



# **SJV DAC Pilot Projects Process Evaluation**



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**Final Report**

**Submitted by Evergreen Economics**

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## Abbreviations

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- Assembly Bill (AB)
- California Alternate Rates for Electricity (CARE)
- California Department of Housing and Community Development (HCD)
- California Public Utilities Commission (CPUC)
- Community Energy Navigator Program Manager (CPM)
- Community Energy Navigators (CENs)
- Community-Based Organization (CBO)
- Community Solar Green Tariff (CSGT)
- Comprehensive Manufactured/Mobile Home Program (CMHP)
- CPUC Energy Division (ED)
- Customer relationship management (CRM)

- Disadvantaged Communities (DACs)
- Disadvantaged Communities Green Tariff (DAC-GT)
- Energy Savings Assistance (ESA)
- Investor-Owned Utilities (IOUs)
- Pacific Gas and Electric (PG&E)
- Pilot Administrator (PA)
- Pilot Implementer (PI)
- Request for Proposals (RFP)
- Richard Heath and Associates (RHA)
- San Joaquin Valley (SVJ)
- San Joaquin Valley Disadvantaged Communities (SVJ DACs)
- Self Help Enterprises (SHE)
- Self-Generation Incentive Program (SGIP)
- Single-family Affordable Solar Homes (SASH and DAC-SASH)
- Southern California Edison (SCE)
- Southern California Gas Company (SoCalGas)
- Transmission and Distribution (T&D)



# 1 Executive Summary

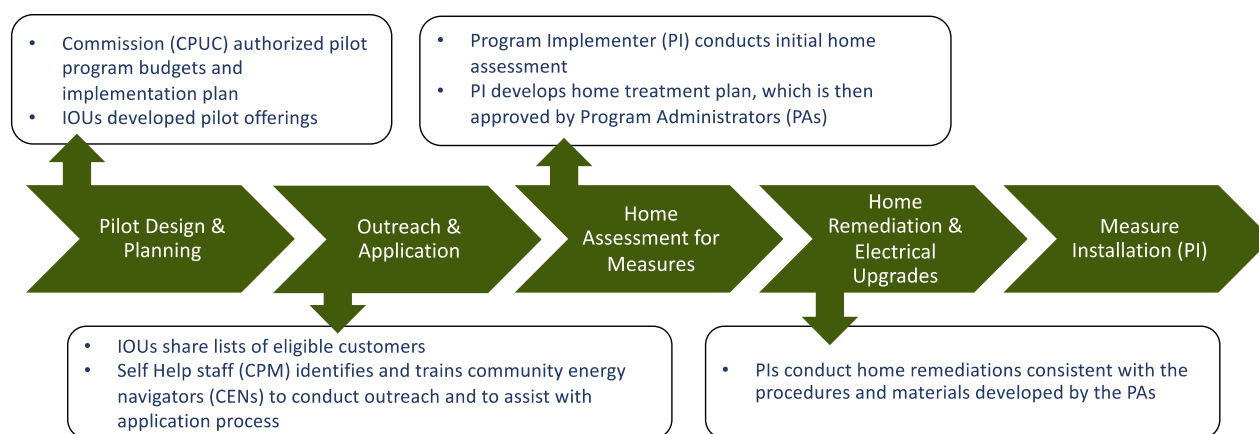
The California Public Utilities Commission (CPUC) directed the three investor-owned utilities (IOUs) serving the San Joaquin Valley (SJV) (Southern California Gas Company [SoCalGas], Southern California Edison [SCE], and Pacific Gas and Electric [PG&E]) in Decision 18-12-015 (D.18-12-015) to implement pilot projects in SJV Disadvantaged Communities (DACs) in line with Assembly Bill (AB) 2672.<sup>1</sup>

## 1.1 Pilot Background and Objectives

The overall goal is to offer cleaner, more affordable energy options to residents of DACs in the SJV, where many households lack access to natural gas and rely on propane and wood for cooking and heating.

Eleven SJV communities were selected for pilot projects that were intended to provide cleaner, more affordable energy options to propane and wood burning and to gather real time data needed to assess the economic feasibility of extending affordable energy options to all listed SJV DACs. Figure 1 shows key activities and the process of the pilot.

**Figure 1: Key Activities and Processes**



The pilot relies on a number of organizations with varying roles to implement the program from the outreach through installation phases of the pilot:

<sup>1</sup> Assembly Bill 2672 (Perea) added 783.5 to the Public Utilities Code that defines DACs in the SJV.



**Table 1: Pilot Team**

Role	Description	Organization		
Investor-Owned Utilities (IOUs)	Each IOU is a Pilot Administrator for pilots in their service territories.	SCE	SoCalGas	PG&E
Pilot Administrator (PA)	Organizations tasked with administering the pilots.	SCE	SoCalGas	PG&E RHA
Pilot Implementer (PI)	Manages home assessment and measure installation.	Proteus	Staples Energy	RHA
Community Energy Navigator Program Manager (CPM)	Responsible for initial outreach through application process with customers. Employs and manages Community Energy Navigators (CENs) and "Community" CENs, who are CENs who live in the targeted communities.	Self Help Enterprises (SHE)		

Given the complexity of the implementation and the differences between each of the IOU pilots (shown in Table 2), this effort examined numerous steps and organizations (shown in Table 1) involved in the implementation processes.

**Table 2: Summary of Implementation Differences Across PA<sup>2</sup>**

	Natural Gas PA	Electric PA		
PA	SoCalGas	PG&E	Richard Heath and Associates (RHA)	SCE
Served Customers	Single community, California City	All-electric homes are able to participate across selected communities		Preexisting all-electric homes not able to participate across selected communities
Propane Tank Removal	No reimbursement for propane tank removal			
Infrastructure Upgrades	Gas line extension	Panel upgrade with possible need for transmission and distribution upgrades		

<sup>2</sup> The electric PAs provided each participating home with a set of induction-ready cookware.

	Natural Gas PA	Electric PA		
PA	SoCalGas	PG&E	Richard Heath and Associates (RHA)	SCE
Bill Protection	\$500 over three years	20 percent monthly discount for five years followed by bill evaluation that can lead to continued bill discount or if no increase in energy costs, discount is reduced to 10 percent		

Three decisions—D.18-12-015, D 18-08-01, and D. 17-05-014—outline implementation requirements of the pilots including assessments expected to inform the potential expansion of the pilot to a full statewide program, including:

- An initial Data Gathering Study was conducted to learn more about the San Joaquin Valley and its residents, what heating and cooking fuels they use, and interest in the services provided in the pilots. This was completed in August 2021.
- The evaluation and results provided in this report examine pilot implementation processes of the PG&E, SCE, and SoCalGas pilots operationalized in 11 communities.
- The individual pilots are expected to undergo Impact evaluations to examine energy savings and other non-energy benefits resulting from the pilots.
- An economic feasibility assessment is expected to be completed following the completion of the broader data collection, the pilots, and the pilot evaluations. This will examine the costs and potential value of expanding the pilots.

## 1.2 Evaluation Objectives

In addition to directing the IOUs to implement pilots in SJV DACs, CPUC D.18-12-015 directed SoCalGas to manage a request for proposals (RFP) for an independent contractor to be selected by the CPUC Energy Division (ED) to conduct a process evaluation of the pilots. The process evaluation was intended to examine various aspects of the implementation processes in order to identify ways to improve the overall effectiveness of the pilot design and delivery processes and provide actionable recommendations for pilot improvements. The process evaluation was also intended to document barriers and determine the success of the Pilot Administrators (PAs) in meeting their stated goals, and to help the CPUC compare the performance implementation processes of the PAs. This evaluation was not intended to evaluate cost effectiveness or to identify

non-energy benefits; these are typically features of an impact evaluation (considered to be summative rather than formative),<sup>3</sup> which is being conducted as part of a separate research study.

## 1.3 Research Approach

The process evaluation included the following research tasks:

- In-depth interviews with pilot staff;
- Surveys with participating and non-participating pilot community residents (a combination of web, phone, and mail); and
- In-person field research in the SJV with ride-alongs and group interviews.

We used a combination of these research activities to meet the objectives of the evaluation. By the end of 2021, pilot outreach staff had reached 86 percent of all eligible households and completed pilot applications for over half of those contacted. Over 250 homes have had pilot measures installed, with another nearly 500 having completed an in-home assessment. SoCalGas had nearly completed its pilot installations, while the other PAs were still in the field with outreach and installations in progress (as of May 2022).

The research was conducted in two phases. The first phase (Phase I) sought to provide early, actionable insights to inform pilot changes. See Table 3 for a summary of primary research completed. Phase II was designed to address outstanding questions from the first phase and to develop process recommendations for the potential expansion of the pilots.

## 1.4 Results and Recommendations

### 1.4.1 Pilot Planning, Outreach, and Application Processes

As of December 31, 2021, about half (54%) of residents who had been contacted had completed an application (see Table 3 below). The number of participants who had been contacted, completed applications and assessments, and ultimately installed measures varied by PA. At the time of data collection, the electric PAs outreach and application efforts were still in progress whereas SoCalGas was nearly complete. Because the pilots are in various stages of implementation, it is not possible to gauge if one pilot's approach is more successful than another. We did hear about early issues in the pilots—for instance in California City, we heard it was difficult to identify and hire CENs with local knowledge. We also heard that early in the electric pilot, remediation costs often exceeded the cap; both issues required involvement of both the PAs

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<sup>3</sup> TecMarket Works. 2004 (last updated 2006). *The California Evaluation Framework*. Prepared for the California Public Utilities Commission and the Project Advisory Group. [https://www.cpuc.ca.gov/-/media/cpuc-website/files/uploadedfiles/cpuc\\_public\\_website/content/utilities\\_and\\_industries/energy/energy\\_programs/demand\\_side\\_management/ee\\_and\\_energy\\_savings\\_assist/caevaluationframework.pdf](https://www.cpuc.ca.gov/-/media/cpuc-website/files/uploadedfiles/cpuc_public_website/content/utilities_and_industries/energy/energy_programs/demand_side_management/ee_and_energy_savings_assist/caevaluationframework.pdf)

and CPM, and have largely been resolved. Judging the pilots' accomplishments relative to goals is not in the scope of this study. We identify best practices that pilot staff agree have measurable impacts, and also produce recommendations.

**Table 3: Pilot Progress as of 12/31/21 (Number of Pilot Community Households)**

Pilot Administrator (PA)	Initial Estimate of Eligible Households	Contacted by CEN	Completed Application	Completed Assessment	Pilot Measure(s) Installed
PG&E	316	307 (97%)	211 (67%)	170 (54%)	43 (14%)
Richard Heath and Associates (RHA)	914	814 (89%)	424 (46%)	387 (42%)	89 (10%)
SCE	449	290 (65%)	168 (37%)	105 (23%)	45 (10%)
SoCalGas	235	235 (100%)	93 (40%)	79 (34%)	77 (33%)

Pilot planning and design was found to be effective, and program staff were able to modify the outreach process to account for interruptions due to the COVID-19 pandemic, referrals of leveraged programs, and changes to the bill discounts as directed by the CPUC. Pilot staff including the PAs and CPM largely felt outreach coordination was improving between the CPM and the PAs, and respondents (both participants and non-participants) reported trusting Community Energy Navigators (CENs) was effective or improving.

During Phase I and Phase II, PA, PI, and CPM interviewees reported that given the multiple organizations involved in the implementation of the pilot including the PA, PI, and outreach coordinator, it took time to iron out communication strategies and delineate roles in terms of communicating to customers and to develop tracking and coordination systems. At this point in the pilot implementations, much of these issues have been resolved, although we heard that the need for clear data is always an active discussion. Therefore, we recommend ongoing data refinement and discussion to:



*Develop a common data protocol including format and fields for recording the most critical information as defined jointly by the pilot program team, and to fill each of their needs, as well as the CPUC data need. Revisit this need often.*

### 1.4.2 The Home Assessment

Survey participants stated that the home assessment process was straightforward and easy to navigate (see Section 4.4 for discussion of the home assessment survey findings). SoCalGas

participants found the home assessment to be easier to understand when compared to participants from the other PAs; this may be due to the need for many electric pilot households to upgrade their electrical panels and/or local transmission and distribution (T&D) infrastructure with their electric utility. There were no other major differences in home assessments between electric and gas utilities. We discuss findings related to electric upgrades later in this section.

Interviewees including PAs, PIs, and the CPM indicated the initial \$5,000 pilot remediation cap was sufficient for most electric pilot participants, with the exception of mobile homes not in trailer parks. At the time of the Phase II interviews, the CPM had secured additional funding necessary to address the remediation needs of these electric pilot participants.

### 1.4.3 Drivers

Customers reported that participation was driven primarily by the opportunity to save energy and to make their home safer, including improving the air quality in the home. While participants said energy efficiency was an important consideration, non-participants did not indicate a concern for energy efficiency.

Given that many pilot participants were renters, the landlords played an important role in whether customers participated as well. The landlords said they were motivated to participate in the pilots primarily to improve the value of their property.

Customers were highly satisfied with their experience overall, with 93 percent of participants reporting that they were somewhat, very, or extremely satisfied with the pilot.

### 1.4.4 Leveraged Programs

Most participants reported leveraging at least one other program mentioned by the CEN. They reported high awareness of the Energy Savings Assistance (ESA) program, with over a third reporting that they have participated. CENs reported that is too complicated to try to explain the pilot and all the other programs (by evaluation in-person observation).

All PIs reported that they were able to coordinate installations for programs such as ESA and the pilot, although delays in the pilot (for electrical upgrades) made it challenging to complete ESA installations in the required amount of time.



*Evergreen recommends that CENs record customer interest levels and possible household barriers to leveraged programs to share with PAs, which can be used to engage the customer quickly and effectively across programs.*



*The PAs should continue using PIs that are implementers for other leveraged programs to increase participation.*



*The PAs should continue using PIs that are implementers for other leveraged programs to increase participation.*

### 1.4.5 Bulk Purchasing

PAs and PIs were directed by the Decision to leverage existing IOU supply chain approaches to secure lower than market costs, but the PIs did not always see the benefits of bulk purchasing. We heard from two PIs that the bulk purchasing agreements, when required, are a hinderance over a benefit increasing costs and time to acquire equipment. Bulk purchasing may not make sense as a requirement, particularly for HVAC measures, which are more customized per household. This is discussed in detail in Section 4.6 below.



*The CPUC should consider making bulk purchasing an option but not a requirement as long as relative costs inform purchasing decisions.*

### 1.4.6 Bill Protection

Although bill protection differs slightly for natural gas pilot participants (bill credit) compared to the electric pilot participants (bill discount), overall it was the least understood aspect of the pilot with 49 percent of participants and 26 percent of non-participants reporting it was extremely or very easy to understand. Moreover, 66 percent of non-participants cited concerns about potential bill increases as a barrier to participation. Participation may be improved if bill protection benefits were better communicated during outreach.



*We recommend the PAs review the bill protection offering and consider opportunities to reduce its complexity and that the CPM identify opportunities to explain the benefit more clearly to residents. This could include considering developing word of mouth/testimonials to share with prospective participants.*

### 1.4.7 Barriers

Electrical upgrades at the household and community levels caused installation delays.



*We recommend the CPM conduct outreach in a staggered targeted manner and consider the electric load required to serve a targeted geographic area before authorizing outreach in that location.*

*We recommend that the electric utilities create a batch process for PIs to submit electric service panel requests and other ways to streamline and speed up the household panel upgrade process.*

Mobile homes presented unique challenges to the pilot, including permitting requirements of the California Department of Housing and Community Development (HCD), which the CPM worked directly with to streamline that process. Mobile homes were generally privately owned and on a parcel of land rather than within a mobile community.



*We recommend gathering additional data on mobile homes and related issues to see if there are opportunities to do advance planning.*

PG&E most successfully convinced customers to complete an application after the CEN visit (69%), followed by SCE (58%), RHA (52%), and SoCalGas (40%). Potential bill increases were among the most significant barriers to participation with 66 percent of the non-participants reporting concerns regarding the potential bill increases post installation. A CEN noted that it was critical to inform residents about 'stacking' discounts (such as receiving the California Alternate Rates for Electricity (CARE) bill discount and pilot bill discounts) and also noted that there has been a lack of trust due to earlier experiences with utility programs, though this was only corroborated by 10 percent of non-participants. The second most frequently reported barrier was a belief that participation would not actually be free. This was echoed by one CEN who noted that residents often did not believe that new appliances were being offered for free through the pilot (reported by 59% of non-participants).

The remainder of this report describes these findings and the methods to develop them in greater detail.



## 2 Introduction

This is the final report for the process evaluation of the San Joaquin Valley Disadvantaged Communities (SJV DACs) pilot projects.

### 2.1 Regulatory Background

The California Public Utilities Commission (CPUC) directed the three investor-owned utilities (IOUs) serving the San Joaquin Valley (Southern California Gas Company [SoCalGas], Southern California Edison [SCE], and Pacific Gas and Electric [PG&E]), in Decision 18-12-015 (D.18-12-015) to implement pilot projects in SJV DACs in line with Assembly Bill (AB) 2672. The overall goal is to offer cleaner, more affordable energy options to residents of DACs in the SJV, where many households lack access to natural gas and rely on propane and wood for cooking and heating. The first phase of the San Joaquin Valley Disadvantaged Communities Pilot Projects Proceeding identified 170 DACs that met specific income, population size, and distance from natural gas transmission pipelines criteria.<sup>4</sup>

During the second phase of the proceeding, the CPUC approved the implementation of pilot projects in December 2018 (D.18-12-015). Eleven SJV communities were selected for pilot projects that:

- Replaced propane and wood burning appliances with all-electric appliances or natural gas appliances (including line extensions) for nearly 2,000 homes.
- Tested community-based organization (CBO) and local resident outreach and engagement strategies to educate and enroll participants in the pilot.

The CPUC also approved a data gathering plan in August of 2018 (D.18-08-019). Together, the information gathered on the 11 communities targeted by the pilots and the data gathered on the overall SJV DAC territory plan are intended to:

- Provide the CPUC with the data needed to assess the feasibility of extending affordable energy options to the rest of the SJV DACs; and
- Support a third phase of the proceeding that will evaluate the findings of the pilot projects and the data gathering effort to support the economic feasibility analysis required by AB 2672.

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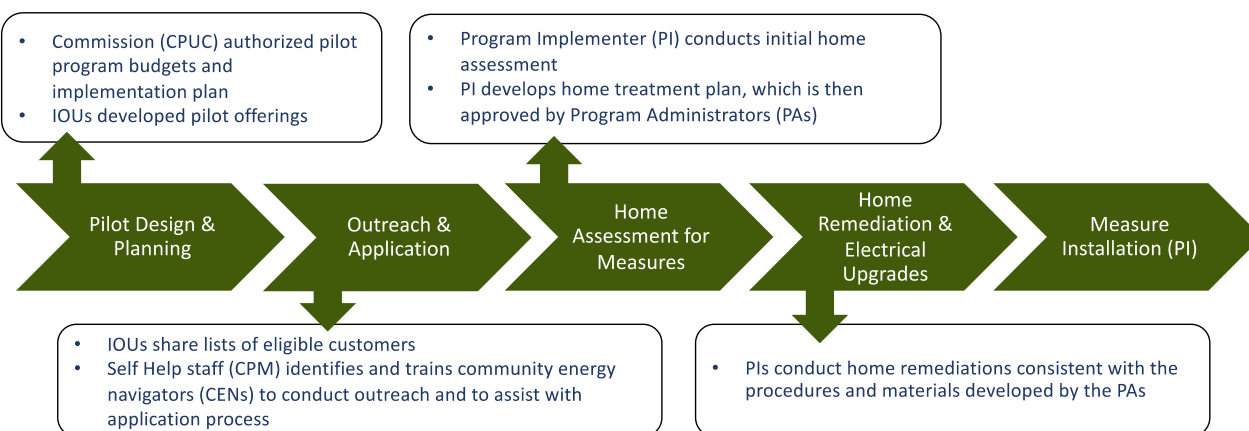
<sup>4</sup> In Decision 17-05-014 on May 2017, the CPUC adopted a methodology for identifying eligible SJV communities.

## 2.2 Pilot Projects

The CPUC directed the three IOUs and a third-party Pilot Administrator (PA) to convert households within SJV pilot communities that rely on propane or wood burning appliances to either efficient natural gas appliances (including line extensions) or all-electric appliances. The CPUC allocated over \$50 million for pilots to provide nearly 2,000 homes with appliance retrofits. This budget also included funds for a Community Energy Navigator Program Manager (CPM), who is responsible for outreach and enrollment activities.

Eleven SJV communities were selected for pilot projects that were intended to provide cleaner, more affordable energy options to propane and wood burning and to gather real time data needed to assess the economic feasibility of extending affordable energy options to all listed SJV DACs. Figure 2 shows key activities and the process of the pilot.

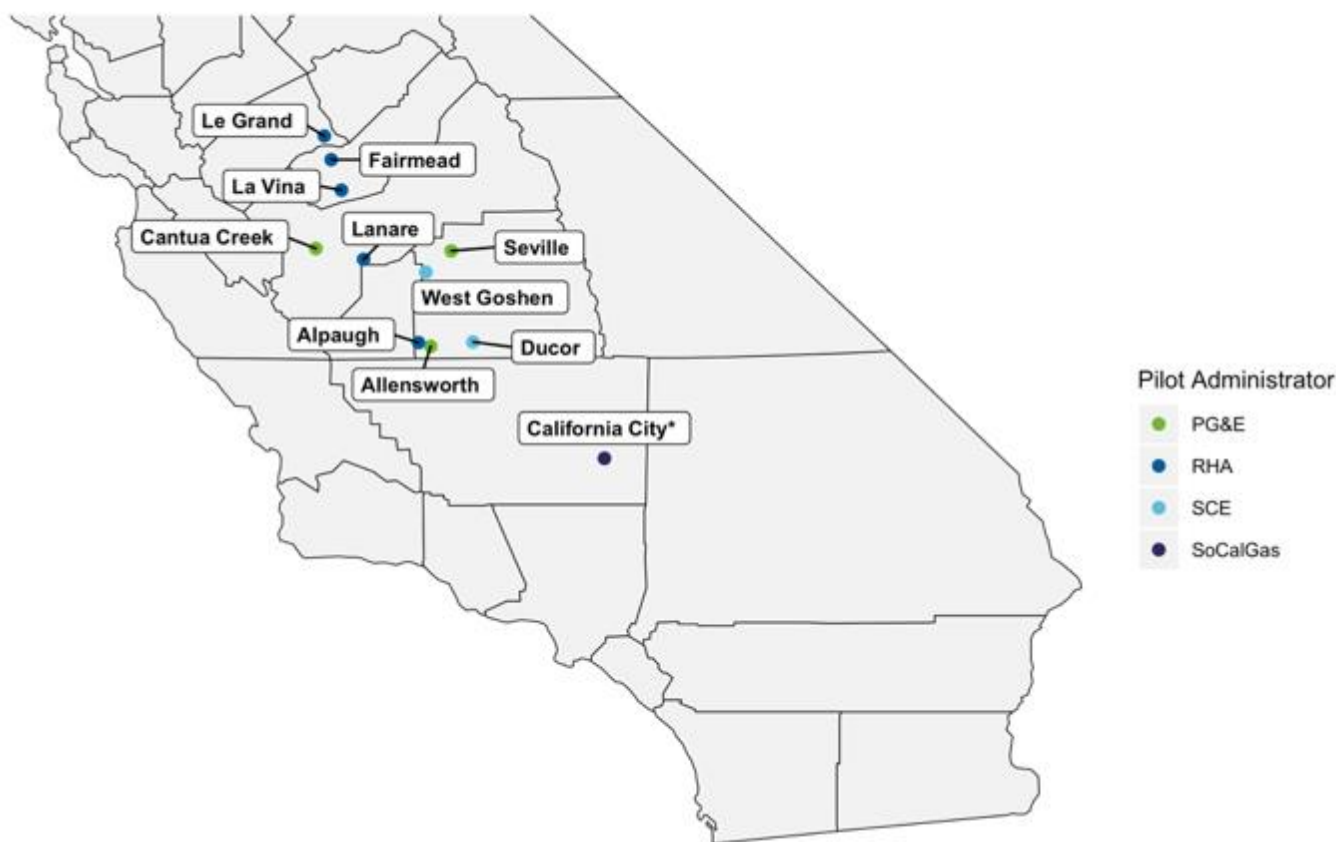
**Figure 2: Key Activities and Processes**



Additional pilot elements included:

- ◆ Bill protection measures to ensure affordability for participants; and
- ◆ A split incentives agreement to ensure that tenant-occupied households were able to participate and do not suffer negative consequences.

Figure 3 on the next page provides a map of the eleven pilot communities.

**Figure 3: SJV DAC Pilot Communities**

\*Both SoCalGas and SCE are enrolling pilot participants in California City, but SCE's California City pilot was not included in this process evaluation due to timing.

## 2.3 Study Objectives

In addition to directing the PAs to implement pilots in SJV DACs, CPUC D.18-12-015 also directed SoCalGas to manage a request for proposals (RFP) for an independent pilot project process evaluation contractor to be selected by the CPUC Energy Division (ED). The process evaluation is intended to determine the overall effectiveness of pilot design and processes and provide actionable recommendations for improved pilot design and delivery. The process evaluation is also intended to document barriers and determine the success of the PAs in meeting their stated goals and to help the CPUC compare the performance of the PAs. Specific research objectives of the process evaluation addressed are listed below.

### 1. Evaluate the pilot design and implementation processes of the SJV DAC PA's Pilots, which includes:

- a The design of pilot implementation plans and compliance with relevant CPUC decisions and legislation;
- b Marketing, education, and outreach efforts;
- c Efforts to leverage existing programs (full list provided in Appendix B) to meet pilot goals;
- d Bulk purchasing efforts;
- e Contractor delivery / implementation approaches, including remediation work and safety measures (between and across pilot administrators [PAs]);
- f Workflow processes between PAs, pilot implementers (PI), the Community Energy Navigator Program Manager (CPM), the Community Energy Navigators (CEN), and community-based organizations (CBOs);
- g Pilot tracking and data management;
- h Effects of bill protection and split incentive approaches;
- i Workforce education and training efforts;
- j Barriers and obstacles to meeting pilot goals; and
- k Processes to collect, review, and report on pilot impact data.

### 2. Evaluate customer interest in and satisfaction with the SJV DAC Pilots:

- a Barriers to pilot participation, including non-participant feedback;
- b Customer interest and willingness to participate in the pilot;
- c Unique programmatic issues related to reaching specialty populations (e.g., high usage customers, disabled customers, renters, etc.);
- d Customer satisfaction/dissatisfaction; and
- e Customer attitudes and behaviors towards energy savings.

## 3 Methods

This section presents an overview of the study methods. See Appendix C for more detail on the methods and Appendix D for evaluation research instruments.

### 3.1 Theory-Based Evaluation Approach

Per the 2004 Evaluation Framework,<sup>5</sup> evaluations are meant to “document and measure the effects of a program” and to “help understand why those effects occurred and identify ways to improve the program.” While impact evaluations are focused on documentation and measurement (and considered to be summative), this evaluation focuses on process elements that are focused on improving program processes (considered to be formative). To do that, this evaluation was designed using a theory-based evaluation framework guided by a logic model. The framework facilitated identification of causal mechanisms and testing of hypotheses that the successful implementation of project activities (often involving multiple actors) will lead to expected outputs, and that these in turn will eventually yield expected benefits. This theory-driven approach relied on data collection that covers project inputs, activities, outputs, and outcomes. Appendix A presents the pilot logic model that Evergreen developed for this evaluation.

### 3.2 Phased Evaluation Approach

This study consisted of two phases, with Phase I providing early feedback to the CPUC and Pilot Administrators (PAs). Phase II was intended to be a comprehensive process evaluation including this final written report on pilot outcomes.

Phase I commenced in late 2020; research included review of background documents and pilot project data and development of a pilot logic model, program theory, and metrics. Primary research for both phases included in-depth telephone interviews with pilot staff and customer surveys. In June 2021, Evergreen conducted in-person field research as part of Phase II. Table 4 on the next page summarizes the primary research.

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<sup>5</sup> TecMarket Works. 2004 (last updated 2006). *The California Evaluation Framework*. Prepared for the California Public Utilities Commission and the Project Advisory Group. [https://www.cpuc.ca.gov/-/media/cpuc-website/files/uploadedfiles/cpuc\\_public\\_website/content/utilities\\_and\\_industries/energy/energy\\_programs/demand\\_side\\_management/ee\\_and\\_energy\\_savings\\_assist/caevaluationframework.pdf](https://www.cpuc.ca.gov/-/media/cpuc-website/files/uploadedfiles/cpuc_public_website/content/utilities_and_industries/energy/energy_programs/demand_side_management/ee_and_energy_savings_assist/caevaluationframework.pdf)

**Table 4: Summary of Evaluation Research by Phase**

	Phase I	Phase II	
Research Mode ▼	December 2020 - March 2021	June 2021	December 2021 - April 2022
In-Depth Interviews	<ul style="list-style-type: none"> <li>11 interviews with 22 pilot staff</li> </ul>		<ul style="list-style-type: none"> <li>11 interviews with 22 pilot staff</li> <li>8 complete interviews with participating landlords and 1 partial interview with a landlord that had opted out</li> </ul>
	<b>Phase I Total: 11 Interviews</b>		<b>Phase II Total: 20 Interviews</b>
Customer Survey	<ul style="list-style-type: none"> <li>Web/telephone survey with 66 participants who completed a pilot application (and who ultimately completed measure installation), 8 opt-outs, and 11 non-participants<sup>6</sup></li> </ul>		<ul style="list-style-type: none"> <li>Mail survey with 103 participants that received appliances, 40 opt-outs, and 73 non-participants who were contacted by a CEN</li> </ul>
	<b>Phase I Total: 85 Surveys</b>		<b>Phase II Total: 216 Surveys</b>
In-Person Field Research		<ul style="list-style-type: none"> <li>5 group interviews with 15 pilot staff, and 2 days of ride-alongs with 4 pilot staff in PG&amp;E and SCE pilot communities</li> </ul>	

Note: More detailed information about the surveys completed is presented in Appendix C.

### 3.3 Customer Survey Analysis

Evergreen used a chi-square goodness-of-fit test when comparing distributions of categorical survey responses across segments, such as PA, own versus rent, phase, house type, and

<sup>6</sup> Sixteen of these were contacted again in Phase II (13 participants and 3 opt-outs) to gather additional information for those that either continued further into the pilots and had measures installed or who had initially filled out an application and ended up opting out of the program.

participant versus non-participant. The null hypothesis being tested is that the distribution of the responses between segments is not different from the expected (hypothesized) value, and the alternative hypothesis is that at least one of the segment probabilities is different from the expected (hypothesized) value. We used a level of significance (p-value) greater than 0.05 as the cut-off for these tests. In general, for a goodness-of-fit test, the potential for committing a Type II<sup>7</sup> error is high if the number of records is small or the number of categories is large. Even if the expected cell counts conform to our recommendations, the probability of a Type II error could be large. With this in mind, the results of a chi-squared goodness-of-fit test should be viewed suspiciously; one should not automatically accept the null hypothesis as a fact given the null hypothesis was not rejected. To avoid Type II error, only segments with a number of records greater than 30 were evaluated. Some survey categories were combined for analysis to reduce the number of categories that were being compared; for example, the “extremely” and “very” categories were combined, as were “not at all” and “a little” categories for the rating questions. When statistically significant differences were found between segments, they are presented in figures in this report. If no difference was found between segments or the number of records in that segment was below 30, the segmented difference is not shown in the figure. We presented very few results by PA in this report as we found that either there were not any significant differences between PAs, or we found the number of records by PA was too small to evaluate. We did find a few places where results differed by own versus rent, phase, house type, and participant versus non-participant; those are presented in the findings section below.

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<sup>7</sup> A Type II error is committed if we accept the null hypothesis when it is false and the research hypothesis is true, or in this case, accepting that the distribution of the responses between segments is not different from the expected (hypothesized) value, when they are actually similar. We do not control for Type 1 error because of the risk that it becomes too hard to detect real differences, due to the alpha being much smaller. The solution we used was to stick with the usual alpha but restricted the analysis to customer segments that have a sample n large enough to be defensible (we used  $n > 30$ ).



## 4 Findings

This section presents the study findings. We include relevant input from interviews, customer surveys, and field observations. Note that Evergreen conducted two phases of customer surveys. During the first phase (conducted in early 2021), only SoCalGas had any completed installations, limiting the findings from customer surveys. During the second phase (conducted in early 2022), Evergreen was able to bring in more sample points and conduct analysis to compare customer survey responses by:

- Phase of customer survey (early 2021 when the pilot was just getting started versus early 2022);
- Pilot Administrator (PA);
- Natural gas PA versus electric PA;
- Home ownership (own versus rent); and
- Non-participant (Community Energy Navigator [CEN] contacted or attempted to contact but did not fill out a pilot application) versus opt-out (filled out a pilot application but ultimately opted out).

Most customer survey results are presented by gas and electric PA where we found the most consistent statistically significant differences, but we note in the report any additional statistically significant differences that we found when comparing across the other groups. Note that the overall sample size was still small even combining both phases of data due to the relatively small population of pilot communities, meaning that if we did not find statistical significance, it may not mean that there are no actual differences that might be observable with a larger set of customer feedback. We also did not test for significant differences if the sample sizes were too small.

In this section, we present results across the respondent group overall and show comparisons across categories where we found statistically significant differences. A table that shows our contextual differences between the pilots that may contribute to any statistical differences found and the findings of the statistical testing of customer data is included in Appendix C.

### 4.1 Pilot Accomplishments

Outreach for the pilot projects began in early 2020. Table 5 shows the initial estimates of eligible households,<sup>8</sup> the number of households engaged by the CEN, and the number that have

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<sup>8</sup> For each community, the CPUC Decision 18-12-015 initially estimated the total number of eligible households based on geographic boundaries. However, eligibility is ultimately determined during enrollment. The actual number of

progressed to each subsequent stage of pilot participation at the end of 2021. At the close of 2021, SoCalGas had nearly completed its pilot installations, while the other PAs were still in the field with outreach and installations in progress (as of May 2022).

As shown in Table 5, by the end of 2021, pilot outreach staff reached 86 percent of all potential households and completed pilot applications for over half of those contacted. Over 250 homes have had pilot measures installed, with another nearly 500 having completed an in-home assessment. See Appendix B for a breakout of progress by community and PA.

**Table 5: Pilot Progress as of 12/31/21 (Number of Pilot Community Households)**

Pilot Administrator (PA)	Initial Estimate of Eligible Households	Contacted by CEN	Completed Application	Completed Assessment	Pilot Measure(s) Installed
PG&E	316	307 (97%)	211 (67%)	170 (54%)	43 (14%)
Richard Heath and Associates (RHA)	914	814 (89%)	424 (46%)	387 (42%)	89 (10%)
SCE	449	290 (65%)	168 (37%)	105 (23%)	45 (10%)
SoCalGas	235	235 (100%)	93 (40%)	79 (34%)	77 (33%)
<b>Total (# of Households)</b>	1,914	1,646	896	741	254
<b>Total (% of Potential Participants)</b>	100%	86%	47%	39%	13%
<b>Data Source</b>	CPUC Decision 18-12-015	Pilot 2022 Quarterly Progress Report (1/31/2022)			

Note: PG&E served three communities in this pilot, RHA served five, SCE served three, and SoCalGas served one. See Table 10 for a detailed breakdown by community.

Table 6 presents the percent of applications that were completed out of those eligible residents who had been contacted by the CEN as of the end of 2021. About half of residents contacted through the end of 2021 had completed a pilot application, although at different rates by PA. At the time of this report, the electric pilot is still being implemented, while the gas pilot is nearly complete. Because outreach is underway, it is premature to conclude that one PA is more successful in achieving its goals.

eligible households is likely much lower than the initial estimate based on a variety of reasons. For example, some homes are found to be all-electric, already have natural gas appliances, are businesses or apartments, or are vacant.

Thus far, the electric pilot has had more uptake than the gas pilot. However, the gas pilot included California City, which is a large city where the CENs were unfamiliar with the community, compared to the other pilot communities that are smaller and the CENs more familiar. Also, California City has large multifamily buildings where the CENs have a harder time reaching landlords, a challenge that increased during the early months of the COVID-19 pandemic. We discuss other barriers that affect completion rates later in this report.

That being said, the implementation models used by the PAs were fairly similar in terms of outreach and assessment. The main differences we found in how the pilot was designed and delivered across PAs (as described later in this section) is that the electric pilots had to assess the need for electrical upgrades at the time of pilot treatment (e.g., at each household) whereas the gas pilot did not have such an assessment.

Later in this report (Section 4.9) we present the findings related to participation barriers to help understand reasons for not participating.<sup>9</sup>

**Table 6: Percent of Applications Completed of Those Contacted by the CENs as of 12/31/21**

Pilot Administrator (PA)	Contacted by CENs	Completed Application	Percent of Applications Completed of Those Contacted by the CENs
PG&E	307	211	69%
Richard Heath and Associates (RHA)	814	424	52%
SCE	290	168	58%
SoCalGas	235	93	40%
<b>Total (# of those contacted)</b>	<b>1,646</b>	<b>896</b>	<b>54%</b>

## 4.2 Pilot Design and Planning

This section concerns pilot inputs and activities related to the design and initial planning (specifically elements I1, A1, A2, and A3 in the pilot logic model, which is provided in Appendix A.)

### 4.2.1 Budgets and Program Implementation (I1.1<sup>10</sup>)

Evergreen heard from PAs that they worked on an initial implementation plan based on the CPUC Decision that authorized the pilots and received feedback from the CPUC regarding elements such

<sup>9</sup> Note that the sample size of non-participants who were contacted by a CEN but chose not to fill out an application is not large enough to support statistical testing by PA.

<sup>10</sup> The alphanumeric codes shown here refer to activities in the pilot logic model, which is provided in Appendix A.

as the timeline. Two PAs reported that this was an “informal process,” and one clarified that “implementation [of the Decision’s intent] was open to interpretation” outside of the appliances and instructions to leverage programs. One PA specified that they went back to the Decision to clarify if their implementation plan should involve offering the pilot to homes that were already all-electric and ultimately read the decision as focusing on the transition from propane and wood.

Interviewees reported that during the early stages of the pilot, there had been several items that impacted the pilot implementation, including:

- **Bill discount.** One electric PA reported that the bill discount was initially supposed to be \$500 over a three-year period (aligned with the Decision), but this was then changed to a 20 percent monthly bill discount for 10 years. During the process of the evaluation, the implementation of the bill discount was still in question. Our understanding is that the gas PA used a \$500 bill credit over three years whereas the electric PAs offered a 20 percent bill discount over five years, to be reassessed thereafter.
- **COVID impacts.** One PA reported that moving customers to the same phase (from assessment to enrollment, for example) at the same time was not efficient given limitations created by the COVID-19 pandemic for the contractors. Also, COVID created significant delays in applications in Q1 of 2020. One PA explained during Phase I interviews that they expected applications to come in starting in Q1 of 2020 but did not receive them until the end of July of that year.
- **Understanding remediation needs.** One Pilot Implementer (PI) highlighted during the field work interview that as the project progressed, they better understood how different needs and barriers would have different costs to overcome such as “additional costs in installations of water heaters that don’t require fixing or repairing other issues” or “support costs” compared to, say, the cost of a panel upgrade.

While some of these changes to the implementation plan were programmatic changes, some were based on feedback from Phase I such as how to share data between PAs, PIs, and CENs, which is expected to occur as a new pilot proceeds.

During follow-up interviews conducted in April 2022 with the PAs and PIs, they stated that there had been no formal changes to the implementation process after those discussed above, although the implementation was going better. Both PA project managers attributed this to the project staff, including PAs, PIs, and Community Energy Navigator Program Manager (CPM) staff, gaining experience in their roles and developing a robust understanding of the pilot and its impacts.

### 4.3 Pilot Outreach and Application Process

This section addresses A4 and A5 in the pilot logic model, which is provided in Appendix A.

### 4.3.1 CPM Conducts Targeted Outreach to Community Leaders and Establishes Network of CENs (A4.1 and A4.2<sup>11</sup>)

During Phase I field visits and interviews, Evergreen interviewed the CPM and CENs from Self-Help Enterprises (SHE), the organization hired to conduct outreach for the pilots, as well as a CEN from the Leadership Counsel for Justice and Accountability, an external organization that has been active in the pilot proceedings. The CPM told us that the majority of CENs were existing employees supplemented with new staff that SHE brought on to conduct outreach. These CENs were selected for their experience working in disadvantaged communities and their involvement with the SJV DAC proceeding. When possible, the CPM attempted to hire CENs that are from the pilot communities. The CPM highlighted that these local CENs are trusted, local leaders from the community and are very effective for pilot outreach. This was corroborated by results from the customer survey (Figure 6) with 90 percent of participants and 78 percent of non-participants reporting that the CEN seemed “very” or “extremely” trustworthy (Figure 8).

As will be mentioned in Section 4.8, when asked about the training provided to CENs, the CPM described a comprehensive, two-day training session they provided to all CENs covering an overview of the pilots (including legislative and regulatory background), the role of the IOUs and PAs, and outreach best practices; trainees also practiced mock outreach calls. The CPM was able to hold in-person trainings prior to the COVID-19 pandemic but later offered the training remotely. The CPM believed that these training sessions were very beneficial for CENs. During follow-up interviews, the CPM stated they continue to use the two-day training session to train all new CENs.

When asked about the effectiveness of the CPM model, two PAs indicated that they were unsure if the CPM outreach model was more effective than outreach methods used by similar programs such as the Energy Savings Assistance (ESA) program, while a third PA believed that the CPM's local knowledge and associated benefits to outreach outweighed the additional coordination burden required to coordinate between the PA, PI, and CPM.

However, during Phase I field visits, the CENs felt that they were not able to fully leverage their knowledge of local communities and that all decisions were ultimately at the discretion of the PAs. The CEN believed that the PAs had too much involvement in directing the outreach plans and that the pilot was not fully benefiting from utilizing local, community-based organizations (CBOs) to educate residents. They believed that there was a disconnect in cultural understanding of the communities between the PAs and CENs.

Survey results show both participants and non-participants had a high degree of trust in the CEN, as mentioned previously.

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<sup>11</sup> The alphanumeric codes shown here refer to activities in the pilot logic model, which is provided in Appendix A.

### 4.3.2 CEN Conducts Community Outreach (A4.3 – A4.5)

The CPM developed outreach and engagement plans including strategies to meet the specific needs of each community, informed by the CPM’s experience working within disadvantaged communities and more generally in the San Joaquin Valley. However, the CPM stated that they did not have experience in California City, which is larger than other pilot communities. A PA respondent said this had made outreach in California City less efficient and effective.

During Phase I field visits, the CPM and all four interviewed CENs believed that phone outreach was not as effective as in-person outreach. They described difficulties reaching residents (due to incorrect phone numbers or difficulties during day-time hours) and adequately expressing the benefits of participation. The CENs were able to resume in-person outreach in July of 2020, once state restrictions had been loosened. The CPM was given discretion to resume outreach in a manner that was safe for residents and staff, but one CEN believed that there was not enough consideration given to community health and preventing the spread of COVID-19 with the resumption of in-person outreach. All four CENs believed that it was very effective to leverage trusted leaders and members of the community to conduct outreach (i.e., enlisting them as a CEN or for outreach assistance, mentioning support during outreach). The CENs were still able to contact 60 percent of estimated eligible households and complete pilot applications for 39 percent of those households contacted.

During Phase II interviews, the CPM stated that it continued to be important to leverage CBOs and allow them to lead the way. They believed that they were not able to fully leverage their knowledge of local communities and that all decisions were ultimately at the discretion of the PAs. In Phase I, staff from the Leadership Counsel for Justice and Accountability, a SJV-based CBO that works with local community members to advocate for policies to fight climate change, an example was given of trying to cater outreach materials to each community, which would have to go through the PA approval process. In particular, the CPM believed that the PAs had too much involvement in directing the outreach plans and that the pilot was not fully benefiting from utilizing local, CBOs to educate residents.

During Phase I and II interviews, two PA and two PI interviewees stated that an additional party conducting outreach, in this case the CPM, hindered the project’s success. A PA stated that the CPM did not have the experience necessary to successfully conduct outreach. They stated that the PA had to step in to assist SHE with outreach and project enrollments, leveraging the PAs’ community relationships and awareness. Another PA was more neutral, and thought that while there were issues, the CPM relationship should be used going forward, although refined, suggesting a non-contractual partnership going forward. One PA interviewee said the CPM did not have basic business processes in place, which hindered its ability to effectively conduct outreach.

During Phase II interviews, we discussed the gas pilot and additional early screening conducted to identify eligible customers near distribution-level gas infrastructure. Multiple interviewees

believed this was critical to driving relative lower costs of the remediation of the gas pilot. Evergreen also concludes that this proximity to gas infrastructure and the relatively little remediation in the home resulted in increased satisfaction (particularly because customers were more likely to report that “next steps were clear” and that they were “comfortable with precautions” with regards to project outreach) between the gas and electric pilot. The PI stated if this approach had been used for the electric pilot, the significant and unanticipated costs to upgrade infrastructure to the participants’ homes would have been anticipated and could have been reduced, albeit not eliminated due to the electric panel upgrades necessary for almost all homes (gas participants often require no remediation).

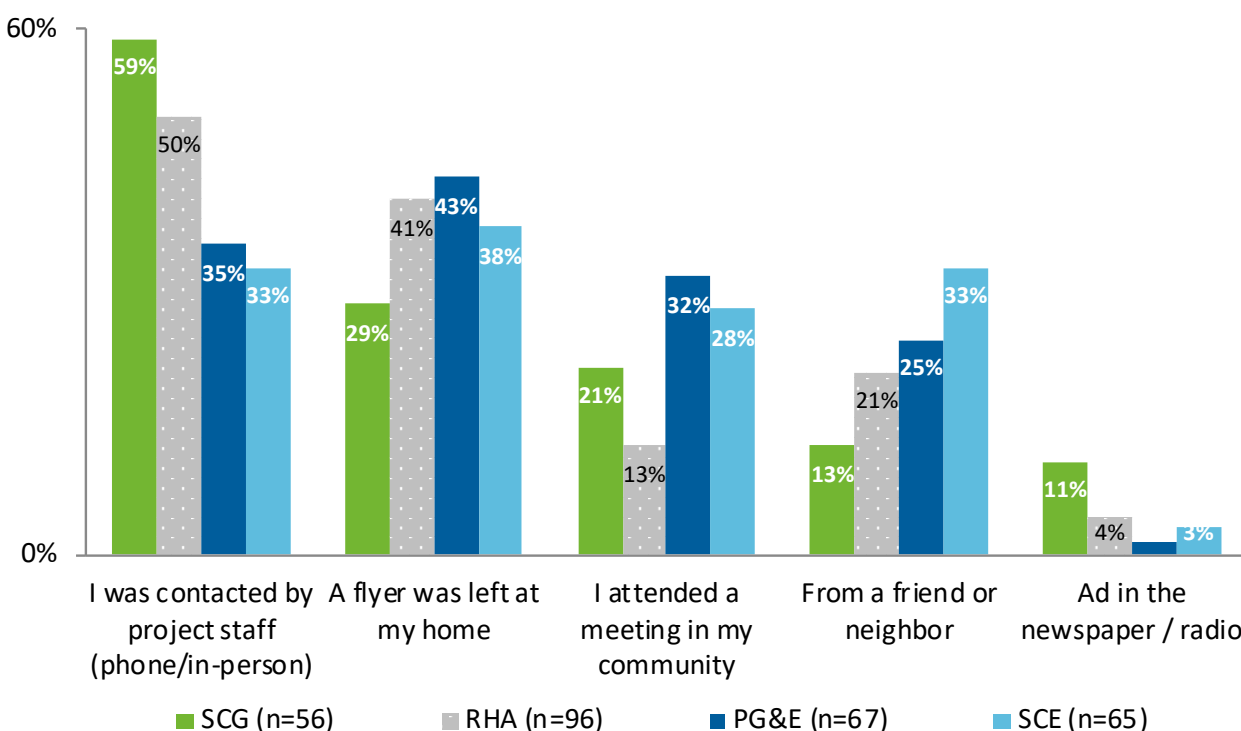
As shown in Figure 4, residents of SoCalGas’ and RHA’s service territories heard about the pilot most often from pilot project staff (59% and 50%, respectively), while residents of PG&E’s and SCE’s service territories heard about the program most often from a flyer left at their home (43% and 38%, respectively). The distribution differences between the PAs were statistically significant suggesting that door to door pilot staff outreach and flyer distribution was the most effective form of outreach.

In Phase I, residents heard about the pilot most often from pilot project staff (68%), followed by a flyer, a meeting, a friend, and an ad (22%, 12%, 8%, 3%, respectively). Phase II residents heard about the pilot most often from a flyer (43%), followed by pilot project staff, a friend, a meeting, and an ad (37%, 27%, 26%, 5%, respectively). The distribution differences between Phase I and Phase II were statistically significant, which may be due to the impacts of the COVID-19 pandemic and the restructuring of outreach approaches.

Note that Evergreen combined survey data from two phases of customer survey research for the customer survey charts in this report. As mentioned previously in the introduction to this section, we tested for statistical significance across several categories, and where we found significant differences, we note them in the text or present them in the exhibits.



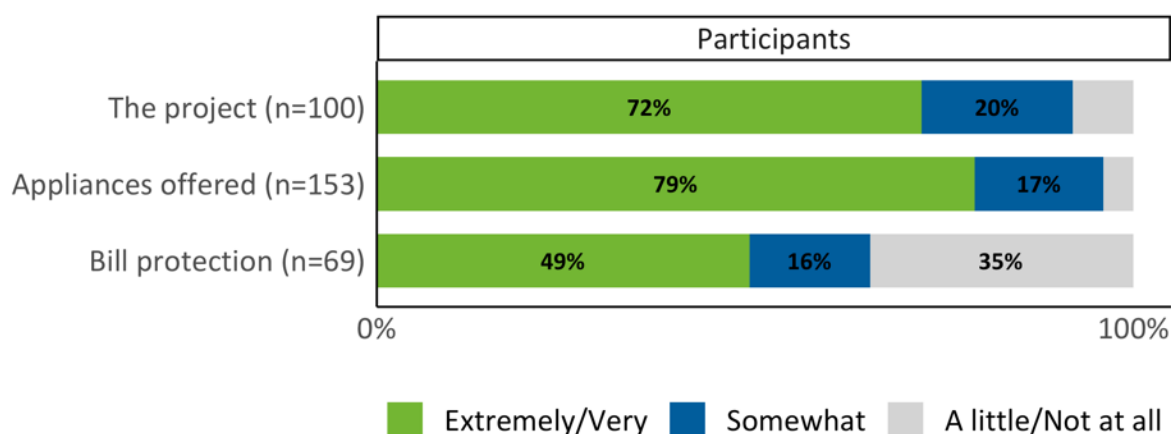
**Figure 4: Survey Responses by PA – Where Do You Remember Hearing about the SJV Energy Affordability Project?**



Note: Multiple responses were allowed. Percentage distributions shown here are statistically significantly different by PA. See Section 3.3 for details on the survey analysis methods.

As shown below in Figure 5, participating residents reported that they understood the various aspects of the pilot. The exception was the bill protection offering, with only 49 percent of participants reporting that this feature was “extremely” or “very” easy to understand. The electric PAs offer bill protection of 20 percent for the first five years with a different discount method for the second five years. SoCalGas provides a flat annual discount for three years that is prorated for winter months (to account for heating). No statistically significant differences were found when comparing these distributions across PAs and between electric and gas PAs, or in the case of bill protection, the number of responses was too small to test for statistically significant differences between electric and gas PAs.

**Figure 5: Participant Survey Responses – How Easy Was It to Understand the Following?**



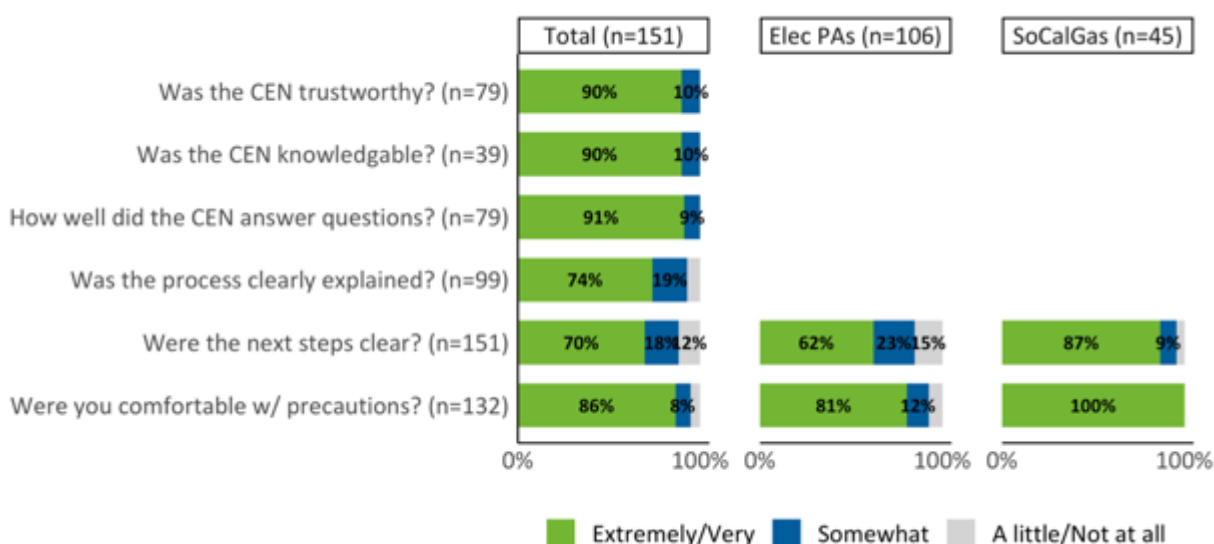
Note: Distributions shown in this figure are not statistically significantly different by PA, or in the case of bill protection the number of responses was too small to test for statistically significant differences across PAs. See Section 3.3 for details on the survey analysis methods.

In both phases, PA and CPM staff noted ongoing challenges with bill protection, specifically the ability to accurately calculate the net costs associated with participating in the pilot. Representatives from the PAs, PIs, and the CPM stated it remains difficult to effectively communicate the value of the pilot as participants see increased electricity bills or new natural gas bills. A PA noted that one challenge is that participants did not necessarily track their pre-pilot propane costs accurately, making it difficult to determine net costs of project participation. Both the PAs and the PIs reported in April of 2022 that they found it challenging to express the value of the bill protection elements of the project to eligible participants.

As shown in Figure 6, a vast majority of participating residents responded positively regarding the various aspects of the pilot project outreach. The number of responses was too small to test for statistically significant differences across PAs (even when combining PG&E and RHA), so the electric PAs were combined to test for significant differences. Even after this, only the last two questions shown in Figure 6 had enough responses to test for statistical differences. Both of those questions were found to have statistically significantly higher percentages of SoCalGas respondents who reported that they were “very” or “extremely” clear on the next steps and comfortable with precautions when compared to those under the electric PAs. In Phase II of the survey, residents were first asked if they remembered working with a CEN before being asked if the CEN was trustworthy and if the CEN answered the questions they had about the project (In Phase I, residents were not first asked if they remembered working with a CEN). In Phase II, residents were also asked if they thought the CEN was knowledgeable if they remembered working with one. Of the Phase II respondents, 38 percent remembered working with a CEN and

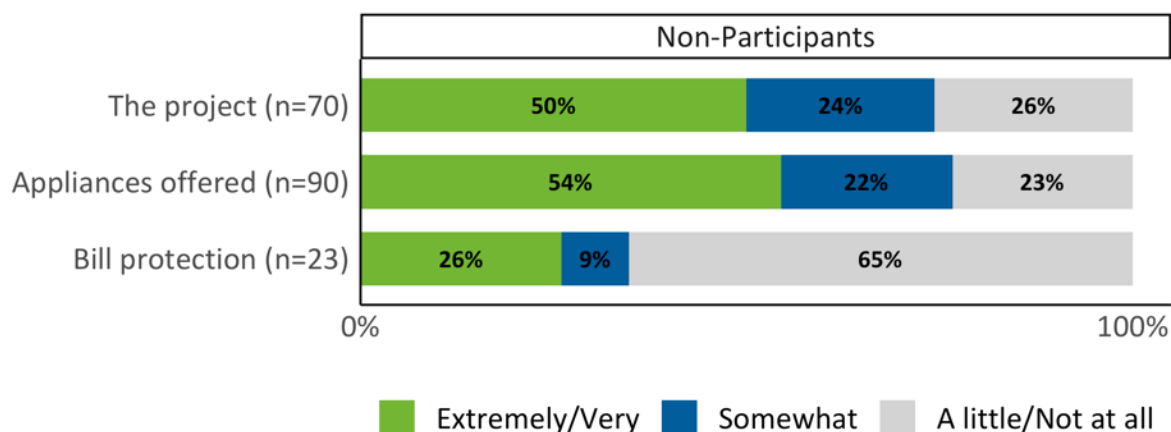
13 percent of non-participants remembered working with one. Although the outreach was very well regarded, the two aspects that may have some room for improvement are how clearly the project and processes were explained and the communications about the next steps of the project (especially for the electric PAs). Of residents who rated the trustworthiness of the CEN, a follow-up question was asked: “Can you say why you gave that rating?” Residents responded with comments about how clearly they communicated, and that they were knowledgeable, informative, kind, and professional. One resident also noted that they trusted the CEN because they knew them from their community.

**Figure 6: Participant Survey Responses – Experience with the Project Outreach**



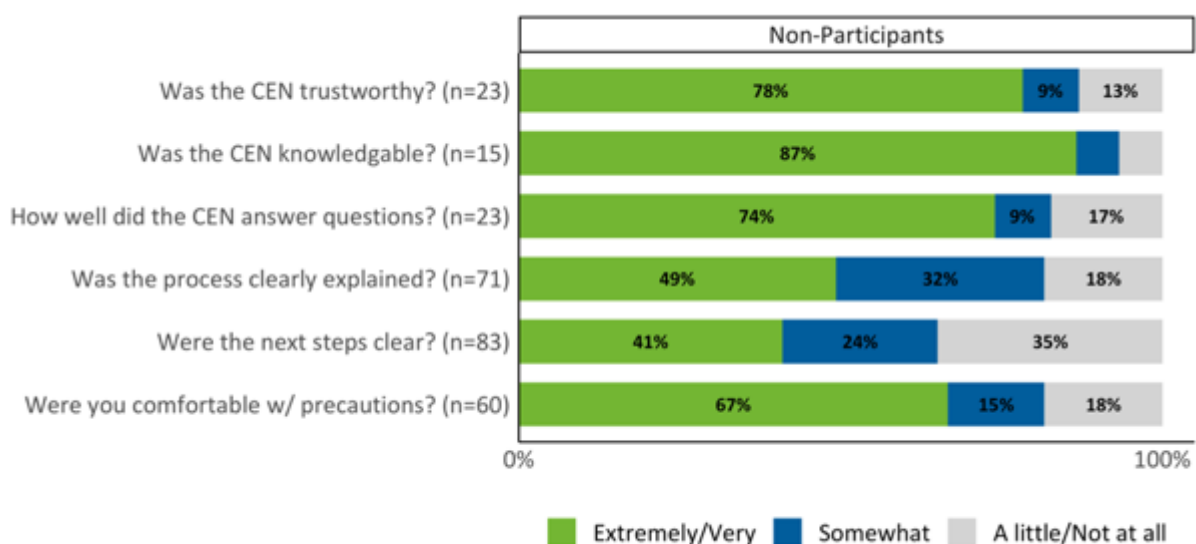
Note: Distributions shown in this figure by electric and gas PA are statistically significantly different. Distributions that are not shown by electric and gas PA had too few responses to test. See Section 3.3 for details on the survey analysis methods.

Non-participating residents reported the various aspects of the pilot as being “extremely” or “very” easy to understand less often than participating residents. As was reflected for participants, the bill protection offering reportedly was also the least understood aspect for non-participants (Figure 7). The number of responses was too small to test for statistically significant differences across PAs.

**Figure 7: Non-Participant Survey Responses – How Easy Was It to Understand the Following?**


Note: The number of responses was too small to test for statistically significant differences across PAs. See Section 3.3 for details on the survey analysis methods.

Most non-participating residents responded positively regarding the various aspects of the pilot project outreach; however, the percentage of residents rating the aspects as “extremely” or “very” were around 20 percent lower for each aspect when compared to participants. Again, although the outreach was well regarded, the two aspects that may have some room for improvement are how clearly the project and processes were explained and the communications about the next steps of the project (Figure 8). The number of responses was too small to test for statistically significant differences across PAs.

**Figure 8: Non-Participant Survey Responses – Experience with the Project Outreach**


Note: The number of responses was too small to test for statistically significant differences across PAs. See Section 3.3 for details on the survey analysis methods.

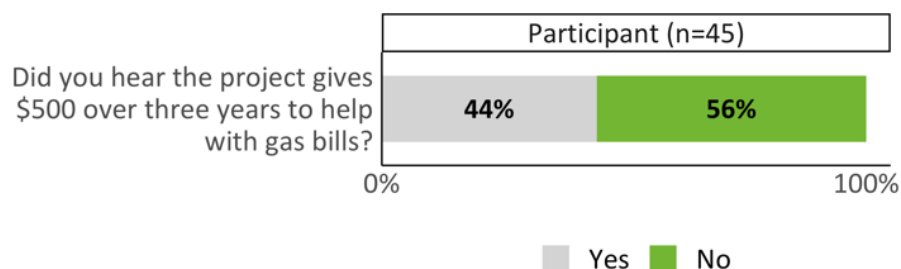
While participants rated their experience with the CENs as positive, some PAs were unsure about the CPM model. During Phase I interviews, two PAs indicated during the first phase of research that they were unsure if the CPM model was more effective or efficient than outreach methods used by similar programs such as the ESA program.

During Phase II interviews, three PA interviewees stated that the CPM community outreach model had not worked as well as other outreach efforts in similar pilots or programs. Two PAs stated the communities were not as familiar with the CPM as they were with the utility. One PA said they resolved this issue in their last community engagement by sending a letter to customers before the CPM conducted the outreach. The letter informed residents that the CPM organization would be knocking on their door soon. The PA stated this worked well. They did indicate some additional challenges in one community as the CPM was least familiar with this area. In an interview during Phase II, the CPM also observed some challenges as this community was outside their normal coverage area.

When SoCalGas participants were asked specifically, “The project includes giving participants \$500 total over three years to help with your monthly natural gas bill. Do you recall hearing about this?”, only 44 percent of participants said they recalled hearing about this project aspect (Figure 9). The number of responses was too small to test for statistically significant differences between electric and gas PAs. This question was followed up by “How helpful would bill credits of

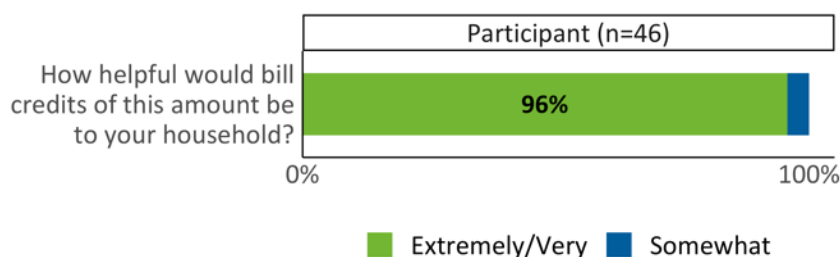
this amount be to your household?”. Ninety-six percent of participants responded that these bill credits would be “extremely” or “very” helpful (Figure 10). The number of responses was too small to test for statistically significant differences between electric and gas PAs.

**Figure 9: Survey Responses – SoCalGas Only – Did you hear the project gives participants \$500 over three years to help with gas bills?**



Note: See Section 3.3 for details on the survey analysis methods.

**Figure 10: Survey Responses – SoCalGas Only – How helpful would bill credits of this amount be to your household?**



Note: The number of responses was too small to test for statistically significant differences between electric and gas PAs. See Section 3.3 for details on the survey analysis methods.

In June 2021, Evergreen conducted ride-along field visits. During the two days of outreach, conducted in the DACs of Le Grand and Ducor, Evergreen observed that the bill discount was often a point of emphasis with prospective pilot participants. CENs shared three reasons why residents may respond differently to the bill protection information:

- A CEN noted that respondents are used to seeing a monthly electric bill and can more easily imagine that bill being high compared to propane bills that while high, are not as

consistent. The CEN noted that two residents have opted out of the pilot (after completing an application) because they fear their electric bill will be too high.

- Another CEN noted that respondents who have recently moved to the area are more likely to consider propane costs to be high because they are not used to having propane bills.
- A CEN noted that some residents do not think their bills are too high and do not think it is worth the time to participate in the project.

The ride-alongs allowed Evergreen to observe and hear from CENs and Community CENs<sup>12</sup> about the outreach process and effectiveness.

- In the field, there are always two CENs, with one of the two designated as a Community CEN. Outreach appeared to be a two-person job so that one person could track outreach efforts, complete paperwork and filing, and conduct follow up, and another could be in the community so people could ask about the project, establish trust, and share their knowledge of the residents.
- COVID-19 put an end to in-person large gatherings for outreach, though CENs and Community CENs did go door to door. While door-to-door outreach was much slower, it did allow for conversations with people outside of their homes, as they would drive by and stop to say hi or ask a question of the Community CEN or of the CEN approaching their home or the home of a family member.
- CENs reported a second wave of enrollments beyond the initial outreach done by SHE due to residents seeing PI trucks in the neighborhood and hearing from neighbors who had work done.
- Community CENs become the face of the project in their communities including when things are slow or when there is not enough information about project status. One CEN expressed frustration about the delays that participants ask about since those delays are out of her control.

CENs and Community CENs were very cognizant of the situations and needs of the local residents to whom they were reaching out, and we observed that they seemed adept at knowing the right amount of information to share or when to stop pushing. Evergreen saw two instances of this during the ride-along in Le Grand:

- One visit was the third or fourth time that the CEN or the Community CEN had spoken with a resident who was still deciding if they wanted to enroll. This person was very insistent that they keep their current evaporative cooler rather than receive the heat pump air

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<sup>12</sup> Community CENs are selected for the role based on their leadership in the community. This is intended to help customers entrust the pilot and to have information distributed by someone who is already well connected with residents.



conditioning system, and the outreach staff member acknowledged this rather than push them since they worried it might make them decide not to participate at all. This strategy worked, and the resident agreed to enroll in the pilot before the end of the visit.

- Another person did not want the CEN to inspect the outside of their mobile home for their decal for the Department of Housing and Community Development (HCD) even though the CEN had let them know via phone that they would be visiting that day. The resident noted that they were working on fixing their AC, which was a high priority given that temperatures were over 100 degrees. This exemplifies that even when HVAC is a priority for the resident, and even though the project would have helped the resident get a new AC unit, the need for residents to immediately address barriers and issues of concern may sometimes hinder them from timely participation in the pilot. The CEN did not press the resident despite having made the trip to their home.

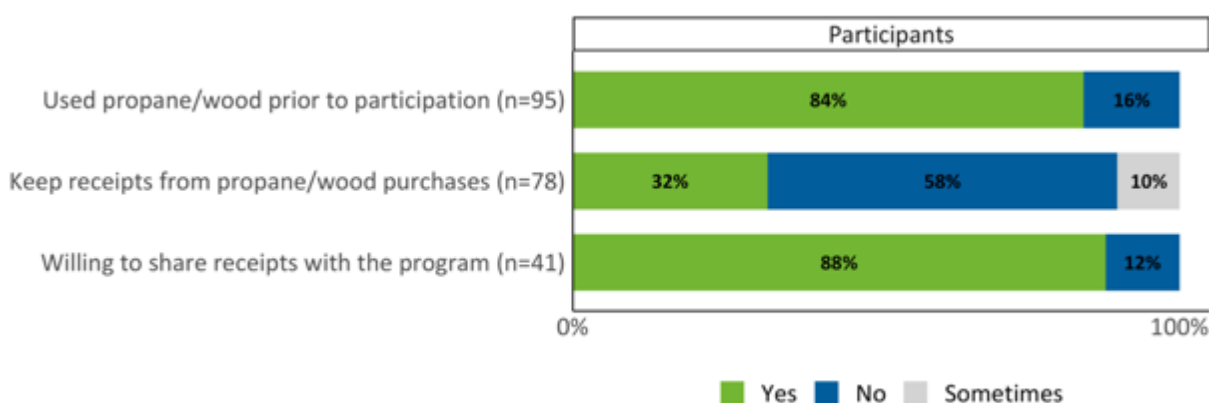
### 4.3.3 CEN Assists Residents with Application (A5.1)

After making initial contact with potential participants, the CENs attempt to assist residents in completing a pilot application. The CENs interviewed noted that the format varies, including in person, over the phone, or the CEN leaving a paper copy of the application at the home. During the COVID-19 stay-at-home orders, a majority of applications were completed over the phone or were dropped off for residents to complete. When asked about the most effective way to complete applications, three CENs expressed that it worked best to complete the application with potential participants in person, so they are able to ask questions and walk them through each step. When asked about the potential to have residents complete an application online, one CEN believed that this would be useful for some residents but may pose a barrier for others, such as those that lack internet access. The CEN also believed that you would lose the value and knowledge of the CEN role with a transition to online-only applications. Sixty-two percent of surveyed applicants noted that they completed the application in person, 21 percent completed it over the phone, and 17 percent completed it by mail. The number of responses was too small to test for statistically significant differences across PAs (even when combining PG&E and RHA), so the electric PAs were combined to test for significant differences. No statistically significant differences were found when comparing the distribution for electric versus gas PAs. In Phase II, the percentage of applications completed in-person decreased (from 74% to 57%) and the number completed by mail increased (from 9% to 21%). This finding was statistically significant. Seventy-six percent of participating residents remembered getting help filling out their application from project staff, while only 26 percent of opt-outs remembered getting help with their application. The number of responses was too small to test for statistically significant differences across PAs.

When asked about difficulties in the application process, two CENs noted that residents do not always have access to their electric account numbers, and it can be tricky for them to track this information down. In addition, two CENs identified that residents often do not retain receipts from their monthly expenditures for propane and wood (though receipts are not required per the

CPUC). However, they did believe that the estimates residents provided when receipts were not available were fairly accurate, because these costs are a large monthly expense for participating households. Survey responses from participating residents agree with this (Figure 11). A majority of the participating residents reported that they used propane or wood prior to participation (84%); however, relatively few of them stated that they keep their receipts (32% keep all receipts, and 10% keep receipts sometimes), and a vast majority of those who keep receipts reported that they were willing to share them (88%). The number of responses was too small to test for statistically significant differences across PAs.

**Figure 11: Participant Survey Responses – Propane and Wood Use**



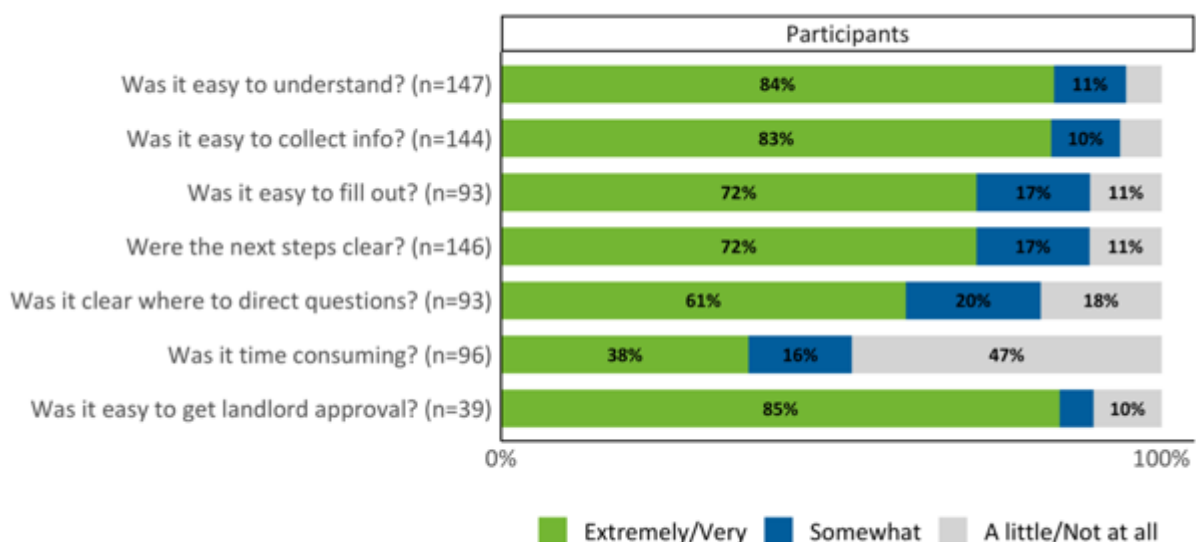
Note: The number of responses was too small to test for statistically significant differences across PAs. See Section 3.3 for details on the survey analysis methods.

Figure 12 summarizes the customer survey responses from the 147 participating residents that had completed a pilot application. Among these residents, a very high percentage responded that the application process was a relatively easy process, with 84 percent of respondents reporting that the application instructions were “very” or “extremely” easy to understand, 83 percent reporting that the required information was “very” or “extremely” easy to collect, and 85 percent of renters reporting that it was “very” or “extremely” easy to get their landlord’s approval. The number of responses was too small to test for statistically significant differences across PAs (even when combining PG&E and RHA), so the electric PAs were combined to test for significant differences.

When the electric PAs were collapsed and compared against SoCalGas, there was a significant difference found between the two groups on if the next steps were clear (64% of participants of electric PAs responded that the next steps were “very” or “extremely” clear, compared to 89% of participants of SoCalGas). The CENs used the same approach to describing pilot steps to eligible households across all pilots. However, as we discuss later, many electric households had electrical

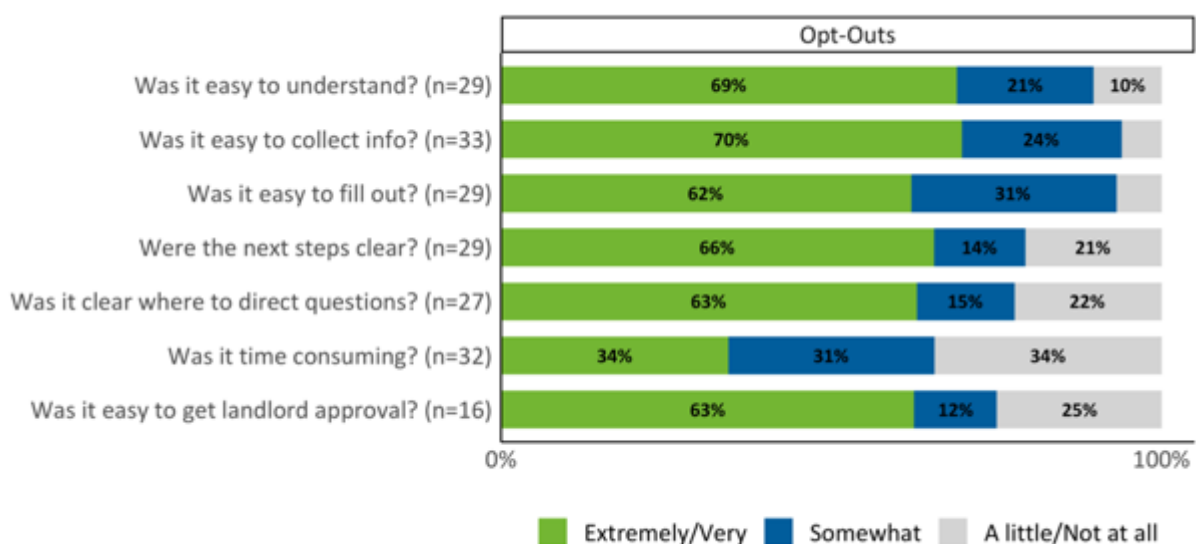
upgrades to be assessed and possibly completed at the household and also potentially the neighborhood. On the natural gas side, the pilot was different and did not require electric upgrade assessments and work done.

**Figure 12: Participant Survey Responses – Experience with the Application**



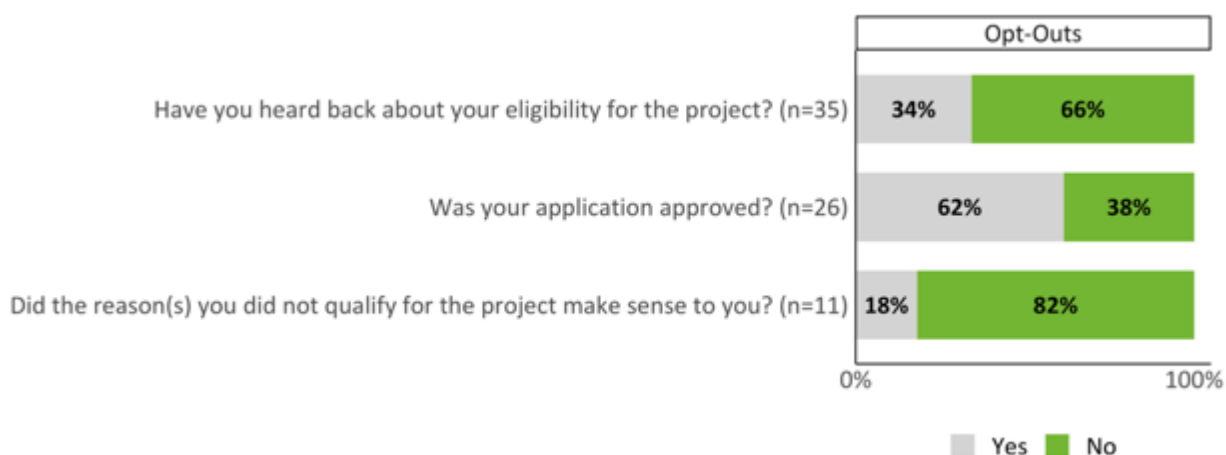
Note: The number of responses was too small to test for statistically significant differences across PAs (even when combining PG&E and RHA), so the electric PAs were combined to test for significant differences. When the electric PAs were combined and compared against SoCalGas, there was one significant difference found between the two groups on if the next steps were clear (64% of participants of electric PAs responded that the next steps were “very” or “extremely” clear, compared to 89% of participants of SoCalGas). See Section 3.3 for details on the survey analysis methods

Figure 13 summarizes the customer survey responses from the 29 non-participating residents that had completed a pilot application before opting out of the pilot at a later time (25 from electric PAs and 4 from SoCalGas). A majority of these residents reported that the application process was relatively easy, with 69 percent of respondents reporting that the application instructions were “very” or “extremely” easy to understand, 70 percent reporting that the required information was “very” or “extremely” easy to collect, and 63 percent of renters reporting that it was “very” or “extremely” easy to get their landlord’s approval (although this was 22 percentage points lower than the participant group). The number of responses was too small to test for statistically significant differences across PAs.

**Figure 13: Non-Participant Survey Responses – Experience with the Application**


Note: The number of responses was too small to test for statistically significant differences across PAs. See Section 3.3 for details on the survey analysis methods.

Figure 14 shows the survey responses for residents who went through the application process but then opted out of the project. Only 34 percent of these residents remembered hearing back on their project eligibility. Thirty-eight percent of those who remembered hearing back said their application was not approved; however, the other 62 percent reported that they were eligible but opted out of the project for another reason. The number of responses was too small to test for statistically significant differences across PAs. Most of those who noted that they did not understand the reason why they did not qualify reported not knowing about the pilot project or had not heard back on their eligibility status yet.

**Figure 14: Opt-Out Survey Responses – Communication on Eligibility**

Note: The number of responses was too small to test for statistically significant differences across PAs. See Section 3.3 for details on the survey analysis methods.

Surveyed residents were asked who they contacted when they had questions about the pilot. Most participants and non-participants noted that they either did not have any questions or they listed a person they reached out to for questions (83% for both). The other 17 percent of residents noted that they did not know who to reach out to with their questions. The number of responses was too small to test for statistically significant differences across PAs.

#### 4.3.4 CEN Assists Residents with Enrollment in Leveraged Programs (A5.2)

During the application process, the CEN is tasked with educating and providing access to existing utility low-income and clean energy programs. These “leveraged programs” differ by investor-owned utility (IOU), and the full list can be found below.

Pilot Administrator	Leveraged Existing Programs
PG&E & RHA	Energy Savings Assistance Program (ESA), Comprehensive Manufactured/Mobile Home Program (CMHP), Self-Generation Incentive Program (SGIP), Disadvantaged Communities Green Tariff (DAC-GT), Solar Green Tariff (CSGT), Single-family Affordable Solar Homes (SASH and DAC-SASH), California Alternate Rates for Energy Program (CARE), Family Electric Rate Assistance (FERA), All-Electric Baseline, Medical Baseline, WatterSaver! Program <sup>13</sup>
RHA	ESA, CSI-Thermal, DAC-GT, CSGT, DAC-SASH, SGIP

<sup>13</sup> As of October 9, 2020, WatterSaver! has not begun implementation.

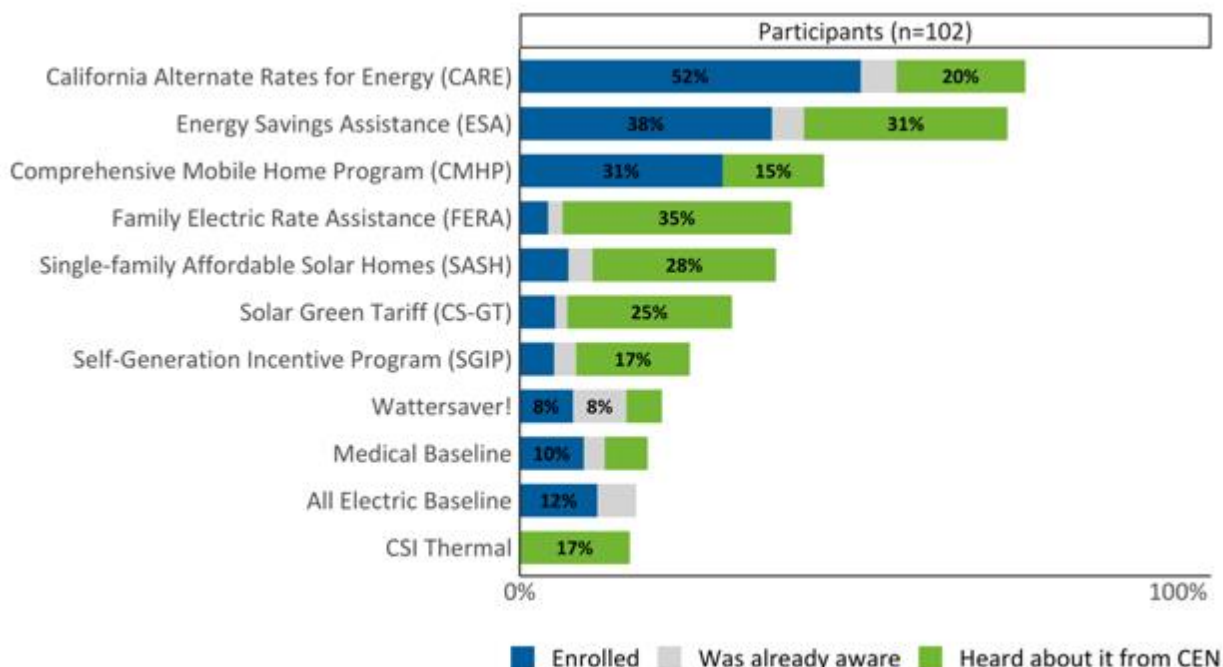
Pilot Administrator	Leveraged Existing Programs
SCE	ESA, SASH, DAC-SASH, DAC Community Solar (CS), CSI-Thermal, All-Electric Baseline, CARE, FERA, DAC-GT, CSGT
SoCalGas	ESA, CSI-Thermal, SCE low income or cost-saving programs (CARE, Medical Baseline, etc.)

The CEN educates residents about leveraged programs and then the PI confirms eligibility and completes the necessary documentation during the home assessment. When asked about this process, three CENs described difficulties explaining all leveraged programs to residents. After learning that CENs were not fully educating customers on all leveraged programs, the PAs pushed the CPM to develop a leveraged programs flyer. The CPM developed the leveraged programs flyer five months into outreach with PA assistance and input. Two CENs believed that this was very effective and presented all information on leveraged programs in a consolidated manner. One CEN (working with a different IOU) believed that there was not a clear understanding of what programs were intended to be leveraged and what the role of each pilot entity (e.g., PA, PI) should have in that process. These difficulties were corroborated by two PAs. One PA said that each leveraged program is so different that it is difficult to fully rely on the CEN to try to sign up residents.

About half of the surveyed residents reported learning about at least one program (52% of participants and 43% of non-participants) from the CEN, and more than half of surveyed residents reported that they are enrolled in at least one of the utility programs that the survey question asked about (70% of participants and 46% of non-participants).

Figure 15 shows the percent of surveyed participants who are enrolled, were already aware of each offering, and heard about these programs from the CEN; although 102 surveyed participants were asked about these programs, only the programs that applied to each participant were asked about on the survey. Fifty-seven percent of participants reported that they were already aware of CARE programs, and 43 percent were already aware of ESA. A quarter to a third of participants heard about the ESA, Family Electric Rate Assistance (FERA), Single-family Affordable Solar Homes (SASH), and Community Solar Green Tariff (CSGT) programs from the CEN. The number of responses was too small to test for statistically significant differences across PAs.

**Figure 15: Participant Survey Responses – Are you aware of or enrolled in the following programs?**



Note: Although 102 surveyed participants were asked about these programs, only the programs that applied to each participant were asked about on the survey. The number of responses was too small to test for statistically significant differences across PAs. See Section 3.3 for details on the survey analysis methods.

When asked about the referral process to direct install programs, one PI described complications with ESA in particular. They explained that with ESA, there is an internal (IOU) guidance to install measures 90 days after the initial home inspection. It was originally planned for the ESA home assessment to take place at the same time as the pilot assessment. However, given pilot complications, the PI is not able to guarantee that measures will be installed within 90 days, so home assessments have been delayed.

One CEN noted that many residents were wary about participating in any solar-related programs, such as DAC-GT, CSGT, and SASH. They explained that there has been a history of solar predatory lending that has contributed to residents' lack of trust. Another CEN believed that residents did not fully understand the benefits of solar projects (at the community or home levels) and needed more education from the IOUs.

Phase II field work included the following:



- An Evergreen staff member observed a CEN bringing an application for the Medical Baseline rate offered by the IOU to a pilot-enrolled household. This was an example of how the CENs share information about **leveraged programs**. CENs reported that most people they come across are already on CARE/FERA but noted that they get more interest in the Medical Baseline rate since it is not as well known.
- Presentation of leveraged programs: SHE staff reported that it would be helpful to have a leveraged programs flyer that summarizes programs in SCE's service territory, similar to the one they have for PG&E's service territory. They also reported that it would be helpful to have pre-printed program applications to share with customers for CARE and the Medical Baseline rate rather than the versions they print from the IOU website.

During Phase II interviews, the CPM representative reported that it can be challenging to walk customers through each of the leveraged program options but did share a flyer that they leave with customers with information on other programs. During our field visits, Evergreen witnessed first-hand the difficulty that field staff from SHE had in getting information about the pilot *and* leveraged programs to customers, as the pilot itself already seemed to be a lot for a customer to digest based on the numerous follow-up questions Evergreen heard.

#### 4.3.5 CEN Completes Split Incentives Agreement (A5.3)

The pilot requires that participating renters and their landlords sign a split incentive agreement that provides the tenant with protections against significant rent increases or being unfairly evicted due to pilot participation. It is the role of the CEN to identify property landlords and explain this agreement to them and gather the appropriate signatures. When asked how landlords are identified, one CEN explained that they conduct a title search on the prospective properties and compare the results to IOU customer data. In addition, they sometimes gather this information when first making contact with prospective participating renters. They found that it was most effective to first make contact with the resident and then the landlord. Two CENs mentioned that once landlords (or property managers) were identified, they would defer to the resident's preferred method of contact. They noted that some residents would take the agreement to their landlord themselves. However, the two CENs noted that often they would conduct outreach to landlords (including letters and calls) to gather signatures for the split incentive agreement. Eighty-five percent of participating renters (n=39) reported that it was "very" or "extremely" easy to get approval from their landlord/property manager to participate in the pilot (Figure 12).

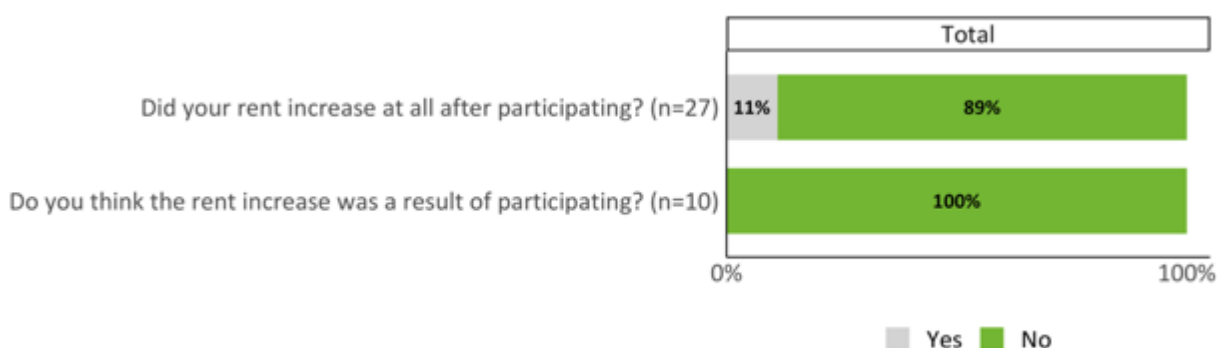
The CPM described extensive issues completing split incentive agreements for rental properties in California City. They attributed this to California City being a much bigger community, with many rental homes managed by large property management companies (rather than individuals). These property management companies were not in their offices during the initial COVID-19 stay-at-home orders and were difficult to reach. In addition to difficulties contacting property management companies, the PA noted that the property management companies acted as



middlemen to the property owners who are responsible for making decisions at the properties and the occupants.

Figure 16 shows that only a few renters reported that they experienced an increase in rent after participating; however, none of them thought that it was a result of participating. The number of responses was too small to test for statistically significant differences across PAs.

**Figure 16: Participant Survey Responses – Thoughts on Split Incentives**



Note: The number of responses was too small to test for statistically significant differences across PAs. See Section 3.3 for details on the survey analysis methods.

#### 4.3.6 CPM Sends Pre-Pilot Data Gathering Survey to Applicants (A5.4)

After residents submit a pilot application, the CPM mails an invitation to complete the quantitative Data Gathering Survey. The Data Gathering Survey offers a \$25 incentive to respondents outside of pilot communities. However, pilot participants are not offered an incentive for completing the survey; the pilot team determined that participation in the pilot (i.e., updated appliances, remediation, and bill credits) was enough of an incentive to complete the survey. Three CENs and the CPM believed that some households are overwhelmed with processing all the information and forms they receive about the pilot (as well as information about the leveraged programs). This finding was corroborated by the Data Gathering Survey results, with only 27 percent (n=66) of applicants completing the survey near the end of our Phase I research.

### 4.4 Home Assessment

This section addresses A6 in the pilot logic model, which is provided in Appendix A.

#### 4.4.1 PI Hires and Trains Local Contractors (A6.1)

During Phase II project staff interviews, the PIs explained that they hire local technicians when possible, but that they need to be experts:

- “[Our assessors] are very well versed in the trades (electricity, plumbing, HVAC, weatherization). We have developed an assessment tool that is very good. [The tool allows our assessors to be] entering data and taking pictures. We have a very good database that allows us to make recommendations per home. Our assessors can do 2-3 per day, ~2 hours per day. Our main assessor is bilingual, which is extremely important.”
- “The PIs compile the list of required measures (including associated equipment and pricing) and remediation needs and send to the PA for review and approval.” When asked about this process, one PA expressed that there was somewhat of a learning curve to review these documents that improved with time and experience.

One PA stated that the two PIs who implement their project are very knowledgeable of markets in which they operate because they are also ESA contractors. This allows them not only an intimate knowledge of the communities, but also working knowledge of available programs, as well as familiarity with working with the IOUs.

#### **4.4.2 Transfer of Applications to PIs (A6.2)**

After CENs assist residents with pilot applications, the PAs transfer application data to PIs to begin scheduling home assessments. When asked about the transfer process, all PIs noted that they upload the data into their own customer relationship management (CRM) system or database. When asked about the effectiveness of this process, one PI suggested that the process may be more streamlined if PIs had direct access to the Azure application system or contact with the CPM so the data transfer could happen more seamlessly and closer to real time rather than in batches at the discretion of the PAs. However, RHA already has access to the Azure system and application data because they serve as both a PA and PI. They thought that this direct line of access/contact would make the application transfer process more efficient, having two parties instead of three involved.

#### **4.4.3 Scheduling and Completing Home Assessment (A6.3)**

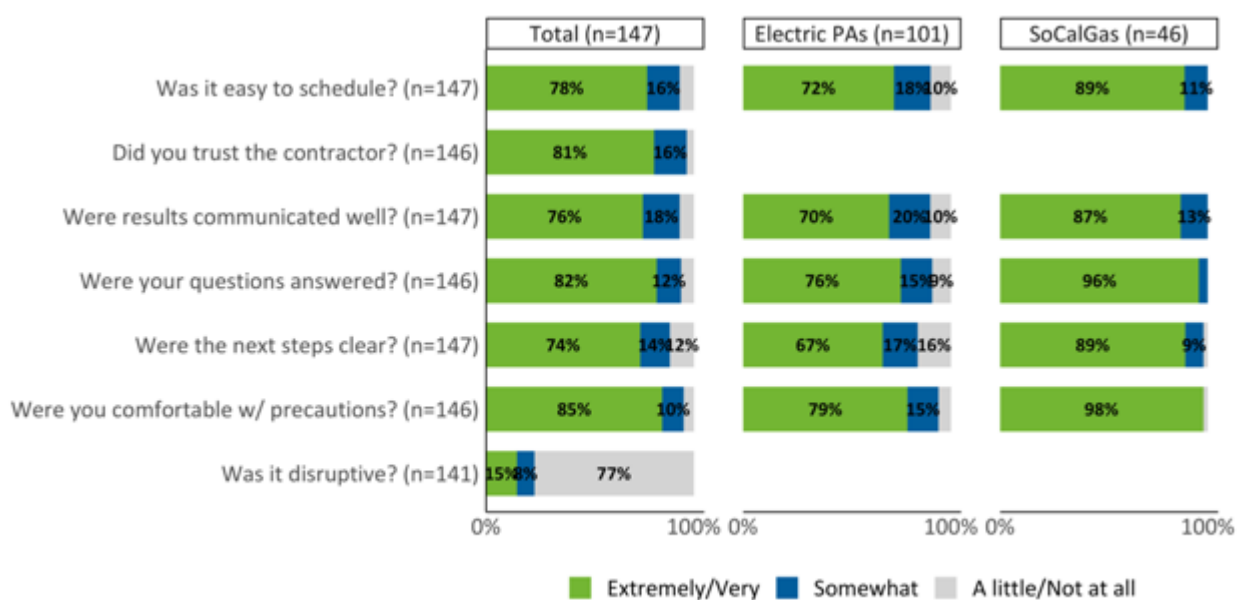
The PIs begin to contact residents to schedule a home assessment once the completed pilot application data are imported into their CRM system. There does not seem to be a standardized contact strategy across PIs for scheduling home assessments. All PIs noted that a majority of scheduling is done by phone. When asked about difficulties in scheduling home assessments, two PIs expressed that there has been some difficulty contacting residents to schedule the home assessment. They hypothesized that this can be attributed to a handful of reasons, including residents not picking up calls from unknown numbers, difficulty contacting residents during the day, use of prepaid cell phones, and voicemail inboxes that have not been set up. One PI suggested that it would be beneficial to have a secondary contact (alternative phone or email) for residents that complete an application. Currently, there are fields in the Azure tool to collect these data, but the pilot application does not require that they are filled in. This PI suggested that requesting email addresses for residents would greatly help home assessment scheduling efforts.

Another PI expressed that in some cases, residents did not recall the specifics of the project, which caused confusion in scheduling the home assessment.

Seventy-eight percent of survey respondents that had progressed to the home assessment stage by the time of completing a customer survey reported that it was “very” or “extremely” easy to coordinate the assessment visit (Figure 17). Notably, these are residents that successfully completed the assessment.

After scheduling the home assessment, the PI assigns each home to a contractor. Similar to scheduling, each PI has their own proprietary systems for capturing home assessment data. The contractor collects information about the existing appliances (including characteristics) and then the PI uses these data to develop the home treatment plan.

During the visit, contractors also give residents some idea of what appliances will be replaced. When asked about this process, one PI noted that home assessments have taken longer than initially envisioned. They attributed this to contractors having to spend more time than originally planned answering pilot-related questions that the resident may have (i.e., questions about participation and specifics of the pilot). This PI thought that much of this information would have already been provided to residents by the CEN. The PI indicated that this is not an entirely new experience for projects like this where there are multiple visits and often a lag between signing up and scheduling an assessment. Even with this increased responsibility, the PI noted that they are able to complete two or three home assessments per day. Pilot residents who completed a home assessment had positive feedback on all aspects of the home assessment, as shown in Figure 17. The number of responses was too small to test for statistically significant differences across PAs (even when combining PG&E and RHA), so the electric PAs were combined to test for significant differences. A higher percent of SoCalGas participants reported that all aspects of the home assessment portion of the pilot were “extremely” or “very” easy to understand when compared to electric participants (PG&E, SCE, and RHA). With the exception of disruptiveness of the assessment and trust in the contractor, these differences are statistically significant. Note that there are different project implementers for each IOU (PG&E and RHA, as PAs share the same PI). However, differences observed for SoCalGas may be attributable to other characteristics such as the community of California City being a denser city versus the small, more rural communities that the other PAs serve.

**Figure 17: Participant Survey Responses – Experience with the Home Assessment**


Note: The number of responses was too small to test for statistically significant differences across PAs (even when combining PG&E and RHA), so the electric PAs were combined to test for significant differences. The distributions shown by electric and gas PAs in this figure are statistically significantly different. Results that are not shown by electric and gas PAs were not statistically significantly different. See Section 3.3 for details on the survey analysis methods.

The CENs are able to check the status of scheduled or completed home assessments in the Azure application tool. When asked about their involvement after residents complete an application during the Phase I field visits, three CENs noted that it would be beneficial to receive weekly updates about completed home assessments. One CEN that we spoke with during the field research recalled instances when residents would inquire about their pilot status (before or after the home assessment), but they were unable to answer the questions. In these cases, the CEN had to contact the PA (who in turn would contact the PI) to get the most up-to-date status. This CEN expressed that it was difficult to assist residents after they complete an application if they are not provided up-to-date information. In one community, the PA did provide detailed, *weekly* information on resident status to the CEN. The CEN for this community thought that this was extremely helpful in assisting participants through the various stages of the pilot. In our Phase II interviews, PAs and PIs reported that they recently started providing status update reports by email to the CENs to help assist them with these customer inquiries, though the frequency may vary.

#### **4.4.4 Development and Approval of Home Treatment Plan (A6.4)**

The PIs review the data collected during the home assessment and draft a home treatment plan. The PIs compile the list of required measures (including associated equipment and pricing) and remediation needs and send the list to the PA for review and approval. When asked about this process, one PA expressed that there was somewhat of a learning curve to review these documents that improved with time and experience. One PI expressed that the development of home recommendations and associated pricing is a much longer and arduous process than originally planned. This PI noted that they had originally planned that recommendations and pricing would be developed at the time of the home assessment using a fixed list of measures and associated pricing. The other two PIs believed that the development of home treatment plans was a fairly smooth process that benefited from lessons learned during the initial visits.

When asked about the resident review process, all PIs expressed that this review with residents had gone well and there had been no refusals of the proposed work. One PI believed that the desire to get new appliances generally outweighed any concerns that residents may have had. Another PI believed that it was very beneficial to have bilingual (English and Spanish) contractors that could explain the home treatment plan to participating residents. This finding was corroborated by the residents that had completed the home assessment. Figure 17 shows that 74 percent of participating residents believed that the next steps of pilot participation (i.e., remediation and measure installation) were clear (i.e., rated this aspect as “extremely” or “very” clear).

### **4.5 Home Remediation**

This section addresses A7 in the pilot logic model, which is provided in Appendix A.

#### **4.5.1 Additional Funding for Home Remediation (A7.1)**

During Phase I interviews and field visits, we discussed the remediation costs associated with the pilot. Home remediation is capped at \$5,000 per household. In cases where home remediation exceeds this limit, the pilot was designed such that the CPM was tasked with securing funding from additional sources. During Phase I interviews, the PAs, PIs, and the CPM stated that the remediation costs had not exceeded the cap.

These findings were corroborated by the CPM. During Phase I interviews, the CPM stated that few projects exceeded the \$5,000 cap and only by a nominal amount. SHE has established a fund to be used for excess remediation costs. The CPM expected that this fund should cover all remediation efforts. However, one PA and one PI noted that the steps to access these funds are still unclear. The CPM and three CENs expressed frustration that the remediation cap is set at the household level, rather than at the PA or community level.

During Phase II interviews, the discussion regarding remediation funding had changed. The electrical pilot PA and PIs, as well as the CPM, indicated that the pilot staff, the CPUC, and the California legislature underestimated the extent of remediation necessary for electric conversions. One PA suggested a statewide costs and feasibility study, because they believe “the State does not yet understand how much money [electrification] is going to cost.”

#### **4.5.2 Scheduling and Completing Home Remediation (A7.2)**

During the home assessment, the PIs document any home remediation that must be completed prior to measure installation. During Phase I research, when asked about remediation, all three PIs expressed that there have been varying types of remediation required and that it is entirely dependent on the household. However, all three PIs noted that most remediation is minimal (e.g., replacing a water heater stand) and can be completed during the same visit as measure installation. They also described how they do some remediation in a separate visit, prior to measure installation. One PI expressed that they initially believed (and planned for) that there would be more substantial remediation work for households, but that the housing stock has been in better condition and the appliances have been more accessible than originally thought.

In the home treatment plan, PIs are required to break out costs for measure installation and remediation for PA review. When asked about this process, one PI expressed that it has been difficult to allocate costs between the two categories. They felt that it was challenging to classify work and associated costs into one of the two categories and that direction had changed course during pilot implementation. Any work classified as remediation cuts into the capped budget and may present problems for implementation. This was corroborated by one PA. The PA expressed that there is an ongoing determination of what costs can be considered required work (under the pilot) or remediation efforts.

#### **4.5.3 Electrical Service Upgrades (A7.3)**

In addition to home remediation, electrical service upgrades may be required to accommodate the load introduced with the new installed measures. In many cases, this involves installing a new, higher-capacity service panel in the home. However, there could be cases where multiple participating households within close proximity may require more extensive transmission and distribution (T&D) work to accommodate the increased community load. When asked about these upgrades, one PI described an extended timeline due to electrical service upgrade. In IOU A’s communities, the PI is required to submit information for review through an extensive process that did not seem designed to handle high-volume (i.e., large number of homes) projects like this. This PI added that these issues are further exacerbated by the CENs not conducting outreach with a systematic geographic approach in IOU A’s communities. This finding was corroborated by all-electric PAs, who agreed that this geographic approach would make electrical service upgrades more feasible.

Another PA, from IOU B, indicated that electrical service upgrades are a major concern that should be considered during the pilot planning process. They noted that the timeline to complete extensive T&D development was uncertain and required coordinated consideration prior to pilot implementation in certain communities. This PA believed that it would be efficient for the PI to submit requests in bulk rather than on an individual basis. In addition, this PA conveyed that it is critical to analyze potential participants and the added electric load in communities. This information can then be used to target residents in a coordinated manner in order to minimize development delays for participating communities.

## 4.6 Measure Installation

This section addresses A8 in the pilot logic model, which is provided in Appendix A.

### 4.6.1 Measure Procurement (A8.1)

D.18-12-015 directed PAs and PIs to leverage the IOUs' existing supply chain approaches and bulk purchasing agreements already in place with manufacturers and distributors. This was intended to secure lower-than-market costs for pilot measures.

When asked about the bulk purchasing prices, one PI noted the difficulties and inefficiencies of working through existing IOU supply chains and purchasing agreements rather than directly from the manufacturer. This PI explained that they are required to purchase measures through a predetermined distributor that they usually do not work with. This PI explained that the installation of a new HVAC system requires a comprehensive approach and consideration of all of the associated components. When working with HVAC manufacturers, they get dedicated support from a contractor to design the whole system (including the main unit and all additional supplies). The PI noted that working with the predetermined distributor was a much more 'a la carte' approach that added significant delay, inefficiencies, and, potentially, costs. The PI is now responsible for ensuring that all ancillary supplies needed for the home treatment are compatible and ordered in conjunction. This same PI also added that the procurement of the measures has been delayed due to the COVID-19 pandemic. They noted that manufacturers have not been producing the same volume of higher efficiency measures due to diminished demand. The other PIs did not mention this same concern.

During the field observations Evergreen conducted over the summer of 2021, Evergreen heard that supply issues related to the COVID-19 pandemic did not seem to have been impacting equipment availability for PIs, in part due to the additional time between purchasing and installing the equipment due to the need for panel upgrades. One PI would prefer to talk to manufacturers rather than use the supply chain management software (Alom), and another PI would prefer that the PAs would handle bulk purchasing.

During Phase II interviews, as previously discussed, two PIs stated they felt the bulk purchasing agreement was unnecessary and hindered their ability to acquire equipment faster and less expensively.



### 4.6.2 Scheduling and Completing Measure Installation (A8.2)

After completing the home assessment and getting approval for the home treatment plan from both the PA and the resident, the PI contacts the resident to schedule measure installation. During Phase I interviews, two PIs noted some difficulties in reaching residents to schedule measure installations. They suspected that some residents may be difficult to contact during the day or may be hesitant to answer calls from unknown numbers. These difficulties were not necessarily experienced by participating residents. Seventy-three percent of survey respondents that had progressed to the measure installation stage reported that it was “very” or “extremely” easy to coordinate the installation visit, with SoCalGas participants finding it especially easy (Figure 18). The number of responses was too small to test for statistically significant differences across PAs (even when combining PG&E and RHA), so the electric PAs were combined to test for significant differences. The difference seen between the electric PAs and SoCalGas is statistically significant.

Throughout the pilot, SoCalGas was able to identify and complete projects in homes quicker than the electric PAs. This is at least partially due to the natural gas pilot preselecting homes near existing distribution level gas infrastructure, while the electric pilot did not use a similar prescreening. While this resulted in more costs to remediation and implementation generally, it should be noted that this approach effectively allowed the pilot to be open to all customers in a designated community, while the gas pilot approach decreased the number eligible. One implementer attributed this difference to SoCalGas’ smaller project scope (e.g., total number of projects), aggressive timeframe, and internal company requirement to finish work in a short period of time. During Phase II interviews, the PA said it was the ability to utilize existing processes, which are designed to extend gas infrastructure to new customers, that allowed them to quickly treat participating homes. The prescreening allowed the pilot to leverage this approach most effectively. One PI indicated that similar planning had not occurred in the electric pilot, resulting in unanticipated costs to upgrade connections to existing infrastructure.

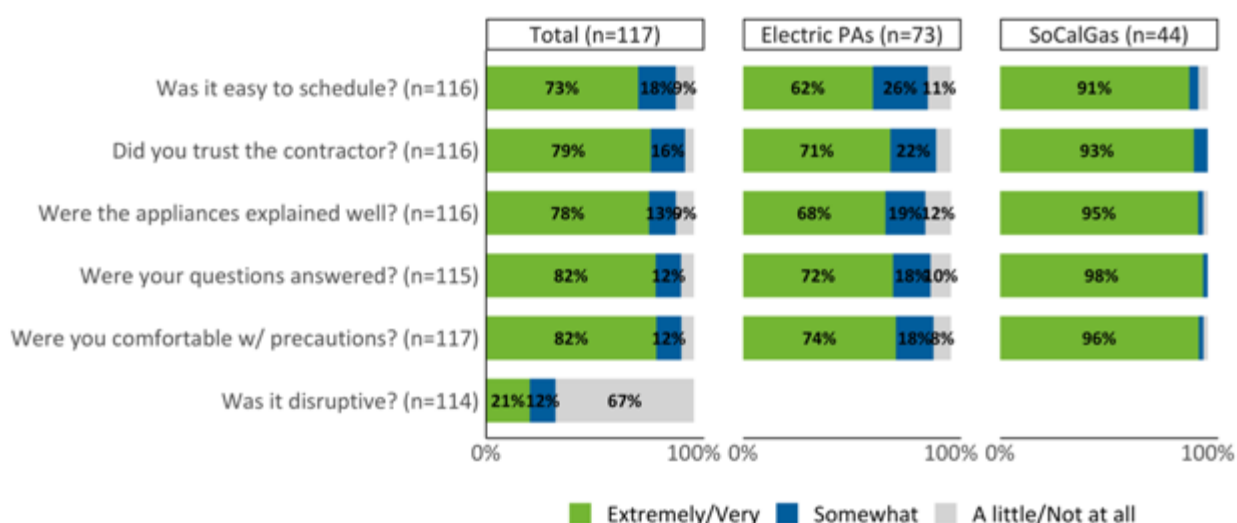
Given this process, the PI conducting measure installations for SoCalGas noted that conversions need to and generally do occur in a single day (or as close as possible) so that the resident is not left without gas service for very long. During Phase II research, a PI indicated they continued to meet the one-day connection requirement. All SoCalGas home conversions and appliance installations occurred in a one-day visit. When discussing this process, the PI noted that this requires close coordination between the PI and SoCalGas to-the-meter efforts.

Another noted strategy employed by SoCalGas was to begin the home conversions with a limited number of installations (a ‘pilot within the pilot’). Both the PA and PI noted that this initial test was very valuable in refining installation processes after encountering real world issues. The PI indicated that they discovered that their contractors’ trucks often were not stocked with enough supplies and ad hoc trips had to be made. When asked about the success of installations, the PI noted that all measure installations were completed in a single day. After measure installation, the PI reviews the appliance manuals and warranties with the resident. When asked about this



process, the PI thought that all residents seemed very happy with the new appliances and appreciated the demonstration. English- and Spanish-speaking contractors held these post-installation discussions with residents. Participants who completed the measure installation process reported very positive feedback, with SoCalGas participants being especially positive, as shown in Figure 18. The number of responses was too small to test for statistically significant differences across PAs (even when combining PG&E and RHA), so the electric PAs were combined to test for significant differences. The difference seen between the electric PAs and SoCalGas are all statistically significant, except for if the install was disruptive.

**Figure 18: Participant Survey Responses – Experience with the Measure Installation**



Note: The number of responses was too small to test for statistically significant differences across PAs (even when combining PG&E and RHA), so the electric PAs were combined to test for significant differences. The distributions shown by electric and gas PAs in this figure are statistically significantly different. Results that are not shown by electric and gas PAs were not statistically significantly different. See Section 3.3 for details on the survey analysis methods.

While not directly involved in installation, the CPM stated it was helpful to receive project updates from the PA, including being notified when the installations are completed. The CPM said because they receive calls from customers confused about how to use their equipment or questions regarding their bills post installation, it is critical from them to know all project statuses.

## 4.7 Pilot Data Tracking and Management

This section addresses A4.5, A2.2, A5.1, A6.2, A6.3, A8.2 in the pilot logic model, which is provided in Appendix A.

### 4.7.1 Outreach Tracking Data (A4.5)

When Evergreen reviewed outreach tracking data (referred to as ‘Master Tracker(s)’), it appeared that each CEN tracks this information differently across communities and PAs. There was not a standardized approach to recording outreach interactions with residents across communities and CENs (this made it difficult for Evergreen to compile and aggregate the outreach data across different communities, and we expect this issue to arise in future evaluations). There is a common weekly reporting template that varies slightly across PAs. The CENs would update these reports (using the outreach tracking data) and review them on a weekly basis with the PA. The CPM believed that this process required CENs to spend extensive time on reporting (rather than actual outreach). The CPM estimated that around 50 percent of their total budget is spent on reporting and coordination with PAs. However, two CENs found that attending weekly meetings with the PAs was helpful and allowed them to ask questions about problems they encountered.

### 4.7.2 Application Tracking Data (A2.2, A5.1, A6.2)

The CPM developed a tool for application data (using Microsoft Azure), which the PAs have access to and are able to seamlessly extract data from. This has generally worked well and is a more efficient process for gathering and sharing data compared to the outreach data. When discussing the application process, two PAs noted that there were some issues with the quality of data being entered into the Azure application tool. This included missing fields, incorrect data types (i.e., text in numeric field), and backdating applications. These two PAs said that these issues were more prevalent with initial applications and improved over time. When asked about potential solutions to address these data quality issues, one PA believed that the CPM and/or the CENs could develop and conduct a final QC check. However, they believed that CENs may be lacking the Excel skills that would be required to implement this.

The process for transferring application data from the CPM to the PIs involves several steps, with the PAs accessing data from the CPM, applying some QC checks, and then transferring the data to the PIs in batches. If PIs were given direct access to Azure, they could download application data more frequently and simplify and reduce administrative effort.

The PIs sometimes have trouble reaching households to schedule the home assessment, relying on a single primary phone number from the pilot application that may not be answered or is out of service. Evergreen encourages the CENs to collect secondary contacts in the application form that may be used for assessment scheduling, providing more options to reach the household. These fields are currently included in the Azure tool but are rarely populated. In addition, a field (or response value for the existing field) could be added to the tool that indicates if the resident does not have the contact mode (e.g., no email address) or is unwilling to provide it. This would require modifying the pilot application form and minimal additional CEN time to gather and input those data.

The CENs stay in contact with households after the applications are completed because they present themselves and are viewed by residents as the main pilot contact. The CENs often receive inquiries from residents asking about the pilot status; they then typically have to go to the PAs who then go to the PIs (who are completing the assessment). For some communities, this process has been streamlined so that CENs directly contact PIs. Recently, the PAs and PIs have started providing status update reports by email to the CENs.

### **4.7.3 Installation Tracking Data (A8.2)**

During Phase II interviews, one PA noted that data issues still exist but have improved significantly over time. They stated the data are now much better but not perfect, although they felt it was about as good as could be expected and achieved what was needed for reporting and pilot planning. No other interviewee expressed any concerns about data. The PAs, PIs, and CPM, similar to findings from the Phase I research, discussed the value of regular reporting. Both PIs provide weekly project updates to the PA, which are shared with the CPM.

Similarly, during Phase II field visits, PIs agreed it takes time to iron out details for a pilot. The general consensus is that implementation and communication are getting better and that a lot of the issues from Phase I of our research have improved.

## **4.8 Workforce Education and Training**

This section addresses inputs and activities related to workforce education and training (I1.1, A4.1, and A3.1 in the pilot logic model, which is provided in Appendix A).

### **4.8.1 CPUC Authorized Pilot Program Budgets and Implementation Plans (I1.1<sup>14</sup>), CPM Identifies and Trains CENs and CBOs (A4.1)**

Potential CENs complete two days of training, which is again in-person as COVID concerns have eased. The training provides background and a high-level overview of the pilots, including intent and regulatory history, but is focused on the role of the CEN and the outreach work they do. The CPM discusses the marketing and outreach requirements for the projects and some of the “dos and don’ts” when it comes to engaging customers. The CPM also reviews the agreements and specific role of PAs, IOUs, and PIs. By the completion of the training, the trainees understand that the CEN’s role is to do the outreach and fill out the application. Additionally, they are told they are not to assess whether the home will qualify and should not promise the customer anything. During the first couple of weeks of the pilot, the CEN conducted training on specific topics (i.e., call scripts, mock calls, and others), but the need for these trainings has decreased as staff have gained experience.

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<sup>14</sup> The alphanumeric codes shown here refer to activities in the pilot logic model, which is provided in Appendix A.

The CPM representative stated that the trainings have worked well and continue to do so. New staff continue to go through the two-day training and then spend an additional month in the field shadowing a veteran CEN. The CPM mentioned that they felt their weekly CEN meetings were invaluable for keeping staff and management aware of progress in the field as well as updates on processes or the pilot itself. They stated that CENs provide feedback that the trainings are valuable.

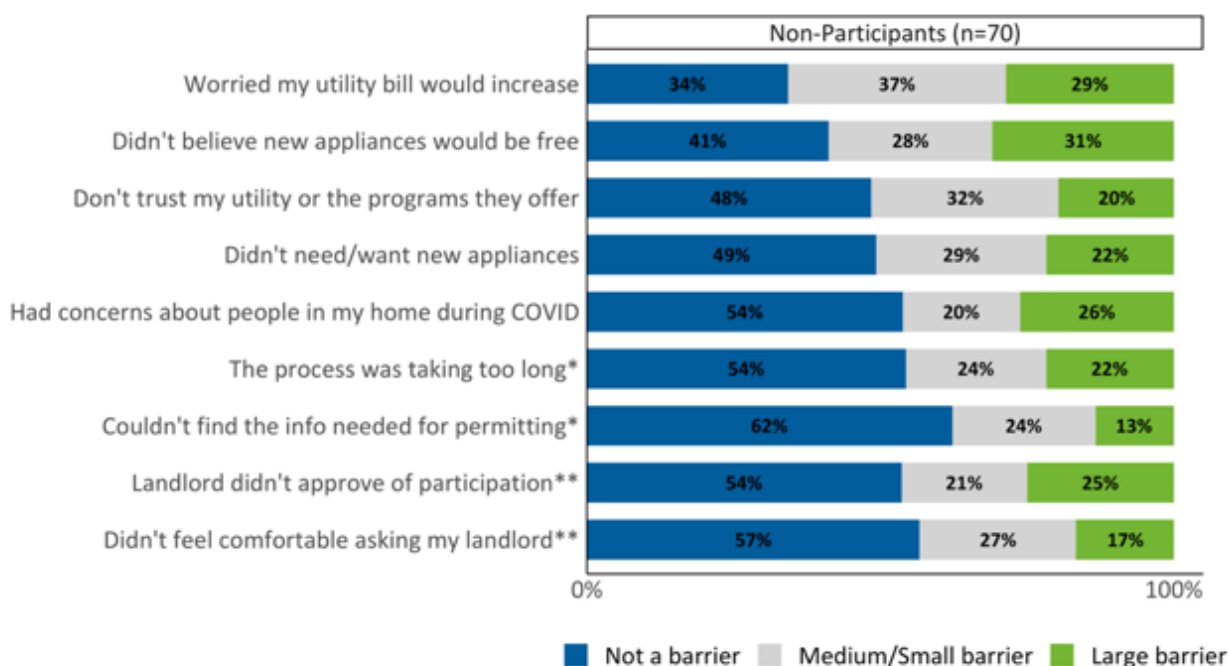
## 4.9 Participation Barriers

This section addresses E1 in the pilot logic model, which is provided in Appendix A.

### 4.9.1 Barriers – Customer Perspectives

#### *Non-Participants*

When non-participating residents were presented with a list of potential barriers, 66 percent noted that they had concerns about their utility bill increasing (Figure 19). The number of responses was too small to test for statistically significant differences across PAs. The way that bill protection works for each PA (electric vs. gas) differs. Gas PAs offer a flat discount, and electric PAs offer a percentage discount. This was corroborated by the CPM, who expressed that residents had concerns about their utility bills increasing when converting to all electric. They noted that it was critical to inform residents of the ‘stacking’ discounts associated with the pilot. In addition, the CPM believed that there was a general mistrust of the pilot offerings that could be attributed to some pilot community residents’ poor experiences with the ESA program in particular. Fifty-nine percent expressed a belief that pilot participation would not actually be free. The number of responses was too small to test for statistically significant differences across PAs. One CEN noted that often residents did not believe that new appliances were being offered for free through the pilot. Non-participating residents were also asked to provide any barriers they had that were not already discussed. The main open-ended reason provided by non-participating residents was around eligibility. Six said their barrier was that they did not qualify for the project, one mentioned that the project staff did not follow up about their eligibility, and one mentioned they were not sure if they qualified for the project.

**Figure 19: Non-Participant Survey Responses – Barriers to Participation**

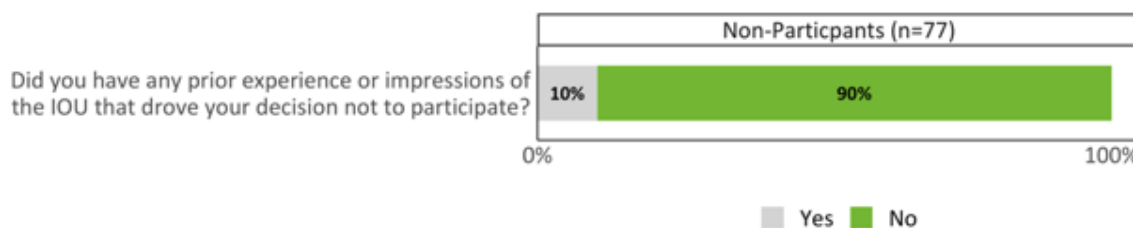
\*Only asked in Phase II (n=45)

\*\*Only asked of renters (n=28)

Note: The number of responses was too small to test for statistically significant differences across PAs. See Section 3.3 for details on the survey analysis methods.

### *Prior Experiences*

Non-participating residents were asked if they had any prior experience with their utility that influenced their decision not to participate. Ten percent of non-participating residents noted that they did have prior experience that influenced their decision (Figure 20). The number of responses was too small to test for statistically significant differences across PAs.

**Figure 20: Non-Participant Survey Responses – Barriers to Participation**

Note: The number of responses was too small to test for statistically significant differences across PAs. See Section 3.3 for details on the survey analysis methods.

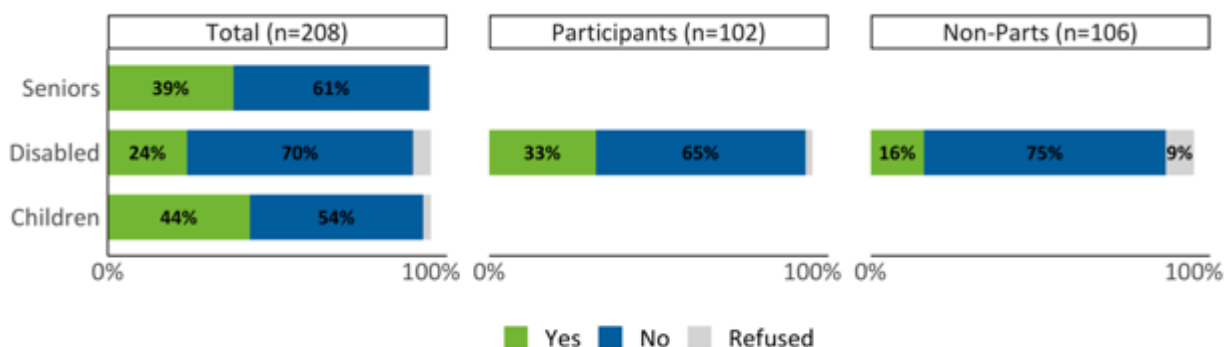
Those who offered an explanation as to their prior experience with the IOU leading them not to participate gave the following responses:

- “Because my light bill is high already and to everything electric it probably double I can’t afford it.”
- “They did not have a plan to get natural gas to Le Grand – Planada 6 miles away.”
- “Did not want an electric stove and the cost of electricity is rising rapidly.”
- “I do not trust SCE and the other utilities to do what they say. What is going to happen in the future? How long will the goodies last?”
- “I tried applying by forms and had some difficulties about the CARE program.”
- “PG&E’s attempt to put propane companies in California out of business and control the energy market.”

### Demographics

As shown in Figure 21, participating residents have a disabled person in the home more often than non-participating residents (33% versus 16%; this finding is statistically significant). Around 40 percent of homes have seniors and/or children. The percentage of homes with seniors and children was not statistically different when comparing participants to non-participants; however, homes that were rented were found to have children more often (56% vs. 36%) and seniors less often (22% vs 50%). These findings are statistically significant. The number of responses was too small to test for statistically significant differences across PAs.

**Figure 21: Survey Responses – Demographics**



Note: The number of responses was too small to test for statistically significant differences across PAs. See Section 3.3 for details on the survey analysis methods.

### 4.9.2 Barriers – Landlord Perspectives

All the landlords surveyed were landlords to customers who participated in the project and received measures, so they were not asked about barriers to participation. However, when asked

whether they had any concerns about signing the landlord agreement (to not evict or raise rents for their tenants based on participation in the project), all but two landlords reported that they had no concerns.

During Phase I interviews, a CEN reported that California City (SoCalGas) had the most property managers to reach and that this was most difficult during the COVID-19 pandemic.

*“When we were trying to do outreach, these companies were closed and there was nobody answering. We came across one barrier after another. There was a significant amount of property managers and rental homes. Some are owned by individuals, but most are property managers. Our outreach is to whoever is in the home. When we reach out to PM/owners it is to collect forms. Sometimes renter didn’t want to advance until permission [was received] from PM/owner. We would usually send PM/owner the same information. Sent some letters to introduce the project and include forms.”*

The CEN also reported that it worked best to start with the tenant for project recruitment, as they had one experience where the owner was interested and the tenant was not. However, in some cases, renters wanted their landlords to sign off before they filled out an application. The CEN also reported that “several owners” did not want to sign the agreement in case they wanted to sell the property within the next five years.

### 4.9.3 Barriers – Project Staff Perspectives

#### *Power Reliability:*

One SHE staff member noted that some residents had concerns about moving to electric power because of a recent power outage. While the staff member reported sometimes informing residents about battery storage options, they noted that not all homes are eligible for that option.

Evergreen did not ask surveyed residents about power outages specifically; however, a similar sentiment was documented in one case in a PI’s data file:

*“Per MH Email, [resident] would like to no longer participate in the program. She states that [because of] the amount of power outages they have in that area they do not want to have all-electric appliances because she needs to be able to cook at all times.”*

#### *Mobile Home Permitting*

During Phase II interviews, the CPM, CENs (all four), two PAs, and the PIs described unique complications for residents that live in mobile homes. Mobile homes in the electric pilot required significantly more remediation, according to the PIs and PAs. Additionally, permitting and other remediation were more extensive than in traditional homes.



The CPM explained that a mobile home must be registered with the California Department of Housing and Community Development (HCD) to participate in the pilot (a certificate of title is needed to pull the appropriate permits). They added that most residents did not have the proper documentation of this registration. HCD provided a fee waiver program to obtain this documentation through the end of 2020, and the CENs assisted potential applicants with this process when possible. In the Phase II interview, the CEN reported that the need for registration was removed after discussions with the appropriate person at HCD and that this is no longer a barrier for getting mobile homes completed from the CEN's perspective.

Two of three PIs discussed mobile home permitting in Phase II interviews. Both felt the process had improved once the HCD waiver was established. They also mentioned the permitting exception that has been negotiated with some local permitting offices, which allows the PI to make changes without needing to refile the permit. One PI suggested that California will need to consider how to avoid lengthy and costly permitting processes.

### *Panel Upgrades*

In Phase I, Evergreen reported that there was a large need for panel upgrades. In-person research confirmed that finding. Below, we provide some additional observations gathered during in-person research about this barrier. The time to perform panel upgrades adds to the overall timeline and to the level of coordination and communication needed between the PIs, PAs, and SHE.

Participating customers will ask both PIs and PAs about the current status of their projects. SHE appreciated that one PA:

- Sent monthly letters to applicants to let them know where they are in the process; and
- Created a Google sheet that can be updated and opened by multiple people at the same time to understand where in the process enrollees are at any given time. They use a unique enrollee ID so that they can keep any confidential information out of the shared document.

One outcome of the longer timelines reported by the CPM/CENs is that applicants end up purchasing equipment that they feel they need in the interim. Evergreen was told that when applicants or possible applicants have recently bought large equipment, they are less willing to participate because they will still have to pay off their equipment and cannot resell the equipment they purchased.

During Phase II interviews, no parties mentioned specific issues with panel upgrades, although all parties discussed the broader need for extensive remediation for electric participants, specifically updating wiring from the panel to the electric distribution infrastructure. As previously discussed, one PI expressed concern that these costs are not understood at the state level and need to be studied and quantified.



### *Reaching Property Management Companies*

During the field visits, Evergreen observed that the challenges noted during Phase I research of reaching property management companies were persisting.

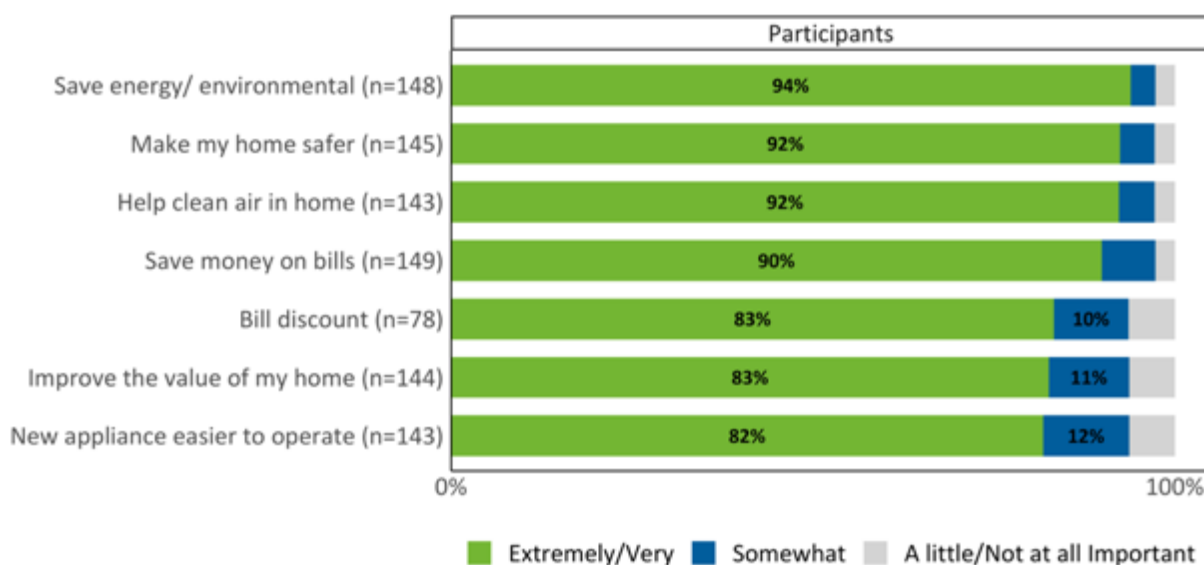
During Phase II interviews, PAs and PIs stated that there exist challenges in successfully engaging tenants more than landlords or property managers. Interviewees reported that the value of the project to landlords and property managers is easily understood, including new appliances and possible remediation improvements to their rental property. The one non-participating landlord that we interviewed noted that they did not participate because they did not want to sign the landlord agreement, though we were unable to get them to follow up on what about the agreement they took issue with. As previously discussed, tenants may be concerned with changes to bills, changes to appliances they are familiar with, or concerns with people entering the home.

## **4.10 Participation Drivers**

This section addresses E1 in the pilot logic model, which is provided in Appendix A.

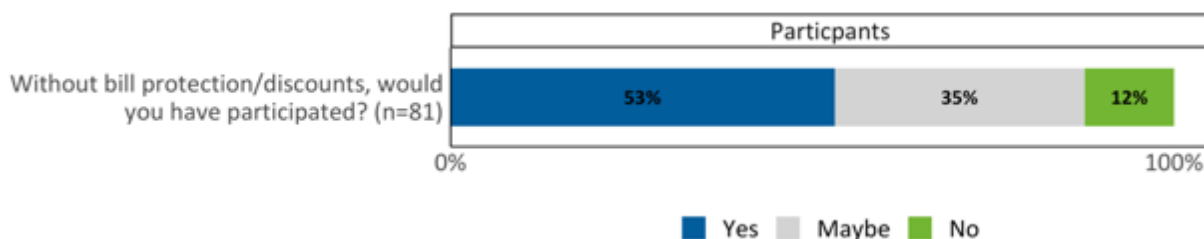
### **4.10.1 Drivers – Customer Perspectives**

All of the drivers that Evergreen provided in a list to pilot participants via the customer survey were rated “extremely” or “very” important by over 82 percent of those surveyed (Figure 22). The opportunity to save energy, make the home safer, and improve the air quality in the home were the largest drivers to participation, with 92 to 94 percent reporting these factors as “extremely” or “very” important. The number of responses was too small to test for statistically significant differences across PAs (even when combining PG&E and RHA), so the electric PAs were combined to test for significant differences. No statistically significant differences were found when comparing these distributions across PAs. The CPM believed that the most important driver to participation was the fact that residents received new, free appliances. In addition, two PIs believed that participants were motivated because they did not want to continue to rely on propane (especially for space heating).

**Figure 22: Participant Survey Responses – Drivers for Participation**

Notes: Bill discount added as a question on the Phase II survey instrument. The number of responses was too small to test for statistically significant differences across PAs (even when combining PG&E and RHA), so the electric PAs were combined to test for significant differences. No statistically significant differences were found when comparing these distributions across PAs. See Section 3.3 for details on the survey analysis methods.

Only 12 percent of surveyed participants said that they would not have participated if they did not receive the assurance of the bill protection, while 53 percent said they would have participated even without the bill protection feature (Figure 23). The bill protection mechanism differed by PA fuel type. The number of responses was too small to test for statistically significant differences across PAs.

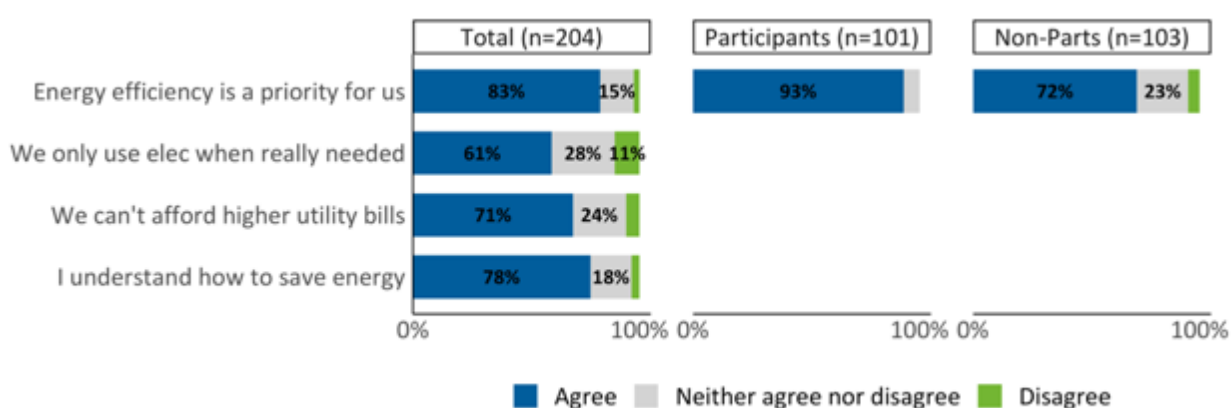
**Figure 23: Participant Survey Responses – Drivers for Participation**

Note: The number of responses was too small to test for statistically significant differences across PAs. See Section 3.3 for details on the survey analysis methods.

Surveyed residents were given a list of statements that they were asked to agree or disagree with. A majority of surveyed residents reported agreeing with all four statements, with “Energy

efficiency is a priority for us” having the highest percentage of residents agreeing (83%) and “We only use electricity when really needed” having the lowest percentage of residents agreeing (61%). As Figure 24 shows, a higher percentage of participants agreed to the listed statements when compared to non-participants. Most notably, nearly all participants (93%) agreed that energy efficiency was a priority for them compared to 72 percent of non-participants (this statement was the only statistically significantly different result when comparing between participants and non-participants). The number of responses was too small to test for statistically significant differences across PAs.

**Figure 24: Survey Responses – Do you agree or disagree with the following statements?**



Note: The number of responses was too small to test for statistically significant differences across PAs. See Section 3.3 for details on the survey analysis methods.

## 4.10.2 Drivers - Landlord Perspectives

All eight of the landlords who fully completed our phone survey (all pilot participants) reported that the fact that the new appliances would save their tenants money on their monthly bills, would make the air cleaner on the property, and would save energy were extremely important factors in their decision to participate in the project. That the appliances would be easier to operate than the old ones, improve the value of the property, and make the property safer were less important factors.

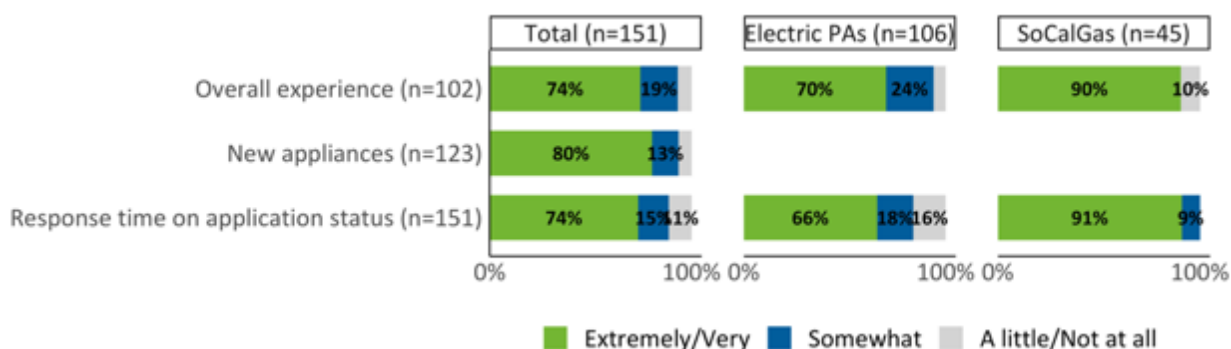
## 4.11 Customer Satisfaction and Suggestions for Improvement

### 4.11.1 Participant Satisfaction

As shown in Figure 25, participating residents reported being generally satisfied with the pilot project experience, with 74 percent of surveyed participants rating their satisfaction with the overall project experience as “extremely” or “very” satisfied. Participants were even more satisfied with the new appliances they received, with 80 percent of surveyed participants noting they are

“extremely” or “very” satisfied with their new appliances. The number of responses was too small to test for statistically significant differences across PAs (even when combining PG&E and RHA), so the electric PAs were combined to test for significant differences. SoCalGas participating residents reported being “extremely” or “very” satisfied more often than the participating residents from electric PAs (the distributions were statistically significantly different for both the overall experience and the response time, and the satisfaction with the new appliances was not statistically significantly different).

**Figure 25: Participant Survey Responses – Satisfaction with Project Experience**



Note: The number of responses was too small to test for statistically significant differences across PAs (even when combining PG&E and RHA), so the electric PAs were combined to test for significant differences. The distributions shown by electric and gas PAs in this figure are statistically significantly different. Results that are not shown by electric and gas PAs were not statistically significantly different. See Section 3.3 for details on the survey analysis methods.

A follow-up question asked surveyed participants what they like about their new appliances, and 101 participants responded as follows (note there were no pre-coded responses to select; this was completely open-ended.):

- Works well or better than my old appliance (n=36)
- Everything (n=19)
- The appliances save energy (n=19)
- The appliances are modern/new (n=10)
- The appliances are easy to use (n=10)
- Don't have to rely on propane or wood anymore (n= 7)

The number of responses was too small to test for statistically significant differences across PAs.

Surveyed participants were also asked what they dislike about their new appliances; the 27 participants that answered responded as follows (note there were no pre-coded responses to select; this was completely open-ended.):

- Electric Stove
  - *"The stove I dislike because it is hard to cook with have burned a lot of food."*
  - *"Don't have any. They came and uninstalled my stove and left it disconnected for almost 2 weeks and couldn't use my stove to cook. They came back and connected it but did a poorly job! They left a gas leak and my entire family would smell it causing them headaches. My husband had to tighten up the gas pipe because it was leaking. I did take a video of that for proof. That is very unacceptable. My husband and I were very disappointed."*
  - *"Electricity bill went up. I do not like the energy stove. It is very hard to cook my rice my tortillas my enchiladas to make my corn tortillas not very good stove top. can use other parts only the one they gave me and not good."*
  - *"I have never had an electric stove. So I am getting used to them."*
  - *"La estufa se calienta mucho (the stove gets very hot)"*
  - *"Yes. It's hard to find pots/pans to use for the new stove that are affordable."*
- Gas Stove
  - *"Feels like stove received is not as high quality as the old one"*
  - *"Had to figure out how to pre heat oven"*
  - *"Mi estufa quisiera como la que antes tenia con dos hornos" (I would like my stove to be like the one I had before with two ovens)*
- Water Heater
  - *"El calor de agua el abanicos hace mucho ruido, el dia no se escucha mucho pero en la noche si" (The water heater and the fan make a lot of noise during the day but you don't hear much at night)*
  - *"Hot water heater house had an open vent hole, they covered it with duct tape and tried to pass it off as right. Tape is not meant to be in the water heater. This will fail, causing power surges in our home"*
  - *"I don't have enough hot water. I don't have my refrigerator. One of my new breakers keeps ticking off."*
  - *"Pump is always turning on even at night time like 3 am (and pump is too huge for home I think) when no one is using water. How is that going to save me money"*
  - *"The water boiler does not heat water like my gas one"*
  - *"The water heater makes strong noise"*
  - *"Water tank needs to be plugged in, which can increase my electric bill, CO2 sensor not sure about."*

- *“We do not like water heater placement. We are very nervous about the attic heater installation and repairs.”*
- Dryer
  - *“The dryer has to be used two times to dry one load. it does not dry on the first use”*
  - *“Electric dryer takes longer to dry than propane, and it is a bit confusing and its smartness of turning off even though the clothes are not dry yet but it is an ok trade if it is less cost to operate”*
  - *“La secadora no seca ropa bien uso mucho tiempo para secar”* (the dryer does not dry clothes well I use a long time to dry)
  - *“The dryer did not fit or hook up”*
  - *“The electric dryer takes longer than propane, and is a bit confusing. The detection mode of dryness sometimes gets confused and it leaves the clothes damp.”*
- HVAC
  - *“The heating and cooling great just very expensive to operate.”*
  - *“Furnace broke after one month no response to get it fixed had to pay out of pocket”*
  - *“Furnace issues, they have had to come back he said at least 15 times for trouble with furnace and replaced 3 times already, not terribly upset about it just want it resolved”*
  - *“I don't like that my heater changes the temperature that I set it to. When it is cold, I set it to 72 degrees and I go check it because it is blowing cold air, and it has changed to 62 degrees by itself.”*

Surveyed residents were asked about induction cooktops—specifically if they received one and if they would recommend it to others. Twenty-six surveyed participants said they received an induction cooktop and 20 of the 26 participants said they would recommend it to someone else, one person said no, one person said maybe, and the other four people said they do not know yet. The one person who said they would not recommend it was because they had to replace all of their pots and pans. The number of responses was too small to test for statistically significant differences across PAs.

### 4.11.2 Suggestions for Improvement

The survey included an open-ended question asking “What could the Affordable Energy Project do to help you feel more comfortable or save money?” and residents responded as follows (note that there were no pre-coded responses to select; this was completely open-ended, and 78 customers responded. Some customers gave more than one response.):

- More information about programs (n=24)
- Lower electric rates (n=14)

- Provide additional equipment
  - Windows (n=11)
  - Solar (n=10)
  - Clothes washer and/or dryer (n=5)
  - Insulation (n=3)
  - Roofing (n=3)
  - AC (n=1)
  - Additional heater (n=1)
  - Battery (n=1)
  - Refrigerator (n=1)
  - Weatherization (n=1)
- More careful contractors (n=2)

Other suggestions made by only one customer were: “would like a home audit”, “lighten eligibility requirements”, “speed up the process for this project”, “tips to improve air quality”, “don’t eliminate propane and make us dependent on electricity”, “would have like more realistic timeline given; we had to purchase propane in the middle of winter because of delays”.

The number of responses was too small to test for statistically significant differences across PAs.

A follow-up question asked surveyed participants what they liked most about the project; residents responded as follows (note that there were no pre-coded responses to select; this was completely open-ended, and 109 participants responded.):

- Bill savings (n=24; 6 PG&E, 7 RHA, 7 SCE, 4 SoCalGas)
- The appliances (n=22; 6 PG&E, 4 RHA, 6 SCE, 6 SoCalGas)
- Getting off propane (n= 15; 1 PG&E, 3 RHA, 1 SCE, 10 SoCalGas)
- Everything (n=16; 2 PG&E, 6 RHA, 1 SCE, 5 SoCalGas)
- Great project staff (n=14; 3 PG&E, 3 RHA, 3 SCE, 5 SoCalGas)
- Helpful (n=8; 1 PG&E, 4 RHA, 2 SCE, 1 SoCalGas)
- That it was free (n=5; 4 RHA, 1 SCE)
- Quality of life improvement (n=3; 2 PG&E, 1 SoCalGas)
- Upgrade of the water heater (n=1; 1 SoCalGas)
- It was easy (n=1; 1 SCE)

The number of responses was too small to test for statistically significant differences across PAs.

Residents were also asked what could be done to improve the project; and residents responded as follows (note that there were no pre-coded responses to select; this was completely open-ended, and 82 customers responded):

- Improve communication/information (n=32; 8 PG&E, 11 RHA, 10 SCE, 3 SoCalGas)
- Streamline the process (n=18; 5 PG&E, 5 RHA, 6 SCE, 2 SoCalGas)
- Bill has increased/would like bill assistance (n=10; 3 PG&E, 2 RHA, 4 SCE, 1 SoCalGas)
- Use more professional/knowledgeable staff (n=9; 2 PG&E, 4 RHA, 2 SCE, 1 SoCalGas)
- Provide solar (n=6; 1 PG&E, 2 RHA, 3 SoCalGas)
- Loosen eligibility requirements (n=5; 1 PG&E, 1 RHA, 1 SCE, 2 SoCalGas)
- Raise awareness (n=5; 1 PG&E, 4 SoCalGas)
- Would like propane tank removed (n=1; 1 SoCalGas)
- Fix issues with appliances (n=1; 1 SoCalGas)
- Communicate by mail, not internet/phone (n=1; 1 SoCalGas)

The number of responses was too small to test for statistically significant differences across PAs.

Surveyed residents were asked, “Are there any other comments about your participation experience that you would like to share?” (note that there were no pre-coded responses to select; this was completely open-ended, and 22 customers responded). Many of the comments provided were by people expressing gratitude for the project and expressing their satisfaction with the process and staff. Five residents mentioned that they would like to receive more information about this project and/or other programs offered. Three residents mentioned that they thought the project was too good to be true, one of whom is still wanting to participate if that is an option.

*“[CUSTOMER] would like to participate if still an option now that she knows this is a valid project.”*

Three residents mentioned that they were in the middle of their project and are still waiting for appliances or funding.

*“Only that I haven't got anything done to my house. maybe to be a bit faster service I would highly appreciate it.”*

Two mentioned that they had some poor communication.

*“I was told we would get water heater & AC Heater & weatherization with my plan & I could keep my new stove I just bought (propane) so I signed up. After water heater was installed, program didn't want to do anything else they told us they would do (not right)”*



One resident was wondering who to contact about servicing their HVAC unit.

*“The company who installed the appliances do not return phone calls after the installation. I like to know who I should get to service the heater/AC units.”*

## 5 Conclusions and Recommendations

This section presents the study conclusions, which are organized by the evaluation objectives introduced in Section 2 (displayed below). Each evaluation topic is tied to an expected pilot outcome, output, or activity from the logic model developed for this pilot where relevant. Evergreen developed recommendations and considerations that are also included in this section, and identified the expected beneficial outcome from their adoption.

**Figure 26: Evaluation Objectives**

### 1. Evaluate the pilot design and implementation processes of the SJV DAC PA's Pilots, which includes:

- (a) The design of pilot implementation plans and compliance with relevant CPUC decisions and legislation;
- (b) Marketing, education, and outreach efforts;
- (c) Efforts to leverage existing programs (full list provided in Appendix B) to meet pilot goals;
- (d) Bulk purchasing efforts;
- (e) Contractor delivery / implementation approaches, including remediation work and safety measures (between and across pilot administrators [PAs]);
- (f) Workflow processes between PAs, pilot implementers (PI), the Community Energy Navigator Program Manager (CPM), the Community Energy Navigators (CEN), and community-based organizations (CBOs);
- (g) Pilot tracking and data management;
- (h) Effects of bill protection and split incentive approaches;
- (i) Workforce education and training efforts;
- (j) Barriers and obstacles to meeting pilot goals; and
- (k) Processes to collect, review, and report on pilot impact data.

### 2. Evaluate customer interest in and satisfaction with the SJV DAC Pilots:

- (a) Barriers to pilot participation, including non-participant feedback;
- (b) Customer interest and willingness to participate in the pilot;
- (c) Unique programmatic issues related to reaching specialty populations (e.g., high usage customers, disabled customers, renters, etc.);
- (d) Customer satisfaction/dissatisfaction; and
- (e) Customer attitudes and behaviors towards energy savings.

## 5.1 Pilot Planning, Outreach, and Application Processes

Evaluation Objective	Logic Model
1a Evaluate the design of pilot implementation plans and compliance with relevant CPUC decisions and legislation	I1, A1
<ul style="list-style-type: none"> <li>Initial Pilot planning and design, which reflected California Public Utilities Commission (CPUC) directives, were successful with a couple of exceptions. During both Phase I and Phase II interviews, PAs indicated changes were made to the initial pilot design to address early challenges such as outreach constraints given the COVID-19 pandemic, program changes relating to the bill discounts (whether they be flat or percentage based, and the term they would cover), and streamlining referrals of leveraged programs.</li> <li>Southern California Gas Company (SoCalGas) advanced selection of households near existing gas distribution infrastructure, which allowed quicker and less costly implementations, although it limited the number of eligible customers.               <ul style="list-style-type: none"> <li>Gas line extensions are less complicated and more homogeneous and easily defined up front compared to the complexity of electrical upgrade needs (household and community).</li> <li>It is less typical for electric IOUs to go back to existing electric customers and expand capacity (household/T&amp;D community level) versus for SoCalGas, for which the process was akin to adding service for new gas customers.</li> </ul> </li> </ul>	

### 5.1.1 Marketing, Education, and Outreach

Evaluation Objective	Logic Model
1b Evaluate marketing, education, and outreach efforts	A2.1, A4
<ul style="list-style-type: none"> <li>Forty-seven percent of eligible customers filled out an application.</li> <li>CENs found in-person outreach to be the most effective (resumed in June 2020) and this was corroborated by participants, who heard most often about the pilot from project staff (SoCalGas and RHA) and from a flyer left from an in-person visit at their door (SCE and PG&amp;E).</li> <li>Communication between the Community Energy Navigator Project Manager (CPM) and the Pilot Administrators (PAs) led to improved outreach results and shows an effective outreach design and level of coordination between the CPM and the PAs.</li> <li>The Community Energy Navigators (CENs) had varying levels of experience working (and living) in the pilot communities, and the CPM had to build the infrastructure and systems for CENs to record outreach data.</li> </ul>	

- Not all CENs had the same level of experience within a community. Where the CEN had less experience in a community (such as in California City for SoCalGas), PAs helped to engage residents. Two PAs acknowledged that the outreach model had not worked as well as similar pilots or programs because communities were more familiar with the utility compared to the CPM (Self Help), which each CEN referred to when sharing material.
- Where the CPM had more experience and connections in a region, they targeted outreach to community leaders and created a network of CENs.
- Residents showed a high degree of trust in the CENs. A very high percentage of participants reportedly found program outreach aspects to be very or extremely easy to understand, and rated the CENs very highly.
  - About half of non-participants found program aspects easy to understand.
  - The exception is bill protection, which had lower levels of understanding (covered later).

### 5.1.2 Pilot Team Workflows

	Evaluation Objective	Logic Model
1f	Evaluate workflow (see diagram below) processes between PAs, pilot implementers (PI), the Community Energy Navigator Program Manager (CPM), the Community Energy Navigators (CENs), and community-based organizations (CBOs)	A4.4, A5.3, A6.2, A7.1, A7.2, A6.4, A7.3, A8.3

- The pilot team agreed it took time to work out systems and processes to coordinate and hand off customer information, but this improved over time.
- If the pilot was expanded using the CPM model, additional CENs would need to be identified and trained in each additional community.
- The CPM model had upsides, including leveraging CENs' knowledge in the pilot communities, which at least partially drove high levels of customer satisfaction with pilot outreach, although pilot staff identified areas for improvement including the following:
  - Eliminate inefficiencies or redundancies in responsibilities as a result of the CPM model, such as the unanticipated need to co-market the program in some communities.
  - If expanded, additional CENs would need to be identified and trained in each additional community.
  - With a complex pilot and multiple entities, there are no silver bullets and/or recommendations.

### 5.1.3 Pilot Tracking and Data Management

	Evaluation Objective	Logic Model
1g	Evaluate pilot tracking and data management for CPM	A2.2, A4.4, A5.1, A5.3, A6.2
	Evaluate pilot tracking and data management for PI	A7.2, A8.2

- There is a common weekly reporting template that varies slightly across PAs. The CPM estimated that around 50 percent of their total budget is spent on reporting and coordination with PAs.
- There are many steps for data transfer from the CPM to the PIs. The PAs access CPM data, apply quality control (QC) checks, and then transfer data to the PI. The database created by the CPM was created specifically for the pilot.
  - One PA noted, “It did not appear that the CPM had any QC steps to ensure data accuracy and completeness (e.g., missing signature)”.
- During Phase II, one PA noted that early issues with data provided by the CPM via Azure have improved and that it is about “as good as could be expected.” Some of the issues identified included missing fields and incomplete or inaccurate data.

	Evaluation Objective	Logic Model
1k	Evaluate process to collect, review, and report on pilot impact data	

- The pilot team agreed that it took time to work out systems and processes to coordinate and hand off customer information, but this improved over time.
- There were several databases in use during the pilot (each PA, CPM Azure application, each PI with a different system) that created complexity.
  - There was a learning curve for the CPM to create the Azure tool since they were not an experienced energy efficiency implementer, but once the system was up and running, it went well.
  - PIs are used to working with IOUs, so there is less up-front work to set up systems.
  - There are some redundancies when handing off customers from the CPM to PIs, with PAs also involved and with multiple tools in use.

Recommendation	Expected Benefit(s)
<ul style="list-style-type: none"> <li>• CPM: Develop a common format and fields for recording resident outreach data and ensure that CENs have a clear</li> </ul>	<ul style="list-style-type: none"> <li>▪ This common format would likely reduce CEN time spent on aggregating outreach data into reports. This would</li> </ul>

Recommendation	Expected Benefit(s)
understanding of the process flow for data collection and reporting. If a new format is introduced mid-course, it may be difficult to combine data covering the whole pilot. (Recommendation first shared in Phase I Memo)	also facilitate much more efficient future customer research using outreach records (e.g., to contact customers that declined to participate).

- CENs did not always have easy access to the status of pilot households as they moved through assessment and installation, but this improved as the pilot moved forward.
  - One PA set up a Google doc to share info between the PI and the CPM.

## 5.2 Leveraged Programs

Evaluation Objective	Logic Model
1c Evaluate efforts to leverage existing programs to meet pilot goals	A1, A5.2

- The pilot design was modified in the early stages to focus on enrolling income-eligible residents in CARE and FERA.
  - CENs reported that is too complicated to try to explain the pilot and all the other programs (by evaluation in-person observation).
- CENs said that most know about CARE and FERA, but many did not know about the Medical Baseline rate. Findings from the participant survey show that close to half (57%) of all respondents were aware of CARE already and this was the most recognized program. Participants reported learning about at least one other program from the CEN; there is high awareness of ESA, and over one-third said they participated in ESA.
- Some PIs were able to coordinate installations across multiple programs they implement, but there are some barriers (e.g., for ESA due to timing). One PI reported that pilot delays hindered them from doing an ESA assessment at the same time as the pilot assessment since ESA measures have to be installed within 90 days.

Recommendations	Expected Benefit(s)
<ul style="list-style-type: none"> <li>• PAs (design) CPM (implementation): Have the CEN record whether households with low barriers have interest in participating in additional</li> </ul>	<ul style="list-style-type: none"> <li>• Increase participation in leveraged programs</li> </ul>

Recommendations	Expected Benefit(s)
solar/low-income programs and pass that on to PA	
Considerations	Expected Outcome
<ul style="list-style-type: none"> <li>• PAs (design): Consider selecting PIs that are implementers for multiple DAC/low-income programs. This could make it easier for DAC households to participate in more than one program</li> </ul>	<ul style="list-style-type: none"> <li>• Increase participation in leveraged programs</li> </ul>

### 5.3 Bulk Purchasing

Evaluation Objective	Logic Model
1d Evaluate bulk purchasing efforts	A1, A3, A8.2
<ul style="list-style-type: none"> <li>• CPUC Decision 18-12-015 directed PAs and PIs to leverage existing IOU supply chain approaches and agreements in an effort to secure lower than market costs.</li> <li>• PIs did not always see the benefits of bulk purchasing. This might be a good option going forward but may not make sense as a requirement.               <ul style="list-style-type: none"> <li>○ This is especially relevant for HVAC measures that are very customized per household.</li> <li>○ PIs reported that it is complicated to work through the IOU supply chains though SCE PIs procured all products independently of SCE.</li> <li>○ Supply chain issues have impacted procurement of equipment and may be complicating bulk purchasing opportunities.</li> </ul> </li> </ul>	
Considerations	Expected Benefits
<ul style="list-style-type: none"> <li>• CPUC: Make bulk purchasing an option but not a requirement as long as cost savings are factored into purchasing decisions.</li> </ul>	<ul style="list-style-type: none"> <li>• Improve ease of installing HVAC measures</li> <li>• Allow flexibility around supply chain issues</li> </ul>

## 5.4 Contractor Delivery/Implementation Approaches

Evaluation Objective	Logic Model
1e Contractor delivery/implementation approaches, including remediation work and safety measures (between and across pilot administrators [PAs])	Home Assessment: A1.3, A6 Installation: A1.3, A8 Remediation: A1.3, A7

### 5.4.1 The Home Assessment

A home assessment was conducted following the application process in order to identify potential opportunities for upgrades supported by the pilot.

- Seventy-eight percent of survey respondents reported that it was very or extremely easy to coordinate the home assessment visit, but two PIs reported that scheduling could be difficult as they could not always reach interested households. The CEN reported that they would sometimes help to make that connection again.
- One PI noted that the process took longer than they thought it would since they had to share more information with residents about the pilot than expected. They stated that there was often a lag between a resident completing an application and being contacted for the home assessment. This is one disadvantage of having multiple entities involved in implementation (outreach, assessment, and install), adding more time for the hand-off of customer data.
- A higher percentage of SoCalGas participants reported that all aspects of the home assessment portion of the pilot were “extremely” or “very” easy to understand when compared to electric participants (PG&E, SCE, and RHA). This may be attributable to the differences in the communities that the PAs serve (denser city vs. more rural) so that neighbors are more or less likely to speak with their neighbors about their experiences with the program to supplement their understanding or due to the need for many electric pilot households to upgrade electrical panels and/or local T&D infrastructure.
- Customers would sometimes contact the CEN for an update on status after the home assessment and would then have to follow up with the PA, who would follow up with the PI. As an example, SCE specifically asked to be included in the CEN customer inquiries to the PI to ensure issues were followed up on. The coordination between the entities involved in the implementation varied across the 11 communities. More involved and responsive PAs tended to streamline issues and provide a more cohesive experience for the participants. For example, In one community, the PA provided detailed, weekly information on resident status to the CEN, which appeared to mitigate customer touchpoints and the need of the CEN to follow up. The CEN for this community thought that this was extremely helpful in assisting participants through the various stages of the pilot.



### 5.4.2 Installation

- PAs give a lead to the PI, and the PI schedules the assessment. The assessment includes a form to collect data. For electric pilot customers, an electrician may also need to conduct an assessment on the panel. A home treatment plan is collected for the PA and approved, then remediation work (if needed) can begin.
- Similar to the home assessment, a high percentage of participants found the process to get measures installed is very or extremely easy. Eighty percent were extremely to very satisfied with their new appliances, and 74 percent were extremely or very satisfied with their overall experience.
  - A higher percentage of SoCalGas participants found it easy to go through the installation process. This difference was statistically significant when compared to the electric IOUs. This is likely because it is a simpler process to add natural gas (one-day conversion) compared to assessing electric pilot homes for the multi-day process often involved in the electric conversions due to panel upgrades and where necessary, additional scheduling to install the equipment.
  - SoCalGas also conducted a test pilot (within the pilot) to iron out installation processes.
- Similar to the home assessment, a high percentage of participants found the process to get measures installed very or extremely easy. This was higher for SoCalGas participants compared to electric IOU participants, likely due to delays for electrical upgrades (at the community and household levels).

### 5.4.3 Home Remediation

- The Decision allowed pilots to include up to \$5,000 to make remediations to the home to support the installation of the new equipment.
- Phase I research suggested that the \$5,000 cost cap was adequate in the majority of cases. During Phase II interviews we heard differently, and that in many cases remediation costs, especially for mobile homes outside of mobile home parks, had far exceeded the \$5,000 cap.
  - As more electric assessments are completed, this may change. Impact evaluations should quantify the remediation costs at the household and program level.
- PIs are unclear on how to access CPM funding when the cap is exceeded.
- The CPM wants the cap to be at a PA or community level to have more flexibility.
- The research also identified a grey area between what may be considered remediation costs vs. what are installation costs. To this end, having more clearly outlined expectations for these activities and costs may be useful to ensure most program costs are associated with energy needs rather than home improvement needs. It is difficult to distinguish

between remediation and measure installation costs; it is an ongoing process for the PAs and PIs to figure out.

## 5.5 Bill Protection

Evaluation Objective	Logic Model
1h Evaluate effects of bill protection and split incentive approaches	I1, A1, A5.3

- All participants were offered bill protection, either via a bill credit (gas PA) or a bill percentage discount (electric PAs). This was modified during the course of implementation and may have been described differently to customers depending on when they heard about the program. This made it challenging to assess understanding of the bill protection element. There was lower understanding of bill protection compared to other pilot components.
  - Bill protection in the form of credits and discounts can be a difficult concept to convey clearly.
- Residents reported concerns over potential bill increases, which appeared to be the most significant barrier for non-participants. As such, clearly conveying the bill protection benefit associated with the project may increase interest in the pilot.
  - The price of propane is variable, so it is hard for some households to understand actual (or likely) changes in overall energy costs, and receipts were challenging to collect when requested.
- Some participants said they would have participated even without bill protection, so this is not an issue for all.
  - However, because participants are receiving the bill protection and understanding of bill protection is low, it may be that they are unaware of how it is impacting their bill.

Recommendation	Expected Benefit
<ul style="list-style-type: none"> <li>• PAs: Review the bill protection offering and consider opportunities to reduce its complexity.</li> <li>• CPM: identify opportunities to improve the clarity of communication to residents with respect to bill protection (such as provide an example based on the average resident or based on the resident's actual bills). Consider developing word of mouth/testimonials to share with prospective participants. This may lead to increased time and</li> </ul>	<ul style="list-style-type: none"> <li>• Improved understanding of bill protection, specifically among non-participants, which may increase participation</li> </ul>

Recommendation	Expected Benefit
materials spent on outreach. (Recommendation first shared in Phase I Memo)	

## 5.6 Workforce Education and Training Efforts

Evaluation Objective	Logic Model
1i Evaluate workforce education and training efforts	I1, A1, A4.1, A3.1

- While Community CENs often come from within the specific pilot communities, CENs are more broadly based in nearby regions (i.e., the greater San Joaquin Valley, not necessarily the individual community in which they are conducting outreach). CENs do two days of training where they learn about marketing and outreach requirements and discuss the roles of the PAs and the PIs. More experienced CENs work in the field with newer CENs.
- The CENs felt well trained by the CPM, and 72 percent of participants found it very or extremely easy to understand the offerings.

## 5.7 Barriers

Evaluation Objective	Logic Model
1j Evaluate barriers and obstacles to meeting pilot goals	N/A

### 5.7.1 Barriers to Meeting Pilot Goals

- Electrical upgrades at the household and community levels caused delays for customers and are difficult for electric IOUs to plan ahead for, given the need to understand customer interest, distance from service drop, and amount of trenching needed.

Considerations	Expected Outcome
<ul style="list-style-type: none"> <li>• Electric IOUs/PAs: Direct the CPM to conduct outreach in a staggered, targeted geographic manner (i.e., one community and neighborhood at a time) and where possible consider the electric load required to serve a targeted geographic area before authorizing outreach in</li> </ul>	<ul style="list-style-type: none"> <li>• If this suggestion is adopted, electrical service upgrades may be conducted more quickly, leading to a shorter wait time for measure installations and likely higher customer satisfaction. In addition, it would increase the</li> </ul>

Considerations	Expected Outcome
<p>that location (and plan for infrastructure updates).</p> <ul style="list-style-type: none"> <li>Electric IOUs: Create a batch process for PIs to submit electric service panel requests and other ways to streamline and speed up the household panel upgrade process (Recommendation first shared in Phase I Memo)</li> </ul>	<p>efficiency of PI implementation.</p> <p>May be potential downsides including up front delays and difficulty identifying upgrade issues in advance</p>

Below, we assess the barriers and obstacles to meeting each pilot goal:

- Provide cleaner, more affordable energy options to propane and wood burning customers:
  - The pilot provided cleaner energy options to propane and wood burning customers, but it was hard to gather exact costs for propane and wood since participants often do not keep receipts (though most could provide estimates).
- Ensure affordability for participants via bill protection measures:
  - This is discussed above in the subsection titled Bill Protection (and pilot impact evaluations conducted by the PAs will evaluate impacts on pilot participants' bills).
- Ensure tenants (renters) are able to participate and do not suffer negative consequences via a split incentives agreement:
  - We heard from the CEN that "several landlords" did not want to sign the agreement in case they had to sell the property within the next five years. They also noted that property management companies and state-run housing are the most difficult type of ownership structures to get interested in the program.
    - We interviewed one landlord who would not sign the agreement, so their tenants could not proceed through the pilot. This landlord cited the landlord agreement as the main reason for not participating in the program.
  - The CEN also mentioned that some landlords were concerned that renters may take the new pilot appliances when they move out.

### 5.7.2 Barriers to Pilot Participation

Evaluation Objective	Logic Model
2a Evaluate barriers to pilot participation including non-participant feedback	N/A

- Non-participants reported that the largest barrier to participating was that they had concerns about their utility bill increasing. The CEN reported that it was critical to inform

residents about ‘stacking’ discounts (such as receiving the CARE bill discount and pilot bill discounts) and also noted that there was a lack of trust due to earlier experiences with utility programs, though this was only corroborated by 10 percent of non-participants. The next highest barrier was a belief that participation would not actually be free.

- See recommendation in Section 5.5 – Bill Protection.

Evaluation Objective	Logic Model
2c Evaluate unique programmatic issues related to reaching specialty populations (e.g., high usage customers, disabled customers, renters, etc.	N/A

- Renters
  - Some owners planned to sell the home in the next five years and did not think it was worth participating, but most were not concerned about signing the landlord agreement.
  - Additional renter barriers were shared in Section 4.9.1.
- Mobile homes faced the barriers of California Department of Housing and Community Development (HCD) documentation required at the start of the pilot.
  - The CPM worked on this issue and ultimately, HCD provided a fee waiver for 2020. In 2021, the requirement to submit title, registration, and serial number as part of a permit request was removed
    - Note that the requirement was removed specifically for mobile homes *outside* of mobile home parks or communities and that these targeted areas were more likely to have mobile homes *outside* of mobile home parks. This could change if the program were implemented in a different area though we are unclear on how barriers would differ specifically in mobile home parks.
  - There are also some additional potential barriers for mobile homes for PIs when panel upgrades and remediation are needed for mobile homes.
  - It was difficult to reach property management companies during the early stages of the pandemic in California City (SoCalGas).

Recommendations	Expected Outcome
<ul style="list-style-type: none"> <li>• Collect more data on mobile homes and issues to see if there are opportunities to do advance planning.</li> </ul>	<ul style="list-style-type: none"> <li>• More efficiently serve mobile homes, adding available time to address other program needs</li> </ul>

## 5.8 Participation Drivers

Evaluation Objective	Logic Model
2b Evaluate customer interest and willingness to participate in the pilot	N/A
<ul style="list-style-type: none"> <li>The opportunity to save energy, make the home safer, and improve the air quality in the home were the largest drivers to participation, with 92 to 94 percent reporting these factors as “extremely” or “very” important. Half of participants said they would have participated even without the bill protection feature.</li> <li>Landlords also felt it improved the value of their property.</li> </ul>	

Evaluation Objective	Logic Model
2e Evaluate customer attitudes and behaviors towards energy savings	N/A
<ul style="list-style-type: none"> <li>Residents agreed with statements such as “energy efficiency is a priority for us” (83%), and “I understand how to save energy” (78%). Participants were more likely to agree that energy efficiency was a priority for them compared to non-participants.</li> </ul>	

## 5.9 Satisfaction

Evaluation Objective	Logic Model
2d Evaluate customer satisfaction/dissatisfaction	N/A
<ul style="list-style-type: none"> <li>There were very high levels of satisfaction with the overall pilot experience. Seventy-four percent of surveyed participants rated their satisfaction with the overall pilot experience as “extremely” or “very” satisfied. Participants were even more satisfied with the new appliances they received.</li> </ul>	

## Appendix A: Program Theory and Logic Model

One of the first project tasks was to review program documents and develop the program logic model. Logic models are a visual method of presenting an idea. They offer a way to describe and share an understanding of relationships among elements necessary to operate a program or change effort. Logic models describe a bounded project or initiative: both what is planned and what results are expected. The development of models provides an opportunity to review the strength of connections between activities and outcomes. Through the experience of critical review and development, models can display participants' learning about what works under what conditions.

The key elements of any logic model are the inputs, activities, outputs, and outcomes. Inputs are essential for the activities to occur. They can include human, financial, organizational, community, or systems resources in any combination. They are used to accomplish named activities. Activities are specific actions that make up the program. They reflect the processes and events that are intentional in the program. Activities are synonymous with interventions deployed to secure the desired changes or results. Outputs are what specific activities will produce or create. Outputs are often quantified and qualified in some way. Outcomes are about changes, often in program participants or organizations, as a result of the program. They often include specific changes in awareness, knowledge, skill, and behavior. Outcomes are dependent on preceding resources, activities, and outputs.

At a high level, these logic models describe the inputs and activities and how they combine to produce the expected outputs which, in turn, are expected to produce the expected short-term, mid-term, and long-term outcomes. Each pathway or linkage in the logic model describes a hypothesized cause and effect relationship. The evaluation team also used the logic model as a guide to identify and operationalize specific metrics to be measured along the various paths from inputs to activities and then outputs and outcomes.

Evergreen reviewed a variety of documents to inform the development of this logic model and an accompanying data collection plan that guided the evaluation:

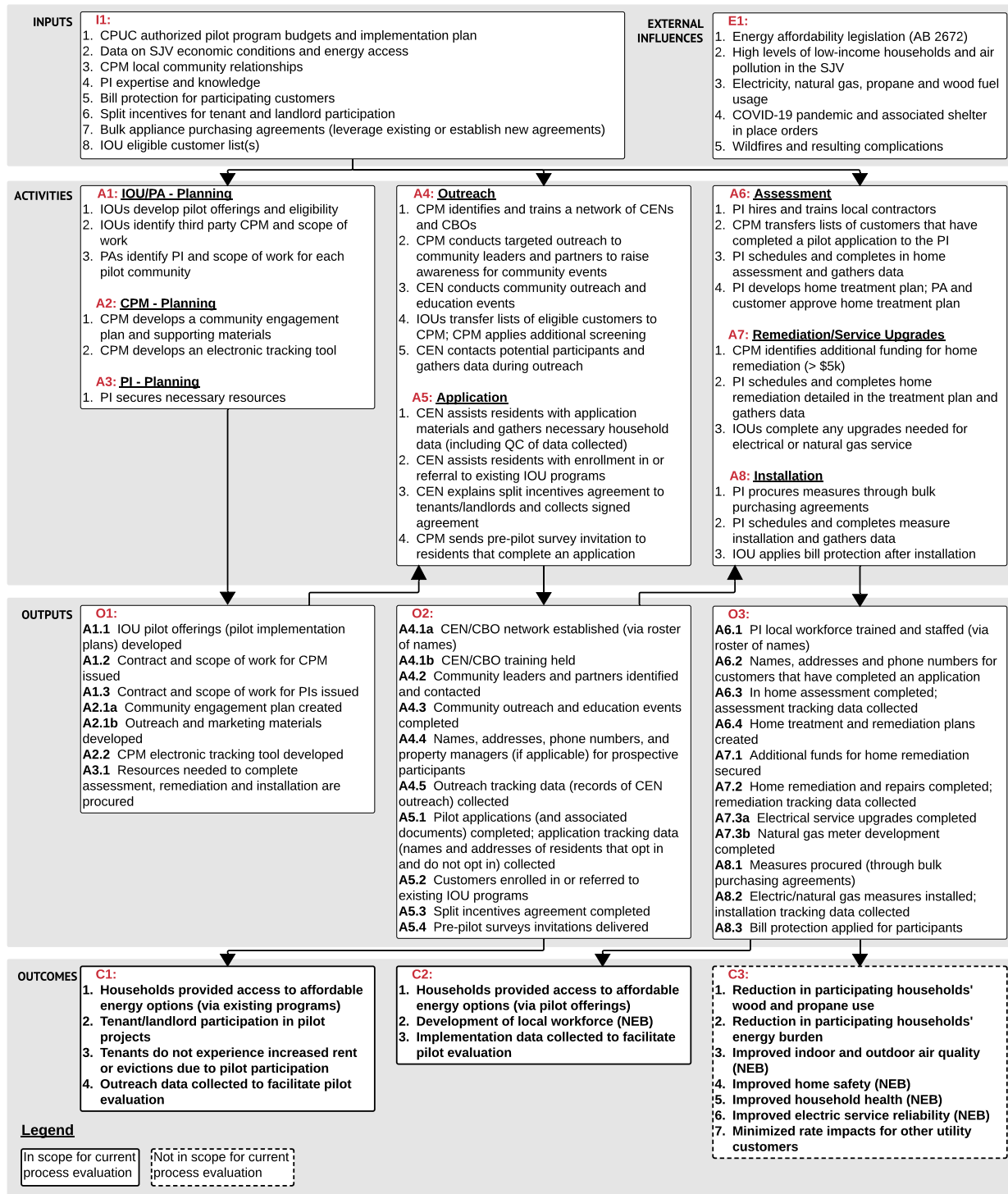
1. Relevant CPUC Decisions, proceedings and related Assembly Bills (D.18-12-015, Assembly Bill 2672, D.18-08-019, D.17-05-014);
2. The process evaluation RFP;
3. SJV DAC pilot implementation plans for each pilot administrator and supporting documentation;
4. Pilot application;
5. CPM outreach and engagement plans and supporting materials;

6. Initial metrics proposed by the pilot administrators; and
7. Data-gathering quantitative survey being leveraged in pilot communities as a pre-pilot survey.

We prepared an overarching logic model that provides a summary of the pilot, encompassing the activities of the Pilot Administrators (PAs), Community Energy Navigator Program Manager (CPM), Community Energy Navigators (CENs), and pilot implementers (PIs). The overarching logic model provides a broad overview of the pilot including planning, outreach, application, assessment, remediation, and installation.



Figure 27: Overarching Logic Model



The inputs (**I1**) that inform pilot design and implementation shown at the top of the logic model include:

1. California Public Utilities Commission (CPUC) authorized pilot program budgets and guidance in implementation plans;
2. Data on San Joaquin Valley (SJV) populations and environmental conditions that are used to define disadvantaged communities (DACs) and select pilot communities;
3. CPM local community relationships that will be leveraged to conduct outreach and increase awareness and participation among the target communities;
4. Pilot implementer expertise and knowledge that will be utilized to more efficiently assess homes and install measures;
5. Bill protection measures that are required by the CPUC specifically for this pilot to ensure that participants experience reduced energy costs after measures are installed;
6. Split incentives agreement (newly developed for the pilot) to ensure tenant occupied households are able to participate in the pilot. This agreement seeks assurances from property managers that they will not significantly increase rents or evict tenants as a result of pilot participation;
7. Bulk appliance purchasing agreement in order to reduce pilot costs. Existing agreements may be leveraged, or new ones will be established with distributors and manufacturers; and
8. Lists of customers (or residents) that are eligible for pilot participation.

The external influences (**E1**) that impact all stages of the pilot shown at the top of the logic model include:

9. Energy affordability legislative directives;
10. High levels of low-income households and air pollution in the SJV, which are the impetus behind the CPUC Decisions and state legislation that introduced the pilot;
11. Electricity, natural gas, propane, and wood fuel rates that are the backdrop to pilot efforts to ensure a reduction in household energy burden;
12. COVID-19 and the associated shelter in place, mandated in California on March 19, 2020. This Executive Order impacted planned in-person activities (i.e., outreach, assessment, etc.); and
13. The wildfires in California and resulting complications, such as evacuation orders and poor air quality that may prohibit activities.

Next, we describe the activities that are taken by the PAs, CPM, CENs, and PIs during all phases of the pilot, along with the expected outputs from the activities and the outcomes that are theorized

to occur in the short, medium, and long-term as a result of pilot activities. Each box in the logic model is labeled and referenced below in the program theory description.

## Activities

### IOU/PA Planning (A1)

14. In response to CPUC Decisions and input provided during a series of workshops, the IOUs will develop pilot program offerings including what measures will be offered and household eligibility requirements.
15. SCE was directed by the CPUC to issue an RFP process to select a single CEN Program Manager (CPM) and manage their contract. The CPM will manage the outreach and engagement, act as a liaison between participants and PIs, and collect data on pilot outreach.
16. Each pilot administrator will select third party contractors to serve as pilot implementers and conduct home assessments and installations.

### CPM Planning (A2)

17. The CPM will develop a community outreach and engagement plan, and associated marketing materials. The plan will support community outreach and education at each stage of the pilot.
18. The CPM will develop an electronic tracking tool that will be used to track all contacts with eligible residents and the status of their engagement with the pilot.

### PI Planning (A3)

19. Each PI will secure the necessary resources in order to complete home assessments, remediation, and installation.

### Outreach (A4)

The CPM will conduct outreach activities consistent with the procedures and materials they developed (Output O1).

20. The CPM will identify a network of Community Energy Navigators (CEN) and Community Based Organizations (CBO). The CPM will provide training in order to ensure effective pilot outreach that adheres to pilot policies and procedures.
21. The CPM will conduct targeted outreach to leaders and partners identified in each pilot community. The purpose of this outreach is to generate awareness of the pilot and upcoming community events.
22. The CPM will conduct community outreach and education events in order to introduce the pilot. These efforts may leverage existing community meetings and events and/or establish new ones.
23. The IOUs will provide lists of residents that are eligible for the pilot to the CPM. The CPM will apply additional screening, such as identifying tenants and associated landlords/property managers.

24. The CEN will contact eligible residents (door to door or phone outreach) to provide information and education on the upcoming pilot. During this outreach, the CPM will track the status of all outreach and engagement including contact information on all residents contacted.

#### **Application (A5)**

The CPM will conduct application activities consistent with the procedures and materials developed by the PAs and CPM (Output O1).

25. The CEN will assist residents during the application process and collect the required household data for pilot participation.
26. During the application process, the CEN will educate and provide access (referral or enrollment) to existing low income or cost saving IOU programs. The CEN will be able to directly enroll customers in discounted rate programs, such as CARE and FERA. They will refer customers to other programs, such as direct install and solar programs.
27. The CEN will explain and distribute the split incentives agreement to tenants and landlords or property managers and collect the appropriate signatures. During this outreach, the CEN will identify, address, and document any barriers to tenant/landlord participation.
28. After a resident completes an application, the CPM will mail an invitation (direct mail letter) to complete the pre-pilot survey developed by the Data Gathering Consultant. Invitations will include a unique code to track that the survey is being completed within a pilot community.

#### **Assessment (A6)**

Pilot implementers will conduct in-home assessments for residents that have completed an application and are eligible to advance to the next phase of the pilot (Output O2).

29. The PI will hire and train local contractors to conduct assessments.
30. The CPM will transfer lists of eligible residents that have completed a pilot application to the PI.
31. The PI (and their associated contractors) will conduct an in-home assessment to determine if the household meets pilot eligibility criteria. They will document what measure(s) are applicable and any home repairs or remediation that may need to occur, along with estimates of the approximate cost of repairs needed to bring the home up to code. If a household does not qualify for pilot participation, the CPM will inform the resident. During this process, the PI will collect data on the assessment progress and outcomes.
32. After the in-home assessment, the PI will develop a home treatment plan for eligible homes. This plan will be reviewed and approved by the PAs and participating households.

#### **Remediation and Service Upgrades (A7)**

The PIs will conduct home remediations consistent with the procedures and materials developed by the PAs (Output O1).

33. If home remediation costs are estimated to be greater than \$5,000, the CPM will attempt to secure external funding for repairs beyond this threshold. This funding may come from a range of sources that the CPM has identified.
34. The PI will schedule and complete any home remediation outlined in the home treatment plan. During this process, the PI will collect data on the status and outcomes of remediation work.
35. The PIs will complete any upgrades necessary for electrical or natural gas service. This includes updating the electric panel and meter construction for natural gas service.

### Installation (A8)

The PIs will conduct measure installation consistent with the procedures and materials developed by the PAs (Output O1). Installations will only occur for households that pass the assessment process.

36. The PIs will purchase pilot measures detailed in the home treatment plan through bulk purchasing agreement (pilot input I1.7).
37. The PI will schedule and complete measure installation. During installation, the pilot implementer will educate participating resident on the new measures installed and provide extended appliance warranties. The PI will recycle old appliances removed from the home. The PI will collect data on all the status and outcomes of installation-related activities.
38. After measure installation, the IOUs will apply bill protection procedures (pilot input I1.5) to participating customer bills.

## Outputs

**Table 7: Outputs Resulting from Planning (O1)**

Output	Output Deliverable	Source
A1.1	IOU pilot offerings	PAs
A1.2	CPM contract and scope of work	SCE, CPM
A1.3	PIs contract and scope of work	PA, PI
A2.1a	Community outreach and engagement plan	CPM
A2.1b	Outreach marketing and educational materials	CPM
A2.2	Electronic tracking tool and associated data extracts	CPM

Output	Output Deliverable	Source
A3.1	Electronic tracking tool(s) and associated data extracts	PI

**Table 8: Outputs Resulting from Outreach and Application (O2)**

Output	Output Deliverable	Source
A4.1a	Roster of associated CEN organizations and staff	CPM
A4.1b	Records of CEN training and materials used	CPM
A4.2	Records of community leaders (organization and roles)	CPM
A4.3	Records of community outreach events and materials used	CPM
A4.4	Lists of eligible participants (names and contact information)	IOU, CPM
A4.5	Outreach tracking data (extract of electronic tracking tool)	CPM
A5.1	Pilot applications and tracking data (extract of electronic tracking tool)	CPM
A5.2	Records of enrollment and referral to existing IOU programs	IOU, CPM
A5.3	Records of signed split incentives agreement (captured in tracking data)	CPM
A5.4	Pre-pilot surveys delivered and completed	CPM, Data Gathering Consultant

**Table 9: Outputs Resulting from Assessment, Remediation, and Service Upgrades and Installation (O3)**

Output	Output Deliverable	Source
A6.1	Roster of local PI contractors and records of trainings held	PI
A6.2	Lists of participants that complete a pilot application	CPM, PI
A6.3	In home assessment and associated data; tracking records of assessment	PI

Output	Output Deliverable	Source
A6.4	Home treatment and remediation plans	PI
A7.1	Records of additional funds for remediation (CPM reporting)	CPM
A7.2	Records of home remediation efforts	PI
A7.3a	Records of electrical service upgrades	IOU
A7.3b	Records of natural gas meter development	IOU
A8.1	Records of measurement procurement	PI
A8.2	Records of measure installation efforts	PI
A8.3	Bill protection applied to participating customer's bill	IOU

## Outcomes

### Outcomes Resulting from Outreach and Application (within scope of current process evaluation) (C1)

- 39. Households will gain access to affordable energy options via existing low income or cost saving IOU programs.
- 40. Addressing split incentives will encourage tenant and landlord participation in the pilot.
- 41. The split incentives agreement will ensure that tenants do not experience increased rent or evictions due to pilot participation for at least five years following the completion of pilot measure installation.
- 42. The CPM (and CENs) will collect the necessary resident outreach and engagement data to facilitate testing of pilot outreach concepts and pilot evaluation.

### Outcomes Resulting from Assessment, Remediation and Service Upgrades and Installation (within scope of current process evaluation) (C2)

- 43. Eligible households will gain access to affordable energy options via the pilot offerings.
- 44. The hiring and training of local contractors will support local energy workforce development in pilot communities. The establishment of CENs will also support these development goals.
- 45. The PIs and CPM will collect the necessary household assessment and installation data to facilitate testing of pilot implementation approaches and pilot evaluation.

### Outcomes Resulting from Installation (not within scope of current process evaluation) (C3)

- 46. The installation of electric and natural gas measures will lead to a reduction in participating households' wood and propane use.

47. Electric and natural gas measures will provide a less expensive fuel source for heating, water heating, and cooking, which will in turn lead to a reduction in household energy burden.
48. There will be a reduction in GHGs and criteria pollutants, leading to increased indoor and outdoor air quality.
49. Remediation of sub-standard housing will lead to improved home safety.
50. Improved indoor air quality will improve the health of participating household occupants.
51. Installation of electric measures will improve grid reliability and help mitigate capacity concerns. They will provide a more reliable energy source for participating households.
52. The cost savings associated with bulk purchasing agreements will reduce the cost per household and reduce rate impacts for other utility customers.



## Appendix B: Detailed Pilot Accomplishments

Table 10 shows the total number of eligible residents and the number that have progressed to each stage of pilot participation at the end of 2021 by Pilot Administrator (PA) and community.

**Table 10: Pilot Progress by PA and Community as of 12/31/21 (Number of Pilot Community Households)**

PA/Community	Eligible Participants <sup>15</sup>	Engaged by CEN	Completed Application	Completed Assessment	Pilot Measure(s) Installed
<b>PG&amp;E</b>					
Seville	104	104 (100%)	75 (72%)	69 (66%)	25 (24%)
Allensworth	106	97 (92%)	62 (58%)	44 (42%)	2 (2%)
Cantua Creek	106	106 (100%)	74 (70%)	57 (54%)	16 (15%)
<b>Subtotal (# of PG&amp;E Households)</b>	<b>316</b>	<b>307</b>	<b>211</b>	<b>170</b>	<b>43</b>
<b>Subtotal (% of PG&amp;E's Potential Participants)</b>	<b>100%</b>	<b>97%</b>	<b>67%</b>	<b>54%</b>	<b>14%</b>
<b>RHA</b>					
Alpaugh	97	79 (81%)	35 (36%)	29 (30%)	3 (3%)
Le Grand	468	452 (97%)	251 (54%)	231 (49%)	59 (13%)
La Vina	107	85 (79%)	58 (54%)	55 (51%)	21 (20%)
Fairmead	225	184 (82%)	73 (32%)	67 (30%)	6 (3%)
Lanare	17	14 (82%)	7 (41%)	5 (29%)	0 (0%)
<b>Subtotal (# of RHA Households)</b>	<b>914</b>	<b>814</b>	<b>424</b>	<b>387</b>	<b>89</b>
<b>Subtotal (% of RHA's Potential Participants)</b>	<b>100%</b>	<b>89%</b>	<b>46%</b>	<b>42%</b>	<b>10%</b>

<sup>15</sup> For each community, the PAs estimated the total number of eligible residents based on geographic boundaries.

PA/Community	Eligible Participants <sup>16</sup>	Contacted by CEN	Completed Application	Completed Assessment	Pilot Measure(s) Installed
<b>SCE</b>					
Ducor	222	163 (73%)	77 (35%)	52 (23%)	22 (10%)
West Goshen	127	127 (100%)	91 (72%)	53 (42%)	23 (18%)
California City	100	0 (0%)	0 (0%)	0 (0%)	0 (0%)
<b>Subtotal (# of SCE Households)</b>	<b>449</b>	<b>290</b>	<b>168</b>	<b>105</b>	<b>45</b>
<b>Subtotal (% of SCE's Potential Participants)</b>	<b>100%</b>	<b>65%</b>	<b>37%</b>	<b>23%</b>	<b>10%</b>
<b>SoCalGas</b>					
California City	235	235	93	79	77
Subtotal (% of SoCalGas's Potential Participants)	100%	100%	40%	34%	33%
<b>Total (# of Households)</b>	<b>1,914</b>	<b>1,646</b>	<b>896</b>	<b>741</b>	<b>254</b>
<b>Total (% of Potential Participants)</b>	<b>100%</b>	<b>86%</b>	<b>47%</b>	<b>39%</b>	<b>13%</b>

<sup>16</sup> For each community, the PAs estimated the total number of eligible residents based on geographic boundaries. The actual number of eligible households is likely much lower than the initial estimate based on a variety of reasons. For example, some homes are found to be all-electric, already have natural gas appliances, are businesses, or are vacant.

## Appendix C: Detailed Methods

This section provides more detail on the primary research methods.

### In-Depth Telephone Interviews

#### Phase I

Evergreen conducted 11 in-depth interviews with 22 pilot staff in December 2020 and January 2021 to build on our understanding of the pilots and to inform the early feedback. The interviews (mostly an hour long) were conducted before the customer research and provided insights into pilot successes and challenges. Table 11 and Table 12 present the total number of staff interviews that Evergreen staff conducted by organization, for both Phase I and Phase II, respectively.

**Table 11: Phase I Pilot Staff In-Depth Interviews**

Pilot Organization	Completed Interviews	# of Interviews / # of Unique Interviewees
PA	• PG&E interview	• 1 / 2
	• RHA interview	• 1 / 2
	• SoCalGas interview	• 1 / 1
	• SCE interview	• 1 / 1
CPM	• Two separate interviews with CPM	• 2 / 1
CEN	• Interview with three SHE CENs	• 1 / 3
	• Interview with Leadership Council CEN	• 1 / 2
PI	• Proteus interview	• 1 / 6
	• Staples Energy interview	• 1 / 2
	• Synergy/RHA interview	• 1 / 2
<b>Total</b>		• 11 / 22

## Phase II

**Table 12: Phase II Pilot Staff In-Depth Interviews**

Pilot Organization	Completed Interviews	# of Interviews / # of Unique Interviewees / # of Interviewees that we had spoken to in Phase I
PA	<ul style="list-style-type: none"> <li>PG&amp;E interview</li> <li>RHA interview</li> <li>SoCalGas interview</li> <li>SCE interview</li> </ul>	<ul style="list-style-type: none"> <li>1 / 1 / 1</li> <li>1 / 1</li> <li>3 / 3</li> <li>1 / 1</li> </ul>
CPM	<ul style="list-style-type: none"> <li>One interview with CPM</li> </ul>	<ul style="list-style-type: none"> <li>1 / 1</li> </ul>
PI	<ul style="list-style-type: none"> <li>Staples Energy interview</li> <li>Synergy/RHA interview</li> <li>Proteus</li> </ul>	<ul style="list-style-type: none"> <li>1 / 1</li> <li>2 / 2</li> <li>2 / 7</li> </ul>
<b>Total</b>		<ul style="list-style-type: none"> <li>11 / 16</li> </ul>

## Customer Survey

Evergreen conducted two phases of customer surveys – the first was a web and phone survey in early 2021, and the second was a mail survey in early 2022.

### Phase I

Evergreen administered the Phase I customer survey using a web survey interface (Qualtrics) with an initial round of invitations to complete the survey sent by postcard and email, and a second round by telephone. Respondents had the option to complete the survey in English or Spanish.

In Phase I, Evergreen grouped eligible customers into two categories:

1. *Participants* who had completed a pilot application; and
2. *Opt-outs* who had completed an application but opted not to continue participating in the program, or those who were contacted by a CEN and declined to participate.

Table 13 details the customer survey outreach efforts, showing that Evergreen mailed a total of 652 postcards and sent out 206 email invitations (the subset of customers with an email address listed in either the pilot outreach or application records) to complete the web survey in February 2021. Customers with an email address listed received both the postcard and a subsequent email reminder. These efforts were supplemented by telephone recruitment (discussed after Table 13). In addition, Evergreen sent 92 postcards to landlords of participants and opt-outs but did not receive any completions.

Note that 67 postcards were returned, most of which was due to a lack of mail service for several pilot communities (Ducor, Alpaugh, Allensworth, and West Goshen). Evergreen mailed postcards to the listed mailing addresses, but there may have been cases where this was not indicated properly in the data (e.g., the true mailing address was a PO box, but it was not present in the data). The utilities' customer information system data contain mailing addresses, which we leveraged for the Phase II mail-based customer research efforts.

**Table 13: Phase I Customer Web Survey Invitations**

PA	Community	Postcards			Email		
		Participants	Opt-Outs	Total	Participants	Opt-Outs	Total
PG&E	Allensworth	36	12	48	3	0	3
	Cantua Creek	21	2	23	2	0	2
	Seville	59	13	72	5	0	5
RHA	Alpaugh	6	3	9	2	0	2
	Fairmead	2	3	5	0	3	3
	La Vina	9	0	9	1	0	1
	Lanare	2	3	5	0	0	0
	Le Grand	107	72	179	36	24	60
SCE	California City	0	0	0	0	0	0
	Ducor	61	33	94	30	13	43
	West Goshen	87	7	94	21	5	26
SoCalGas	California City	80	34	114	61	0	61
<b>Total</b>		<b>470</b>	<b>182</b>	<b>652</b>	<b>161</b>	<b>45</b>	<b>206</b>

To maximize the number of customer survey completes, we supplemented the web survey effort with a telephone survey using the web survey interface, administered by our survey research partner, Michaels Energy, in March 2021. Michaels Energy call center staff attempted to contact all residents in the sample frame twice if they had not completed a web survey (i.e., residents that had not responded to the postcard or email outreach). The survey was provided in English and Spanish. The call center staff attempted to call at different hours (e.g., early evenings and weekends) but noted that day-time calls were most successful.

Table 14 shows the total number of survey completions (including both web and phone) by PA and community and mode. As shown, a total of 85 surveys were completed, with 72 participants and 13 opt-outs.

**Table 14: Phase I Customer Survey Completions<sup>17</sup>**

PA	Community	Web (Via Postcard/Email)		Phone		Total		Total
		Participants	Opt-Outs	Participants	Opt-Outs	Participants	Opt-Outs	
PG&E	Allensworth	0	1	3	0	3	1	4
	Cantua Creek	0	0	0	0	0	0	0
	Seville	0	0	3	0	3	0	3
RHA	Alpaugh	0	0	0	0	0	0	0
	Fairmead	0	0	0	0	0	0	0
	La Vina	0	0	0	0	0	0	0
	Lanare	0	0	0	0	0	0	0
	Le Grand	10	3	14	6	24	9	33
SCE	California City	0	0	0	0	0	0	0
	Ducor	0	1	5	2	5	3	8
	West Goshen	3	0	7	0	10	0	10
SoCalGas	California City	2	0	25	0	27	0	27
<b>Total</b>		<b>15</b>	<b>5</b>	<b>57</b>	<b>8</b>	<b>72</b>	<b>13</b>	<b>85</b>
<b>Response Rate</b>		<b>3%</b>	<b>3%</b>	<b>9%</b>	<b>5%</b>	<b>11%</b>	<b>6%</b>	<b>10%</b>

## Phase II

For Phase II, Evergreen conducted a mail survey with participating and eligible non-participating customers (targeting up to 30 participant and 30 non-participant/opt-out completes per PA including the Phase I survey completes).

<sup>17</sup> We removed duplicates so this count of completes for Phase I is reduced from the original by 16 in the analysis.

For Phase II, we refined the participant category and split out the opt-out category as follows:

- ◆ *Participants* who have completed an installation;
- ◆ *Opt-outs* who have completed a pilot application but dropped out before completing the installation phase; and
- ◆ *Non-participants* including eligible households that were contacted about participating and did not (i.e., did not complete a pilot application).

We removed any completes from Phase I and also a small number of participating customers who moved since they had their measures installed.

**Table 15: Phase II Number of Customer Surveys Mailed Out**

PA	Community	Participants	Opt-Outs	Non-Participants	Total
PG&E	Allensworth	17	14	36	67
	Cantua Creek	18	11	21	50
	Seville	29	16	24	69
RHA	Alpaugh	4	3	18	25
	Fairmead	11	13	40	64
	La Vina	19	8	16	43
	Lanare	0	3	0	3
	Le Grand	36	38	56	130
SCE	California City	0	0	0	0
	Ducor	26	64	64	154
	West Goshen	30	11	36	77
SoCalGas	California City	41	4	23	68
<b>Total</b>		<b>231</b>	<b>185</b>	<b>334</b>	<b>750</b>

The mail survey expanded upon Phase I customer research efforts (and added a non-participant category) to inform assessments of drivers of and barriers to pilot participation, customer satisfaction, tenant versus landlord issues, community outreach strategies, and lessons learned for scaling up the pilots. We provided a \$5 bill along with the mailing and offered an additional \$25 check incentive for returned and completed surveys to maximize the response rate. The mailed survey was offered in both English and Spanish. Evergreen staff made phone calls in English to

each household that was mailed a survey within a day or two of the expected arrival date of the survey in order to maximize the survey response rate.

Evergreen conducted a follow-up web survey and telephone survey with participating and eligible non-participating customers and landlords with SCE, where needed, to try to help reach the mail survey targets, offering the same \$25 incentive for a completed survey. Web surveys were offered in English.

Table 16 shows the survey completes from the Phase II effort. A total of 216 surveys were completed, with 103 participants, 40 opt-outs, and 73 non-participants.

**Table 16: Phase II Customer Mail Survey Completions**

PA	Community	Participants	Opt-Outs	Non-Participants	Total
PG&E	Allensworth	7	3	10	20
	Cantua Creek	9	3	10	22
	Seville	10	6	6	22
RHA	Alpaugh	1	0	0	1
	Fairmead	6	2	8	16
	La Vina	8	1	0	9
	Lanare	0	0	0	0
	Le Grand	20	11	14	45
SCE	California City	0	0	0	0
	Ducor	12	9	14	35
	West Goshen	9	3	5	17
SoCalGas	California City	21	2	6	29
<b>Total</b>		<b>103</b>	<b>40</b>	<b>73</b>	<b>216</b>
<b>Response Rate</b>		<b>56%</b>	<b>22%</b>	<b>22%</b>	<b>29%</b>



## Combined Survey Completes

Table 17 shows the combined number of survey completions across both Phase I and Phase II. In total, 285 surveys were completed, of which 156 were participants, 45 were opt-outs, and 84 were non-participants.

**Table 17: Total Customer Survey Completions (Both Phases)**

PA	Community	Participants	Opt-Outs	Non-Participants	Total
PG&E	Allensworth	8	3	11	22
	Cantua Creek	9	3	10	22
	Seville	13	6	6	25
RHA	Alpaugh	1	0	0	1
	Fairmead	6	2	8	16
	La Vina	8	1	0	9
	Lanare	0	0	0	0
	Le Grand	36	13	21	70
SCE	California City	0	0	0	0
	Ducor	13	10	17	40
	West Goshen	16	3	5	24
SoCalGas	California City	46	4	6	56
<b>Total</b>		<b>156</b>	<b>45</b>	<b>84</b>	<b>285</b>
<b>Response Rate</b>		<b>18%</b>	<b>11%</b>	<b>25%</b>	<b>18%</b>

## In-Person Field Research

Evergreen conducted the following in-person research in June 2021. These interviews and ride-alongs followed up on items from Phase I in-depth interviews, along with additional questions that came out of the Phase I research.

**Table 18: Interviews and Ride-Alongs**

Role	Organization/Activity (Location)	Number of Participants	Utility Territory
PI	In-person interviews with PI Staples (Bakersfield)	1	SoCalGas
PI	In-person interviews with PI RHA (Fresno)	1	PG&E
PI	In-person interview with PI Synergy (Fresno)	3	PG&E, SCE
PI	In-person interviews with PI Proteus (Visalia)	4	SCE
Outreach	In-person interviews with CPM/CENs at SHE (Visalia)	1 CPM, 3 CENs, 2 Community CENs	All
Outreach	Outreach ride-along with 1 CEN who was included in the interview and one Community CEN who was not included in the earlier interview (Le Grand)	2	PG&E
Outreach	Outreach ride-along with 1 CEN who was also included in the interview and one Community CEN who was not included in the interview (Ducor)	2	SCE

## Testing for Statistical Significance

Below, we summarize the results of statistical significance testing on the customer survey data. Differences that were found are shown in Table 19 below along with context for interpreting the findings (e.g., inherent differences across PAs and the natural gas v. electric pilot design and implementation).

**Table 19: Statistical Differences in Customer Survey Data**

Context for Interpreting Differences	Statistically Significant Differences
By SoCalGas vs. electric PAs (in report, where justified by sample size and where findings are statistically significant, we include by PA)	
Customers may have different levels of awareness of their bill changes depending on if they got a new bill (gas company) or just an expanded bill	Residents in SoCalGas' service territory were more aware of bill protection, but the awareness was low in general.
Amount and complexity of household remediation was greater for electric PAs – e.g., water heater location, permitting requirements, upgrading household and/or community T&D infrastructure	The satisfaction results were statistically significantly different for both the satisfaction with the overall experience and satisfaction with the response time.

Context for Interpreting Differences	Statistically Significant Differences
<ul style="list-style-type: none"> <li>Could be reflected in satisfaction with the pilot due to experiencing delays and/or additional work, complexity of participation and possibly cost</li> </ul>	<p>A higher percentage of SoCalGas participants reported that all aspects of the home assessment portion of the pilot were “extremely” or “very” easy to understand when compared to electric participants (PG&amp;E, SCE, and RHA)</p> <p>The difference seen between the electric IOUs and SoCalGas on the topic of measure installation is statistically significant, except for if the install was disruptive.</p>
<p>SoCalGas’s pilot community, California City, is a larger city where the CENs lacked relationships, compared to the other pilot communities that are smaller communities. California City has large multifamily buildings where the CENs has a harder time reaching landlords during COVID v. reaching landlords of smaller rental units in the other communities. While SCE also treats pilot customers in California City (where natural gas lines are not feasible to extend), they had not conducted much outreach or installations at the time of the study research</p>	<p>The differences found between gas and electric utilities (identified in this table and in Section 4) also includes inherent differences between California City v. the other smaller communities.</p>
By Own vs. Rent	
<p>Ownership type (own or rent) – renters had to get their landlord to sign a waiver in order to participate, and may not have perceived the benefits as great since they do not own the appliances.</p> <p>Could be reflected in more difficult and lengthier application process, lower perception of benefits and greater participation barriers for renters.</p>	<p>The only response that was statistically significant between owners and renters was: “I didn’t need/want new appliances.” This is less of a barrier for renters than owners.</p>

Context for Interpreting Differences	Statistically Significant Differences
Phase of response (Phase I surveys conducted just as the pilot was being rolled out, while Phase II surveys were conducted a year later)	
<p>In the second phase of research, survey respondents were more likely to have heard about the project from flyers, meetings, and/or friends than they were in Phase I, whereas respondents in Phase I were more likely to have heard about it from the project itself. This was expected given that word of mouth became more common as early participants shared their experience.</p>	<p>Confirmed differences to be statistically significant.</p> <p>Respondents were more likely to hear from a friend, a meeting, or a flyer in Phase II and more likely to hear in person in Phase I.</p>

## Appendix D: Data Collection Instruments

### *Phase 1 Customer Survey Instrument*

#### **Introduction**

Thank you for taking the San Joaquin Valley Affordable Energy Project customer survey. Your feedback is vital to us. Please answer the following questions about the San Joaquin Valley Affordable Energy Project and your participation. This survey should take you about 5 minutes to complete.

I.1. [If resident] First, can we confirm that you still live at [address from sample]?

- 1) Yes
- 2) No, I no longer live at that address. [skip to C.3]

I.2. [If landlord/property manager] First, can we confirm that you still own and/or manage [address from sample]

- 1) Yes [skip to I.6]
- 2) No, I no longer own and/or manage that address. [skip to C.3]

I.3. Are you over the age of 18 and participate in making decisions about appliance purchases for the home?

- 1) Yes
- 2) No [skip to C.3]

I.4. Our records indicate that you rent/own [occupancy from the sample] the property. Is that correct?

- 1) Yes
- 2) No

I.5. [If occupancy = "Renter" and missing landlord phone/email] What is your landlord's (or property manager's) name, phone and email address? It is optional for you to provide this information, but we would like to ask your landlord (or property manager) about their experience with the San Joaquin Valley Affordable Energy Project.

Name: \_\_\_\_\_

Phone: \_\_\_\_\_

Email: \_\_\_\_\_

I.6. Our records indicate that someone from the San Joaquin Valley Affordable Energy Project reached out to you, and that you: [status from sample].

- 1) Chose not to participate
- 2) Completed an application
- 3) Completed an application and the home assessment
- 4) Completed an application, the home assessment and have had new appliances installed

I.7. [If I.6 = 2] Have you completed the home assessment yet? The home assessment would have included a contractor coming to your home to collect information on your current appliances.

- 1) Yes
- 2) No

I.8. [If I.6 = 3 or (I.6 = 2 and I.7 = "Yes")] Have new appliances been installed in your home yet?

- 1) Yes
- 2) No

## Outreach

[All participants, opt outs and landlords will receive these questions]

O.1 Where do you remember learning about the San Joaquin Valley Affordable Energy Project?

Check all that apply:

- 1) A flyer was left at my home [Yes/No]
- 2) I saw an ad in the newspaper or heard one on the radio [Yes/No]
- 3) I attended a meeting in my community [Yes/No]
- 4) I was contacted by someone from the project (over the phone or in person) [Yes/No]
- 5) I learned about it from a friend or neighbor [Yes/No]
- 6) Other [Yes/No] [specify]

O.2 Next, we would like to learn more about your interactions project staff [all questions use same 5 point unipolar scale].

	Extremely	Very	Somewhat	A little	Not at all
--	-----------	------	----------	----------	------------

How well do you feel you understand the benefits of participating in the San Joaquin Valley Affordable Energy Project?					
How well do you feel you understand the process for participating in the San Joaquin Valley Affordable Energy Project?					
How well do you feel you understand what new appliances the San Joaquin Valley Affordable Energy Project was offering?					
How <b>easy</b> was it to understand the utility bill protection the San Joaquin Valley Affordable Energy Project was offering?					
[If O.1 = 3 or O.1 = 4] How much did you believe the Community Energy Navigator's description of the benefits of the San Joaquin Valley Affordable Energy Project?					
[If O.1 = 3 or O.1 = 4] How trustworthy did the Community Energy Navigator seem to you?					
[If O.1 = 3 or O.1 = 4] How <b>well</b> did the Community Energy Navigator answer any questions you had about the San Joaquin Valley Affordable Energy Project?					
How <b>clear</b> were communications about the next steps of the San Joaquin Valley Affordable Energy Project?					
[If O.1 = 3 or O.1 = 4] If contact was in person, how <b>comfortable</b> were you with the precautions taken by the Community Energy Navigator to prevent the spread of COVID-19?					

O.3 Were there any specific components of the San Joaquin Valley Affordable Energy Project that were difficult to understand?

1) [Specify]

O.4 [If COVID question = "A little" or "Not at all"] What other precautions should the Community Energy Navigator have taken to prevent the spread of COVID-19?

1) [Specify]

O.5 During the interaction with San Joaquin Valley Affordable Energy Project Community Energy Navigator, did you learn about other programs that [utility] provides?

- 1) Yes
- 2) No
- 3) Unsure

O.6 Were any of these programs ones you had not heard about before?

- 4) Yes [Specify]
- 5) Don't recall

O.7 [If O.3 = "Yes"] Did you enroll in any of these programs after learning about them from the San Joaquin Valley Affordable Energy Project Community Energy Navigator?

- 6) Yes
- 7) No

O.8 [If O.5 = "Yes"] Do you recall which programs you enrolled in?

- 8) Yes [Specify]
- 9) Don't recall

## Application

[Only participants will receive these questions]

A.1 [If I.6  $\geq 2$ ] Next, we would like to learn more about application process [all questions use same 5 point unipolar scale].

	Extremely	Very	Somewhat	A little	Not at all
How <b>easy</b> were the application instruction to understand?					
How <b>easy</b> was it to collect the information the application asked for?					
How <b>time consuming</b> was the application to fill out?					
[If occupancy = "Renter"] How <b>easy</b> was it for you to get approval from your landlord/property manager?					



After the application was completed, how <b>clear</b> were the next steps of the project communicated?					
--	--	--	--	--	--

A.2 [If I.6  $\geq$  2] How did you complete your application?

- 1) In person
- 2) By Phone
- 3) By mail
- 4) Other [specify]

A.3 [If I.6  $\geq$  2] How satisfied are you with how quickly the San Joaquin Valley Affordable Energy Project got back to you about your application?

- 1) Extremely
- 2) Very
- 3) Somewhat
- 4) A Little
- 5) Not at all

A.4 [If I.6  $\geq$  2 and application outcome = "Not approved"] After you completed an application, were you told why you did not qualify for the San Joaquin Valley Affordable Energy Project?

- 5) Yes
- 6) No

A.5 [If I.6  $\geq$  2 and application outcome = "Not approved"] Do you understand the reason(s) why you did not qualify for the San Joaquin Valley Affordable Energy Project?

- 7) Yes
- 8) No
  - i. Tell us more about that: [Specify]

A.6 What components of the application were difficult for you to understand or complete?

- 9) [Specify]

## Assessment

[Only participants who have advanced to a home assessment will receive these questions]

H.1 [If I.6  $\geq$  3 or (I.6. = 2 and I.7 = "Yes")] Next, we would like to ask more about the home assessment [all questions use same 5 point unipolar scale].

	Extremely	Very	Somewhat	A little	Not at all	N/A
How <b>easy</b> was it to coordinate with the contractor to schedule the home assessment?						
How <b>disruptive</b> was the home assessment?						
How <b>well</b> did the contractor who completed your assessment answer your questions?						
How <b>trustworthy</b> did the contractor who completed the assessment seem to you?						
How <b>clearly</b> were the results of the home assessment communicated to you?						
After the home assessment was completed, how <b>clearly</b> were the next steps of the project communicated to you?						
How <b>comfortable</b> were you with the precautions taken by the contractor to prevent the spread of COVID-19 during your home assessment?						

H.2 [If COVID question = “A little” or “Not at all”] What other precautions should the contractor who completed the home assessment have taken to prevent the spread of COVID-19?  
a. [Specify]

H.3 What components of the home assessment were difficult for you to understand?  
b. [Specify]

## Installation

[Only participants who have advanced to installation will receive these questions]

C.1 [If I.6  $\geq 5$  or (I.6. = (2 or 3) and I.7 = “Yes”)] Next, we would like to ask more about installation of your new appliances [all questions use same 5 point unipolar scale].

	Extremely	Very	Somewhat	A little	Not at all
--	-----------	------	----------	----------	------------

How <b>easy</b> was it to coordinate with the contractor to schedule the installation?					
How <b>disruptive</b> was appliance installation?					
How <b>well</b> did the contractor who completed the installation answer your questions?					
How much did you <b>trust</b> the contractor who installed the appliances?					
How <b>well</b> did the contractor explain to you how to use your new appliances?					
How <b>comfortable</b> were you with the precautions taken by the contractor to prevent the spread of COVID-19 during the installation?					

C.2 [If COVID question = “A little” or “Not at all”] What other precautions should the contractor who installed the appliances have taken to prevent the spread of COVID-19?

1) [Specify]

C.3 How **satisfied** have you been with your new appliances so far?

- 2) Extremely
- 3) Very
- 4) Somewhat
- 5) A Little
- 6) Not at all

C.4 Did you receive **adequate** instructions on how to operate your new appliances?

- 7) Yes
- 8) No

C.5 What do you like about your new appliances?

9) [Specify]

C.6 Is there anything you do not like about your new appliance?

10) [Specify]

C.7 What components of the installation were difficult for you to understand?

11) [Specify]

## Drivers and Barriers

### Opt Outs

S.1 [If I.6 = 1] Next, we would like to ask about why you chose not to participate in the San Joaquin Valley Affordable Energy Project. How much of a barrier were each of the following? [all questions use same 5 point unipolar scale].

	Large Barrier	Medium Barrier	Small Barrier	Not a Barrier
I didn't <b>need or want</b> new appliances				
I <b>didn't believe</b> that the new appliances would actually be free				
I was <b>worried</b> my utility bill would increase				
I <b>don't trust</b> my utility or the programs they offer				
I had <b>concerns</b> about letting people in my home during the COVID-19 pandemic				
No <b>adult could be home</b> during the home assessment or installation				
It was <b>difficult to find a time</b> that fit my schedule to complete the home assessment or installation				
[If occupancy = "Renter"] My landlord did <b>not approve</b> of participation				
[If occupancy = "Renter"] I did not feel <b>comfortable</b> asking my landlord to participate				

S.2 [If I.6 = 1] The San Joaquin Valley Affordable Energy Project provided a \$500 bill protection allowance over 3 years to protect against energy cost increases. Do you recall hearing about this?

- 1) Yes
- 2) No

S.3 [If I.6 = 1] How helpful would bill protection of this amount be to your household?

- 1) Extremely helpful
- 2) Very helpful
- 3) Somewhat helpful
- 4) A little helpful
- 5) Not at all helpful

S.4 [If I.6 = 1] What more do you think the San Joaquin Valley Affordable Energy Project could do to help you feel more comfortable or save money?

- 1) [Specify]

S.5 [If I.6 = 1] What do you suggest that the San Joaquin Valley Affordable Energy Project could do differently that would make you interested in participating?

- 1) [Specify]
- 2) Nothing

S.6 Are there any other comments about your experience with the San Joaquin Valley Affordable Energy Project that you would like to share?

- 1) [Specify]
- 2) Nothing

### ***Participants (Customers)***

P.1 [If I.6 <> 1] Next, we would like to ask about why you chose to participate in in the San Joaquin Valley Affordable Energy Project. How important were each of the following factors to your decision to participate in the San Joaquin Valley Affordable Energy Project? [all questions use same 5 point unipolar scale].

	Extremely Important	Very Important	Somewhat Important	A little Important	Not at all Important
The new appliances will <b>save</b> you money on your monthly bills					
The new appliances will be <b>easier</b> to operate than your old ones					
The new appliances will <b>improve</b> the value of your home					
The new appliances will make your home <b>safer</b>					

The new appliances will help make the air <b>cleaner</b> in your home					
The new appliances <b>save energy</b> and are good for the environment					

P.2 [If I.6 <> 1] The San Joaquin Valley Affordable Energy Project provided a \$500 bill protection allowance over 3 years to protect against energy cost increases. Do you recall hearing about this?

- 1) Yes
- 2) No

P.3 [If I.6 <> 1] How helpful will bill protection of this amount be to your household?

- 1) Extremely helpful
- 2) Very helpful
- 3) Somewhat helpful
- 4) A little helpful
- 5) Not at all helpful

P.4 [If I.6 <> 1] What more do you think the San Joaquin Valley Affordable Energy Project could do to help you feel more comfortable or save money?

- 1) [Specify]
- 2) Nothing

P.5 [If I.6 <> 1] What do you like most about the San Joaquin Valley Affordable Energy Project?

- 1) [Specify]
- 2) Nothing

P.6 [If I.6 <> 1] What one thing would you suggest [utility] do to improve the San Joaquin Valley Affordable Energy Project?

- 1) [Specify]
- 2) Nothing

P.7 Are there any other comments about your participation experience that you would like to share?

- 1) [Specify]
- 2) Nothing

### ***Participants (Landlords)***

We will adapt questions P.1-P.7 for landlords of participating customers.

## Closing

E.1 Sometimes, after we complete a survey, we decide to call some people back to learn more about their opinions and experiences. We typically will pay an additional incentive of \$10. May we recontact you if we decide to do that for this study?

1) Yes

2) No

E.2 [If C.1 = 2] Finally, please tell us to whom you would like us to address your thank you check and where to send it. Please note that this check will come from Evergreen Economics.

Name: \_\_\_\_\_

Street address: \_\_\_\_\_

City: \_\_\_\_\_

State: \_\_\_\_

Zip code: \_\_\_\_\_

Thank you for completing this survey!

## *Phase II Customer Survey Instrument*

Thank you for taking the San Joaquin Valley Affordable Energy Project customer survey. Your feedback is vital to us. Please answer the following questions about the San Joaquin Valley Affordable Energy Project and your participation and then send back to us in the pre-stamped envelope that we included. This survey should take you about 10 minutes to complete.

1. Are you over the age of 18 and a decision maker of the household?
  - 1) Yes
  - 2) No **(please have this survey completed by someone in the house who makes decisions about what appliances to purchase and is over the age of 18)**
  
2. Do you own or rent your home?
  - 1) Rent
  - 2) Own [skip to Q5]
  - 3) I do not rent or own this property [skip to Q5]
  
3. (optional) What is your landlord's (or property manager's) name, phone and email address?
  - Name: \_\_\_\_\_
  - Phone: \_\_\_\_\_
  - Email: \_\_\_\_\_
  
4. Is your gas or electric bill included in your rent payment?
  - 1) Only my gas bill is part of my rent payment
  - 2) Only my electric bill is part of my rent payment
  - 3) Both gas and electric are part of my rent payment
  - 4) Neither my gas or electric bills are part of my rent payment
  - 5) I don't know

## **Outreach**

5. Where do you remember hearing about the San Joaquin Valley Affordable Energy Project?  
(Select YES or NO for each)
  - 1) A flyer was left at my home [Yes/No]
  - 2) I saw an ad in the newspaper or heard one on the radio [Yes/No]
  - 3) I attended a meeting in my community [Yes/No]



- 4) I was contacted by someone from the project (over the phone or in person)  
[Yes/No]
- 5) I learned about it from a friend or neighbor [Yes/No]
- 6) Other [Yes/No] [specify]

6. Next, we would like to learn more about your interactions project staff.

	Extremely	Very	Somewhat	A little	Not at all
How <b>clearly</b> were the project and processes explained to you?					
How <b>easy</b> was it to understand the project?					
How <b>easy</b> was it to understand what new appliances the project was offering?					
How <b>easy</b> was it to understand the utility bill credits the project was offering?					
How <b>clear</b> were communications about the next steps of the project?					
If contact was in person, how <b>comfortable</b> were you with the precautions taken by the project staff to prevent the spread of COVID-19?					

7. Do you remember working with a community energy navigator?

- 1) Yes
- 2) No [skip to Q10]
- 3) Don't know [skip to Q10]

8. Next, we would like to learn more about your interactions with the community navigator(s).

	Extremely	Very	Somewhat	A little	Not at all
How <b>knowledgeable</b> was the community energy navigator that talked to you about the project?					
How much did you <b>trust</b> the community energy navigator?					

How <b>well</b> did the community energy navigator answer any questions you had about the project?					
--	--	--	--	--	--

9. Above you rated how much you trusted the community energy navigator. Can you say why you gave that rating?

1) \_\_\_\_\_

10. During the interaction with project staff, did you learn about any other programs that [utility] provides?

- 1) Yes
- 2) No [skip to Q15]
- 3) I'm not sure [skip to Q15]

11. [If Q10 = Yes] Below is a list of some other programs and offerings you may have heard about at the time you heard about this program. Can you tell me which ones you heard about, or already knew about, or if they don't apply to you.<sup>18</sup>

	Heard About	Did not hear about	Not sure	Might not apply to me	I already knew about this program
Energy Savings Assistance (all PAs)					
Comprehensive Manufactured/Mobile Home Program (CMHP) (PG&E & RHA only)					
Self-Generation Incentive Program (SGIP) (PG&E and RHA and PG&E only)					
Solar Green Tariff (CS-GT) (all except SoCalGas, will modify name per each PA)					
Single-family Affordable Solar Homes (SASH and DAC-SASH) (all except SoCalGas)					

<sup>18</sup> Questions 11, 12, and 13 will be customized for each respective PA.

California Alternate Rates for Energy Program (CARE) (all except RHA)					
Family Electric Rate Assistance (FERA) (all except RHA)					
Disadvantaged Communities Green Tariff (DAC-GT) (all except SoCalGas)					
CSI Thermal (all except PG&E)					
Medical Baseline (SoCalGas and PG&E & RHA)					
All-Electric Baseline (PG&E & RHA and SCE only)					
WatterSaver!					

12. Which of the following programs listed above are you currently enrolled in?

- 1) Energy Savings Assistance (all PAs)
- 2) Comprehensive Manufactured/Mobile Home Program (CMHP) (PG&E & RHA only)
- 3) Self-Generation Incentive Program (SGIP) (PG&E and RHA and PG&E only)
- 4) Solar Green Tariff (CS-GT) (all except SoCalGas, will modify name per each PA)
- 5) Single-family Affordable Solar Homes (SASH and DAC-SASH) (all except SoCalGas)
- 6) California Alternate Rates for Energy Program (CARE) (all except RHA)
- 7) Family Electric Rate Assistance (FERA) (all except RHA)
- 8) Disadvantaged Communities Green Tariff (DAC-GT) (all except SoCalGas)
- 9) CSI Thermal (all except PG&E)
- 10) Medical Baseline (SoCalGas and PG&E & RHA)
- 11) All-Electric Baseline (PG&E & RHA and SCE only)
- 12) WatterSaver!
- 13) None of the above [skip to Q13]

13. Of the programs you enrolled in below, please rate the ease or difficulty of enrolling in the program:

	Very easy	Somewhat easy	Not easy or hard	Somewhat hard	Very hard	I did not enroll in that program
Energy Savings Assistance (all PAs)						

Comprehensive Manufactured/Mobile Home Program (CMHP) (PG&E & RHA only)						
Self-Generation Incentive Program (SGIP) (PG&E and RHA and PG&E only)						
Solar Green Tariff (CS-GT) (all except SoCalGas, will modify name per each PA)						
Single-family Affordable Solar Homes (SASH and DAC-SASH) (all except SoCalGas)						
California Alternate Rates for Energy Program (CARE) (all except RHA)						
Family Electric Rate Assistance (FERA) (all except RHA)						
Disadvantaged Communities Green Tariff (DAC-GT) (all except SoCalGas)						
CSI Thermal (all except PG&E)						
Medical Baseline (SoCalGas and PG&E & RHA)						
All-Electric Baseline (PG&E & RHA and SCE only)						
WatterSaver!						

14. Did you have any prior experience or impressions of [utility] that drove your decision not to participate?

- 1) Yes
- 2) No [skip to Q16]
- 3) Unsure [skip to Q16]

15. Please describe the prior experiences or impressions that drove your decisions to not participate (in the other programs).

- 1) \_\_\_\_\_

16. Some people were asked to share receipts from their wood and/or propane purchases. Is this something you keep receipts for?

- 1) Yes
- 2) No [skip to Q18]
- 3) Sometimes [skip to Q18]
- 4) Unsure [skip to Q18]

17. Is this something you [if participant or opt-out: were willing] [if non-participant: would be willing] to share as part of the application process?

- 1) Yes
- 2) No
- 3) Unsure

### Application

[Participants and opt-outs will receive these questions]

18. Next, we would like to ask about the application process. Did you get help filling out your application from somebody from the project?

- 1) Yes - they helped me with part of the application
- 2) Yes - they helped me with all of the application
- 3) No

19. How did you complete your application?

- 1) In person
- 2) By Phone
- 3) By mail
- 4) Other [specify]

20. Next, we would like to learn more about application process.

	Extremely	Very	Somewhat	A little	Not at all	NA
How <b>easy</b> were the application instruction to understand?						

How <b>easy</b> was the application to fill out?						
How <b>easy</b> was it to collect the information the application asked for?						
How <b>time consuming</b> was the application to fill out?						
How <b>easy</b> was it for you to get approval from your landlord/property manager?						
How <b>clear</b> were the next steps of the project communicated?						
How <b>clear</b> is it to you where to go when you had questions about next steps?						

21. [For opt-outs only] Have you heard back about your eligibility for the project?

- 1) Yes
- 2) No

22. How satisfied are you with how quickly the project got back to you about your application?

- 1) Extremely
- 2) Very
- 3) Somewhat
- 4) A little
- 5) Not at all

23. Was your application approved?

- 1) Yes [skip to Q26]
- 2) No

24. Did the reason(s) you did not qualify for the project make sense to you?

- 1) Yes [skip to Q26]
- 2) No

25. Please tell us more about your answer to Q24.

1) \_\_\_\_\_

26. If you had questions as the project moved forward, who did you reach out to?

- 1) I didn't have questions
- 2) I reached out to \_\_\_\_\_
- 3) I had questions but did not know who to reach out to

### Assessment

[Only participants will receive these questions]

27. Next, we would like to ask more about the home assessment

	Extremely	Very	Somewhat	A little	Not at all	NA
How <b>easy</b> was it to coordinate with the contractor to schedule the home assessment?						
How <b>disruptive</b> was the home assessment?						
How <b>well</b> did the contractor who completed your assessment answer your questions?						
How much did you <b>trust</b> the contractor who did the assessment?						
How <b>clearly</b> were the results of the home assessment communicated to you?						
How <b>clearly</b> were the next steps of the project communicated to you?						
How <b>comfortable</b> were you with the precautions taken by the contractor to prevent the spread of COVID-19 during your home assessment?						

### Installation

[Only participants will receive these questions]

28. Next, we would like to ask more about installation of your new appliances.

	Extremely	Very	Somewhat	A little	Not at all	NA
How <b>easy</b> was it to coordinate with the contractor to schedule the installation?						
How <b>disruptive</b> was appliance installation?						
How <b>well</b> did the contractor who completed the installation answer your questions?						
How much did you <b>trust</b> the contractor who installed the appliances?						
How <b>well</b> did the contractor explain to you how to use your new appliances?						
How <b>comfortable</b> were you with the precautions taken by the contractor to prevent the spread of COVID-19 during the installation?						

29. How **satisfied** would you say you have been with your overall participation experience?

- 1) Extremely
- 2) Very
- 3) Somewhat
- 4) A little
- 5) Not at all

30. How **satisfied** have you been with your new appliance(s) so far?

- 1) Extremely
- 2) Very
- 3) Somewhat
- 4) A Little
- 5) Not at all

31. Did you receive **adequate** instructions on how to operate your new appliance(s)?

- 1) Yes
- 2) No

32. What do you like about your new appliance(s)?

- 1) \_\_\_\_\_



33. Is there anything you do not like about your new appliance(s)?

1) \_\_\_\_\_

[Only SCE customers will receive Q34 and Q35]

34. Did you receive an induction cooktop as part of this project?

- 1) Yes
- 2) No [skip to Q36]
- 3) I don't know [skip to Q36]

35. Would you recommend an induction stovetop to a friend or neighbor? Why or why not?

1) \_\_\_\_\_

36. Did you use propane and/or wood before you participated in this project?

- 1) Yes
- 2) No
- 3) I don't know

### Drivers and Barriers

[Questions 37 through 43 are **asked of** opt-outs and non-participants]

37. Next, we would like to ask about why you chose not to participate in the project. How much of a barrier were each of the following?

	Large Barrier	Medium Barrier	Small Barrier	Not a Barrier	NA
I didn't <b>need or want</b> new appliances					
I <b>didn't believe</b> that the new appliances would actually be free					
I was <b>worried</b> my utility bill would increase					
I <b>don't trust</b> my utility or the programs they offer					

I had <b>concerns</b> about letting people in my home during the COVID-19 pandemic					
The process was taking too long					
I couldn't find the information needed for permitting					
My landlord did <b>not approve</b> of participation					
I did not feel <b>comfortable</b> asking my landlord to participate					

38. Are there other barriers not listed above that affected your decision? If so, what are they?

1) \_\_\_\_\_

39. The project includes giving participants \$500 total over three years to help with your monthly electric/natural gas bills. Do you recall hearing about this?

- 1) Yes
- 2) No

40. How helpful would bill credits of this amount be to your household?

- 1) Extremely helpful
- 2) Very helpful
- 3) Somewhat helpful
- 4) A little helpful
- 5) Not at all helpful

41. What more do you think the project could do to help you feel more comfortable or save money?

1) \_\_\_\_\_

42. What one thing would you suggest we do to improve the project?

1) \_\_\_\_\_

43. Are there any other comments about your participation experience that you would like to share?

1) \_\_\_\_\_

[Questions 44 through 52 are asked of participants]

44. Next, we would like to ask about why you chose to participate in in the project. How important were each of the following factors to your decision to participate in the project?

	Extremely Important	Very Important	Somewhat Important	A little Important	Not at all Important
The new appliances will <b>save</b> you money on your monthly bills					
The new appliances will be <b>easier</b> to operate than your old ones					
The new appliances will <b>improve</b> the value of your home					
The new appliances will make your home <b>safer</b>					
The new appliances will help make the air <b>cleaner</b> in your home					
The new appliances <b>save energy</b> and are good for the environment					
The project offered <b>bill protection</b> [PG&E/SCE:] [Utility] offers bill protection for 10 years to make sure bills do not go up because of participation. [For SoCal Gas] SoCalGas provides a flat annual discount for three years that is prorated for winter months (to account for heating) to make sure bills do not go up after participation.					

45. The project includes giving participants \$500 total over three years to help with your monthly electric/natural gas bills. Do you recall hearing about this?

- 1) Yes
- 2) No

46. How helpful will bill credits of this amount be to your household?

- 1) Extremely helpful
- 2) Very helpful

- 3) Somewhat helpful
- 4) A little helpful
- 5) Not at all helpful

47. What more do you think the project could do to help you feel more comfortable or save money?

1) \_\_\_\_\_

48. What do you like most about the project?

1) \_\_\_\_\_

49. What one thing would you suggest we do to improve the project?

1) \_\_\_\_\_

50. Without bill protection and bill discounts, would you have still chosen to participate in the project?

- 1) Yes
- 2) Maybe
- 3) No
- 4) Don't know

51. Did your rent increase at all after participating in this project? If yes, by how much?

- 1) Yes, by \$\_\_\_\_\_
- 2) No [skip to Q53]
- 3) I don't know [skip to Q53]
- 4) I don't rent my home [skip to Q53]

52. Do you think that the rent increase happened because you participated in this project?

- 1) Yes
- 2) Somewhat
- 3) No
- 4) Don't know

53. [If not opt out] Are there any other comments about your participation experience that you would like to share?

1) \_\_\_\_\_

### Closing

54. We are interested in how people think about energy. For each of the statements in the table below, let us know if you agree, somewhat agree, or disagree.

	Agree	Neither agree nor disagree	Disagree
Improving our home's energy efficiency is <b>not</b> a priority for us.			
We only use electricity when it's really needed; there's no way we could cut down.			
We have to conserve energy at home because we can't afford to pay higher utility bills.			
I feel like I understand how to save energy in my home			

55. Are any members of your household considered permanently disabled?

- 1) Yes
- 2) No
- 3) I don't know
- 4) I prefer not to answer

56. Are any members of your household 18 or younger?

- 1) Yes
- 2) No
- 3) I don't know
- 4) I prefer not to answer

57. Are any members of your household 65 years or older?

- 1) Yes
- 2) No
- 3) I don't know
- 4) I prefer not to answer

58. Sometimes, after we complete a survey, we decide to call some people back to learn more about their opinions and experiences. We typically will pay an additional incentive of \$10. May we recontact you if we decide to do that for this study?

- 1) Yes
- 2) No

59. [for SoCalGas only: Please keep an eye out for an additional short follow up survey from SoCalGas]

60. Thank you for completing the survey! Please put the completed survey into the included envelope. Once we receive your survey we will send a check for \$25 to the person and address you list below.

- Name: \_\_\_\_\_
- Street address: \_\_\_\_\_
- City: \_\_\_\_\_
- State: \_\_\_\_\_
- Zip code: \_\_\_\_\_

61. This section can be used for any additional comments.

## *Phase I Interview Guides*

### **Pilot Administrator (PA)**

#### **Introduction**

As a preliminary step in this process evaluation, Evergreen reviewed pilot design, implementation plans and CPUC Decisions, so we have a basic understanding of the pilot.

1. What is your title? What are your responsibilities for the pilot?

#### **Pilot Implementation Plans**

2. Which, if any, key features of your PA's pilot design were open to interpretation (i.e., not pre-determined by CPUC / stakeholder process)? Please describe those features and how your organization made decisions about those design elements.
  3. Were there any components of the Decision that were difficult to interpret and translate into pilot implementation plans?
  4. Who had input in the pilot design process?
5. How were pilot eligibility requirements developed for your communities?
6. How were offered measures determined for your communities?
7. Have any aspects of your pilot implementation plans changed since implementation began?
  8. What was the rationale for changing them?
9. Do you anticipate making any other changes to pilot plans/designs going forward? Describe, including rationale.

#### **Involvement in Outreach and Implementation**

10. What kind of involvement do you have with pilot outreach and applications? What kind of coordination do you have with the CPM and CENs? What has worked well? Do you have any suggestions for improving this process or coordination with the CPM and CENs?
11. Once an application is completed, what is the process to approve it? What is your involvement in this process? What has worked well? Do you have any suggestions for improving the application approval process?
12. Once the CEN has made referrals for existing IOU programs, what is the process to enroll customers in these programs? What is your involvement in this process? What has worked well? Do you have any suggestions for improving this referral process?
13. Once a home treatment plan is completed, what is the process to approve it? What is your involvement in this process? What has worked well? Do you have any suggestions for improving the home treatment plan approval process?

14. Once a measure(s) is installed, what is the process for inspections? How do you coordinate with the PI? What has worked well? Do you have any suggestions for improving the inspection process?
15. How often have inspections failed and additional work needs to be completed? What are the main issues and what improvements need to be made to reduce the number of revisits?
16. [For natural gas pilots] What kind of coordination do you have with the PI for the “to the meter” (TTM) and “beyond the meter” (BTM) efforts? How is the customer involved in these steps? What has worked well? Do you have any suggestions for improving this work and coordination?

### **Pilot Tracking and Data Management**

17. How often do you receive updates on pilot status’ (from CPM and PIs)? Do you feel like these updates are adequate and regular enough? Do you have any suggestions for improving these updates?
18. Have you encountered (or heard of any) issues related to customer data tracking?

### **Pilot Reporting and Evaluation**

19. What unique elements is this pilot designed to test (e.g., community outreach, split incentives)? How is the focus on the pilot test balanced with meeting more standard EE program goals (e.g., # participants, # measures installed, energy savings - and also NEBs)?
20. What are the main indicators of success for the pilots? Describe how you are tracking those indicators – the process and timing for collecting the data, the types of data being collected and the format in which it’s being collected.
21. What non-energy benefits will be tracked to evaluate pilot success (if not already covered)? Describe how you are tracking those indicators – the process and timing for collecting the data, the types of data being collected and the format in which it’s being collected.
22. Will these non-energy benefits data be comparable to the initial Data Gathering survey data?
23. [For PG&E] What has been the response rate for the Data Gathering survey in pilot communities? Is this response rate higher or lower than you expected? Do you have any suggestions for improving the response rate?
24. Are you evaluating pilot impacts during implementation (e.g., participant usage, bill impacts, etc.)? Or will this occur after all pilots are complete (such as by the EM&V study)?
25. [If applicable] What does this ongoing evaluation look like? Will results be shared with the study team? CPUC? Public?
26. Can you describe the process to complete annual and quarterly reports? Have you been able to gather and collect all the necessary data for these reports?



27. In your opinion, are there any additional data on pilot outcomes that is missing from the reporting? If so, are those data being collected?

### Customer Interest, Drivers and Barriers

28. In your opinion, how interested have potential participants been in the pilot?

1	2	3
Not at all Interested	Somewhat Interested	Very Interested

29. What components of the pilot are most enticing to customers and drive them to enroll?

30. Does that differ by pilot community?

31. Does that differ for renters and owners?

32. Does that differ by any other customer characteristics?

33. What do you believe are the biggest barriers to getting customers to participate in this program? Are there specific components of the pilot design or implementation that have made it difficult for customers to participate?

34. Does that differ by pilot community?

35. Does that differ for renters and owners?

36. What actions or interventions have you taken to address these barriers? If changes have been made, what kind of impacts have you seen (or expect to see)?

37. What would you like to see changed in how the program is designed or run (to encourage drivers and dissipate barriers), if anything?

38. Do you think there are any roadblocks preventing these changes from happening?

### Workflow Processes

39. What kind of regular communications and meetings do you have with the PIs? CPM? Are those meetings effective and efficient? Do you have any suggestions for improving communications with the PIs and CPM?

40. [If not previously covered] How are you coordinating sharing customer status and data between the CPM and PIs? What has worked well? Do you have any suggestions for improving data sharing with the PIs and CPM?

### Closing

41. Do you have any other comments, concerns or suggestions that we didn't discuss that you would like to make sure I know about?

## Community Energy Navigator (CEN) and CEN Program Manager (CPM)

### Introduction

As a preliminary step in this process evaluation, Evergreen reviewed pilot design, P&Ps and CPUC Decisions, so we have a basic understanding of the pilot. We also reviewed each pilot organization's website to understand your organization's broader mission.

1. What is your title? What are your responsibilities for the pilot?

### Marketing and Outreach Efforts

2. [CPM] Can you walk me through how outreach and engagement plans were developed for pilot outreach? Was there special consideration to modify approaches for individual pilot communities?
3. [CPM] How were CENs recruited? In general, how much experience do CENs have working within their assigned communities? What kind of training were they provided for pilot outreach? What has worked well? Do you have any suggestions for improving the CEN recruitment or training process?
4. In your opinion, how successful were the community events that you were able to hold? What was turnout relative to expectations? [Probe for outcomes of attendance, did that lead to pilot enrollments.] What has worked well? Do you have any suggestions for improving community events going forward? [Consider both current COVID restrictions and loosening of them.]
5. Once you receive potential participants from the utilities, what happens next for outreach? How are phone calls and home visits prioritized? What materials are utilized? How are those materials developed? Which outreach strategies have worked best? Do you have any suggestions for improving outreach strategies going forward? [Consider both current COVID restrictions and loosening of them.]
  - a. Does this differ based on the PA and/or pilot community?
6. How do you identify who is the property manager/landlord for rental units? What does outreach to property managers/landlords look like? What has worked well? Do you have any suggestions for improving the identification of property managers/landlords and outreach?
  - a. Does this differ based on the PA and/or pilot community?
7. How do you update the PA on pilot outreach progress (i.e., method, regularity)? What has worked well? Do you have any suggestions for sharing pilot outreach progress with PAs?

### Application Assistance

8. How does the application process work? What components of the application do you help the customer with?

9. Have there been any particular components of the application process that have proved difficult to assist customers with? What has worked well? Do you have any suggestions for improving the application process?
10. Can you walk me through how the split incentives agreement is completed by renters and property managers/owners? What has worked well? Do you have any suggestions for improving the split incentives agreement?
11. During the application process, how do you refer customers to existing IOU programs? What has worked well? Do you have suggestion for improving this referral process?
  - a. Are customers generally interested in these existing utility programs?
  - b. Do you think they were already aware of these programs?
12. How do you report community pilot progress (e.g., completed applications)? How often do these updates occur and who is the primary audience? What has worked well? Do you have any suggestions for improving the reporting process?

### Post Application Involvement

13. Once a customer completes an application, how is the data gathering survey sent to them? Do you have any involvement after that is sent?
14. Once a pilot application is completed, what is your involvement in the remaining steps of the pilot (e.g., home assessment, remediation, installation)? Are you updated on customer pilot status after the application is completed?
15. [CPM] If a home treatment plan includes remediation in excess of \$5,000, what happens next? Can you walk me through the process to coordinate with the PA, PI and customer? How are additional funding sources identified? How successful have you been in obtaining additional funding? What has worked well? Do you have any suggestions for improving the process to identify and secure additional funds?

### Customer Interest, Drivers and Barriers

16. In your opinion, how interested have potential participants been in the pilot?

1	2	3
Not at all Interested	Somewhat Interested	Very Interested

- a. What components of the pilot are most enticing to customers and drive them to enroll?
- b. Does that differ by pilot community?
- c. Does that differ for renters and owners?
- d. Does that differ by any other customer characteristics?

17. What do you believe are the biggest barriers to getting customers to participate in this program? Are there specific components of the pilot design or implementation that have made it difficult for customers to participate?
  - a. Does that differ by pilot community?
  - b. Does that differ for renters and owners?
  - c. What actions or interventions have you taken to address these barriers? If changes have been made, what kind of impacts have you seen (or expect to see)?
18. What would you like to see changed in how the program is designed or run (to encourage drivers and dissipate barriers), if anything?
  - a. Do you think there are any roadblocks preventing these changes from happening?

### **Workflow Processes**

19. How was the electronic tracking tool (Azure) developed? What were the specifications or requirements for the tool? Do you have any suggestions for improving the tool?
20. What kind of regular communications and meetings do you have with the PAs? PIs? Are those meetings effective and efficient? Do you have any suggestions for improving communications with the PAs and PIs?
21. [If not previously covered] How are you coordinating sharing customer status and data between the PAs and PIs? What has worked well? Do you have any suggestions for improving data sharing with the PAs and PIs?

### **Closing**

22. Do you have any other comments, concerns or suggestions that we didn't discuss that you would like to make sure I know about?

### **Pilot Implementer (PI)**

#### **Introduction**

As a preliminary step in this process evaluation, Evergreen reviewed pilot design, P&Ps and CPUC Decisions, so we have a basic understanding of the pilot.

1. What is your title? What are your responsibilities for the pilot?

#### **Home Assessment and Development of Treatment Plan**

2. How do you access completed pilot applications and customer contact information? Has this process worked well? What has worked well? Do you have any suggestions for improving the process to access this data?
3. Once you receive a list of completed applications from the CPM, can you walk me through how you reach out to customers (or property managers/owners) to schedule home assessments?

4. What has worked well in being able to schedule assessments? Have there been any difficulties reaching customers to schedule the assessment? Do you have suggestions for improving the scheduling process?
  - a. Does this differ based on the pilot community?
  - b. Have these efforts been more difficult for rental properties (property managers/owners)?
5. Can you walk me through the home assessment process? What kind of information do you collect? What is the involvement from the participant? What happens to the information collected?
6. In your opinion, how have the home assessments gone? What has worked well? Do you have any suggestions for improving the home assessments? [Consider both current COVID restrictions and loosening of them.]
7. Once you have completed the home assessment, how do you use the collected information to develop a home treatment plan? How are pilot measures chosen? What determines if home remediation may be necessary?
  - a. How long does it usually take from the home assessment visit until there is a home treatment plan completed?
  - b. What works well with that process and what might be improved going forward?
8. What is the process to review home treatment plans with the PA and the customer? What has worked well getting treatment plans approved? Have there been any difficulties getting approval from either? What has worked well? Do you have any suggestions for improving the process to review and approve home treatment plans?
  - a. Does this differ based on the pilot community?
9. Can you walk me through how you track customers' pilot progress during this home assessments? What has worked well? Do you have any suggestions for improving this data tracking?
10. How do you update the PA and CPM on customers' pilot progress (i.e., method, regularity)? What has worked well? Do you have any suggestions for improving these updates?

### **Remediation and Service Upgrades**

11. What determines if a home treatment plan requires remediation or electrical service upgrades (electric pilots only)?
12. For cases where the home treatment plan includes remediation, can you walk me through the process to complete this work?
  - a. What kind of coordination is required with the PA and CPM? How has this coordination gone?
13. What is the typical timeline to complete this work before installation? Are homes brought up to code in all cases?
14. [For natural gas pilots] What kind of coordination do you have with the PA for the "to the meter" (TTM) and "beyond the meter" (BTM) efforts? How is the customer involved in

these steps? What has worked well? Do you have any suggestions for improving this coordination?

15. Is the customer informed of all work being completed? How do you inform the customer of work being completed before installation?
  - a. Have there been any difficulties contacting customers to complete this work?
  - b. What kind of communications do you have with property managers/owners during the remediation process? Has there been any difficulty engaging them? What has worked well? Do you have any suggestions for improving engagement with property managers/owners during remediation?
16. For cases where the remediation exceeds \$5,000, how do you work with the CPM to secure additional funding? Do you have any involvement in that process?
17. Can you walk me through how you track customers' pilot progress during remediation work?
18. Do you have suggestions for improving the process for remediation work going forward?

## Installation

19. Once you have received approval from the PA and homeowner, can you walk me through how you reach out to customers to schedule installation? Have there been any difficulties reaching customers to schedule the installation? What has worked well? Do you have any suggestions for improving this outreach and scheduling?
  - a. Does this differ based on the pilot community?
  - b. What kind of communications do you have with property managers/owners during the installation process? Has there been any difficulty engaging them? What has worked well?
20. How have installations gone? What has worked well? Do you have any suggestions for improving the installation process? [Consider both current COVID restrictions and loosening of them.]
  - a. Does this differ based on the pilot community?
21. Once measures are installed, what kind of education/training, documentation and resources do you provide to the participant? What has worked well? Do you have any suggestions for improving the post installation training and documentation?
22. How do you work with the PA to complete inspections of the completed work? What has worked well? Do you have any suggestions for improving the inspection process?
  - a. How often have inspections failed and additional work needs to be completed? What are the main issues and what improvements need to be made to reduce the number of revisits?
23. Can you walk me through how you track customers' pilot progress during the installation step? What has worked well? Do you have any suggestions for improving this process?
24. Do you have suggestions for improving the process for installations going forward?

## Customer Interest, Drivers and Barriers

25. In your opinion, how interested have potential participants been in the pilot?

1	2	3
Not at all Interested	Somewhat Interested	Very Interested

- a. What components of the pilot are most enticing to customers and drive them to enroll?
  - b. Does that differ by pilot community?
  - c. Does that differ for renters and owners?
  - d. Does that differ by any other customer characteristics?
26. What do you believe are the biggest barriers to getting customers to participate in this program? Are there specific components of the pilot design or implementation that have made it difficult for customers to participate?
- a. Does that differ by pilot community?
  - b. Does that differ for renters and owners?
  - c. What actions or interventions have you taken to address these barriers? If changes have been made, what kind of impacts have you seen (or expect to see)?
27. What would you like to see changed in how the program is designed or run (to encourage drivers and dissipate barriers), if anything?
- a. Do you think there are any roadblocks preventing these changes from happening?

## Workflow Processes

28. What kind of regular communications and meetings do you have with the PAs? CPM? Are those meetings effective and efficient? Do you have any suggestions for improving communications with the PAs and CPM?
29. [If not previously covered] How are you coordinating sharing customer status and data between the PAs and CPM? What has worked well? Do you have any suggestions for improving data sharing with the PAs and CPM?

## Closing

30. Do you have any other comments, concerns or suggestions that we didn't discuss that you would like to make sure I know about?

## *Phase II Interview Guides*

### **PA Questions**

#### **Introduction**

In some cases, we will be asking some new questions; in other cases, we will be asking for updates in case anything changed since June

1. What is your title? What are your responsibilities for the pilot?
2. Do you mind if I record this interview in case I miss anything in my notes?

#### **Pilot Implementation Plans**

3. Have any aspects of your pilot implementation plans changed since implementation began?
  - a. What was the rationale for changing them?
4. Do you anticipate making any other changes to pilot plans/designs going forward? Describe, including rationale. [focus on lessons learned]

#### **Involvement in Outreach and Implementation**

5. How, if at all, has your experience with pilot outreach, applications, and installations changed since we last interviewed you? Are they going better, worse, or about the same? If different, what has changed?
6. Has anything changed in the process for approving completed applications? If so, what changed? What caused or prompted that change?
7. Has anything changed in how referrals to IOU programs are processed? Or in how effective those referrals seem to be? If so, what changed? How has that affected this part of the pilot?
8. Has anything changed in the process for approving home treatment plans? If so, what has changed? How has that affected this part of the pilot?

#### **Remediation and Service Upgrades**

9. What determines if a home treatment plan requires remediation or electrical service upgrades (electric pilots only)?
10. For cases where the home treatment plan includes remediation, can you walk me through your part of the process? What percent of homes have required remediation? I can follow up for a more specific estimate by email after our call.
  - a. What kind of coordination is required with the PI and CPM? How has this coordination gone?
11. Last time, you described the process of accessing remediation funds as [xxx]. Has anything changed?



12. What is the typical timeline to complete this work before installation? On average, how many months does it take to complete remediation work?
13. Are homes brought up to code in all cases? If not, around what percentage is not brought up to code? What's the next step for those homes?
14. [For SoCalGas: natural gas pilot] What kind of coordination do you have with the PI for the “to the meter” (TTM) and “beyond the meter” (BTM) efforts? How is the customer involved in these steps? What has worked well? Do you have any suggestions for improving this coordination?
15. Have you been involved at all in working to coordinate the process for mobile home permit approval where needed? If so, can you tell me about that?
16. Once a measure(s) is installed, what is the process for inspections? How do you coordinate with the PI? What has worked well? Do you have any suggestions for improving the inspection process? [probe on remediation funds]
  - a. Have there been any failed inspection and needed revisits? If so, what percentage of inspections does this happen for? What are the main issues and what improvements need to be made to reduce the number of revisits?

#### Pilot Tracking and Data Management

17. Has there been any change since we last interviewed you on how often you receive updates on pilot status from the CPM and PIs? What are you seeing in those updates about how the pilot is going? Are there areas you think are going particularly well? Areas that are proving challenging? What information do you need to get a read on the pilot that you are not getting?
18. Do you track how other programs are leveraged such as if they are mentioned in outreach or if participants end up also participating in other programs? How is that done?
19. Have you encountered (or heard of any) issues related to customer data tracking? If so, what are they?

#### Pilot Reporting and Evaluation

20. What do you consider to be the key indicators of success for the pilot? What other metrics are you being held to or asked about?
21. Describe how you are tracking those indicators – the process and timing for collecting the data, the types of data being collected and the format in which it's being collected.

#### Customer Interest, Drivers and Barriers

22. What components of the pilot are most enticing to customers and drive them to enroll?
23. Does that differ by pilot community? If so, how?
24. Does that differ for renters and owners? If so, how?
25. Does that differ by any other customer characteristics? If so, how?

26. Now, please think about phases where potential pilot participants seem to stop considering the pilot or drop out. What barriers do you see that hinders participation? Which could be addressed? How? [Then focus follow-ups on actionable barriers rather than just any barriers.]
27. How do the barriers vary by pilot community, if at all?
28. How do the barriers vary between renter and owner participation, if at all?
29. What have you tried so far to overcome any of these barriers? How has it worked?

#### Workflow Processes

30. What kind of regular communications and meetings do you have with the PIs? CPM? Are those meetings effective and efficient? Do you have any suggestions for improving communications with the PIs and CPM?
31. [If not previously covered] How are you coordinating sharing customer status and data between the CPM and PIs? What has worked well? Do you have any suggestions for improving data sharing with the PIs and CPM?
32. Do you work with them on bulk purchasing of measures? If so, can you tell me a bit about how that has been going? Do you have suggestions for improving this process if the pilot were to scale up?

#### Closing

33. Now, consider how a full-scale program might look that is 10 times the size of the pilots. How would you envision such a program looking and working? What would need to be different in the program design than it is in the pilot? What advantages do you see other than just more pilot participants? What challenges would there be from your perspective?
34. Do you have any other comments, concerns or suggestions that we didn't discuss that you would like to make sure I know about?

## PI Questions

#### Introduction

In some cases, we will be asking some new questions; in other cases, we will be asking for updates in case anything changed since June

1. Has your role changed since June? If so: What is your title? What are your responsibilities for the pilot?
2. Do you mind if I record this interview in case I miss anything in my notes?
3. How many staff members do you have that work on the pilot specifically?
4. How many, if any, new staff did your organization hire as a result of picking up the pilot?
5. For the new staff, how many were hired from communities being served by the pilot? Is this something that your organization tracks?

6. (If hired locally): How has hiring locally gone? What are the advantages? Disadvantages?
7. Are there skills required for the pilot that your staff typically don't have? What training do you do so staff get these skills?
8. Please describe your training process - what works well and what could be improved?
9. What else would be helpful to build those skills or that knowledge?

#### Home Assessment and Development of Treatment Plan

10. Have there been any meaningful changes in the following since June?
11. How you access completed pilot applications and associated customer contact information? [If this changed, follow up with: Last time you told us [xxx], what is different now?]
12. Your outreach process for customers, property managers, and building owners? [If this changed, follow up with: Last time you told us [xxx], what is different now?]
13. Your ability to schedule assessments effectively? [If this changed, follow up with: Last time you told us [xxx], what is different now?]

[Ask only as a probe. Worded as: Which kinds of participants are you currently able to schedule most easily? Which are more difficult? Why? ]

...(a) Your home assessment process? ...(b) Any aspect of the data gathering? ...(c) The participant's role?

14. And now for a repeat question where we are interested in your current assessment, not just a comparison to your earlier answer. How do you feel that home assessments are going? What aspects are working well? What aspects could use improvement? [Probe as needed: How could you imagine that going better?] What important aspects, if any, can you not really assess?

15. Once you have completed the home assessment, how do you use the collected information to develop a home treatment plan? How are pilot measures chosen? What determines if home remediation may be necessary?

16. In the past half year, what has the average amount of time it has taken from a home assessment to having a home treatment plan?

a. What works well with that process and what might be improved going forward?

17. What is the average amount of time it has taken to get approval for home treatment plans in the past six months? What is the range? How does that compare to a year ago? [If substantially slower now or longer than [xxx] on average, probe on: How do you feel about the process? What works? What do you wish were different?

a. Does this differ based on the pilot community? If so, how?

18. After the home assessment, how do you track progress for the implementation of the treatment plan? What is the average amount of time it take to complete a treatment plan? What is the range?

What, if anything, do you communicate to customers about the steps the treatment plan will involve, when they will occur, and how far along they are (at any point in time)?

19. How do you update the PA and CPM on customers' pilot progress (i.e., method, regularity)? What has worked well? Do you have any suggestions for improving these updates?

#### Remediation and Service Upgrades

20. What determines if a home treatment plan requires remediation or electrical service upgrades (electric pilots only)?

21. For cases where the home treatment plan includes remediation, can you walk me through your part of the process? What percent of homes have required remediation? I can follow up for a more specific estimate by email after our call.

a. What kind of coordination is required with the PA and CPM? How has this coordination gone?

22. Last time, you described the process of accessing remediation funds as [xxx]. Has anything changed?

23. What is the typical timeline to complete this work before installation? On average, how many months does it take to complete remediation work?

Are homes brought up to code in all cases? If not, around what percentage is not brought up to code? What's the next step for those homes?

24. [For natural gas pilots] What kind of coordination do you have with the PA for the "to the meter" (TTM) and "beyond the meter" (BTM) efforts? How is the customer involved in these steps? What has worked well? Do you have any suggestions for improving this coordination?

25. Is the customer informed of all work being completed? How do you inform the customer of work being completed before installation?

a. Have there been any difficulties contacting customers to complete this work? What has worked well? If so, what has occurred?

b. What kind of communications do you have with property managers/owners during the remediation process? Has it been easy or hard to engage property managers and owners during remediation? What has worked well? Do you have any suggestions for improving engagement with property managers/owners during remediation?

26. For cases where the remediation exceeds \$5,000, how do you work with the CPM to secure additional funding? Do you have any involvement in that process?

27. Can you walk me through how you track customers' pilot progress during remediation work?

28. Thinking broadly about the remediation work and processes for pilot homes, what has worked well and do you have suggestions for improving the process for remediation work going forward?

29. I wanted to give you a heads up about a few questions that I'll follow up with via email since they are a bit more quantitative. We are wondering the percentage of....

(a) Homes with remediation requirements that would or do cost more than \$5,000 to complete; (b) Homes that require electrical wiring or panel upgrades

(c) Homes that will require smart meters to be installed specifically for this program

(d) Homes with code violations

30. Thinking more broadly, in what share of homes that go through an assessment is it infeasible to complete any work from the treatment plan?

#### Installation

31. Since we last interviewed you, have you made any changes in the types of education, training, documentation, or resources you provide to participants about their newly installed measures? [For all] What share of the material you provide is provided in Spa

32. How do you go about scheduling with customers once you have all approvals needed to proceed with installations? Tell me about the responsiveness you get from customers to your outreach? How soon can you usually schedule? What, if anything, causes delays or other challenges?

33. Do the process and outcome differ based on the pilot community? If so, how?

34. What kind of communications do you have with property managers/owners during the installation process? How does that go?

35. Have you experienced any customer misconceptions about the pilot from the perspective of the residents when scheduling and conducting installations? If so, what are they? (getting at potential gaps among customers' understanding of the pilot between application and installation process)

36. How have installations gone? What has worked well? Do you have any suggestions for improving the installation process? [Consider both current COVID restrictions and loosening of them.]

37. Does this differ based on the pilot community? If so, how?

38. Have you established any new bulk purchasing agreements as part of the pilot? For what? How have these affected costs? Have there been any other benefits or disadvantages from them? What lessons are you taking away from that experience for the future?

39. Since we last interviewed you, have you made any changes in the types of education, training, documentation, or resources you provide to participants about their newly installed measures? [For all] What share of the material you provide is provided in Spanish when appropriate for the household?

40. Has anything changed in the way inspections of completed installations work? If yes, what has changed? How does that affect you?

41. What share of your completed homes involve an inspection? What share of those inspections result in any findings that require some sort of remedy? The last time we interviewed you, you said the main issues that are found are [xxx]. What are the most common issues now? What about the most problematic issues?

42. Do you have suggestions for improving the process for installations going forward? If so, what are they?

#### Leveraged Programs

43. Let's talk briefly about [name of program]. With what share of pilot participants would you estimate you end up mentioning or talking about [program]? [Get an estimate to the nearest 10% or so.]

44. Do you have a sense of what share of all your pilot participants already use [program], what share are likely to check into it after the pilot, and what share do not use it and are not likely to explore it? If yes and not volunteered, what share would you estimate fall into each of these categories?

45. In what share of cases when you bring up [program], do participants already seem to know about it?

[Ask this second (as b) if > 20%] When in the process does this usually come up?

46. Which of the programs we talked about do you find resonates most with your pilot participants?

47. If residents are not interested in the other program(s), what reasons do they give?

#### Customer Interest, Drivers and Barriers

48. In your opinion, how interested have potential participants been in the pilot?

- a. What components of the pilot are most enticing to customers and drive them to enroll?
- b. Does that differ by pilot community? If so, how?
- c. Does that differ for renters and owners? If so, how?
- d. Does that differ by any other customer characteristics? If so, how?

49. What, if anything, can you tell me about pilot participants' energy-related behaviors and practices? Does energy education come up in your interactions with them? Are there any opportunities that should be pursued more? How?

50. Now, please think about phases where potential pilot participants seem to stop considering the pilot or drop out. What barriers do you see that hinders participation? Which could be addressed? How? [Then focus follow-ups on actionable barriers rather than just any barriers.]

51. How do the barriers vary by pilot community, if at all?

52. How do the barriers vary between renter and owner participation, if at all?

53. Do the barriers vary by any other customer characteristics and, if so, how?

54. What have you tried so far to overcome any of these barriers? How has it worked?

55. [If trust is mentioned] Why do you think there is a lack of trust? [Probe to understand if this may be due to negative experiences with ESA or solar programs (IOU or otherwise)].

### Workflow Processes

56. What kind of regular communications and meetings do you have with the PAs? CPM? Are those meetings effective and efficient? Do you have any suggestions for improving communications with the PAs and CPM?

57. [If not previously covered] How are you coordinating sharing customer status and data between the PAs and CPM? What has worked well? Do you have any suggestions for improving data sharing with the PAs and CPM?

### Closing

58. Now, consider how a full-scale program might look that is 10 times the size of the pilots. How would you envision such a program looking and working? What would need to be different? What advantages do you see other than just more pilot participants? What challenges would there be that require some advance planning?

59. Do you have any other comments, concerns or suggestions that we didn't discuss that you would like to make sure I know about?

## CEN/CPM Questions

### Introduction

In some cases, we will be asking some new questions; in other cases, we will be asking for updates in case anything changed since June

1. Have your title or responsibilities for the pilot changed since we last interviewed you? If so, what is your current title? How have your responsibilities for the pilot changed?
2. Do you mind if I record this interview in case I miss anything in my notes?
3. Which communities do you perform outreach in for this pilot?
4. Can you tell me about your history working in the communities where you conducted outreach?
5. [If interviewee has prior relationships with some pilot communities and not others] Do you see any differences in the response you are getting from [communities in which he/she has a prior relationship] and [the other communities]. Why do you think that is? [If relationships in all pilot communities] In what ways, if at all, does your prior work in the community affect your approach and your work there? [Probe on how it helps or hinders and degree of effect, listen for whether there is a changed acceptance rate among residents to enroll.]
6. [CPM] How many staff members do you have that work on the pilot specifically?
7. How many, if any, new staff did your organization hire as a result of picking up the pilot?
8. For the new staff, how many were hired from communities being served by the pilot? Is this something that your organization tracks?
9. (If hired locally): How has hiring locally gone? What are the advantages? Disadvantages?



10. Are there skills required for the pilot that your staff typically don't have? What training do you do so staff get these skills?
11. Please describe your training process - what works well and what could be improved?
12. What else would be helpful to build those skills or that knowledge?

### Marketing and Outreach Efforts

[Probe with short summary of Phase I feedback throughout remainder of interview]

13. [CPM] Have outreach and engagement plans changed since we last spoke with you? (e.g. Has in-person communications after COVID's peak proven more effective than virtual outreach?) Are there any specific qualities within communities or customer groups that require more tailored outreach efforts?
14. [CPM] Has your strategy for recruiting CENs changed since we last spoke? [If yes probe on trainings, what has worked]
15. Have you held any community outreach events since we last spoke? If yes, how did COVID restrictions impact those efforts?
16. Please tell me a bit about any efforts you make to engage or solicit help from local community leaders. What, if anything, are you doing along those lines? How is that working? In which communities? Are you seeing any effect on enrollment? [Listen for whether the effect is quantitative and consider a subsequent look at leader-level engaged communities' enrollment rates vs. others -- but need to stay mindful of cause and effect issues. It might be that leaders got involved where the community was already showing enthusiasm and engagement.]
17. [New question] What % of CPM staff speaks Spanish?
18. What share of your outreach is conducted (a) in English, (b) in Spanish, (c) bilingually, or (d) in other languages? How, if at all, does this differ by communities or other customer segments?
19. [New question] Does the marketing and application material provide sufficient Spanish translation for customers in the communities? Why do you say that?

### Application Assistance

20. The last time we interviewed you, we asked whether there were any particular components of the application process that have proved difficult to assist customers with. Has anything changed in that respect? Are you doing anything differently now than you were then?
21. What share of your applicants have propane? Wood heating? Would you say none, 10%, 20%... to 100% for each. What percentage of customers with propane costs provide receipts with their application? Would you say none, 10%, 20%... to 100%? What percentage of customers with wood costs provide receipts with their application? Would you say none, 10%, 20%... to 100% for each.
22. Since we last interviewed you, have you made any changes in the types of education, training, documentation, or resources you provide to participants about their newly installed measures? [For all] What share of the material you provide is provided in Spanish?



23. Which of the programs we talked about do you find resonates most with your pilot participants? If residents are not interested in the other program(s), what reasons do they give?

24. How if at all does the mobile home enrollment process differ v. other residents not living in mobile homes?

#### Post Application Involvement

25. Can you tell me a bit about what steps occur once a customer completes an application? [involvement after sent in any way such as with home assessment, remediation, etc.]

26. Have you heard any feedback from customers as they await a home assessment?

27. [CPM] If a home treatment plan includes remediation in excess of \$5,000, what happens next? Can you walk me through the process to coordinate with the PA, PI and customer? How are additional funding sources identified? How successful have you been in obtaining additional funding? What has worked well? Is the process clear to you? Do you have any suggestions for improving the process to identify and secure additional funds?

28. Let's talk briefly about [name of program]. With what share of residents you speak with would you estimate you end up mentioning or talking about [program]? [Get an estimate to the nearest 10% or so.]

29. Do you have a sense of what share of all residents you meet with already use [program], what share are likely to check into it after the pilot, and what share do not use it and are not likely to explore it? If yes and not volunteered, what share would you estimate fall into each of these categories?

30. In what share of cases when you bring up [program], do residents already seem to know about it?

[Ask this second (as b) if > 20%] When in the process does this usually come up?

31. Which of the programs we talked about do you find resonates most with the residents you speak with?

32. If residents are not interested in the other program(s), what reasons do they give?

#### Customer Interest, Drivers and Barriers

33. In your opinion, how interested have potential participants been in the pilot?

- a. What components of the pilot are most enticing to customers and drive them to enroll?
- b. Does that differ by pilot community [specify which communities are different and why]?
- c. Does that differ for renters and owners? If so, how?
- d. Does that differ by any other customer characteristics? If so, how?

34. What, if anything, can you tell me about pilot participants' energy-related behaviors and practices? Does energy education come up in your interactions with them? Are there any opportunities that should be pursued more? How?

35. Now, please think about phases where potential pilot participants seem to stop considering the pilot or drop out. What barriers do you see that hinders participation? Which could be addressed? How? [Then focus follow-ups on actionable barriers rather than just any barriers.]

- 36. How do the barriers vary by pilot community, if at all?
- 37. How do the barriers vary between renter and owner participation, if at all?
- 38. Do the barriers vary by any other customer characteristics and, if so, how?
- 39. What have you tried so far to overcome any of these barriers? How has it worked?
- 40. [If trust is mentioned] Why do you think there is a lack of trust? [Probe to understand if this may be due to negative experiences with ESA or solar programs (IOU or otherwise)].
- 41. I would be interested to hear you describe what you are observing the CENs as bringing to the process of engaging communities and potential participants AS WELL AS what the program design assumed they would bring that maybe is not materializing or not yet. Please elaborate so we can think a bit about what is working best with the CENs' involvement and what could be improved or rethought.

#### Closing

- 42. Now, consider how a full-scale program might look that is 10 times the size of the pilots. How would you envision such a program looking and working? What would need to be different? What advantages do you see other than just more pilot participants? What challenges would there be that require some advance planning?
- 43. Do you have any other comments, concerns or suggestions that we didn't discuss that you would like to make sure I know about?

*In Person Research Facilitation Guide***MEMORANDUM**

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**Date:** May 20, 2021

**To:** SJV DAC Pilot Process Evaluation Study Team

**From:** Evergreen Economics

**Re:** SJV DAC Pilot Process Evaluation – Phase II in-person qualitative research - updated plan

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This memo provides an update to Evergreen’s plan to conduct in-person qualitative research in June.

Phase II of the process evaluation is planned to commence in October 2021. However, the study team decided to plan and conduct the in-person research component of Phase II as soon as feasible since the focus of that effort is on customer outreach, most of which will be completed by the end of June.

**Background and Objectives**

The research plan described the qualitative research as follows:

- **In-person SJV DAC-based qualitative research** (four days – assuming up to two trips from the Bay Area) – We plan to conduct a variety of embedded research activities that will engage community groups and communities to gather direct observations. This research will capture SJV DAC household-specific issues as well as drivers and barriers to participation, and to inform the development of recommendations for how to scale up efforts to meet broader CPUC and state goals for SJV DACs. We anticipate gathering direct feedback from target customers during this research, and also indirect input from the community groups and pilot staff with which they interact. Research could include the following bulleted items. We will attempt to batch the research based on pilot activities that are taking place in the communities.
  - Ride alongs with CENs to observe outreach efforts
  - In-person meetings with pilot staff, the CPM, CENs, and/or community members
  - Visits to community meetings and community group and/or implementer offices

Interview and survey topics will be similar to those described in Task 6, with updates based on any changes to the pilot and to reflect what we learned during Phase I. The qualitative research task that is unique to Phase II will touch on similar topics but using a more informal and observational approach.”

Since the research plan was finalized and we gathered information from the CPM and PAs, we learned that there are no community meetings planned so attending in-person meetings is no longer an option. SoCalGas outreach was completed so that is no longer an option to observe. SCE outreach is not occurring in June; the remaining SCE pilot community is California City, which will commence later in the summer and is not under consideration.

### **Updated Plan**

Evergreen selected a 5-day research period that coincides with customer outreach occurring in two pilot communities during the period of June. (Outreach is being conducted in 3 pilot communities in June: Allensworth (PG&E), Alpaugh (RHA) and Le Grand (RHA).) Our plan is as follows:

- Tuesday June 15:
  - In-person interviews with PI Staples (Bakersfield)
- Wednesday June 16:
  - In-person interviews with PIs RHA and Synergy (Fresno)
  - In-person interviews with PI Proteus (Visalia)
- Thursday June 17:
  - In-person interviews with CPM/CENs at Self-Help (Visalia)
- Friday June 18:
  - Outreach ride along with CENs (Le Grand)
- Saturday June 19:
  - Outreach ride along with CENs (Allensworth)

### **Qualitative Research Instruments**

Evergreen developed an outreach observation data collection form to capture information during the outreach ride-alongs that is provided in the next section of this memo.

Evergreen is also adapting the Phase I interview guides for the CPM, CENs and PIs to use for the in-person interviews, which we will provide within two weeks. The substantive changes include:

- CEN/CPM – Outreach
  - Effectiveness of in person outreach efforts (relative to remote efforts during the height of COVID-19)
  - Development of local CEN workforce
  - Effectiveness of local, trusted leaders used in outreach (i.e., are communities that have a local leader, who is already known to the community, involved more successful in outreach)
- CEN/CPM – Application Assistance

- Customer's willingness and ability to provide propane and wood receipts with the pilot application
- Update on efforts to enroll mobile home participants
- Application data quality improvements
- PI – Home Assessment
  - Examine the customer knowledge gap from initial outreach to home assessment (i.e., how much do customers remember about pilot participation once they are contacted to schedule an assessment visit)
- PI – Home Remediation and Electrical Service Upgrades
  - Processes for accessing CPM designated funds for remediation
  - Revisit electrical service upgrades after further progress
- PI – Measure Installation
  - Revisit electrical installations after further progress
  - Bulk purchasing efforts
  - Development of local PI workforce
- Customer Interest, Drivers and Barriers
  - Customer attitudes and behaviors towards energy savings
  - Inquire why customers have a high degree of trust in the CEN(s) (per Phase I customer survey)
  - Determine what drives customer mistrust of the pilot (e.g., negative experience with ESA, predatory solar programs – mentions from Phase I research)

## Outreach Observation Guide / Data Collection Form

### List of Outreach Topics

The following list is comprised of the range of topics Evergreen hopes to address while conducting ride alongs with SJV DAC CENs. We will organize our observation notes by these topics as they arise over the course of the day. If any topics do not come up naturally during the course of observing customer outreach and conversing with CENs between visits, we will explicitly ask the CENs for their input.

- **Successes and challenges** during community outreach, including best approaches
- Methods for documenting and **tracking** outreach efforts
- Efforts to educate residents on pilot **leveraged programs**
- **Application** assistance and Azure data entry
- Property manager/landlord engagement and efforts to complete **split incentives** form
- Resident interest in pilot offerings and **drivers for participation**
- **Resident trust** of pilot offerings and CENs, including local, trusted leaders
- Opt out **barriers to participation**

- Resident experience with **other IOU sponsored programs** that may influence perception of pilot offerings

### Data Collection Form

Evergreen will use the form shown below to record observations during ride alongs, which includes conversations with CENs in between visits with residents, and observations of conversations between CENs and residents.

<b>Date/ time range / overall description of the day:</b>		
<b>Community (PA) / CEN(s):</b>		
<b>Description of activity being observed:</b>		
<b>Household description:</b>		
<b>Topic(s)</b>	<b>Type of Observation</b>	<b>Notes</b>

Legend:

CEN-Eval: CEN discussion with evaluator

CEN-Cust: CEN discussion with customer

Cust-CEN: Customer input / response to CEN

Quotes = “verbatim”; regular text = summary of discussion; italics = *evaluator commentary*

### Example

Below is a made up example of notes from outreach with two households during customer outreach ride alongs on 6/17 to illustrative how we will use the form to record observations in a structured manner.

<b>Date/ time range / overall description of the day:</b> 6/17/21 8 am – 12 pm Outreach ride-along; attempted visits with 10 households, 5 had advance appointments, 5 were drop-ins to follow-up with customers who had expressed interest during CEN phone outreach, 2 were not home, 8 were home and available for outreach discussion
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**Community (PA) / CEN(s): Le Grand (RHA), Alex Smith CEN with Self-Help**
**Description of activity being observed: conversation with CEN in car / between visits**

Topic(s)	Type of Observation	Notes
Participation drivers	CEN-Eval	CEN says that the most common drivers are customers wanting new appliances

**Description of activity being observed: CEN discussion with household #1**

**Household #1 description:** family of 4, main contact mother middle aged Latina, speaks both English and Spanish, discussion conducted mostly in English with some limited Spanish

Topic(s)	Type of Observation	Notes
Participation drivers	CEN-Eval	CEN says that the most common drivers are customers wanting new appliances
	CEN-Cust	CEN described the benefits of the pilot, including free appliances and bill savings
	Cust-CEN	<i>Customer seemed most interested in the free appliances</i>
Participation barriers	Cust-CEN	Customer expressed skepticism about the quality of the appliances if they're free: "Free? That's hard to believe"
Etc.		

**Description of activity being observed: CEN discussion with household #2**

**Household #2 description:** family of 6, main contact grandfather senior Latino, speaks both English and Spanish, discussion conducted about 50/50 in English and Spanish, with the CEN explaining the Spanish portion after leaving the customer's home

Topic(s)	Type of Observation	Notes
Participation drivers	Cust-CEN	Customer expressed in the pilot, both the free appliances and the overall goal to improve air quality in the region
Participation barriers		<i>Customer seems confused about the process to participate and what is the next step</i>

## Legend:

CEN-Eval: CEN discussion with evaluator

CEN-Cust: CEN discussion with customer

Cust-CEN: Customer input / response to CEN

Quotes = “verbatim”; regular text = summary of discussion; italics = *evaluator commentary*



## Phase II In-Person Interview Guides

This document contains the Pilot Implementer (PI) and Community Energy Navigator (CEN) and CEN Program Manager (CPM) interview guides for field work to be conducted the week of June 14<sup>th</sup>. These guides are adapted from the initial Phase I guides, with some additions based on new information Evergreen noted during the course of the evaluation since the Phase I guides were developed. The interview topics include:

- CEN/CPM – Outreach
  - Effectiveness of in person outreach efforts (relative to remote efforts during the height of COVID-19)
  - Development of local CEN workforce
  - Effectiveness of local, trusted leaders used in outreach (i.e., are communities that have a local leader, who is already known to the community, involved more successful in outreach)
  - Asking CENs about their prior experience working in the DACs or the SJV to better understand how that may inform success in outreach.
- CEN/CPM – Application Assistance
  - Customer’s willingness and ability to provide propane and wood receipts with the pilot application
  - Update on efforts to enroll mobile home participants
  - Application data quality improvements
- PI – Home Assessment
  - Examine the customer knowledge gap from initial outreach to home assessment (i.e., how much do customers remember about pilot participation once they are contacted to schedule an assessment visit)
- PI – Home Remediation and Electrical Service Upgrades
  - Processes for accessing CPM designated funds for remediation
  - Revisit electrical service upgrades after further progress
- PI – Measure Installation
  - Revisit electrical installations after further progress
  - Bulk purchasing efforts
  - Development of local PI workforce
  - Workforce education and training including success/limits of local hire and training development along with benefits and barriers to local hiring
- Customer Interest, Drivers and Barriers
  - Customer attitudes and behaviors towards energy savings
  - Inquire why customers have a high degree of trust in the CEN(s) (per Phase I customer survey)

- Explore lack of trust among customers who opt out are attributed to negative experiences with ESA or with other solar programs (both IOU sponsored and not) (to corroborate / flesh out customer input from Phase I survey)
- Determine what drives customer mistrust of the pilot (e.g., negative experience with ESA, predatory solar programs – mentions from Phase I research)

Overall, the interviewer will focus on:

- Probing further where interviewees make a suggestion for a change, to understand what the expected (measurable) benefit is
- Clarifying inconsistencies that from different interviewees as they arise
- Building upon prior interviews where relevant

## **Pilot Implementer (PI)**

### **Introduction**

As a preliminary step in this interview, Evergreen reviewed all prior PI in-depth interview notes. We want to focus this interview on any changes or new developments since we last interviewed you in December of 2020.

1. [If not known from prior interview] Has your role changed since December? If so: What is your title? What are your responsibilities for the pilot?
2. Do you mind if I record this interview in case I miss anything in my notes?
3. How many staff members do you have that work on the pilot specifically?
  - a. How many of them were newly hired to take on additional work related to the pilot, if any?
  - b. What percentage of the new staff would you estimate are from the communities in which the pilot is taking place? Is this something your organization explicitly tracks?
  - c. What benefits have you seen to hiring locally? What challenges have you seen to hiring locally?
4. Do the staff you hire generally have the qualifications you are looking for or is there training involved? If so, please explain your training process.
  - a. What works well about your training process?
  - b. What challenges have you come across in your training process?

### **Home Assessment and Development of Treatment Plan**

If the answers to the following questions remain unchanged since December of 2020, let me know and we can skip the question since we'll have covered it in our last interview. [Note that

interviewer will review prior responses before interview to assess where additional follow up is needed]

5. How do you access completed pilot applications and customer contact information? Has this process worked well? What has worked well? Do you have any suggestions for improving the process to access this data? [Probe on suggested changes for measurable outputs]
6. Once you receive a list of completed applications from the CPM, can you walk me through how you reach out to customers (or property managers/owners) to schedule home assessments?
7. What has worked well in being able to schedule assessments? Have there been any difficulties reaching customers to schedule the assessment? Do you have suggestions for improving the scheduling process?
  - a. Does this differ based on the pilot community?
  - b. Have these efforts been more difficult for rental properties (property managers/owners)?
8. Can you walk me through the home assessment process? What kind of information do you collect? What is the involvement from the participant? What happens to the information collected?
9. In your opinion, how have the home assessments gone, focusing on just since December 2020? What has worked well? Do you have any suggestions for improving the home assessments? [Consider both current COVID restrictions and loosening of them.]
10. Once you have completed the home assessment, how do you use the collected information to develop a home treatment plan? How are pilot measures chosen? What determines if home remediation may be necessary?
  - a. How long does it usually take from the home assessment visit until there is a home treatment plan completed?
  - b. What works well with that process and what might be improved going forward?
11. What is the process to review home treatment plans with the PA and the customer? What has worked well getting treatment plans approved recently (thinking since the last time we spoke in December of 2020)? Have there been any difficulties getting approval from either? What has worked well? Do you have any suggestions for improving the process to review and approve home treatment plans?
  - a. Does this differ based on the pilot community?
12. Can you walk me through how you track customers' pilot progress during this home assessments? What has worked well? Do you have any suggestions for improving this data tracking?
13. How do you update the PA and CPM on customers' pilot progress (i.e., method, regularity)? What has worked well? Do you have any suggestions for improving these updates?

## Remediation and Service Upgrades

14. What determines if a home treatment plan requires remediation or electrical service upgrades (electric pilots only)?
15. For cases where the home treatment plan includes remediation, can you walk me through the process to complete this work?
  - - a. What kind of coordination is required with the PA and CPM? How has this coordination gone?
    - b. What is the process for accessing remediation funds? How has that process worked? What, if anything, could be improved going forward?
16. What is the typical timeline to complete this work before installation? Are homes brought up to code in all cases?
17. [For natural gas pilots] What kind of coordination do you have with the PA for the “to the meter” (TTM) and “beyond the meter” (BTM) efforts? How is the customer involved in these steps? What has worked well? Do you have any suggestions for improving this coordination?
18. Is the customer informed of all work being completed? How do you inform the customer of work being completed before installation?
  - a. Have there been any difficulties contacting customers to complete this work?
  - b. What kind of communications do you have with property managers/owners during the remediation process? Has there been any difficulty engaging them? What has worked well? Do you have any suggestions for improving engagement with property managers/owners during remediation?
19. For cases where the remediation exceeds \$5,000, how do you work with the CPM to secure additional funding? Do you have any involvement in that process?
20. Can you walk me through how you track customers’ pilot progress during remediation work?
21. How do you go about reengaging with customers after remediation efforts like electrical service upgrades?
22. Do you have suggestions for improving the process for remediation work going forward?

Next I’m hoping you can help me estimate how many times you run into certain barriers within homes.

23. How often do you have homes where remediation work exceeds \$5,000? What about requiring panel or wiring upgrades or panel upgrades?
24. Do you find many homes that require smart meters?
25. What do you do when you come across homes with code violations that may impact installation?
26. Thinking more broadly, how often do you estimate that it is entirely unfeasible to complete work in a home?

### Installation

27. Once you have received approval from the PA and homeowner, can you walk me through how you reach out to customers to schedule installation? Have there been any difficulties reaching customers to schedule the installation? What has worked well? Do you have any suggestions for improving this outreach and scheduling?
  - a. Does this differ based on the pilot community?
  - b. What kind of communications do you have with property managers/owners during the installation process? Has there been any difficulty engaging them? What has worked well?
  - c. Have you experienced any customer misconceptions about the pilot from the perspective of the residents when scheduling and conducting installations? (getting at potential gaps among customers' understanding of the pilot between application and installation process)
28. How have installations gone? What has worked well? Do you have any suggestions for improving the installation process? [Consider both current COVID restrictions and loosening of them.]
  - a. Does this differ based on the pilot community?
29. Thinking about purchasing items for installation, can you tell me a bit about bulk purchasing through manufacturers or distributors? Have you established any new bulk purchasing agreements as part of the pilot? If so, do you think this has been helpful in reducing costs? Do you have suggestions for improvements in bulk purchasing going forward?

30. Once measures are installed, what kind of education/training, documentation and resources do you provide to the participant? What has worked well? Do you have any suggestions for improving the post installation training and documentation? [make sure to touch on Spanish]
31. How do you work with the PA to complete inspections of the completed work? What has worked well? Do you have any suggestions for improving the inspection process?
- How often have inspections failed and additional work needs to be completed? What are the main issues and what improvements need to be made to reduce the number of revisits?
32. Can you walk me through how you track customers' pilot progress during the installation step? What has worked well? Do you have any suggestions for improving this process?
33. Do you have suggestions for improving the process for installations going forward?

### Leveraged Programs

34. I'm going to ask about a set of programs [listed in table below] that you may or may not help customers leverage. For each program, I'd like to talk to you about:
- How often you tell pilot participants about each program
  - How often residents decide to pursue the leveraged programs (if known)
  - How often are residents already aware of the leveraged programs (for each program discussed)
  - At what phase you mention the existing programs that they can leverage
35. Of the added programs we talked about, which do you find resonates most with residents?
36. If residents are not interested in the other program(s), what reasons do they give?

Pilot Administrator	Leveraged Existing Programs
PG&E & RHA	Energy Savings Assistance Program (ESA), Comprehensive Manufactured/Mobile Home Program (CMHP), Disadvantaged Communities Green Tariff (DAC-GT), Solar Green Tariff (CS-GT), Single-family Affordable Solar Homes (SASH and DAC-

	SASH), California Alternate Rates for Energy Program (CARE), Family Electric Rate Assistance (FERA), All-Electric Baseline, Medical Baseline, WatterSaver! Program <sup>19</sup>
RHA	ESA, CSI-Thermal, DAC-GT, CS-GT, DAC-SASH, Self-Generation Incentive Program (SGIP)
SCE	ESA, SASH, DAC-SASH, DAC Community Solar (CS), CSI-Thermal, All-Electric Baseline, CARE, FERA, DAC-GT, CS-GT
SoCalGas	ESA, CSI-Thermal, SCE low income or cost-saving programs (CARE, Medical Baseline, etc.)

### Customer Interest, Drivers and Barriers

37. In your opinion, how interested have potential participants been in the pilot?

1	2	3
Not at all Interested	Somewhat Interested	Very Interested

- a. What components of the pilot are most enticing to customers and drive them to enroll?
  - b. Does that differ by pilot community?
  - c. Does that differ for renters and owners?
  - d. Does that differ by any other customer characteristics?
38. What do participants generally express to you about energy savings? What behaviors do they think are useful for saving energy? Do they seem motivated to save energy?
39. What do you believe are the biggest barriers to getting customers to participate in this program? Are there specific components of the pilot design or implementation that have made it difficult for customers to participate?
- a. Does that differ by pilot community?
  - b. Does that differ for renters and owners?
  - c. Does that differ by any other customer characteristics?

<sup>19</sup> As of October 9, 2020, WatterSaver! has not begun implementation.

- d. What actions or interventions have you taken to address these barriers? If changes have been made, what kind of impacts have you seen (or expect to see)?
  - e. If trust is mentioned: Why do you think there is a lack of trust? [probe to understand if this may be due to negative experiences with ESA or solar programs (IOU or otherwise)].
40. What would you like to see changed in how the program is designed or run (to encourage drivers and dissipate barriers), if anything?
- a. Do you think there are any roadblocks preventing these changes from happening?
  - b. If that changed, what difference do you think it would make for the pilot (probe on magnitude in terms of increased participation etc.)?

### **Workflow Processes**

41. What kind of regular communications and meetings do you have with the PAs? CPM? Are those meetings effective and efficient? Do you have any suggestions for improving communications with the PAs and CPM?
42. [If not previously covered] How are you coordinating sharing customer status and data between the PAs and CPM? What has worked well? Do you have any suggestions for improving data sharing with the PAs and CPM?

### **Closing**

43. Do you have any other comments, concerns or suggestions that we didn't discuss that you would like to make sure I know about?



## Community Energy Navigator (CEN) and CEN Program Manager (CPM)

### Introduction

As a preliminary step in this interview, Evergreen reviewed prior completed interviews, pilot design, P&Ps and CPUC Decisions, so we have an understanding of the pilot.

1. What is your title? What are your responsibilities for the pilot?
2. Do you mind if I record this interview in case I miss anything in my notes?
3. Which communities do you perform outreach in for this pilot?
4. Can you tell me about your history working in the communities where you conducted outreach?
5. Do you feel your prior work in the community has made it easier for you to fulfill your role than it would have been otherwise? If so, how? [probe for magnitude of impact on pilot – e.g., acceptance rate among residents to enroll]
6. [CPM] How many staff members do you have that work on the pilot specifically?
  - a. How many of them were newly hired to take on additional work related to the pilot, if any?
  - b. What percentage of the new staff would you estimate are from the communities in which the pilot is taking place?
  - c. What benefits have you seen to hiring locally? What challenges have you seen to hiring locally?
7. [CPM] Do the staff you hire generally have the qualifications you are looking for or is there a good amount of training involved? If so, please explain your training process.
  - a. What works well about your training process?
  - b. What challenges have you come across in your training process?

### Marketing and Outreach Efforts

[Probe with short summary of Phase I feedback throughout remainder of interview]

8. [CPM] Have outreach and engagement plans changed since we last spoke with you? (e.g. Has in-person communications after COVID's peak proven more effective than virtual outreach?) Are there any specific qualities within communities or customer groups that require more tailored outreach efforts?

9. [CPM] Has your strategy for recruiting CENs changed since we last spoke? [If yes probe on trainings, what has worked]
10. Have you held any community outreach events since we last spoke? If yes, how did COVID restrictions impact those efforts?
11. [New question] Do you find the recruitment process to be any different in communities with a known, trusted and involved local leader or leaders? If so, how?
12. [New question] What % of CPM staff speaks Spanish?
13. [New question] How much of the outreach is conducted in English vs. Spanish? Does this differ by communities or other customer segments?
- [New question] Does the marketing and application material provide sufficient Spanish translation for customers in the communities?

### **Application Assistance**

14. Have there been any particular components of the application process that have proved difficult to assist customers with? What has worked well? Do you have any suggestions for improving the application process? Does that differ by any other customer characteristics? [Note any quality improvements from any CENs who were interviewed earlier]
15. [New question] Are customers willing and able to provide propane and wood receipts along with their application?
16. During the application process, how do you refer customers to existing IOU programs? Which ones? [CARE and or FERA] What has worked well? Do you have suggestion for improving this referral process? **[Note that some of these programs are now transitioned to the PI to recruit]**
  - a. Are customers generally interested in these existing utility programs?
  - b. Do you think they were already aware of these programs?
  - c. Of the programs you promote to residents, which do you find resonates most with residents?
  - d. If residents are generally not interested, why do you think that is?
17. Have you begun to enroll mobile home participants in the pilot? How if at all does that process differ v. other residents not living in mobile homes?

### **Post Application Involvement**

18. Can you tell me a bit about what steps occur once a customer completes an application? [involvement after sent in any way such as with home assessment, remediation, etc.]
19. [CPM] If a home treatment plan includes remediation in excess of \$5,000, what happens next? Can you walk me through the process to coordinate with the PA, PI and customer? How are additional funding sources identified? How successful have you been in obtaining additional funding? What has worked well? Is the process clear to you? Do you have any suggestions for improving the process to identify and secure additional funds?

### Customer Interest, Drivers and Barriers

20. In your opinion, how interested have potential participants been in the pilot?

1	2	3
Not at all Interested	Somewhat Interested	Very Interested

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- What components of the pilot are most enticing to customers and drive them to enroll?
  - Does that differ by pilot community?
  - Does that differ for renters and owners?
  - Does that differ by any other customer characteristics?
21. [New question] What do participants generally express to you regarding their attitudes towards saving energy? Are they aware of how to save energy in their home? What behaviors do they think are useful for saving energy? Do they seem motivated to save energy? What are the barriers to saving energy?
22. What new barriers have you come across in getting customers to participate in this program? Are there specific components of the pilot design or implementation that have made it difficult for customers to participate? [if mistrust is mentioned, ask about attribution to prior experiences with ESA or other solar programs - IOU sponsored and otherwise]
- Does that differ by pilot community?
  - Does that differ for renters and owners?
  - What actions or interventions have you taken to address these barriers? If changes have been made, what kind of impacts have you seen (or expect to see)?

23. What would you like to see changed in how the program is designed or run (to encourage drivers and dissipate barriers), if anything?
- a. Do you think there are any roadblocks preventing these changes from happening?
24. [New question] Do you think that CENs improve the level of trust experienced by households in the pilot? If so, why do you think that is?

### **Closing**

25. Do you have any other comments, concerns or suggestions that we didn't discuss that you would like to make sure I know about?

## Appendix E: Public Webinar Comments and Responses

Commentor	Comment	Evaluator Response
LCJA	As an initial matter, we note that residents we work with were generally happy with the results of the pilot projects. Those who receive upgrades to their homes and new appliances are generally pleased with the results. However, residents are often frustrated that they were promised work would be done to their home but then later told it could not be completed. Residents did not receive consistent updates on their status of the work and many still don't understand why some work has been approved but other work has not. Finally, as reflected in the Evaluation, many residents don't understand the bill protections or have seen their energy bill increase as a result of their participation and have not received enough information about how to fix the issue.	This comment is noted but does not warrant any changes to the report.
LCJA	<p>Additionally, we are concerned with the Evaluation's treatment of mobile homes, an issue which is of vital importance to SJV pilots, this evaluation, and California's equitable building decarbonization strategies. Mobile homes are a significant source of affordable housing, especially in rural and inland California.<sup>20</sup> As such, we urge two revisions to the Evaluation to acknowledge the role mobile homes have and must play in the pilots and the state's strategy going forward.</p> <p>We are concerned that the Evaluation currently does not include a sufficient evaluation of the cost to electrify mobile homes. In particular, we are concerned</p>	This study was designed to assess the implementation process and understand where improvements can be made based on stated barriers and opportunities from customer surveys and stakeholder interviews. The impact evaluations that are being conducted separately from this process evaluation may investigate the specific costs associated with mobile

<sup>20</sup> California: Affordable Housing Need & The Role of Manufactured Housing. Available at: [https://prosperitynow.org/sites/default/files/resources/California\\_Metro\\_Opportunity\\_Data\\_Snapshot\\_December2017\\_0.pdf](https://prosperitynow.org/sites/default/files/resources/California_Metro_Opportunity_Data_Snapshot_December2017_0.pdf)

Commentor	Comment	Evaluator Response
	<p>that the report indicates that the \$5,000 remediation cap is reasonable, despite an acknowledged gap in data from mobile homes. The Evaluation states that 171 of 180 homes surveyed had remediation costs under the \$5,000 cap, and the remaining homes exceeded the cap only slightly.<sup>21</sup> We appreciate that the Evaluation includes both the general statement that mobile homes cost more to remediate and the recommendation that additional data be gathered on mobile home residents.<sup>22</sup> However, PG&amp;E's and RHA's annual and quarterly reports, which the Evaluation already references, reflect the stark difference in remediation costs between mobile homes and other homes in the program.<sup>23</sup> Additionally, we have heard directly from Cantua Creek and Lanare mobile home owners that their remediation costs exceed \$5,000. As such, the Evaluation should reflect the best information available, including the extent of remediation needed on most mobile homes in the pilots.</p> <p>We are alarmed that the Evaluation suggests that it is reasonable to refuse upgrades to mobile homes when the work exceeds the current value of the home.<sup>24</sup> Adopting this standard would exclude many of the residents the CPUC specifically targets through the SJV pilots.<sup>25</sup> In particular, such a standard would exclude residents in older mobile homes, who are among the most vulnerable residents in the state to extreme heat, air pollution, and unaffordable energy rates. California must begin from the premise that we must support mobile home residents through a just energy transition, not abandon them to longstanding</p>	<p>home remediation in greater detail.</p> <p>We have modified text in the report on pages 42 and 70 to clarify that initial findings indicated the remediation cap was sufficient, but that the second phase of the research found that the situation had changed as more mobile homes participated in the electric pilot.</p> <p>Our intent was not to suggest that any home should not be allowed to participate if the value of the remediation exceeds the home's value, nor do we state as such. We provide an observation that the homes' market value was less than the remediation costs in some cases, which was indicated by multiple interviewees during Phase II interviews. We have removed the anecdote to avoid mis-interpreting the anecdote as a recommendation or</p>

<sup>21</sup> Evaluation, p. 42

<sup>22</sup> Evaluation, p. 8, 53

<sup>23</sup> Richard Health & Associates, Inc.'s (U 946 E) San Joaquin Valley Disadvantaged Communities Pilot Quarterly Progress Report, May 2, 2022, p. 2.; Quarterly Progress Report of Pacific Gas and Electric Company (U 39 M), August 1, 2022, p. 2

<sup>24</sup> Evaluation, p. 68

<sup>25</sup> D.18-12-015, p. 13-14

Commentor	Comment	Evaluator Response
	<p>patterns of disinvestment and neglect. We call on this portion of the Evaluation to be revised to present a more equitable standard. For example, the standard could compare the cost of the remediation against the cost to replace the older mobile home with a newer unit. In doing so, the CPUC could coordinate with the Department of Housing and Community Development on broader mobile home residency and habitability strategies that also achieve the state's building decarbonization goals. Whatever standard the CPUC ultimately adopts, the Evaluation must not suggest that people who live in older mobile homes should be excluded from electrification efforts or that it may be inappropriate to invest in a home when the cost of remediation exceeds the value of the home.</p>	<p>consideration.</p>
LCJA	<p>While likely beyond the scope of Evergreen's Evaluation, we note that even though it may be a more straightforward process to connect households reliant on propane to natural gas, investing in new natural gas infrastructure is inconsistent with the state's climate goals. We note that the Evaluation's conclusion that the electric pilot "has had more uptake than the gas pilot"<sup>26</sup> is consistent with our discussions with pilot community residents, who were much more interested in electrification.</p>	<p>This comment is noted but does not warrant any changes to the report.</p>
LCJA	<p>We believe that some negative experiences raised by both residents we work with by residents surveyed by Evergreen could be avoided with better communication throughout the process. This is reflected in the Evaluation's recommendations. However, we ask that the recommendations be revised to specifically call for better communication with residents after work is complete to answer questions and ensure that residents are satisfied. Many comments reflect frustration with new appliances that may have different features. Induction cooktops, in particular, may have a learning curve for some residents, and</p>	<p>This comment is noted but does not warrant any changes to the report. While it is a reasonable suggestion that support continues after installation, our evaluation findings do not suggest that the participants do not have access to the resources they need post installation. We heard that there were some process</p>

<sup>26</sup> Evaluation, p. 18

Commentor	Comment	Evaluator Response
	<p>providing tips about how to avoid burning food, how long to preheat, etc., may increase satisfaction.</p> <p>It is also important for residents to clearly understand what roles each entity plays in the pilots, especially who should communicate which remediations and appliances each participant will receive. Residents need clarity in order to set expectations and make the best decision for their household. When work is promised, all parties involved should seek funding at the CPUC or elsewhere to keep those promises. The alternative is resident trust in the program, and in electrification efforts broadly, is broken and difficult to repair.</p>	<p>improvements necessary to more quickly get participants to the correct pilot staff to answer their questions. But we did not hear that the questions themselves went unanswered. We believe this is reflected in the survey participant satisfaction results, which were overwhelmingly positive.</p>
LCJA	<p>The Evaluation clearly demonstrates that concerns about both initial and ongoing costs were among the most significant barriers to participation. As such, we are very concerned that only 26% of non-participating households had an extremely or very good understanding of the bill protections offered to pilot participants. We agree with the recommendations to improve communications regarding the bill protections and credits. However, we recommend adding an additional recommendation to reevaluate the structure of bill credits to determine if alternative bill protections may be easier to explain and understand and/or provide additional assurance to residents that participation will not increase initial or ongoing costs.</p>	<p>We have made revisions to pages 7 and 72.</p>
Jason Zeller	<p>I'd like to see additional research/outreach and information about the impediments to gaining the participation of mobile home owners/tenants in energy conservation improvements. A high percentage of mobile home owners/tenants are low-income. I would like to see some additional work done on this issue.</p>	<p>This comment is noted but does not warrant any changes to the report.</p>