED RESPONSE]

## Economic Status and Energy Burden [ASK ALL]

These next few questions are about your household's ability to meet your energy and other needs, and any health-related issues that could be impacted by your household's energy usage and bills.

51. [ASK ALL] What sources of income or other financial assistance did your household receive in 2017? [WEB: Select all that apply. PHONE: Do not read, ask "Anything else?" after response, and use options to probe and code responses.]

2. Wages and tips (hourly or salary)
3. Self-employment income
4. Investment income (interest, dividends, etc.)
5. Pensions or other retirement savings (401k, IRA, etc.)
6. Social security payments
7. Disability payments
8. Veterans (VA) payments
9. Unemployment compensation or benefits
10. Child support or alimony
11. Public assistance programs for housing, food, health care, or other basic needs
12. Assistance from family and/or friends
13. Loans from banks or other financial lenders
14. Other (specify):
98. Don't know [EXCLUSIVE]
99. Refused [EXCLUSIVE]

Q52. [IF Q51=10, INCOME FROM PUBLIC ASSISTANCE PROGRAMS] During 2017, what types of government programs provided your household with public assistance? [WEB: Select all that apply. PHONE: Do not read, ask "Anything else?" after response, and use options to probe and code responses.]

1. Housing assistance such as Section 8 or other subsidized housing
2. Food assistance such as CalFresh, Supplemental Nutrition Assistance Program (SNAP), Women-Infant-Children Food Program (WIC), or other food assistance
3. Medical assistance from MediCal, MediCAID, or Children's Health Insurance (CHIP)
4. Energy assistance such as Family Electric Rate Assistance (FERA), California Alternate Rates for Energy (CARE), or Low-Income Home Energy Assistance Program (LIHEAP)
5. Financial assistance such as Temporary Assistance for Needy Families (TANF), Supplemental Security Income (SSI), CalWorks, AFDC, or other welfare programs
6. Child care assistance such as Head Start
7. Other types of assistance (specify):
98. Don't know [EXCLUSIVE]
99. Refused [EXCLUSIVE]

Q53. [ASK ALL] How did your household pay for basic needs during the past year? [WEB AND PHONE: Select all that apply.]

1. Using your household's current income from wages, salaries, tips, or other cash payments like unemployment, retirement or veterans' benefits, or disability.
2. Using your household's savings or other investments
3. Cutting back on your spending for things your household wants but does not need
4. Reducing your household's energy usage to lower your bills

- 5. [DISPLAY IF 0 = 11] Receiving assistance from family and/or friends
- 6. [DISPLAY IF 0= 12] Borrowing money using a short-term loan from a bank or other financial lender
- 7. Using a credit card you can't to pay off right away
- 8. Leaving important bills unpaid past their due date(s)
- 9. Receiving assistance from [IOU]
- 10. [DISPLAY IF 0 = 10] Receiving assistance from public programs for housing, food, medical care, or other basic needs
- 11. Other (specify):
- 12. None of the above [EXCLUSIVE]
- 98. Don't know [EXCLUSIVE]
- 99. Refused [EXCLUSIVE]

Q54. [ASK ALL] During the past year, how many months, if at all, did your household have difficulty paying your monthly bills? Please select one response for each type of bill.

	1. None	2. 1 to 3 months	3. 4 to 6 months	4. 7 to 9 months	5. 10 to 12 months	98. Don't know	97. Not Applicable
A. Energy bills							
B. Rent or mortgage							
B. Bills for other basic needs such as food, water, and others							
C. Medical bills, including health insurance							

Q55. [ASK ALL] How well do these statements describe you and your situation during the past year? Please select one for each statement.

	1. Not at all	2. Very little	3. Somewhat	4. Very well	5. Completely	98. Don't know
A. Because of my money situation, I feel like I will never have the things I want in life						
B. I am just getting by financially						
C. I am concerned that the money I have won't last						

Q56. [ASK ALL] How often do the following statements apply to you?

	1. Never	2. Rarely	3. Sometimes	4. Often	5. Always	98. Don't know
A. I have money left over at the end of the month						
B. My finances control my life						

## Health Status and HCS [ASK ALL UNLESS SPECIFIED]

Q57. [ASK ALL] To help us understand energy-related medical needs of your household, does anyone living in the home have any conditions or disabilities that require special equipment, more heating and/or cooling of your home, or high air quality in your home?

- 13. Yes
- 14. No → SKIP TO Q59
- 98. Don't know → SKIP TO Q59
- 99. Refused → SKIP TO Q59

Q58. [IF Q57 = 1 (YES)] What are the medical conditions or disabilities? [WEB: Select all that apply. PHONE: Do not read, ask "Anything else?" after response, and use options to probe and code responses.]

- 1. Asthma
- 2. COPD (Chronic Obstructive Pulmonary Disease)
- 3. Emphysema
- 4. Cancer
- 5. Heart disease
- 6. Arthritis
- 7. Sleep apnea
- 8. Bronchitis or pneumonia
- 9. Cystic Fibrosis
- 10. Limited or assisted mobility
- 11. Other (specify):
- 98. Don't know [EXCLUSIVE]
- 99. Refused [EXCLUSIVE]

Q59. [ASK ALL] During the past year, how often was your or members of your household's health not good?

- 1. Never → SKIP TO Q61
- 2. Rarely
- 3. Sometimes
- 4. Many times
- 5. Most or all the time
- 98. Don't know → SKIP TO Q61
- 99. Refused

Q60. [ASK IF Q59 > 1 (DID NOT SAY HEALTH NEVER NOT GOOD)] During the past year, how often, if ever, did you or members of your household's poor health keep you or them from doing usual activities, such as self-care, work, or recreation?

- 1. Never
- 2. Rarely
- 3. Sometimes
- 4. Many times
- 5. Most or all the time
- 98. Don't know
- 99. Refused

Q61. [ASK ALL EXCEPT ESA PARTICIPANTS] During the past year, how often, if at all, did you or members of your household experience any of the following inside your home? For the first two items about cool and warm temperatures, please consider only the times of the year that are cold and hot where you live.

	1. Never	2. A few times	3. Sometimes	4. Many times	5. Most or all of the time	98. Don't know
A. Uncomfortably cool temperatures on the cold days or nights of the year						
B. Uncomfortably warm temperatures on the hot days or nights of the year						
C. Drafts coming from outside						
D. Mold, mildew, fungus, or moisture						
E. Pests such as rodents, insects, or spiders						

Q62. [ASK IF ANY PART OF Q61 > 1 (OCCURRED AT LEAST RARELY)] And when the following conditions occurred inside your home during the past year, how often, if at all, did they cause harm to you or other members of your household?

	1. Never	2. A few of the times	3. Some of the times	4. Most of the times	5. All the times	98. Don't know
[IF Q70.A > 1] A. Uncomfortably cool temperatures on the cold days or nights of the year						
[IF Q70.B > 1] B. Uncomfortably warm temperatures on the hot days or nights of the year						
[IF Q70.C > 1] C. Drafts coming from outside						
[IF Q70.D > 1] D. Mold, mildew, fungus, or moisture						
[IF Q70.E > 1] E. Pests such as rodents or insects						

Q63. [ASK ALL, EXCEPT ESA PARTICIPANTS] Overall, how would you rate each of the following about your home? Please consider only the physical characteristics of your home that can impact your home's indoor temperature, air quality, ventilation, and energy usage, such as the quality and performance of your home's windows, doors, walls, ceilings, and floors, and any energy-using equipment like your appliances, heating and cooling equipment, water heating equipment, and lighting. Use a scale from 0, meaning "extremely poor," to 10, meaning "extremely good."

	0 Extremely poor	1	2	3	4	5	6	7	8	9	10 Extremely good	98. Don't Know
A. The overall comfort of your home												
B. The overall safety of your home												
C. Your home as a healthy place to live												

## Demographic & Housing Characteristics [ASK ALL]

These last few questions are about you and your household to make sure we've heard from different types of [IOU] customers. Just as a reminder, we will not share your information from this survey with anyone else.

Q64. [ASK ALL] How many people in each of the following age categories live in your home at least six months of the year, including you? Please enter a number in the spaces below.

1. Under 18: [NUMERICAL RESPONSE]
2. 18 to 64: [NUMERICAL RESPONSE]
3. 65 to 84: [NUMERICAL RESPONSE]
4. Over 84
98. Don't know
99. Refused

Q65. [ASK ALL] Approximately, what is your total household income from all sources before taxes in 2017? [PHONE: You can stop me when I get to the right category]

1. Less than \$8,000
2. \$8,000 to less than \$16,000
3. \$16,000 to less than \$33,000
4. \$33,000 to less than \$42,000
5. \$42,000 to less than \$50,000
6. \$50,000 to less than \$59,000
7. \$59,000 to less than \$68,000
8. \$68,000 to less than \$76,000
9. \$76,000 to less than \$85,000
10. \$85,000 to less than \$94,000
11. \$94,000 to less than \$103,000
12. \$103,000 to less than \$111,000
13. \$111,000 to less than \$120,000
14. \$120,000 or more
98. Don't know
99. Refused

Q66. [ASK ALL] Is anyone in your household currently....?

	1. Yes	2. No	98. DK
1. Employed in a full-time job			
2. Employed in a part-time job			
3. Unemployed but looking for a job			
4. Retired			
5. A student			
6. A homemaker			
7. Unable to work due to a disability or medical condition			

Q67. [ASK ALL] What is the highest level of education you have completed? [PHONE: Do not read and use options to probe and code responses.]

1. Some primary or secondary school
2. High school graduate or equivalent
3. Some college, no degree
4. Technical college degree or certification
5. Two-year college degree
6. Four-year college degree
7. Graduate or professional degree
98. Don't know
99. Refused

Q68. [ASK ALL] Which of the following best describes your status? [PHONE: YOU CAN STOP ME WHEN I GET TO THE RIGHT CATEGORY]

1. Single, never married
2. In a domestic partnership, not married
3. Married
4. Separated
5. Divorced
6. Widowed
98. Don't know
99. Refused

Q69. [ASK ALL] Which of the following best describes you? [WEB: Select all that apply. PHONE: Do not read, ask "Anything else?" after response, and use options to probe and code responses.]

1. American Indian or Alaska Native (for example, Navajo, Chumash, Serrano, Miwok, Modoc, Karuk, Inupiat, Yuit, Aleuts, etc.)
2. Asian or Asian Indian (for example, Chinese, Filipino, Asian Indian, Vietnamese, Korean, Japanese, etc.)
3. Black or African American (for example, Jamaican, Haitian, Nigerian, Ethiopian, Somalian, Sudanese, South African, etc.)
4. Hispanic, Latino/a, or Spanish origin (for example, Mexican, Puerto Rican, Cuban, Salvadoran, Dominican, Colombian, Brazilian, etc.)
5. Native Hawaiian or Other Pacific Islander (for example, Native Hawaiian, Samoan, Chamorro, Tongan, Fijian, etc.)

6. Middle Eastern or North African (for example, Lebanese, Iranian, Egyptian, Syrian, Moroccan, Iraqi, Afghan, etc.)
7. White (for example, Caucasian, German, Irish, English, Italian, Polish, French, Russian, etc.)
8. Some other race, ethnicity, or origin (please specify:)
98. Don't know [EXCLUSIVE]
99. Refused [EXCLUSIVE]

Q70. [ASK ALL] What languages are spoken in your home? [WEB: Select all that apply. PHONE: Do not read, ask "Anything else?" after response, and use options to probe and code responses.]

1. English
2. Spanish
3. Mandarin or Cantonese
4. Tagalog or Filipino
5. Korean
6. Vietnamese
7. Russian
8. Arabic
9. Farsi
10. Hindi
11. Other (specify)

Q71. [ASK ALL] Which of the following best describes how you own or rent your home?

1. Own home without a mortgage
2. Own home with a mortgage
3. Rent home without subsidized housing assistance (such as Section 8)
4. Rent home with subsidized housing assistance (such as Section 8)
5. Other (specify)
98. Don't know
99. Refused

Q72. [ASK ALL] What kind of house or building do you live in? [PHONE: You can stop me when I get to the right category]

1. Single-family detached house
2. Duplex, triplex, or fourplex
3. Apartment or condo building with five or more units
4. Townhome
5. Manufactured or mobile home
6. Boat, RV, van, camper, or other mobile unit
7. Other (specify)
98. Don't know
99. Refused

Q73. [ASK ALL] About how many rooms are in your home? Please include only the rooms that members of your household spend time in like the kitchen, living or family rooms, bedrooms and bathrooms, or an office or indoor patio, and not hallways, closets, or pantries. [PHONE: Do not read and use options to probe and code responses.]

1. 1

- 2. 2
- 3. 3
- 4. 4
- 5. 5
- 6. 6
- 7. 7
- 8. 8
- 9. 9
- 10. 10 or more
- 98. Don't know
- 99. Refused

Q74. [IF Q71 = 3 OR 4 (RENTER)] Are your energy bills included as a part of your rent?

- 1. Yes, my energy bills are included in my rent
- 2. No, my energy bills are not included in my rent
- 98. Don't know
- 99. Refused

Q75. [ASK ALL] How many members of your household were **not** born in the United States? Please enter a number in the space below.

- 1. [NUMERICAL RESPONSE]
- 98. Don't know
- 99. Refused

Q76. [ASK ALL] Thank you for participating in this important survey. As a thank you we would like to send you a \$25 gift card. Could we get your email address so we can send the gift card electronically?

- 1. Email address: [OPEN-END RESPONSE] → SKIP TO Q78
- 2. I prefer to receive a gift card in the mail
- 3. I do not want a gift card → SKIP TO Q80

Q77. [ASK IF Q76 = 2 (SEND CARD VIA MAIL)] Should we mail the gift card to [CUSTOMER MAILING ADDRESS] or to another address?

- 1. Mail gift card to [CUSTOMER MAILING ADDRESS] → SKIP TO Q79
- 2. Mail gift card to another address: [OPEN-ENDED RESPONSE] → SKIP TO Q79

Q78. [CLOSING IF Q76 = 1 (SEND GIFT CARD VIA EMAIL)] Your survey responses have been submitted and you will receive a link to claim your \$25 gift card in your email in one to two weeks. Thanks again for your feedback!

Q79. [CLOSING IF Q77=1 OR 2 (SEND GIFT CARD VIA MAIL)] Your survey responses have been submitted and you will receive a \$25 Visa gift card in the mail in two to three weeks. Thanks again for your feedback!

Q80. [CLOSING IF Q76 = 3 (DECLINED GIFT CARD)] Your survey responses have been submitted. Thanks again for your feedback!

## Appendix C. Customer Survey Communications

This Appendix provides survey invitation and reminder communications that were sent out to current CARE customers, past CARE customers, CARE eligible nonparticipants, and ESA participants. With the exception of the invitation letters, all communications below are email versions. We also sent the first, second, and third reminder letters to those without email address that were identical to the email version but did not include the email subject line. The fourth reminder was only sent to customers with an email address.

### Current CARE Customers

#### Invitation Letter

[DATE]

[FIRSTNAME] [LASTNAME]

[ADDRESS]

[CITY], [STATE], [ZIP]

Dear [FIRSTNAME] [LASTNAME],



**We are offering a \$25  
gift card for your  
feedback!**

We need your feedback to help [IOU NAME] ([IOU]) improve the California Alternate Rates for Energy (CARE) program that provides your household a discount of up to 35% on your energy bills.

You will receive a **\$25 gift card** for completing a survey about your experience with [IOU]'s CARE discount program and your household's energy needs. It is very important that we hear from customers like you who are participating in the [IOU] CARE program.

The survey should take about 20 minutes and should be completed by an adult who makes decisions about your household's [IOU] bills. Your responses are completely voluntary and will be kept confidential.

To complete the survey online, type the web address below into the address bar on your web browser, read the instructions on the website, and enter the passcode below.

**Web address:** [SURVEYADDRESS]

**Passcode:** [PASSCODE]

If you are unable to complete the survey online, you may schedule a time to complete it on the phone by calling the number below.

**Questions?** Washington State University's Social & Economic Sciences Research Center (SESRC) is administering the survey on behalf of the California Public Utilities Commission (CPUC) and [IOU].

- To schedule a time to complete the survey on the phone or get help with any technical difficulties, send an email to [WSU\_EMAIL\_ADDRESS] or call [WSU\_PHONE].
- To verify the CPUC's and [IOU]'s sponsorship of this survey or ask questions about the research study, please contact [IOU CONTACT NAME] at [IOU CONTACT EMAIL] or call [IOU CONTACT PHONE] Monday to Friday, 8 a.m. - 7 p.m.

Please complete the survey as soon as possible, it will close after it is completed by the first [CURRENT CARE SURVEY QUOTA] customers. Thank you very much for your time and feedback!

Sincerely,

[SESRC REPRESENTATIVE], WSU SESRC

### ¿Habla español?

Para acceder y completar la encuesta en Español, visite la página web (“**Web address**”) y use la contraseña (“**Passcode**”) que aparece arriba, o llame al [WSU\_PHONE]. Si complete la encuesta, le enviaremos una tarjeta de regalo por valor de \$25 en agradecimiento por su tiempo.

### First Reminder Email

Subject: Get a \$25 Gift Card for Your Feedback to [IOU]

Dear [FIRSTNAME] [LASTNAME],

Please take this opportunity to provide your feedback about [IOU NAME]'s ([IOU]) California Alternate Rates for Energy (CARE) program that provides your household with up to a 35% discount on your monthly energy bills.

If you share your opinions about [IOU]'s CARE discount by completing our survey, you will be helping [IOU] to improve the program and you will receive a **\$25 gift card**.

If you have already completed the survey, we thank you for your response!

If you have not yet completed the survey, it should take about 20 minutes and should be completed by an adult who makes decisions about your household's [IOU] bills. Your responses are completely voluntary and will be kept confidential.

You can complete the survey online by clicking the web address below or typing it into the address bar on your web browser, reading the instructions on the website, and entering the passcode below.

**Web address:** [SURVEYADDRESS]

**Passcode:** [PASSCODE]

If you are unable to complete the survey online, you may schedule a time to complete it on the phone by calling the number below.

**Questions?** Washington State University's Social & Economic Sciences Research Center (SESRC) is administering the survey on behalf of the California Public Utilities Commission (CPUC) and [IOU].

- To schedule a time to complete the survey on the phone or get help with any technical difficulties, send an email to [WSU\_EMAIL\_ADDRESS] or call [WSU\_PHONE].
- To verify the CPUC's and [IOU]'s sponsorship of this survey or ask questions about the research study, please contact [IOU CONTACT NAME] at [IOU CONTACT EMAIL] or call [IOU CONTACT PHONE] Monday to Friday, 8 a.m. - 7 p.m.

Please complete the survey as soon as possible, it will close after it is completed by the first [CURRENT CARE SURVEY QUOTA] customers. We appreciate your time and feedback!

Sincerely,

[SESRC REPRESENTATIVE], WSU SESRC

### ¿Habla español?

Para acceder y completar la encuesta en Español, visite la página web (“**Web address**”) y use la contraseña (“**Passcode**”) que aparece arriba, o llame al [WSU\_PHONE]. Si complete la encuesta, le enviaremos una tarjeta de regalo por valor de \$25 en agradecimiento por su tiempo.

## Second Reminder Email

Subject: Provide Your Feedback to [IOU], Get a \$25 Gift Card

Dear [FIRSTNAME] [LASTNAME],

We are inviting you to give your feedback about [IOU NAME]’s ([IOU]) California Alternate Rates for Energy (CARE) program that provides your household with up to a 35% discount on your monthly energy bills. To improve [IOU]’s CARE discount program we really need to hear from customers like you who receive the discount on their energy bills.

Can you help us reach our goal? We will give you a **\$25 gift card** for sharing your feedback in our survey.

If you have already completed the survey, we thank you for your response!

If you have not completed our survey yet, please have an adult who makes decisions about your household’s [IOU] bills do so. It should take about 20 minutes. Your responses are completely voluntary and will be kept confidential.

To complete the survey online, click the web address below or type it into the address bar on your web browser and, when the website opens, read the instructions and enter the passcode below.

**Web address:** [SURVEYADDRESS]

**Passcode:** [PASSCODE]

If you are unable to complete the survey online, you may schedule a time to complete it on the phone by calling the number below.

**Questions?** Washington State University’s Social & Economic Sciences Research Center (SESRC) is administering the survey on behalf of the California Public Utilities Commission (CPUC) and [IOU].

- To schedule a time to complete the survey on the phone or get help with any technical difficulties, send an email to [WSU\_EMAIL\_ADDRESS] or call [WSU\_PHONE].
- To verify the CPUC’s and [IOU]’s sponsorship of this survey or ask questions about the research study, please contact [IOU CONTACT NAME] at [IOU CONTACT EMAIL] or call [IOU CONTACT PHONE] Monday to Friday, 8 a.m. - 7 p.m.

Please complete the survey as soon as possible, it will close after it is completed by the first [CURRENT CARE SURVEY QUOTA] customers. We look forward to your feedback, thanks in advance!

Sincerely,

[SESRC REPRESENTATIVE], WSU SESRC

### ¿Habla español?

Para acceder y completar la encuesta en Español, visite la página web (“**Web address**”) y use la contraseña (“**Passcode**”) que aparece arriba, o llame al [WSU\_PHONE]. Si complete la encuesta, le enviaremos una tarjeta de regalo por valor de \$25 en agradecimiento por su tiempo.

### Third Reminder Email

Subject: Complete a [IOU] Survey, Get a \$25 Gift Card

Dear [FIRSTNAME] [LASTNAME],

We would like to know about your experience with [IOU NAME]’s ([IOU]) California Alternate Rates for Energy (CARE) program that provides your household with up to a 35% discount on your monthly energy bills. [IOU] is making improvements to its CARE discount program, and we really need to hear from customers like you to make this happen.

Can you help us reach our goal? We will provide you with a **\$25 gift card** for your feedback and time to complete our survey.

If you have already completed the survey, we thank you for your response!

If you have not completed our survey yet, please have an adult who makes decisions about your household’s [IOU] bills do so. It should take about 20 minutes. Your responses are completely voluntary and will be kept confidential.

To complete the survey online, click the web address below or type it into the address bar on your web browser and, when the website opens, read the instructions and enter the passcode below.

**Web address:** [SURVEYADDRESS]

**Passcode:** [PASSCODE]

If you are unable to complete the survey online, you may schedule a time to complete it on the phone by calling the number below.

**Questions?** Washington State University’s Social & Economic Sciences Research Center (SESRC) is administering the survey on behalf of the California Public Utilities Commission (CPUC) and [IOU].

- To schedule a time to complete the survey on the phone or get help with any technical difficulties, send an email to [WSU\_EMAIL\_ADDRESS] or call [WSU\_PHONE].
- To verify the CPUC’s and [IOU]’s sponsorship of this survey or ask questions about the research study, please contact [IOU CONTACT NAME] at [IOU CONTACT EMAIL] or call [IOU CONTACT PHONE] Monday to Friday, 8 a.m. - 7 p.m.

Please complete the survey as soon as possible, it will close after it is completed by the first [CURRENT CARE SURVEY QUOTA] customers. Thank you in advance for your time and feedback!

Sincerely,

[SESRC REPRESENTATIVE], WSU SESRC

## ¿Habla español?

Para acceder y completar la encuesta en Español, visite la página web (“**Web address**”) y use la contraseña (“**Passcode**”) que aparece arriba, o llame al [WSU\_PHONE]. Si complete la encuesta, le enviaremos una tarjeta de regalo por valor de \$25 en agradecimiento por su tiempo.

## Fourth Reminder Email

Subject: Last Chance To Get a \$25 Gift Card From [IOU] For Your Feedback

Dear [FIRSTNAME] [LASTNAME],

We have nearly met our goal of hearing from [CURRENT CARE SURVEY QUOTA] [IOU NAME] ([IOU]) customers about their experiences with [IOU]’s California Alternate Rates for Energy (CARE) program that provides qualified households like yours with up to a 35% discount on monthly energy bills.

We still need to hear from a few more customers like you who receive the CARE discount. Your feedback will help [IOU] make improvements to the CARE discount program.

Will you help us reach our goal? We will provide you with a **\$25 gift card** for your feedback and time to complete our survey.

If you have already completed the survey, we thank you for your response!

If you have not completed our survey yet, please have an adult who makes decisions about your household’s [IOU] bills do so. It should take about 20 minutes. Your responses are completely voluntary and will be kept confidential.

To complete the survey online, click the web address below or type it into the address bar on your web browser and, when the website opens, read the instructions and enter the passcode below.

**Web address:** [SURVEYADDRESS]

**Passcode:** [PASSCODE]

If you are unable to complete the survey online, you may schedule a time to complete it on the phone by calling the number below.

**Questions?** Washington State University’s Social & Economic Sciences Research Center (SESRC) is administering the survey on behalf of the California Public Utilities Commission (CPUC) and [IOU].

- To schedule a time to complete the survey on the phone or get help with any technical difficulties, send an email to [WSU\_EMAIL\_ADDRESS] or call [WSU\_PHONE].
- To verify the CPUC’s and [IOU]’s sponsorship of this survey or ask questions about the research study, please contact [IOU CONTACT NAME] at [IOU CONTACT EMAIL] or call [IOU CONTACT PHONE] Monday to Friday, 8 a.m. - 7 p.m.

Please complete the survey as soon as possible, it will close when we reach our goal.

Thank you,

[SESRC REPRESENTATIVE], WSU SESRC

### ¿Habla español?

Para acceder y completar la encuesta en Español, visite la página web (“**Web address**”) y use la contraseña (“**Passcode**”) que aparece arriba, o llame al [WSU\_PHONE]. Si complete la encuesta, le enviaremos una tarjeta de regalo por valor de \$25 en agradecimiento por su tiempo.

## Past CARE Customers

### Invitation Letter

[DATE]

[FIRSTNAME] [LASTNAME]

[ADDRESS]

[CITY], [STATE], [ZIP]

Dear [FIRSTNAME] [LASTNAME],

We need your feedback to help us improve [IOU NAME]'s ([IOU]) California Alternate Rates for Energy (CARE) program that provided your household a discount of up to 35% on some of your monthly energy within the past three years.

You will receive a **\$25 gift card** for completing a survey about your experience with [IOU]'s CARE discount program and your household's energy needs. It is very important that we hear from customers like you who participated in the [IOU] CARE program.

The survey should take about 20 minutes and should be completed by an adult who makes decisions about your household's [IOU] bills. Your responses are completely voluntary and will be kept confidential.

To complete the survey online, type the web address below into the address bar on your web browser, read the instructions on the website, and enter the passcode below.

**Web address:** [SURVEYADDRESS]

**Passcode:** [PASSCODE]

If you are unable to complete the survey online, you may schedule a time to complete it on the phone by calling the number below.

**Questions?** Washington State University's Social & Economic Sciences Research Center (SESRC) is administering the survey on behalf of the California Public Utilities Commission (CPUC) and [IOU].

- To schedule a time to complete the survey on the phone or get help with any technical difficulties, send an email to [WSU\_EMAIL\_ADDRESS] or call [WSU\_PHONE].



- To verify the CPUC's and [IOU]'s sponsorship of this survey or ask questions about the research study, please contact [IOU CONTACT NAME] at [IOU CONTACT EMAIL] or call [IOU CONTACT PHONE] Monday to Friday, 8 a.m. - 7 p.m.

Please complete the survey as soon as possible, it will close after it is completed by the first [PAST CARE SURVEY QUOTA] customers. Thank you very much for your time and feedback!

Sincerely,

[SESRC REPRESENTATIVE], WSU SESRC

### ¿Habla español?

Para acceder y completar la encuesta en Español, visite la página web (“**Web address**”) y use la contraseña (“**Passcode**”) que aparece arriba, o llame al [WSU\_PHONE]. Si complete la encuesta, le enviaremos una tarjeta de regalo por valor de \$25 en agradecimiento por su tiempo.

### First Reminder Email

Subject: Get a \$25 Gift Card for Your Feedback to [IOU]

Dear [FIRSTNAME] [LASTNAME],

Please take this opportunity to provide your feedback about [IOU NAME]'s ([IOU]) California Alternate Rates for Energy (CARE) program that provided your household with up to a 35% discount on some of your monthly energy bills within the past three years.

If you share your opinions about [IOU]'s CARE discount by completing our survey, you will be helping [IOU] to improve the program and you will receive a **\$25 gift card**.

If you have already completed the survey, we thank you for your response!

If you have not yet completed the survey, it should take about 20 minutes and should be completed by an adult who makes decisions about your household's [IOU] bills. Your responses are completely voluntary and will be kept confidential.

You can complete the survey online by clicking the web address below or typing it into the address bar on your web browser, reading the instructions on the website, and entering the passcode below.

**Web address:** [SURVEYADDRESS]

**Passcode:** [PASSCODE]

If you are unable to complete the survey online, you may schedule a time to complete it on the phone by calling the number below.

**Questions?** Washington State University's Social & Economic Sciences Research Center (SESRC) is administering the survey on behalf of the California Public Utilities Commission (CPUC) and [IOU].

- To schedule a time to complete the survey on the phone or get help with any technical difficulties, send an email to [WSU\_EMAIL\_ADDRESS] or call [WSU\_PHONE].

- To verify the CPUC's and [IOU]'s sponsorship of this survey or ask questions about the research study, please contact [IOU CONTACT NAME] at [IOU CONTACT EMAIL] or call [IOU CONTACT PHONE] Monday to Friday, 8 a.m. - 7 p.m.

Please complete the survey as soon as possible, it will close after it is completed by the first [PAST CARE SURVEY QUOTA] customers. We appreciate your time and feedback!

Sincerely,

[SESRC REPRESENTATIVE], WSU SESRC

### ¿Habla español?

Para acceder y completar la encuesta en Español, visite la página web (“**Web address**”) y use la contraseña (“**Passcode**”) que aparece arriba, o llame al [WSU\_PHONE]. Si complete la encuesta, le enviaremos una tarjeta de regalo por valor de \$25 en agradecimiento por su tiempo.

### Second Reminder Email

Subject: Provide Your Feedback to [IOU], Get a \$25 Gift Card

Dear [FIRSTNAME] [LASTNAME],

We are inviting you to give your feedback about [IOU NAME]'s ([IOU]) California Alternate Rates for Energy (CARE) program that provided your household with up to a 35% discount on some of your monthly energy bills within the past three years.

To improve [IOU]'s CARE discount program we really need to hear from customers like you who received the discount on their energy bills.

Can you help us reach our goal? We will give you a **\$25 gift card** for sharing your feedback in our survey.

If you have already completed the survey, we thank you for your response!

If you have not completed our survey yet, please have an adult who makes decisions about your household's [IOU] bills do so. It should take about 20 minutes. Your responses are completely voluntary and will be kept confidential.

To complete the survey online, click the web address below or type it into the address bar on your web browser and, when the website opens, read the instructions and enter the passcode below.

**Web address:** [SURVEYADDRESS]

**Passcode:** [PASSCODE]

If you are unable to complete the survey online, you may schedule a time to complete it on the phone by calling the number below.

**Questions?** Washington State University's Social & Economic Sciences Research Center (SESRC) is administering the survey on behalf of the California Public Utilities Commission (CPUC) and [IOU].

- To schedule a time to complete the survey on the phone or get help with any technical difficulties, send an email to [WSU\_EMAIL\_ADDRESS] or call [WSU\_PHONE].
- To verify the CPUC's and [IOU]'s sponsorship of this survey or ask questions about the research study, please contact [IOU CONTACT NAME] at [IOU CONTACT EMAIL] or call [IOU CONTACT PHONE] Monday to Friday, 8 a.m. - 7 p.m.

Please complete the survey as soon as possible, it will close after it is completed by the first [PAST CARE SURVEY QUOTA] customers. We look forward to your feedback, thanks in advance!

Sincerely,

[SESRC REPRESENTATIVE], WSU SESRC

### ¿Habla español?

Para acceder y completar la encuesta en Español, visite la página web (“**Web address**”) y use la contraseña (“**Passcode**”) que aparece arriba, o llame al [WSU\_PHONE]. Si complete la encuesta, le enviaremos una tarjeta de regalo por valor de \$25 en agradecimiento por su tiempo.

### Third Reminder Email

Subject: Complete a [IOU] Survey, Get a \$25 Gift Card

Dear [FIRSTNAME] [LASTNAME],

We would like to know about your experience with [IOU NAME]'s ([IOU]) California Alternate Rates for Energy (CARE) program that provided your household with up to a 35% discount on some of your monthly energy bills within the past three years. [IOU] is making improvements to its CARE discount program, and we really need to hear from customers like you to make this happen.

Can you help us reach our goal? We will provide you with a **\$25 gift card** for your feedback and time to complete our survey.

If you have already completed the survey, we thank you for your response!

If you have not completed our survey yet, please have an adult who makes decisions about your household's [IOU] bills do so. It should take about 20 minutes. Your responses are completely voluntary and will be kept confidential.

To complete the survey online, click the web address below or type it into the address bar on your web browser and, when the website opens, read the instructions and enter the passcode below.

**Web address:** [SURVEYADDRESS]

**Passcode:** [PASSCODE]

If you are unable to complete the survey online, you may schedule a time to complete it on the phone by calling the number below.

**Questions?** Washington State University's Social & Economic Sciences Research Center (SESRC) is administering the survey on behalf of the California Public Utilities Commission (CPUC) and [IOU].

- To schedule a time to complete the survey on the phone or get help with any technical difficulties, send an email to [WSU\_EMAIL\_ADDRESS] or call [WSU\_PHONE].
- To verify the CPUC's and [IOU]'s sponsorship of this survey or ask questions about the research study, please contact [IOU CONTACT NAME] at [IOU CONTACT EMAIL] or call [IOU CONTACT PHONE] Monday to Friday, 8 a.m. - 7 p.m.

Please complete the survey as soon as possible, it will close after it is completed by the first [PAST CARE SURVEY QUOTA] customers. Thank you in advance for your time and feedback!

Sincerely,

[SESRC REPRESENTATIVE], WSU SESRC

### ¿Habla español?

Para acceder y completar la encuesta en Español, visite la página web (“**Web address**”) y use la contraseña (“**Passcode**”) que aparece arriba, o llame al [WSU\_PHONE]. Si complete la encuesta, le enviaremos una tarjeta de regalo por valor de \$25 en agradecimiento por su tiempo.

### Fourth Reminder Email

Subject: Last Chance To Get a \$25 Gift Card From [IOU] For Your Feedback

Dear [FIRSTNAME] [LASTNAME],

We have nearly met our goal of hearing from [PAST CARE SURVEY QUOTA] [IOU NAME] ([IOU]) customers about their past experiences with [IOU NAME]'s ([IOU]) California Alternate Rates for Energy (CARE) program that provided households like yours with up to a 35% discount on monthly energy bills.

We still need to hear from a few more customers like you who received the CARE discount on some of your monthly energy bills during the past three years. Your feedback will help [IOU] make improvements to the CARE discount program.

Will you help us reach our goal? We will provide you with a **\$25 gift card** for your feedback and time to complete our survey.

If you have already completed the survey, we thank you for your response!

If you have not completed our survey yet, please have an adult who makes decisions about your household's [IOU] bills do so. It should take about 20 minutes. Your responses are completely voluntary and will be kept confidential.

To complete the survey online, click the web address below or type it into the address bar on your web browser and, when the website opens, read the instructions and enter the passcode below.

**Web address:** [SURVEYADDRESS]

**Passcode:** [PASSCODE]

If you are unable to complete the survey online, you may schedule a time to complete it on the phone by calling the number below.

**Questions?** Washington State University’s Social & Economic Sciences Research Center (SESRC) is administering the survey on behalf of the California Public Utilities Commission (CPUC) and [IOU].

- To schedule a time to complete the survey on the phone or get help with any technical difficulties, send an email to [WSU\_EMAIL\_ADDRESS] or call [WSU\_PHONE].
- To verify the CPUC’s and [IOU]’s sponsorship of this survey or ask questions about the research study, please contact [IOU CONTACT NAME] at [IOU CONTACT EMAIL] or call [IOU CONTACT PHONE] Monday to Friday, 8 a.m. - 7 p.m.

Please complete the survey as soon as possible, it will close when we reach our goal.

Thank you,

[SESRC REPRESENTATIVE], WSU SESRC

### ¿Habla español?

Para acceder y completar la encuesta en Español, visite la página web (“**Web address**”) y use la contraseña (“**Passcode**”) que aparece arriba, o llame al [WSU\_PHONE]. Si complete la encuesta, le enviaremos una tarjeta de regalo por valor de \$25 en agradecimiento por su tiempo.

## CARE Eligible Nonparticipants

### Invitation Letter

[DATE]

[FIRSTNAME] [LASTNAME]

[ADDRESS]

[CITY], [STATE], [ZIP]

Dear [FIRSTNAME] [LASTNAME],

We need your feedback in our survey about [IOU NAME]’s ([IOU]) customers’ energy needs and opinions about [IOU]’s services and programs. Your answers to our questions will help [IOU] better serve customers like you.

You will receive a **\$25 gift card** for completing the survey. It should take about 20 minutes and should be completed by an adult who makes decisions about your household’s [IOU] bills. Your responses are completely voluntary and will be kept confidential.

To complete the survey online, type the web address below into the address bar on your web browser, read the instructions on the website, and enter the passcode below.

**Web address:** [SURVEYADDRESS]



**Passcode:** [PASSCODE]

If you are unable to complete the survey online, you may schedule a time to complete it on the phone by calling the number below.

**Questions?** Washington State University's Social & Economic Sciences Research Center (SESRC) is administering the survey on behalf of the California Public Utilities Commission (CPUC) and [IOU].

- To schedule a time to complete the survey on the phone or get help with any technical difficulties, send an email to [WSU\_EMAIL\_ADDRESS] or call [WSU\_PHONE].
- To verify the CPUC's and [IOU]'s sponsorship of this survey or ask questions about the research study, please contact [IOU CONTACT NAME] at [IOU CONTACT EMAIL] or call [IOU CONTACT PHONE] Monday to Friday, 8 a.m. - 7 p.m.

Please complete the survey as soon as possible, it will close after it is completed by the first [CARE ELIGIBLE SURVEY QUOTA] customers. Thank you very much for your time and feedback!

Sincerely,

[SESRC REPRESENTATIVE], WSU SESRC

### ¿Habla español?

Para acceder y completar la encuesta en Español, visite la página web ("**Web address**") y use la contraseña ("**Passcode**") que aparece arriba, o llame al [WSU\_PHONE]. Si complete la encuesta, le enviaremos una tarjeta de regalo por valor de \$25 en agradecimiento por su tiempo.

### First Reminder Email

Subject: Get a \$25 Gift Card for Your Feedback to [IOU]

Dear [FIRSTNAME] [LASTNAME],

Please take this opportunity to provide your feedback in our survey about [IOU NAME]'s ([IOU]) customers' energy needs and opinions about [IOU]'s services and programs.

If you share your opinions by completing our survey, you will be helping [IOU] better serve customers like you and you will receive a **\$25 gift card**.

If you have already completed the survey, we thank you for your response!

If you have not yet completed the survey, it should take about 20 minutes and should be completed by an adult who makes decisions about your household's [IOU] bills. Your responses are completely voluntary and will be kept confidential.

You can complete the survey online by clicking the web address below or typing it into the address bar on your web browser, reading the instructions on the website, and entering the passcode below.

**Web address:** [SURVEYADDRESS]

**Passcode:** [PASSCODE]

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- To verify the CPUC's and [IOU]'s sponsorship of this survey or ask questions about the research study, please contact [IOU CONTACT NAME] at [IOU CONTACT EMAIL] or call [IOU CONTACT PHONE] Monday to Friday, 8 a.m. - 7 p.m.

Please complete the survey as soon as possible, it will close after it is completed by the first [CARE ELIGIBLE SURVEY QUOTA] customers. We appreciate your time and feedback!

Sincerely,

[SESRC REPRESENTATIVE], WSU SESRC

### ¿Habla español?

Para acceder y completar la encuesta en Español, visite la página web (“**Web address**”) y use la contraseña (“**Passcode**”) que aparece arriba, o llame al [WSU\_PHONE]. Si complete la encuesta, le enviaremos una tarjeta de regalo por valor de \$25 en agradecimiento por su tiempo.

### Second Reminder Email

Subject: Provide Your Feedback to [IOU], Get a \$25 Gift Card

Dear [FIRSTNAME] [LASTNAME],

We are inviting you to give your feedback about your household's energy needs and your opinions about [IOU NAME]'s ([IOU]) services and programs. To help [IOU] make improvements to better service customers like you, we really need to hear from you in our survey.

Can you help us reach our goal? We will give you a **\$25 gift card** for sharing your feedback in our survey.

If you have already completed the survey, we thank you for your response!

If you have not completed our survey yet, please have an adult who makes decisions about your household's [IOU] bills do so. It should take about 20 minutes. Your responses are completely voluntary and will be kept confidential.

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Please complete the survey as soon as possible, it will close after it is completed by the first [CARE ELIGIBLE SURVEY QUOTA] customers. We look forward to your feedback, thanks in advance!

Sincerely,

[SESRC REPRESENTATIVE], WSU SESRC

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### Third Reminder Email

Subject: Complete a [IOU] Survey, Get a \$25 Gift Card

Dear [FIRSTNAME] [LASTNAME],

We would like to know about your household's energy needs and your experience with [IOU NAME]'s ([IOU]) services and programs. [IOU] is making improvements to better serve its customers, and we really need to hear from customers like you to make this happen.

Can you help us reach our goal? We will provide you with a **\$25 gift card** for your feedback and time to complete our survey.

If you have already completed the survey, we thank you for your response!

If you have not completed our survey yet, please have an adult who makes decisions about your household's [IOU] bills do so. It should take about 20 minutes. Your responses are completely voluntary and will be kept confidential.

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Please complete the survey as soon as possible, it will close after it is completed by the first [CARE ELIGIBLE SURVEY QUOTA] customers. Thank you in advance for your time and feedback!

Sincerely,

[SESRC REPRESENTATIVE], WSU SESRC

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### Fourth Reminder Email

Subject: Last Chance To Get a \$25 Gift Card From [IOU] For Your Feedback

Dear [FIRSTNAME] [LASTNAME],

We have nearly met our goal of hearing from [CARE ELIGIBLE SURVEY QUOTA] [IOU NAME] ([IOU]) customers about their household's energy needs and experience with [IOU]'s services and programs.

We still need to hear from a few more customers like you. Your feedback will help [IOU] make improvements to better serve its customers.

Will you help us reach our goal? We will provide you with a **\$25 gift card** for your feedback and time to complete our survey.

If you have already completed the survey, we thank you for your response!

If you have not completed our survey yet, please have an adult who makes decisions about your household's [IOU] bills do so. It should take about 20 minutes. Your responses are completely voluntary and will be kept confidential.

To complete the survey online, click the web address below or type it into the address bar on your web browser and, when the website opens, read the instructions and enter the passcode below.

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- To schedule a time to complete the survey on the phone or get help with any technical difficulties, send an email to [WSU\_EMAIL\_ADDRESS] or call [WSU\_PHONE].
- To verify the CPUC’s and [IOU]’s sponsorship of this survey or ask questions about the research study, please contact [IOU CONTACT NAME] at [IOU CONTACT EMAIL] or call [IOU CONTACT PHONE] Monday to Friday, 8 a.m. - 7 p.m.

Please complete the survey as soon as possible, it will close when we reach our goal.

Thank you,

[SESRC REPRESENTATIVE], WSU SESRC

### ¿Habla español?

Para acceder y completar la encuesta en Español, visite la página web (“**Web address**”) y use la contraseña (“**Passcode**”) que aparece arriba, o llame al [WSU\_PHONE]. Si complete la encuesta, le enviaremos una tarjeta de regalo por valor de \$25 en agradecimiento por su tiempo.

## ESA Participants

### Invitation Letter

[DATE]

[FIRSTNAME] [LASTNAME]

[ADDRESS]

[CITY], [STATE], [ZIP]

Dear [FIRSTNAME] [LASTNAME],

We need your feedback to help us improve [IOU NAME]’s ([IOU]) Energy Savings Assistance (ESA) program that provided your household with free energy-saving appliances and/or equipment around [PARTICIPATION MONTH & YEAR].

You will receive a **\$25 gift card** for completing a survey about your experience with equipment installed in your home through [IOU]’s ESA program. It is very important that we hear from customers like you who received the free equipment.

The survey should take about 20 minutes and should be completed by an adult who makes decisions about your household’s [IOU] bills. Your responses are completely voluntary and will be kept confidential.



To complete the survey online, type the web address below into the address bar on your web browser, read the instructions on the website, and enter the passcode below.

**Web address:** [SURVEYADDRESS]

**Passcode:** [PASSCODE]

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- To verify the CPUC's and [IOU]'s sponsorship of this survey or ask questions about the research study, please contact [IOU CONTACT NAME] at [IOU CONTACT EMAIL] or call [IOU CONTACT PHONE] Monday to Friday, 8 a.m. - 7 p.m.

Please complete the survey as soon as possible, it will close after it is completed by the first [ESA PARTICIPANT SURVEY QUOTA] customers. Thank you very much for your time and feedback!

Sincerely,

[SESRC REPRESENTATIVE], WSU SESRC

### ¿Habla español?

Para acceder y completar la encuesta en Español, visite la página web ("**Web address**") y use la contraseña ("**Passcode**") que aparece arriba, o llame al [WSU\_PHONE]. Si complete la encuesta, le enviaremos una tarjeta de regalo por valor de \$25 en agradecimiento por su tiempo.

### First Reminder Email

Subject: Get a \$25 Gift Card for Your Feedback to [IOU]

Dear [FIRSTNAME] [LASTNAME],

Please take this opportunity to provide your feedback about [IOU NAME]'s ([IOU]) Energy Savings Assistance (ESA) program that provided your household with free energy-saving appliances and/or equipment around [PARTICIPATION MONTH & YEAR].

If you share your opinions about free equipment that was installed in your home through [IOU]'s ESA program by completing our survey, you will be helping [IOU] to improve the program and you will receive a **\$25 gift card**.

If you have already completed the survey, we thank you for your response!

If you have not yet completed the survey, it should take about 20 minutes and should be completed by an adult who makes decisions about your household's [IOU] bills. Your responses are completely voluntary and will be kept confidential.

You can complete the survey online by clicking the web address below or typing it into the address bar on your web browser, reading the instructions on the website, and entering the passcode below.

**Web address:** [SURVEYADDRESS]

**Passcode:** [PASSCODE]

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Please complete the survey as soon as possible, it will close after it is completed by the first [ESA PARTICIPANT SURVEY QUOTA] customers. We appreciate your time and feedback!

Sincerely,

[SESRC REPRESENTATIVE], WSU SESRC

### ¿Habla español?

Para acceder y completar la encuesta en Español, visite la página web ("**Web address**") y use la contraseña ("**Passcode**") que aparece arriba, o llame al [WSU\_PHONE]. Si complete la encuesta, le enviaremos una tarjeta de regalo por valor de \$25 en agradecimiento por su tiempo.

### Second Reminder Email

Subject: Provide Your Feedback to [IOU], Get a \$25 Gift Card

Dear [FIRSTNAME] [LASTNAME],

We are inviting you to give your feedback about [IOU NAME]'s ([IOU]) Energy Savings Assistance (ESA) program that provided your household with free energy-saving appliances and/or equipment around [PARTICIPATION MONTH & YEAR]. To improve [IOU]'s ESA program we really need to hear from customers like you who received the free equipment.

Can you help us reach our goal? We will give you a **\$25 gift card** for sharing your feedback in our survey.

If you have already completed the survey, we thank you for your response!

If you have not completed our survey yet, please have an adult who makes decisions about your household's [IOU] bills do so. It should take about 20 minutes. Your responses are completely voluntary and will be kept confidential.

To complete the survey online, click the web address below or type it into the address bar on your web browser and, when the website opens, read the instructions and enter the passcode below.

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Please complete the survey as soon as possible, it will close after it is completed by the first [ESA PARTICIPANT SURVEY QUOTA] customers. We look forward to your feedback, thanks in advance!

Sincerely,

[SESRC REPRESENTATIVE], WSU SESRC

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### Third Reminder Email

Subject: Complete a [IOU] Survey, Get a \$25 Gift Card

Dear [FIRSTNAME] [LASTNAME],

We would like to know about your experience with [IOU NAME]'s ([IOU]) Energy Savings Assistance (ESA) program that provided your household with free energy-saving appliances and/or equipment around [PARTICIPATION MONTH & YEAR]. [IOU] is making improvements to its ESA free equipment program, and we really need to hear from customers like you to make this happen.

Can you help us reach our goal? We will provide you with a **\$25 gift card** for your feedback and time to complete our survey.

If you have already completed the survey, we thank you for your response!

If you have not completed our survey yet, please have an adult who makes decisions about your household's [IOU] bills do so. It should take about 20 minutes. Your responses are completely voluntary and will be kept confidential.

To complete the survey online, click the web address below or type it into the address bar on your web browser and, when the website opens, read the instructions and enter the passcode below.

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Please complete the survey as soon as possible, it will close after it is completed by the first [ESA PARTICIPANT SURVEY QUOTA] customers. Thank you in advance for your time and feedback!

Sincerely,

[SESRC REPRESENTATIVE], WSU SESRC

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### Fourth Reminder Email

Subject: Last Chance To Get a \$25 Gift Card From [IOU] For Your Feedback

Dear [FIRSTNAME] [LASTNAME],

We have nearly met our goal of hearing from [ESA PARTICIPANT SURVEY QUOTA] [IOU NAME] ([IOU]) customers about their experience with [IOU]'s Energy Savings Assistance (ESA) program that provides households like yours with free energy-saving appliances and/or equipment.

We still need to hear from a few more customers like you who participated in the [IOU] ESA program. Your feedback will help [IOU] make improvements to the program.

Will you help us reach our goal? We will provide you with a **\$25 gift card** for your feedback and time to complete our survey.

If you have already completed the survey, we thank you for your response!

If you have not completed our survey yet, please have an adult who makes decisions about your household's [IOU] bills do so. It should take about 20 minutes. Your responses are completely voluntary and will be kept confidential.

To complete the survey online, click the web address below or type it into the address bar on your web browser and, when the website opens, read the instructions and enter the passcode below.

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Please complete the survey as soon as possible, it will close when we reach our goal.

Thank you,

[SESRC REPRESENTATIVE], WSU SESRC

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## Appendix D. ESA Supervisor Interview Guide

### Interview Introduction

Thank you for making the time to talk with me today. My firm is working with the California investor-owned utilities, or IOUs, to look at how the Energy Savings Assistance, or ESA, program is contributing to improvements in the health, comfort, and safety of low-income Californians. As someone who interacts with ESA customers and plays a key role in the program, we're interested in hearing about your experiences and how the work you do may relate to how we understand how the measures are or are not benefitting customers

I'll be taking notes as we talk, but I'd like to record the conversation to ensure the accuracy of my notes. Is that okay with you?

Any questions for me before we get started?

### Services Provided [ASK ALL]

Let's begin with your work through the ESA program and impacts it may have for the residents and their homes.

Q01. First, I want to make sure I have the right information about what you do as part of the work your company does for the ESA program. Do you do enrollment and assessment, or do you install equipment? [If installs equipment, ask what kind. Read list if needed.]

Q01a. Evaluation and assessment (E&A)

Q01b. Install HVAC equipment

Q01c. Install building envelope or weatherization equipment

Q01d. Other – please specify: [OPEN-ENDED RESPONSE]

Q01a. How long has your company been working with the ESA program?

Q01b. Does your organization focus on delivering the ESA program in any particular residential building type, like multifamily, single family, or manufactured homes?

Q01c. What proportion of your company's work does the ESA program make up?

[If 01c <100%] What type of work, if any, does your company do outside of the ESA program?

Q02. How long have you been doing work for the ESA program?

Q02a. [OPEN-ENDED RESPONSE]

Q03. About how many customer homes do you think you've been in, in that time?

Q03a. [OPEN-ENDED RESPONSE]

## Ineligible Homes [ASK E&A CONTRACTORS]

I'm going to start with just a few questions about qualification and feasibility of homes to receive ESA measures.

Q04. How often do safety-related conditions prevent you from being able to assess or treat a home?

Q04a. Please give me some examples of what you see most often.

Q05. What other kinds of things make it not feasible to install ESA measures at a home even though the customer qualifies for measures offered through the program? [If needed: The home is technically eligible for ESA measures, but conditions in the home or program rules make it so you cannot install those measures?]

Q06. Roughly what percent of the homes you visit cannot get measures because the condition of the home?

Q06a. Can you give some common examples where this would occur?

Q07. Roughly what percent of the households you visit cannot get measures due to specific program rules? [If needed: For example, rules relating to housing type, location of existing equipment, and so forth.]

Q07a. Please give some examples of this.

For the remainder of our conversation, we'll discuss the homes that qualify for the program and it is feasible to install measures.

## Consideration of HCS [ASK ALL]

We are interested in your observations of customer needs you may encounter as part of your work and talking to customers. We're also interested in how the program measures are meeting their needs. For our conversation today, we want to focus on [*read measure types indicated from Q1: heating and cooling and/or weatherization or envelope*] measures.

[For E&A contractors] We'll start with cooling measures, then heating measures, and then building envelope or weatherization measures.

General [ASK ALL E&A AND INSTALLATION CONTRACTORS]

Q08. When you are talking with customers to do an [assessment/installation], do they ever comment on the comfort of their home? If so, what do they talk about?

Cooling [ASK ALL E&A CONTRACTORS AND INSTALLATION CONTRACTORS WHOSE SPECIALTY = "HVAC" OR "HVAC AND ENCLOSURE"]

Q09. What are some of the health and comfort related circumstances you see in homes eligible to receive a cooling measure?

Q09a. How comfortable are the homes in terms of indoor air temperature or air quality?

Q10. How frequently would you say you see homes that are unusually or dangerously hot? [If "never," skip follow-ups; otherwise, ask]

Q10a. What temperature would you consider dangerously hot?

Q10b. What causes it to be dangerously hot in a house? [If needed] Is it more about the condition of the equipment or how people are using it?

Q11. Have you noticed any kinds types of health conditions that are particularly common among customers who are eligible to receive cooling measures? If so, what are they? [If “no,” skip follow-ups; otherwise, ask]

Q11a. How frequently do you see this?

Q11b. And just to clarify, you see these conditions more often among those who are eligible to receive cooling measures than among customers who are not eligible to receive the cooling measures? [If not:] which of those conditions do you also see as frequently among customers who are not eligible to receive the cooling measures?

Q12. Have customers mentioned strategies they use to keep cool in their home? [If “no,” skip follow-ups; otherwise, ask]

Q12a. What are they? [If needed: For example, using the fridge to cool the home, using many fans, having everyone sleep in one room that has a room AC.]

Q12b. How common is this [are those]?

Q13. Based on what you have noticed, how often does it appear that someone’s health or safety is in jeopardy due to the condition or use of their cooling equipment?

Q14. In your experience, what types of customers or household situations tend to benefit more from central air conditioning as opposed to other types of cooling like fans, room ACs, evaporative coolers? Feel free to mention anything you think is relevant, including the age of the residents, geographic location, or anything else. [Probe to ensure they respond about health, comfort, and safety issues] [Ask everyone first two follow-ups. If no customer/household situations mentioned, skip follow-up 3 & 4; otherwise, ask]

Q14a. What about with respect to room air conditioners? Have you recognized certain types of customers or households that benefit more for this type of cooling?

Q14b. How about evaporative coolers?

Q14c. How commonly do you encounter customers or households with these characteristics? [If needed: Characteristics that make them tend to benefit more from certain types of cooling measures than others.]

Q14d. Is the program targeting these types of customers or households? If so, how?

Q15. How about with respect to the home structure or location – what cooling measures tend to be ideal for different circumstances? You can mention anything from the size of home, age of home, layout of home, multifamily vs single-family, rent vs own etc. [Probe to ensure they respond about health, comfort, and safety issues] [If no home structure or location circumstances mentioned, skip follow-ups; otherwise, ask]

Q15a. How commonly do you encounter homes with these characteristics?

Q15b. Is the program targeting these types of homes? If so, how?

Q16. How often, if at all, would you say a home could benefit more from a different type of cooling measure than the one it got? [If needed: That is, are there some customers who are getting cooling measures, that, in your opinion, might not really need them?] [Ask follow-ups if issue is not addressed in initial response]

Q16a. Are the customers with medical conditions who really need the cooling measures receiving the right cooling measures?

Heating [ASK ALL E&A CONTRACTORS AND INSTALLATION CONTRACTORS WHOSE SPECIALTY = "HVAC" OR "HVAC AND ENCLOSURE"]

Now, the same questions about heating measures.

Q17. What are some of the health and comfort related circumstances you see in homes eligible to receive a new furnace?

Q17a. How comfortable are the homes in terms of indoor air temperature or air quality?

Q18. How frequently would you say you see homes that are unusually or dangerously cold? [If "never," skip follow-ups; otherwise, ask]

Q18a. What temperature would you consider dangerously cold?

Q18b. What causes it to be dangerously cold in a house? [If needed] Is it more about the condition of the equipment or how people are using it?

Q19. Have you noticed any kinds types of health conditions that are particularly common among customers who are eligible to receive a new furnace? If so, what are they? [If "no," skip follow-ups; otherwise, ask]

Q19a. How frequently do you see this?

Q19b. And just to clarify, you see these conditions more often among those who are eligible to receive a new furnace than among customers who are not eligible to receive a new furnace? [If not:] which of those conditions do you also see as frequently among customers who are not eligible to receive a new furnace?

Q20. Roughly how often are you replacing a broken, non-working unit as opposed to a poorly functioning unit? [If "never," skip follow-ups; otherwise, ask]

Q20a. In your own words, what is a poorly functioning unit?

Q21. What do customers typically do to keep warm if their heater is not working or not working well? [Ask follow-ups if needed]

Q21a. What, if anything, do they do that has potential safety dangers? [If needed: Use the oven, make a fire, etc.]

Q21b. What, if anything, do they do that has potential impacts on energy savings? [If needed: Use an electric space heater, use multiple electric space heaters, use an electric blanket, wear extra clothes or use extra blankets, etc.]

Q22. In your experience, what types of customers or household situations tend to really need a new furnace for health, comfort, and safety reasons? Feel free to mention anything you think is relevant, including the age of the residents, geographic location, or anything else. [Probe to ensure they respond about health, comfort, and safety issues] [If no customer/household situations mentioned, skip follow-ups; otherwise, ask]

Q22a. What is it about these customers that makes them more likely to benefit from a furnace than the other customers?

Q22b. How common are these situations?

Q22c. Is the program targeting these types of customers? If so, how?

Q23. What characteristics of the home structure or location seem to make a new furnace particularly important from a health, comfort, or safety perspective? You can mention anything from the size of home, age of home, layout of home, multifamily vs single-family, rent vs own etc. [Probe to ensure they respond about health, comfort, and safety issues]

[If no home structure or location circumstances mentioned, skip follow-ups; otherwise, ask]

Q23a. How common do you encounter homes with these characteristics?

Q23b. Is the program targeting these types of homes? If so, how?

*Weatherization* [ASK ALL E&A CONTRACTORS AND INSTALLATION CONTRACTORS WHOSE SPECIALTY = "ENCLOSURE" OR "HVAC AND ENCLOSURE"]

*Now let's talk about weatherization measures, like duct testing or sealing, air sealing, or attic insulation. I understand that when providing cooling or heating measures, you might also provide weatherization or envelope measures to prevent loss of conditioned air. It would be useful to understand some of the things you see in the field that are associated with the benefits of these various measures.*

Q24. How often is it necessary to include weatherization measures to ensure the program's heating and cooling measures are having the intended impacts?

Q25. How often can a home's comfort and safety be improved with only air sealing and weatherization measures? Why do you say that?

Q26. How often do weatherization measures help only when they're performed in combination with heating and cooling measures? Why do you say that?

Q27. In your experience, what types of customers or household situations that tend to really benefit from weatherization measures? Feel free to mention anything you think is relevant, including the age of the residents, geographic location, or anything else.

[Probe to ensure they respond about health, comfort, and safety issues]

[If no customer/household situations mentioned, skip follow-ups; otherwise, ask]

Q27a. What is it about these customers that makes them more likely to benefit from weatherization services?

Q27b. How common are these situations?

Q27c. Is the program targeting these types of customers? If so, how?

Q28. What about the home structure or location that makes weatherization measures particularly important from a health, comfort, or safety perspective? You can mention anything from the size of home, age of home, layout of home, multifamily vs single-family, rent vs own, etc.). [Probe to ensure they respond about health,

comfort, and safety issues]

[If no home structure or location circumstances mentioned, skip follow-ups; otherwise, ask]

Q28a. How commonly do you encounter homes with these characteristics?

Q28b. Is the program targeting these types of homes? If so, how?

Q29. Are there some customers who prefer weatherization services to heating and cooling upgrades? [If “no,” skip follow-ups; otherwise, ask]

Q29a. Who are they and why?

Q29b. How does that preference affect how you do your job?

Q30. Likewise, are there some who prefer heating and cooling upgrades over weatherization services? [If “no,” skip follow-ups; otherwise, ask]

Q30a. Who are they and why?

Q30b. How does that preference affect how you do your job?

Q31. How often, if at all, are homes not getting the right weatherization measures? [Ask follow-ups if issue is not addressed in initial response]

Q31a. Are the customers with medical conditions who really need the weatherization measures receiving the right ones?

Q32. Are there some customers who are getting weatherization measures, that, in your opinion might not really need them?

## HCS Impacts [ASK ALL]

I'd like to ask a few questions about any information or feedback you've gotten about the impacts of ESA measures on customers. Again, when thinking about your answers, please consider and tell me about all three types of impact – health, comfort, and safety.

Q33. How often do you hear feedback from customers about changes to their health, comfort, or safety following ESA program work? [If “never,” skip follow-ups; otherwise, ask]

Q33a. What measures or upgrades do customers most often say improves their health, comfort, and safety?

Q33b. What health, comfort, and safety improvements do they tell you about? [If needed: For example, better management of respiratory conditions, fewer trip and fall risks, or fewer drafty areas, things like that.]

Q33c. How do those measures improve their health, comfort, and safety?

Q34. Are there measures that are not eligible through the ESA Program that, if eligible, you think would make a big difference in health, comfort, and safety?

## Installation Issues [ASK ALL INSTALLATION CONTRACTORS]

Q35. Now, thinking broadly about any type of measure, what, if anything, might prevent you from installing, repairing, or doing maintenance on equipment in a home where you were instructed to do it?

Q36. Do you get any information or from the assessment, or the enrollment contractor, about a potential health or safety issues in a household that might affect how you install any measures? [If “no,” skip follow-ups; otherwise, ask]

Q36a. What kind of information do you get?

Q36b. What type or types of measures does that information affect?

Q36c. How useful is that information to you?

Q36d. Do you think having that information makes a big difference in impacts for the customer?

Q37. What do you do if you identify something that you think needs to be improved to address health, comfort, or safety but it was not specified in the assessment results? [Probe to ensure they talk about health, comfort, and safety]

Q37a. [If any cases] How common is that, that the assessment misses something you think is important?

## Customer Preferences [ASK E&A CONTRACTORS]

Q38. What are some of the reasons customers say that they want the cooling, heating or weatherization measures offered by the program? [Leave open ended – don’t probe about HCS] [If “none,” skip follow-up; otherwise ask]

Q38a. Are there some measures that are more frequently desired by customers? If yes, what are they?

Q39. Do you see some customers reject measures they are eligible for? [If “no,” skip follow-up; otherwise ask]

Q39a. What are some of the reasons customers say they DO NOT want the cooling, heating or weatherization measures offered by the program.

Q39b. Of the measures that they qualify for, which measures are most frequently “rejected” or do customers say they are not interested in?

## Program Rules and Processes [ASK ALL]

We’re very close to the end. I have just a few questions about how the program rules and processes affect your ability to address health, comfort, and safety issues in participants’ homes.

Q40. Can you think of any program rules that might not allow a household to get any type of measure in circumstances where they may really need one? [If “no,” skip follow-ups; otherwise, ask]

Q40a. What are the program rules and what measure or measures do they prevent?

Q40b. [If Specialty includes HVAC] What about any cooling measures?

Q40c. What about washing machines?

Q40d. How often do you see this?

Q41. Likewise, can you think of any program rules that allow a household to receive any type of measure when it may not be needed? [Do not probe – just record response to question as asked]

## Closing [ASK ALL]

Q42. Those are all the questions I had prepared. Is there anything else you think is important for me to know about how the ESA program affects the health, comfort, and safety of the participants?

Q43. In order to get you the \$50 [gift card] to thank you for your time, I want to confirm your email...

Thank you very much for your time.

## Appendix E. CARE Capitation Agency Interview Guide

### Phone Screening Introduction

Hi [FIRST NAME], my name is [NAME] and I'm calling from Opinion Dynamics on behalf of [INSERT IOU or "the California investor-owned utilities"]. We are working with [INSERT IOU or "the California investor-owned utilities"] to understand how they might better reach low-income customers in California to enroll them on the CARE program, which offers reduced electricity rates to income-eligible customers. As an organization that provides services to immigrant communities in California, your feedback will help us identify ways to better reach customers who are sometimes difficult to reach.

We would like talk with you to learn more about how you connect the people you serve to services like the CARE program and their awareness, thoughts and experiences with this program.

First, I'd like to ask you a few questions to see if your organization fits the type we are looking for. If it is a good candidate and you'd be willing to speak with us, I'd like to spend about 30 minutes with you or someone else from your organization, either now or at a more convenient time. Since we appreciate the value of your time, we're offering a \$50 gift card for completing the phone interview.

It will only take a couple minutes right now to get through the initial questions. First off, are you the right person to speak with about the general background and type of people your organization serves?

1. If yes → Proceed to screening
2. If no → Ask, is there someone else there that I could speak with about your organization and who they serve?

[IF NEEDED]

- The California investor-owned utilities are Pacific Gas & Electric, Southern California Edison, Southern California Gas, and San Diego Gas & Electric.
- To verify the research we are conducting, you can contact [NAME] at [IOU] at [EMAIL] or [PHONE].
- We will not be asking about specific individuals you serve, only about different types of folks you serve, for example, immigrants, non-English speakers, and seniors, etc.
- Your responses will be confidential and not tied to your name or organization and will only be discussed later in aggregate with feedback from other interviewees like yourself.
- *If CBO representative says they cannot accept a gift card say the following:* Instead, we can make a donation to your organization in the same amount as thanks for completing the interview.

### Screening [ASK ALL]

S1. As I mentioned earlier, the CARE program is utility-administered program that provides reduced energy rates to income-eligible customers who are below 200% of the Federal Poverty Guidelines. Are you familiar with this program?

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

- S2. [IF S1 = NO, DK OR REF] Is there someone else at your organization who might be familiar with the CARE program?
1. Yes [Ask to speak with that person or set up a callback time]
  2. No [Go to termination script]
  98. Don't know [Go to termination script]
  99. Refused [Go to termination script]
- S3. [IF S1 = YES] Does your organization give people information on how to enroll in the program or direct them to someone who can provide that assistance when it may be needed?
1. Yes
  2. No [Go to termination script]
  98. Don't know
  99. Refused
- S4. [IF S3 = DON'T KNOW] Is there someone else in your organization who would know whether your organizations gives such information or assistance?
1. Yes [Ask to speak with that person or set up a callback time]
  2. No [Go to termination script]
  98. Don't know [Go to termination script]
  99. Refused [Go to termination script]
- S5. Can you confirm that your organization serves at least one of the following communities?
3. Low-income documented immigrants
  4. Low-income undocumented immigrants
  5. Non-English speakers
  6. Low-income seniors
  7. Low-income disabled residents
  8. Some other category? – [provide a description]
  9. None of the above [go to termination script]
- S6. It sounds like your organization is what we are looking for. Do you have time now to talk? [If yes, proceed with interview. If no, attempt to schedule for later.]
- S7. Termination script: Those are all the questions I had. It does not sound like your organization is the best fit for this research. I really appreciate your time today. Thank you.

## Callback Script

Hi, this is [NAME] from Opinion Dynamics, calling on behalf of [IOU or “the California investor-owned utilities”]. Thanks for making the time to talk with me today. As I mentioned, we are working with the California energy utilities like [IOU in their territory], to help them identify ways to better reach customers who are sometimes difficult to reach. The State wants to be sure the people who need the assistance are getting it, and at the same time they are sensitive to providing the right type of assistance to the right customers.

We are particularly interested in learning about [INSERT GROUPS FROM S5] that your organization serves since these customers can often be difficult to reach.

I have some questions about challenges associated with enrolling in the rate discount program called “CARE”, benefits of participation, and suggestions for improving outreach and messaging. Our conversation will take about 30 minutes or so, although we’re happy to talk longer than that if you have a lot to tell us. And, at the end I’ll get your email address where I can send the \$50 gift card.

All your answers are confidential. They won’t be tied to your name or your organization name and will only be reported in the aggregate with results from other representatives of other community-based organizations we are interviewing.

I’ll be taking notes as we talk, but I’d like to record the conversation to ensure the accuracy of my notes. Is that okay with you?

[IF NEEDED]

- The California investor-owned utilities are Pacific Gas & Electric, Southern California Edison, Southern California Gas, and San Diego Gas & Electric.
- To verify the research we are conducting, you can contact [NAME] at [IOU] at [EMAIL] or [PHONE].
- We will not be asking about individual clients that you serve, only about different types of clients, such as immigrants, the disabled, and seniors.

Do you have any questions for me before we get started?

## Background

- Q1. To start, I’d like to know a little about you and [ORG NAME]. What is your title and role at [ORG NAME]?
- Q2. How long have you been in that role?
- Q3. How would you describe the goals and objectives of your organization?

PROBES, IF NEEDED:

1. What is the main reason people come to your organization?
  2. Why else do they come?
  3. What services does your organization provide?
- Q4. Roughly, what percent, if any, of those you serve are...
1. Low-income documented immigrants
  2. Low-income undocumented immigrants
  3. Non-English speakers
  4. Low-income seniors
  5. Low-income disabled residents
  6. Some other category? – [provide a description]
- Q5. About what proportion of your organization’s clients are non-English speakers? [If needed: We are asking to get an idea of whether non-English speakers are a small or large clientele for your organization.]

- Q6. Can you tell me a little bit about the housing situations of your clients? [*If unclear: Do they tend to be in single-family homes, apartments, non-profit group living facilities, agricultural employee housing facilities, or migrant farmworker housing centers?*]
- Q7. Can you point me to any reports or documents that summarize the characteristics of your organization's clients?

## Client Referral, Awareness, and Enrollment

For the rest of the interview, I'd like to focus on the groups we want to learn more about – [INSERT GROUPS FROM S5] – and as we go along, please tell me about any major differences among these groups.

- Q8. *About what proportion of people who come to your organization seeking services are already enrolled in the utility's CARE rate discount program?*
- Q9. Among those not enrolled when they arrive to seek services, how familiar are they with the CARE program? [*If needed, ask about the proportion who are not at all aware, have heard of it but don't know much, know a little, and know a lot*]
- Q10. What types of folks have you noticed are more or less familiar with the program? [*Ask follow-ups as needed*]
1. What about within the immigrant population you serve, are there certain types of people who tend to know more or less about CARE?
- Q11. Is the level and range of familiarity with CARE the same for other types of assistance programs or is there a different level and/or pattern of familiarity with CARE?
- Q12. When CARE is discussed, about what percentage of the time did the client bring it up and what percentage of time did your staff bring it up?
- Q13. When pursuing enrollment in CARE, what kinds of reasons, if any, do people give for wanting or needing it? [*If needed: For example, high utility bills or discomfort in their home due to heat or cold.*]
- Q14. *What are the reasons, if any, people give for NOT being interested in enrolling in the program?*
- Q15. When your staff bring up CARE, what types of things might trigger them to mention or recommend it?
- Q16. Are there certain types of people or groups who specifically request information about CARE? If so, which groups are already aware of CARE and seeking assistance? [*Ask follow-ups as needed*]
1. How do these folks with some awareness generally learn about CARE?
  2. In your experience, have these folks previously applied or sought assistance and/or for some reason had trouble with the enrollment process?
  3. [*If yes*] Tell me a little more about that.
  4. Based on your experience, what may assist the utilities in reaching and serving these types of customers?

## Assistance and Referral

- Q17. Based on your experience or what you have heard from other staff, please describe what information your staff gives to people about how to enroll in CARE. *[Ask probes, if information is not clear from answer to above]*
1. What verbal information is provided?
  2. What written information or brochures are provided?
  1. What do you tell them about eligibility requirements, such as income and household size?
- Q18. The CARE application asks about public assistance services the household may receive. Do you typically review this with someone who wants to enroll?
1. Are clients ever unsure whether they are receiving any of those programs or services? If so, which ones?
- Q19. The CARE application includes a list of terms and conditions for the CARE program that enrollees must agree to – this is the section titled “Your Declaration.” Do members of your organization review or explain this section to enrollees? If so, how?
1. What challenges, if any, do members of your organization have in explaining this section?
- Q20. For renters, the CARE application has a section that their landlord or facility manager must complete. What do you tell enrollees about that?
- Q21. All in all, about how much time does it take to go over the application and the process for enrolling with someone?
- Q22. Does your organization ever provide information on applications for agricultural employee housing facilities, migrant farm worker housing centers, or nonprofit group living facilities?
5. What challenges, if any, does your organization have with providing information about those application types? *[PROBE ABOUT EACH TYPE: AG EMPLOYEE HOUSING, MIGRANT FARM WORKER HOUSING, NONPROFIT GROUP LIVING]*

## Barriers to Enrollment

- Q23. *Of clients who are NOT ALREADY receiving the discount, roughly what percent express concerns or are hesitant to enroll in CARE when they learn more about the program?*
- Q24. *Based on what you’ve seen, what are the most common reasons people are hesitant to enroll in the CARE program?*
- Q25. *Are there certain groups or types of customers seem especially hesitant to enroll?*
1. Why do you think this is the case?
  2. What kinds of concerns do non-English speakers, in particular express about enrolling and participating?
  3. How about undocumented workers, what are their main concerns?
  4. Have you seen more concerns and issues in the last year under our current President?
  5. How are these concerns typically expressed?
  6. How do staff usually respond to these concerns?

7. Is there anything you can think of the utilities could provide to assist staff in addressing these concerns?
- Q26. What are the biggest challenges to enrolling in the CARE program for those who want to do so?
1. [If unclear] Why is that?
  1. [If unclear] How do they overcome that challenge?
  2. Are staff able to help address these challenges?
  3. [If unclear] Is that less of a challenge if they enroll another way?
  4. [If unclear] In what ways does your organization help with that challenge?
  5. [If unclear] In what ways can the utilities help with that challenge?
- Q27. In your opinion, to what extent do your clients trust their utility company?
- Q28. What types of clients tend to have little or no trust in their utility?
- Q29. How can utilities gain more trust from these types of clients?
- Q30. Is there anything else you can think of that the utilities could do to address concerns or barriers to enrolling in CARE?

## Closing

- Q31. Those are all my questions. Thank you so much for taking the time to talk with me today. Let me just confirm the email address to where I send the \$50 gift card as thanks for speaking with me today.

**For more information, please contact:**

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