

# Streamlining Home Electrification in the Gateway Cities

LESSONS FROM A PROMISING CASE MANAGEMENT PILOT



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We acknowledge the Gabrielino/Tongva peoples as the traditional land caretakers of Tovaangar (the Los Angeles basin and So. Channel Islands). As a land grant institution, we pay our respects to the Honuukvetam (Ancestors), 'Ahihirom (Elders), and 'eyoohiinkem (our relatives/relations) past, present, and emerging.

The analysis, views, recommendations, and conclusions expressed herein are those of the authors and not necessarily those of any project supporters, advisors, interviewees, or reviewers. They do not represent the University of California, Los Angeles as a whole. Reference to individuals or their affiliations in this report does not necessarily represent their endorsement of the recommendations or conclusions of this report. The authors are responsible for the content of this report.

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## EXECUTIVE SUMMARY

Building electrification is a fundamental pathway to reducing greenhouse gas emissions and mitigating climate change, but it can be prohibitively expensive and complex, especially for low-income households. High upgrade costs, nuanced retrofit logistics, misinformation, and administrative burden obstruct households from completing projects. While government agencies, utilities, and nonprofits have created a wide array of programs to help households electrify, they often do not fully address these barriers.

One persistent and prevalent issue is that many upgrades are not feasible without substantial repairs or retrofits, particularly in older homes common in disadvantaged and low-income communities. Yet most programs do not begin by obtaining an expert opinion on the home's readiness for and feasibility of electrification. Instead, a home assessment typically happens after a customer applies and qualifies for a program. At that stage, identifying significant repair or retrofit needs can cause customers to stop pursuing electrification, particularly when program funding does not cover the costs of this work. This reduces program cost effectiveness and contributes to low electrification completion rates and broader mistrust in California's most energy- and pollution-burdened communities.

This report documents and evaluates an effort to address this problem: the 2025 Community Contractor Pilot (CCP) program in the Gateway Cities, an environmentally burdened region southeast of L.A. This pilot program is an addition to Southern California Edison's (SCE) existing Charge Ready Home program (CRH), which provides a rebate of up to \$4,200 to upgrade electrical panels in single-family homes. The CCP provides an additional \$800 per household for an electrical contractor to perform a proactive home assessment and advise on which home energy upgrades are most appropriate, in the early stages of the CRH program screening and qualification process. The \$5,000 stacked rebate provides enough funding for most households to upgrade electrical panels with no out-of-pocket costs, effectively making the CCP a direct appliance installation program. The pilot is part of emPOWER Gateway, a collaborative community organizing program operated by Valley Clean Air Now and the Gateway Cities Council of Governments.

This study presents lessons from the process, evolution, and outcomes of the CCP model, which has led to higher rates of application and follow-through for SCE's Charge Ready Home program (CRH). We also incorporate insights from a set of expert interviews to develop findings and recommendations on barriers to home electrification program success and strategies to overcome them. Some of the key findings from the study are as follows.

## Key Findings and Recommendations

**Common barriers to home electrification:** The CCP aimed to address critical electrification program challenges that prevent customers from participating. Based on this program and our interviews, we highlight the following common barriers:

- Complex application and eligibility verification processes
- Home retrofits needed to enable upgrades (including substantial nonelectrical work)
- Distrust and misinformation
- Financial barriers (both up-front costs and uncertainty about impacts to energy bills)
- Permitting delays
- Challenges with coordinating agencies, utilities, contractors, and other involved entities

**Pilot program outcomes:** In 2025, CRH delivered rebates averaging \$3,913 to 44 households with an average annual income of \$55,000 (about 175% of the federal poverty level for a four-person household). Of those 44 households, 40 qualified for and received the maximum rebate of \$4,200 covered by SCE. As mentioned above, the Southern California Regional Energy Network (SoCalREN) provided an additional \$800 per household through the CCP to the electrician for home assessments and technical assistance. Without this additional coordination with expert electricians, the pathway to home electrification would be less accessible to the low-income households in the Gateway Cities region. In total, the funding provided a value of up to \$5,000 in savings per household.

**Rolling program improvement:** The CCP quickly adapted its model based on ongoing learning throughout 2025. The program evolved on a month-to-month basis to improve efficiency and customer experience. For example, it took close to 80 days for a typical customer screened in May 2025 to be referred for a home assessment, compared to under 10 days for a customer screened in December 2025. These improvements can be attributed to several program design and implementation changes, namely the case managers' proactive approach to gathering information and documents from customers, scheduling home assessments, coordinating with contractors and utility staff, and optimizing procedures and workflows.

**Strategies to facilitate program implementation:** From the CCP and other successes throughout California, several promising or proven strategies to address these barriers arose, including the following:

- Dedicated in-person and case management support for customers, like that provided by the CCP and emPOWER Gateway more broadly
- Prioritization of building trust with customers through thoughtful, tailored outreach and connections with highly qualified local contractors
- Leveraging relationships, partnerships, and overlapping processes across similar programs
- Early up-front analysis of how electrification is expected to affect customers' bills
- Streamlining application and project processes, such as permitting

**Potential for streamlining home assessment and program processes:** Our synthetic analysis of the CCP and interviews pointed to the benefits of streamlining processes to reduce customer burden and maximize electrification potential. We outline the potential for a universal home assessment process and alignment of programs across California.

In addition to these findings, we present **three recommendations** to unlock the potential of home electrification programs:

1. Invest in the **case management approach** to home electrification, particularly for low-income households in disadvantaged communities.
2. Develop and vet a modular **universal home assessment process** guide that can be adapted to the interests and program eligibility of any household that the assessment will cover, and identify an organization or coalition to take the lead on the universal home assessment.
3. Lay groundwork for **streamlining and aligning the qualification and application processes** for residential building electrification programs across the region or state. Identify regional or statewide entities that can coordinate and host an aligned program qualification process.

Ultimately, the successes of the CCP provide many lessons to inform efforts to improve and align building electrification programs. The sheer number of entities involved in this effort shows an impressive success (as coordinating so many entities is no small feat) and also illustrates the complexity of the building electrification process. Streamlining these programs will require substantial coordination and cooperation across government, utility, nonprofit, labor, and other organizations. However, it also has the potential to greatly reduce barriers to home electrification, particularly for low-income homes in disadvantaged communities, and reduce greenhouse gas emissions reductions.

# 1. INTRODUCTION

Building electrification is a fundamental part of reducing greenhouse gas emissions—as well as a possible way to reduce household energy bills. Electricity can often provide the same energy service at a lower cost than gasoline or methane gas, bringing monthly savings for households. But electrification can be prohibitively expensive and complex, especially for low-income households. On top of higher purchase prices for high-efficiency electric technologies, homes often need costly repairs and upgrades in order to electrify. The complex logistics of retrofits, difficulty finding contractors, misinformation, and administrative burdens often combine with a lack of funds to prevent households from going electric. These barriers obstruct the many programs created to make residential electrification more accessible, preventing households from completing projects even when funding is available.

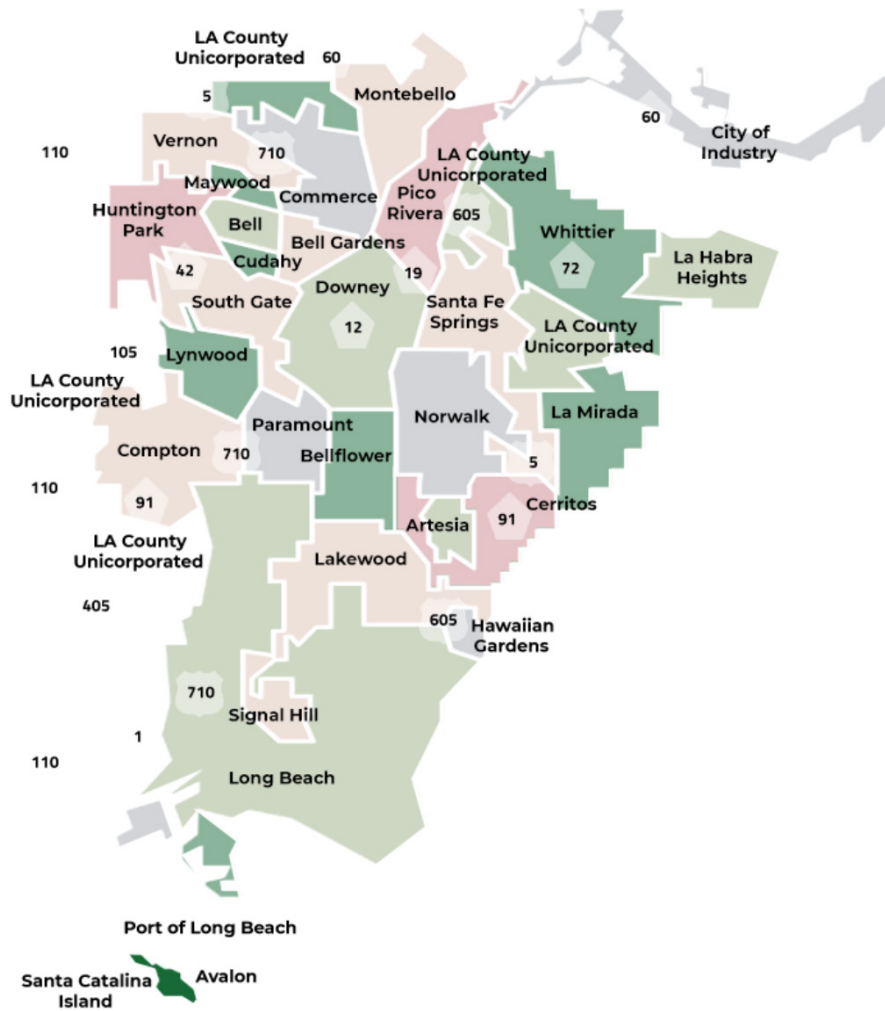
Government agencies, utilities, and nonprofits have created a wide array of home energy upgrade programs to help households electrify. But these programs often fall short of overcoming all of the challenges of electrification. In some cases, the shortfall is financial: Programs might offer insufficient funding or rebate-based models that require too much up-front investment from households. But some of the consequential challenges are not purely financial.

For most programs that fund and support electrification, often referred to as home energy upgrade programs, the initial outreach and application process does not include obtaining an expert opinion on the feasibility of the home repairs. It is only after the customer applies and qualifies for the home energy upgrade program that the administrator will dispatch a certified contractor to assess the home to determine what needs to be done to complete the project according to current building and safety codes. Since homes and buildings within disadvantaged communities are typically older and have had less investment in their maintenance, it is common for contractors to discover significant repairs are needed to complete the home energy upgrade project. And because the programs typically do not cover the costs of these additional repairs, the homeowner is often unable to afford to continue with the process.

This situation severely reduces program cost-effectiveness and is a significant contributing factor to low rates of completed home energy upgrade projects in California's most impacted communities. But a 2025 pilot program in Los Angeles County's Gateway Cities—an environmentally burdened region southeast of Los Angeles (Figure 1)—has demonstrated a partial solution to this problem, which we evaluate here. As an alternative to contractors entering late and potentially disrupting the process, the Community Contractor Pilot (CCP) program has created a one-stop-shop case management model that connects customers with a team of vetted contractors at the initial stages of program participation. Contractor experts advise on which home energy upgrades are most appropriate and perform proactive home assessments to give customers the information they need before they submit applications. The rapidly evolving model has already proven successful at a small scale, leading to higher rates of application and follow-through for Southern California Edison's Charge Ready Home program (CRH) in the Gateway Cities area.

FIGURE 1

The Gateway Cities Region



Source: Gateway Cities Council of Governments

This report documents and evaluates the Community Contractor Pilot program and presents lessons from the effort that can inform other, similar interventions. We situate the program in the context of the Gateway Cities, as well as other regional and state building decarbonization efforts. We review common pitfalls that plague home energy upgrade programs, illustrating how this program overcomes some barriers and noting where it does not. We detail how the pilot program has evolved and the current program design, emphasizing its innovative qualities that could be replicated or scaled up. We present findings from the program’s operations in 2025, as well as recommendations for other efforts to streamline home assessments and program application processes.

## 1.1. Research Methods

These findings and recommendations are informed by several data sources: customer data, emPOWER Gateway documentation and analysis of the CRH program, and interviews with practitioners and other experts in the California building electrification program landscape.

We looked at customer-level program pipeline data for all 2025 participants in CRH and CCP. We assessed demographics, duration of process, and factors leading to success or exit from the pipeline. This analysis was supplementary to the reporting from Street Level Strategy on program success in 2025, which reported on the decreasing duration of process stages, strategies to improve the process and their effects, and other important indicators of program success. We then reviewed CRH and CCP documentation, including workflows, application checklists, outreach templates, and progress reports provided by Street Level Strategy (SLS), the firm operating emPOWER customer outreach and case management. We used these documents and further insight from SLS staff to outline program processes and develop an initial draft universal home assessment guide, which can serve as a jumping-off point for further development.

The other major data source for this analysis was key stakeholder interviews with local, regional, and state energy program administrators. We interviewed 12 individuals from 11 organizations, spanning government, utility, nonprofit, labor, and consulting sectors (Table 1). We reviewed the interview notes and transcripts and used a thematic analysis to draw insights about the key topics of exploration for this study, including barriers to home electrification, successful strategies to overcome them, and the potential for streamlined home assessment and program qualification processes.

TABLE 1

### Study Interviewees

Name	Organization	Type
Beckie Menten	Building Decarbonization Coalition	Nonprofit
Jennifer Nelson	California Energy Commission	Government
Kenneth Galbraith	Greenhouse South L.A.	Community-Based Organization
Sulma Hernandez	Los Angeles County Internal Services Department	Government
Jeff Hughes	Pacific Gas & Electric Company	Utilities
Wendy Salvador-Galbraith	Redeemer Community Partnership	Community-Based Organization
Seth McKinney	Resource Innovations	Consulting/Program Administration
Alex Lantsberg	San Francisco Electrical Construction Industry	Labor/Contractors
Aaron Dyer	Southern California Edison	Utilities
Jose Buendia	Southern California Edison	Utilities
Alin Rangel	Street Level Strategy	Consulting/Program Administration
Vincent Rubalcava	Volt Electric	Labor/Contractors

## 2. BACKGROUND

### 2.1. Historical and Regulatory Context of Building Electrification in California

Governed by ambitious climate goals to reduce greenhouse gas emissions, California is a leading state in advancing building electrification as a key strategy for establishing a net-zero carbon economy by 2045. Since 2018, California has been adopting legislation and initiating programs designed to ease regulatory barriers to building electrification, incentivize all-electric construction, and accelerate clean technology adoption. Assembly Bill 3232 (2018) directed the California Energy Commission (CEC) to assess how to reduce building emissions by 40% below 1990 levels by 2030, in line with state climate goals. The same year, Senate Bill 1477 created the Technology and Equipment for Clean Heating (TECH) initiative, known as TECH Clean California, and the Building Initiative for Low-Emissions Development (BUILD) program to jumpstart low-emission technology adoption (Miller et al., 2019).

In recent years, the state ended gas line extension allowances and electric line extension allowances for new construction buildings that use methane gas, leading to a significant increase of all-electric new construction in the service territories of the three largest investor-owned utilities—Pacific Gas and Electric, San Diego Gas and Electric, and Southern California Edison (Building Decarbonization Coalition, 2025). California also leads the nation in the number of cities with local reach codes that incentivize all-electric construction beyond the already ambitious state building and energy codes, and further requires local jurisdictions to develop building electrification plans to expand access to clean energy technologies such as heat pumps and electric vehicle charging (CalMatters, 2025). Further supporting local building electrification, statewide initiatives such as the CEC Equitable Building Decarbonization Program and the California Department of Community Services and Development Low-Income Weatherization Program provide free electric appliances and systems to participating households.

Altogether, these policies and programs help advance—but have yet to actualize—the state’s climate goals. For example, California must install 6 million heat pumps throughout the state to meet AB 32’s goal of reducing greenhouse gas emissions by 40% below 1990 levels by 2030. While nearly 2 million heat pumps were installed by the end of 2024, this current rate of adoption will not support the state’s heat pump target by 2030 (California Heat Pump Partnership, 2025). The rate of household fuel-switching from gas to electric also requires acceleration—as of 2019, only 8% of all residential buildings in the state were all-electric (Mahone et al., 2019). The share of households using electricity for heating only increased three percentage points from 27% to 30% between 2019 and 2024 while gas continues to predominate household heating in the state (U.S. Census Bureau, 2024; U.S. Census Bureau, 2019). Despite California’s ambitious efforts to reduce GHG emissions through its electrification initiatives, progress has been slow to meeting the state’s climate goals.



Aerial view of the 710 & 105 Freeway interchange Gateway Cities region.

Photo: Remi Jouan / Wikimedia Commons

## 2.2. Gateway Cities Regional Context and Pilot Program Rationale

Moreover, these initiatives have not benefitted Californians equally. Representing the Southeast Los Angeles region, the Gateway Cities Council of Governments (GCCOG) area is among the least likely areas in Southern California to have received transportation and building electrification benefits despite having the greatest pollution and utility cost burdens (Pierce et al., 2025). The GCCOG area covers approximately 203 square miles of Los Angeles County, comprising 27 cities, nine unincorporated communities, and over 2 million residents or 20% of the County’s population—of whom three-quarters are classified as disadvantaged by the California Environmental Protection Agency (CalEnviroScreen 4.0, 2023). Compared to the county average, GCCOG residents have lower median household incomes and higher unemployment rates (Neighborhood Data for Social Change, 2022).

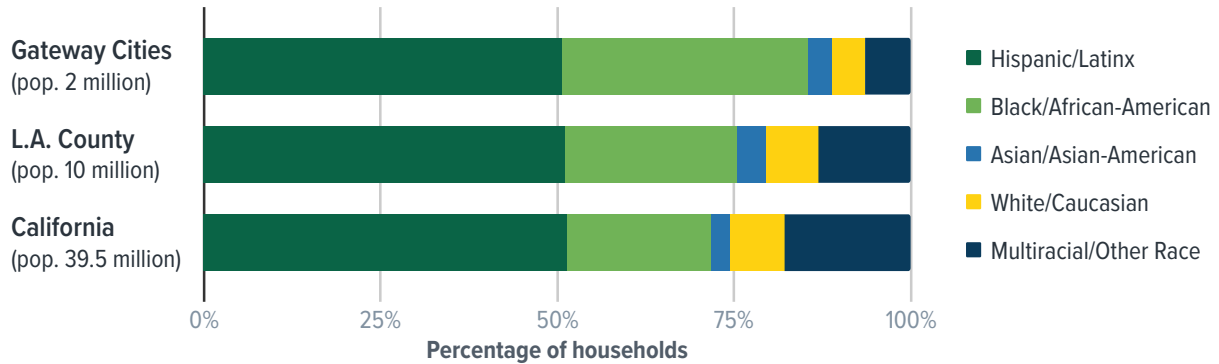
In particular, the southeast Gateway communities along the Interstate 710 corridor are exposed to poor air quality due to the heavy traffic congestion compounded by the socioeconomic disparities resulting from a history of systemic racism and disinvestment (Neighborhood Data for Social Change, 2022). As a result, residents have a higher pollution burden and per capita number of asthma and cardiovascular-related emergency room visits than the county average (Neighborhood Data for Social Change, 2022). Figure 2 shows an approximate breakdown of race and ethnicity for the region, as reported by the Gateway Cities Council of Governments (2026), as well as household income (bottom), each compared to L.A. County and California overall.

**FIGURE 2**

**Overall Race/Ethnicity and Household Income Breakdowns of Gateway Cities Region, Compared With County and State**

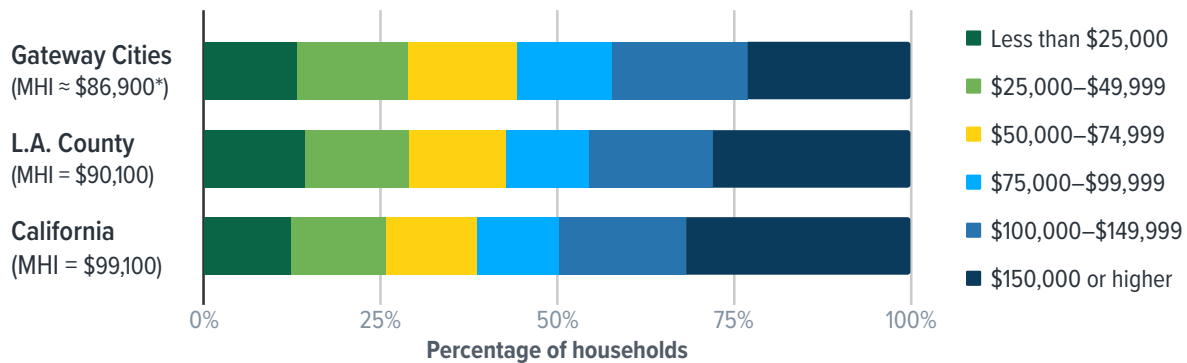
**Race/Ethnicity Comparison**

Source: Decennial Census, 2020



**Household Income Comparison**

Source: American Community Survey, 2020–2024 (5-year Table S1901)



\*Gateway Cities median household income (MHI) estimated as average across cities, weighted by number of households

These conditions make it particularly challenging for residents to participate in electrification programs that often require homeowner status, time, and resources to cover any up-front or unexpected costs, and capacity to withstand the risk of potential bill increases due to electrification measures (though, in many cases, bills are likely to decrease) (Dunlap et al., 2025). For example, while California leads the nation in electric vehicles (EVs) as a share of light-duty vehicle registrations, the average share is lower in the Gateway Cities region than the state average (Swedberg & Tomer, 2025; Pierce et al., 2025). Despite the progress the state has made overall in advancing home and transportation electrification, for many households in this region, zero-emission appliances, vehicles, and home upgrades are still inaccessible without additional support.

TABLE 2

Selected Building Electrification Programs That Operate in the GCCOG Area\*

Funder	Program	Electrification Measure
<b>Federal</b>	<a href="#">Low Income Home Energy Assistance Program (LIHEAP)</a>	Bill assistance; weatherization rebates
<b>State of California</b>	<a href="#">Building Initiative for Low-Emissions Development Program (BUILD) Program</a>	All-electric new construction (income-qualified)
	<a href="#">California Electric Homes Program (CalEHP)</a>	All-electric new construction
	<a href="#">California Energy-Smart Homes</a>	Home electrification rebates
	<a href="#">Equitable Building Decarbonization Statewide Direct Install Program</a>	No-cost home electrification
	<a href="#">High-Efficiency Electric Home Rebate Act (HEEHRA)**</a>	Heat pump HVAC rebates
	<a href="#">Low-Income Weatherization Program (LIWP)</a>	No-cost solar panel and energy efficiency upgrades
	<a href="#">Solar in Disadvantaged Communities</a>	Bill assistance; no-cost solar panel
<b>South Coast Air Quality Management District</b>	<a href="#">GO ZERO**</a>	Heat pump HVAC and water heater rebates
<b>Southern California Edison</b>	<a href="#">ESA Building Electrification Program</a>	No-cost home electrification
	<a href="#">Home Performance Plus**</a>	No-cost home energy assessment and consulting
	<a href="#">Charge Ready Home (CRH)</a>	Electrical panel upgrade rebates
	<a href="#">Energy Savings Assistance Program</a>	No-cost energy efficiency upgrades
	<a href="#">Electric Back-up Power Units Rebate</a>	Electric back-up power unit rebates

\*This table highlights key building electrification programs within the Gateway Cities region. While representative of the primary offerings, it is not an exhaustive list and does not include city-specific programs.

\*\*These programs are paused or fully allocated as of this report writing.

Table 2 shows a small sampling of the programs relevant across California (particularly given the diversity of local-level offerings). Programs from other regions show substantial promise and contribute lessons for this effort, just as CRH and the CCP do. For example, Pacific Gas and Electric’s Empower My Home program has a targeted endeavor in San Francisco’s Bayview-Hunters Point neighborhood that is similar to the emPOWER Gateway program. This program similarly convenes a wide array of partners, including some of the same entities implementing emPOWER Gateway, to implement a case management approach to low- to no-cost home electrification measures. The program has seen successful collaborations, including partnering with the San Francisco Environment Department to leverage additional funding sources.

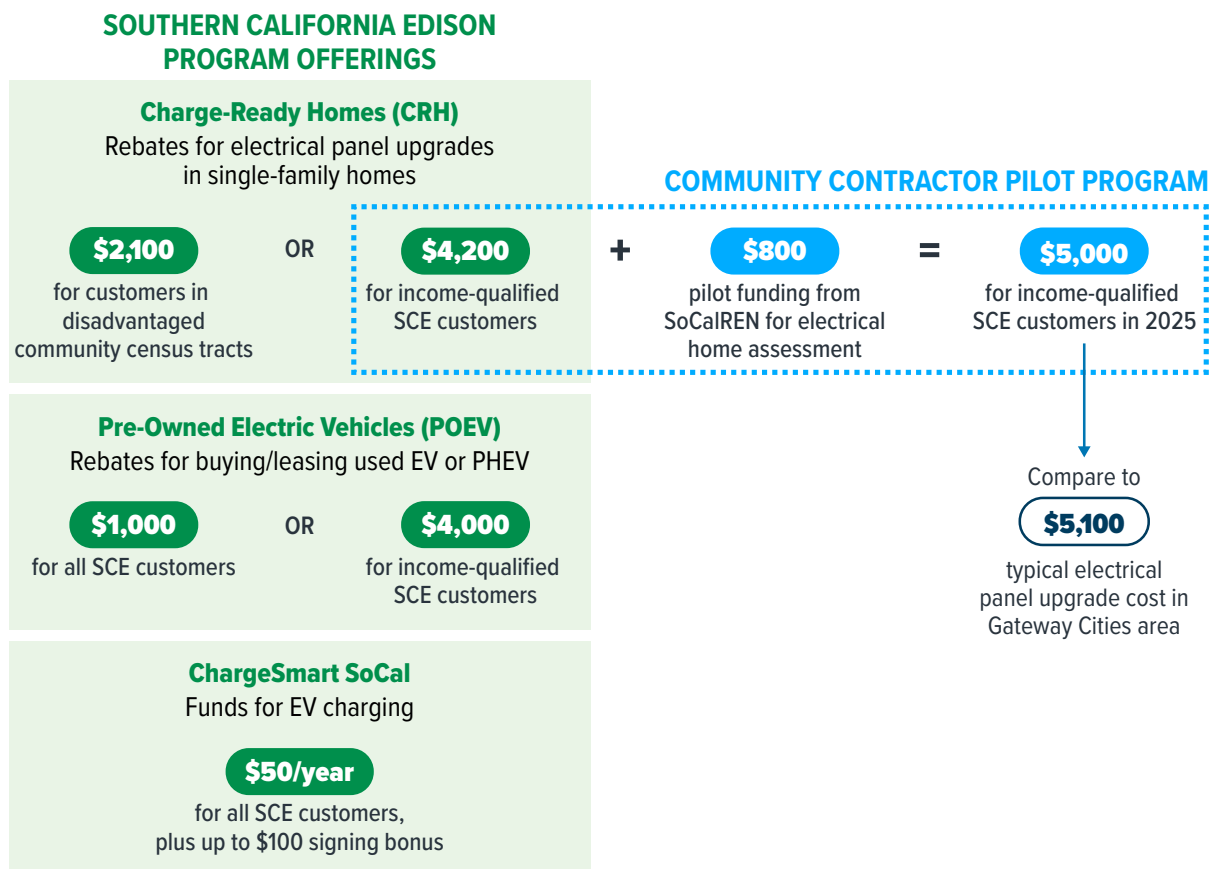
### 3. THE COMMUNITY CONTRACTOR PILOT PROGRAM: CONTEXT, PROCESS, AND RESULTS

#### 3.1. Program Overview

To accelerate electrification adoption in the project area, the Gateway Cities Council of Governments (GCCOG) launched the Community Contractor Pilot (CCP) program to build on emPOWER Gateway, a collaborative community organizing program that expanded a 2019 Valley Clean Air Now initiative (Pierce & Connolly, 2020). Aiming to bridge the gap between electrification initiatives and residents, emPOWER Gateway provides eligible households in single-family homes with cash rebates for home electrical panel upgrades, pre-owned electric vehicles, and electric vehicle charging through three main programs (Figure 3).

FIGURE 3

Community Contractor Pilot Program in Context



Paired with the cash rebates, emPOWER Gateway also provides case management services to guide households through the entire program participation process to ease the administrative burden often associated with rebate and home upgrade programs. As the figure shows, the CCP is an addition to the Charge Ready Home Program, which regional power utility SCE launched in 2024 and continues to fund and operate. The CCP was implemented in 2025 using a temporary source of funding to pay for an electrician's time for home assessments, administrative troubleshooting, permit coordination, and counseling for low-income households, ultimately increasing the funding for electrical panel upgrades to more closely match the typical upgrade cost.

As the focus of this study, the CCP is designed to provide streamlined electricians' advice to potential customers of the CRH program in southeast Gateway communities. This model is, in part, built upon a concept successfully utilized by Redeemer Community Partnership and Greenhouse South L.A., two community-based organizations in South Los Angeles. A state-certified, union-trained electrician (and resident of the neighborhood) has performed home assessments and provided energy-saving recommendations for an estimated 50 homeowners. This experience navigating common roadblocks to home energy upgrades led to the formation of CCP, which aimed to identify and address these roadblocks earlier in the process.

The CCP and emPOWER Gateway more broadly focus on low-income, owner-occupied households within the four AB 617 Community Air Protection sites within GCCOG. This pilot aims to complete the primary elements of program development, test program elements in the community to determine relative effectiveness, and prepare the program for broader implementation.

### 3.2. Key Program Stakeholders and Funding

The pilot brings together a unique set of necessary partners (Table 3): a utility, a nonprofit organization, International Brotherhood of Electrical Workers (IBEW) Local 11, outreach and mobilization experts, and qualified electrical contractors.

TABLE 3

#### Agencies and Organizations Involved in the CCP

Entity	Type	Role in Community Contractor Pilot Program
<b>Valley Clean Air Now (Valley CAN)</b>	Nonprofit organization	Manages the emPOWER Gateway customer relationship management system, helps customers sign up for programs, conducts surveys to understand customer needs and priorities
<b>Gateway Cities Council of Governments (GCCOG)</b>	Government	Administers CCP using funds received from SoCalREN
<b>Street Level Strategy (SLS)</b>	Los Angeles-based public affairs firm	Conducts outreach, including coordinating a network of outreach partners; provides case management, working directly with each customer and contractor to optimize process
<b>Volt Electric</b>	Contractor	Conducts all retrofit and installation work, as well as home assessments, in coordination with case managers from Street Level Strategy
<b>International Brotherhood of Electrical Workers (IBEW) Local 11</b>	Labor union	Coordinates with Volt Electric on implementing best practices for assessing and completing customer installations and successfully passing building inspections
<b>Southern California Edison (SCE)</b>	Electric utility	Operates and funds the Charge Ready Home program (CRH) for all qualifying customers in single-family homes, as well as the Pre-Owned Electric Vehicle program (POEV) and other efforts
<b>Southern California Regional Energy Network (SoCalREN)</b>	Network of energy savings implementors	Brings together organizations providing a variety of services to achieve energy savings and projects throughout 13 counties of Southern California in areas served by Southern California Edison (SCE) and/or SoCalGas. SoCalREN is funded by California utility ratepayers under the auspices of the California Public Utilities Commission (CPUC)
<b>County of Los Angeles</b>	Government	Administers SoCalREN funding by overseeing technical implementors, local governments, and community organizations to operate tailored energy efficiency programs. Reports to CPUC on energy savings results of SoCalREN
<b>California Public Utilities Commission (CPUC)</b>	State regulator	Collects ratepayer funds from investor-owned utilities through the Public Purpose Program surcharge and reinvests it in communities

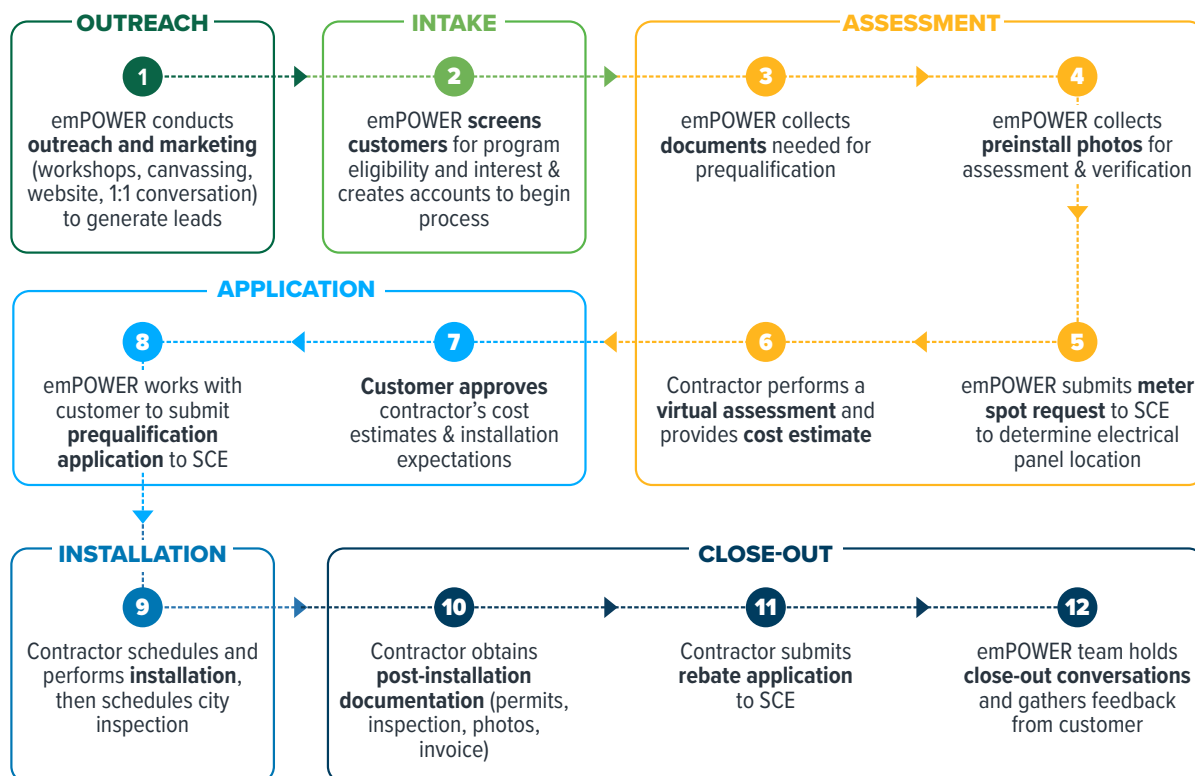
The sheer number of entities involved in this effort shows an impressive success (as coordinating so many entities is no small feat) and also illustrates how complex streamlining building electrification programs is. With so many organizations involved, a huge amount of coordination has been needed to achieve the outcomes explored in this report—and even more will be necessary to streamline home assessments and programs more broadly.

### 3.3. Program Process and Mechanics

The CCP supplements SCE’s Charge Ready Home program (CRH). As described above, CRH provides rebates of up to \$4,200 for households to upgrade their electrical panels in preparation for installing electric vehicle (EV) chargers. With the CCP in place, customers work with Street Level Strategy and Volt Electric to assess the service panel and related electrical equipment in each program participant’s home, apply for the CRH program, and complete each step of the retrofit process. Figure 4 breaks down the process step by step (see Appendix A for more detailed explanations of each step).

FIGURE 4

The Charge Ready Home and Community Contractor Pilot Program Process



Note: Appendix A presents additional details about this process.

This process was designed to minimize the number of times a customer must be contacted for information or approval, aiming rather to clearly understand what information the contractor requires and gather all of this information with as little customer burden as possible. As shown in Figure 4, a typical project might require the customer's input and participation three times after initial intake.

This design, current as of the end of 2025, is the result of several changes that program implementers made in the early days of the pilot. The CCP brought about a major change: The program now offers enough funding to electricians to facilitate panel upgrades without any payment from households themselves, effectively making this a direct appliance installation program (though in some mutually agreed-upon cases, customers may need to pay excess costs if the project exceeds the rebate amount).

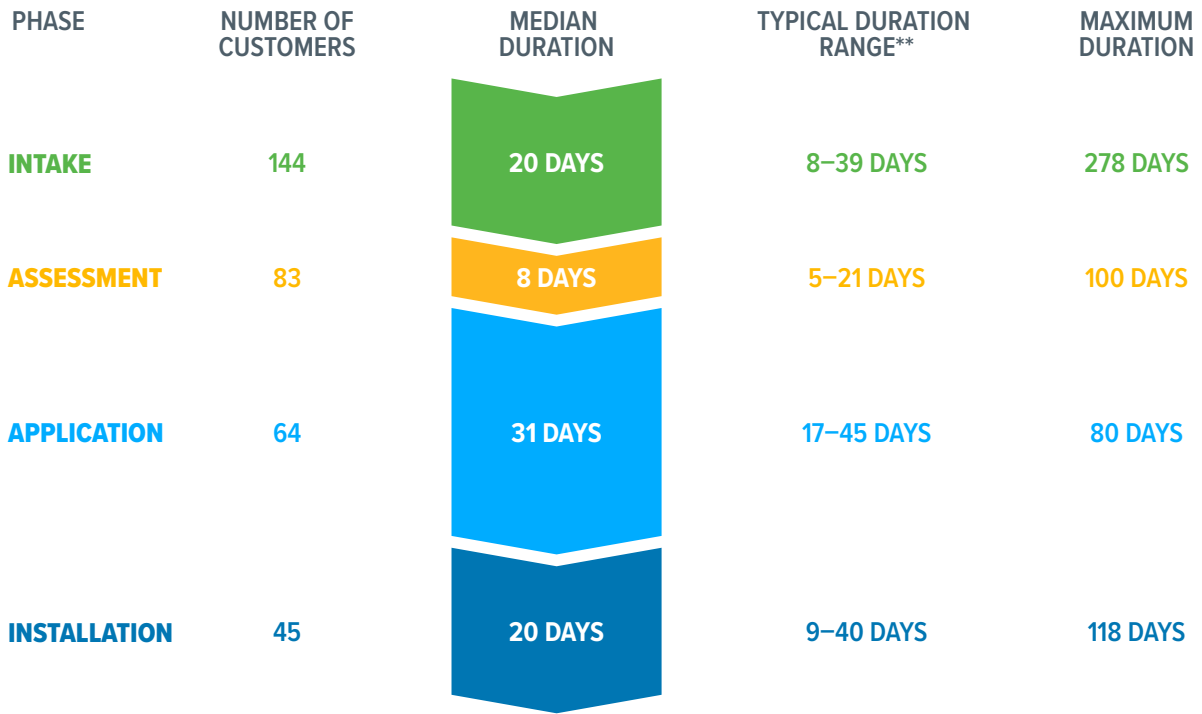
Prior to 2025, the CRH alone did not provide sufficient funding to cover the full cost of panel upgrades. The additional CCP funding subsidizes CRH installations (typically up to \$4,200) with an additional \$800 for electricians' time on administration and technical assistance. Together, the stacked rebates bring available funding to \$5,000 per household. This enabled the pilot to show that \$5,000 is a more realistic cost for service panel upgrades in disadvantaged communities, which is particularly important given significant pandemic-fueled cost escalation for materials, appliances, and (to some extent) labor over the past few years. This also enabled the pilot to unlock the direct install component of the program with blanket payments of \$5,000 to electrical contractors. This funding comes from ratepayer funds collected through the Public Purpose Programs surcharge on electric and gas bills; it is distributed from the CPUC, which authorized Los Angeles County to be the portfolio administrator and oversee SoCalREN funding. The funding is ultimately administered by GCCOG.

Figure 5 illustrates the timeline of the CCP process: the median and maximum duration of each phase, as well as the range of timelines experienced by the middle 50% of customers (excluding those with particularly fast or slow timelines). Customers experienced a wide range of timelines for each phase. This is particularly true for the initial screening and intake process (the time from when a customer first interacts with emPOWER and becomes a lead to when they are referred for a home assessment). However, the majority of customers experience much faster timelines than the most delayed, outlier individuals.

The timeline for this process has also shifted over the course of program implementation. In the first few months of the CCP, the initial batch of approximately five customer projects took about three months from intake to invoicing. Street Level Strategy's 2025 progress report on the program noted that subsequent customers have seen somewhat faster timelines, approaching as little as two months. Figure 6 shows the median number of days that customers spent in each phase, aggregated by the month of screening. For example, for a typical customer screened in May, it took close to 80 days from screening to home assessment referral, compared to under 10 days for a customer screened in December. Figure 6 shows that each major phase became faster over the course of 2025, with the exception of the home assessments themselves, which remained fairly similar in timing.

FIGURE 5

Typical Timeline for CCP Pipeline, 2025

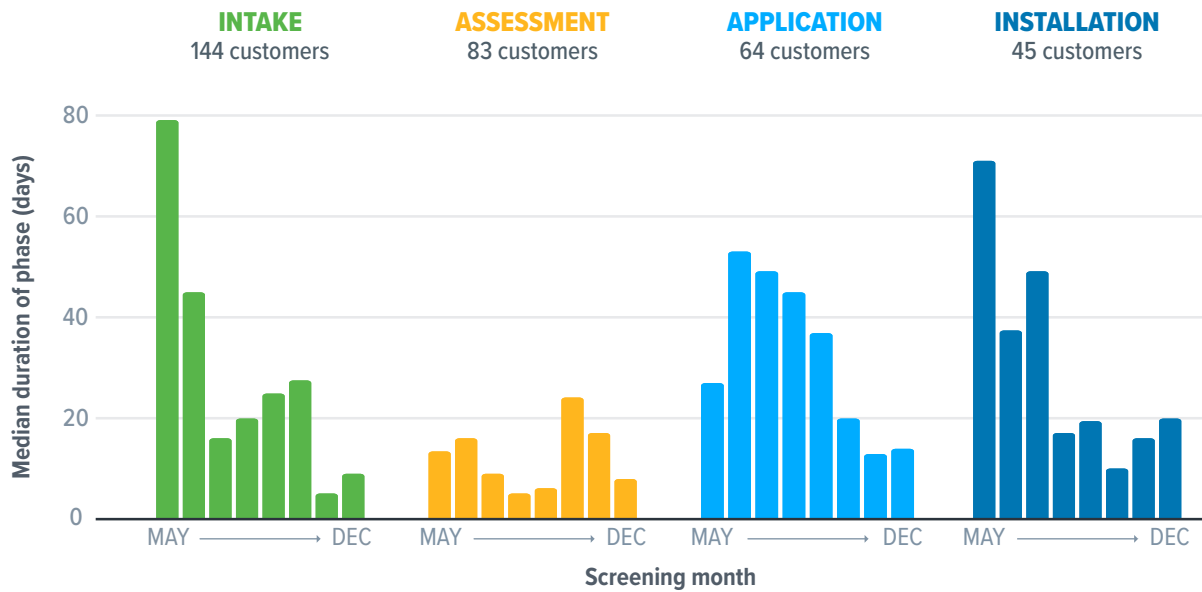


\*\*Time ranges based on middle 50% of participants in each phase

Data source: emPOWER customer data shared by Street Level Strategy

FIGURE 6

Change in Duration of Each Major CRH Process Phase Over Course of Pilot

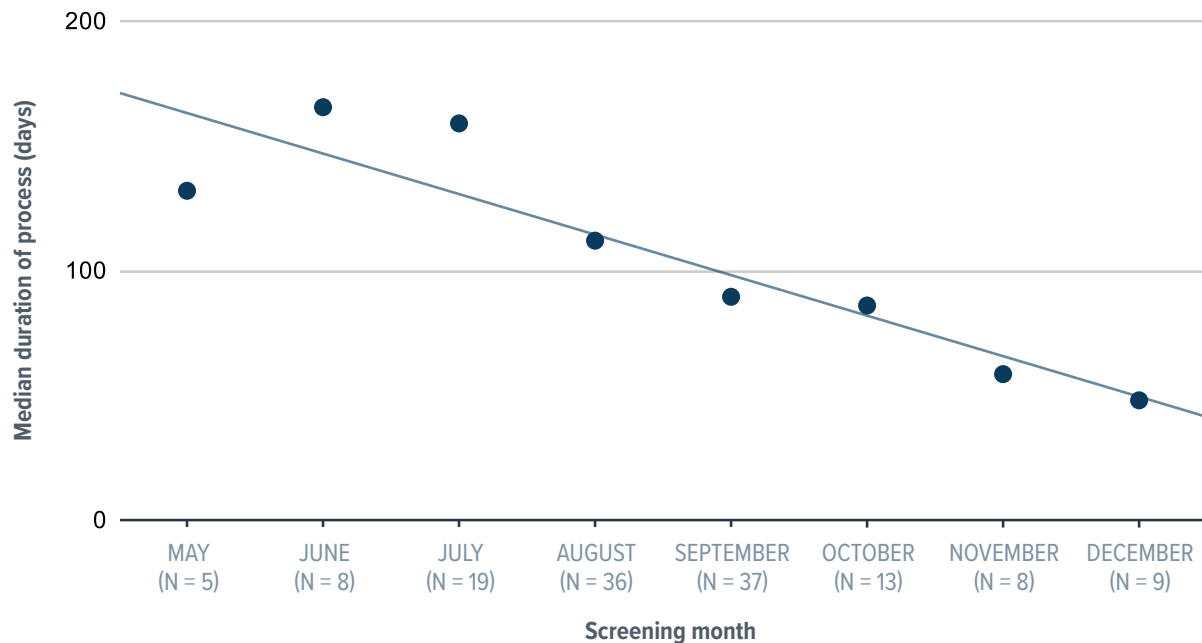


Source: emPOWER customer data shared by Street Level Strategy

By speeding up almost every step of the process, the intake to installation time for a typical customer decreased substantially between May and December (Figure 7).

FIGURE 7

### Change in Duration of CRH Process Over Course of Pilot



Source: emPOWER customer data shared by Street Level Strategy

Street Level Strategy made several changes that led to these timeline improvements, including the following:

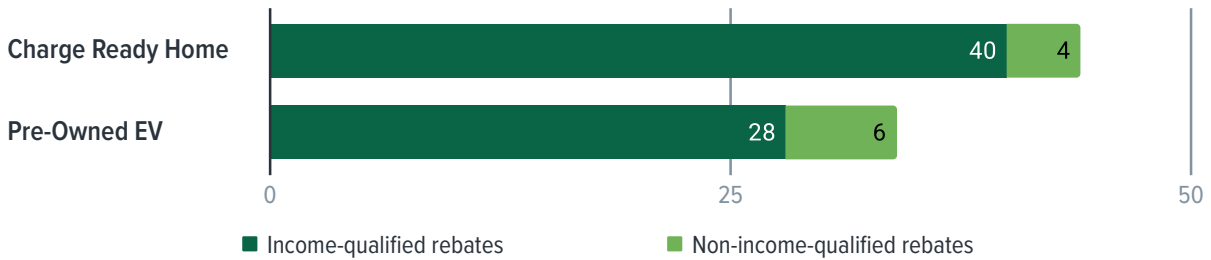
- Gathering documentation early in the process, starting with helping customers access required tax forms during workshops
- Scheduling photo appointments on the spot at workshops
- Standardizing the cadence of document and photo collection by case managers and home assessments by contractors to maximize contractor availability
- Pursuing meter spot requests (a process through which SCE determines panel location) with frequent, proactive follow-up outreach to SCE staff members
- Improving workflows to process documents, applications, and other materials efficiently
- Building relationships with all entities involved in the process

### 3.4. Program Outcomes and Participant Statistics

In 2025, CRH delivered \$172,200 in rebates to 44 households with an average annual income of \$55,000 (Figure 8). Out of a total of 44 households, 40 received the income-qualified rebate amount (up to \$5,000 per household, including the \$4,200 covered by SCE and \$800 covered by SoCalREN through the CCP). The other four received the \$2,100 rebate that is available to all households living in state-designated disadvantaged communities.

FIGURE 8

CRH and POEV Rebates in 2025

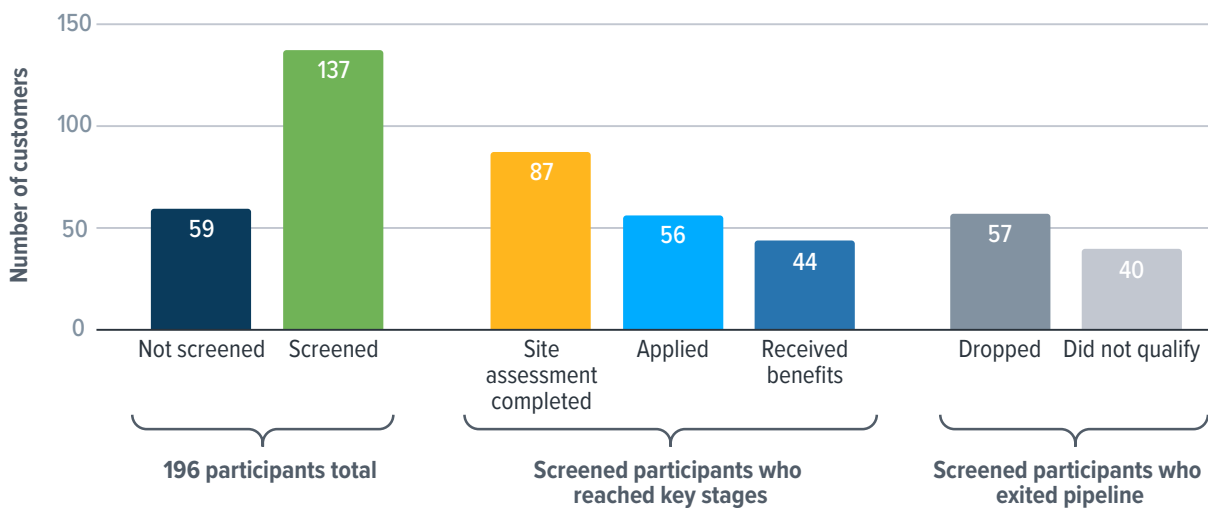


Source: emPOWER Gateway 2025 Report, Street Level Strategy

The 44 customers who received benefits (electrical panel upgrades) through CRH and the CCP in 2025 represented a fraction of the customers participating in the program (Figure 9). In 2025, 196 customers entered the pipeline, of whom 137 completed the screening process (many of whom are still in the pipeline and might upgrade their panels in 2026).

FIGURE 9

CRH Pipeline: Number of Customers Who Reached Each Key Pipeline Stage



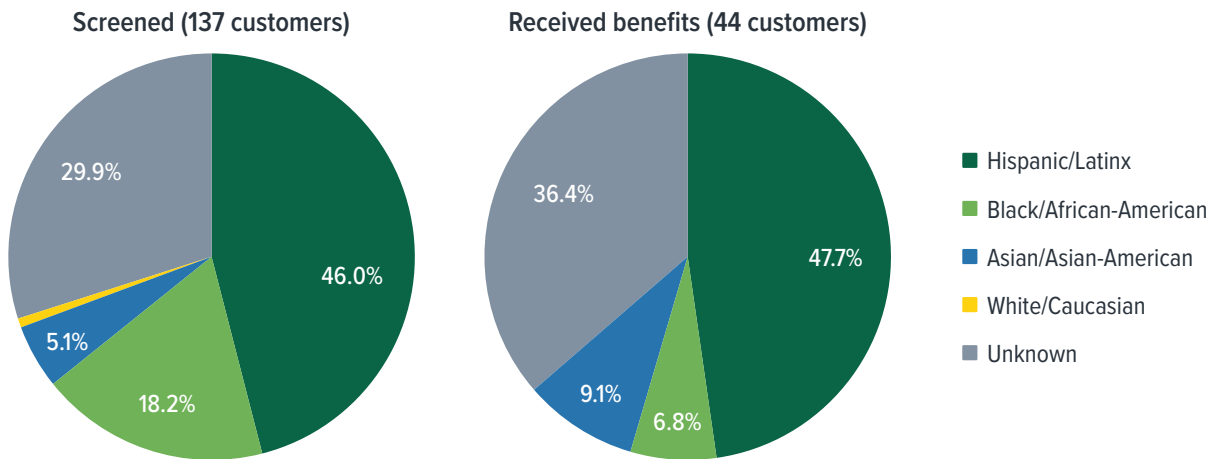
Source: emPOWER customer data shared by Street Level Strategy

Note: These bars do not represent neatly additive categories. Screened participants progress through the assessment and application stages but may exit the pipeline at any time. Those who reach each stage (short of receiving benefits) may drop out or be disqualified.

Figure 10 shows the race/ethnicity breakdown of participants. Of the 137 screened customers who entered the program pipeline, 46% were Hispanic (in addition to some portion of customers whose race and ethnicity were not recorded). As customers progressed through the process, this proportion remained fairly consistent. However, we note that the proportion of Black customers fell from 18% of those screened to 7% of those who received benefits, which we explore further below.

**FIGURE 10**

**Race/Ethnicity Breakdown of Participant Pipeline**

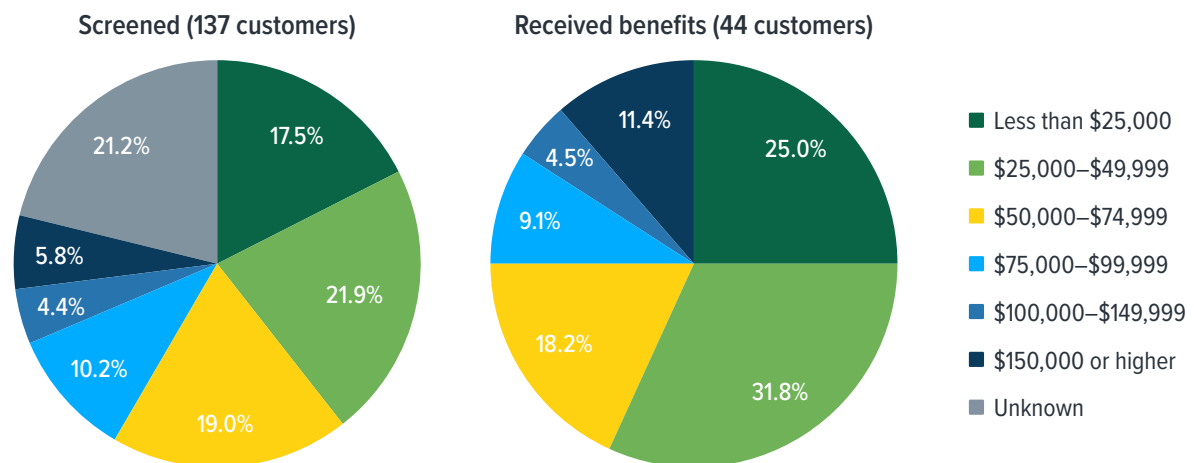


Source: emPOWER customer data shared by Street Level Strategy

Figure 11 shows the household income breakdown of screened customers (left) and those who received benefits (right).

**FIGURE 11**

**Income Breakdown of Participant Pipeline**



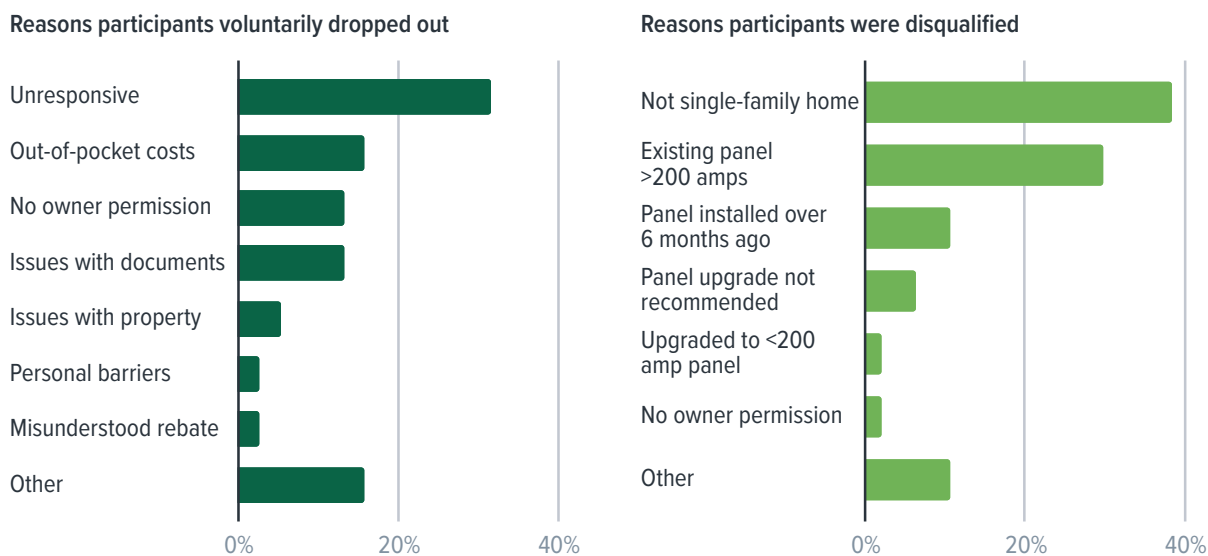
Source: emPOWER customer data shared by Street Level Strategy

Comparing these results with the overall income distribution across the Gateway Cities (Figure 2, Section 2.2) shows that participants have lower incomes than is typical for the region. Of program participants, 75% have incomes under \$75,000, well below the estimated area median income of \$86,900 across the cities (Figure 2, Section 2.2). Similarly, the proportion of participants in the lower income brackets is higher than that for the overall area or county. Figure 11 also shows that the income distribution did not change drastically throughout the process. Between screening and installation, there was a slight increase in the share of customers in the \$25,000–\$50,000 and \$150,000 or higher bracket, as well as a slight decrease in the share in the \$50,000–\$75,000 bracket.

Of the 137 screened customers, 97 either did not qualify for the program or dropped out voluntarily. Figure 12 shows the reasons for not qualifying or dropping out. The top reasons for not qualifying were that the customer lived in multifamily housing or already had a 200-amp electrical panel, while the top reasons customers were designated as having dropped out were a lack of responsiveness or that the out-of-pocket costs were too high. Nearly 25% of those who dropped out or did not qualify were Black, aligning with the observation that the proportion of Black customers receiving benefits was lower than the proportion screened. While race is not a determining factor in rebate eligibility, the disproportionately low share of Black customers continuing in the CRH pipeline may be an area for potential improvement. However, it may also be caused by factors external to the program, such as neighborhood-level constraints that affect eligibility or timeline (e.g., localized understaffing leading to slower meter spot processing). This apparent pattern may warrant increased targeted outreach to Black customers, with extra steps in place to check eligibility and interest up front.

**FIGURE 12**

**Recorded Reasons for Exiting the CRH Pipeline**



Source: emPOWER Gateway 2025 Report, Street Level Strategy

Voluntary customer dropouts can also point to some potential opportunities for program and outreach improvements. Lack of responsiveness may be difficult to address, but could be improved through any of the general outreach improvements that are being employed. High costs are a frequently cited reason for exiting the pipeline, underlining the importance of ensuring that the rebate covers as much of the costs as possible. This is what the CCP worked to address in 2025 by providing the additional \$800 per customer.

Meanwhile, the disqualified customers represent the value of the program's goals as much as room for improvement in the screening process. A core goal of the program is to front-load the critical information gathering to determine whether customers qualify as early in the process as possible. A best practice for such programs is to narrow the pipeline to qualified customers early on, reducing potential wasted efforts on nonqualified customers.

## 4. LESSONS AND THEMES

Several lessons and themes have emerged from emPOWER Gateway, including the CCP, to guide strategies to improve the program and design other streamlined electrification efforts. These findings are informed largely by the emPOWER Gateway outreach and evaluation conducted by Street Level Strategy and the interviews which we conducted with electrification program administrators, practitioners, and other experts. Section 4.1. discusses the common barriers and challenges observed by program implementers of energy upgrade programs while Section 4.2. describes a number of effective strategies that facilitate program implementation.

### 4.1. Common Barriers and Challenges

Despite California's efforts in advancing several electrification programs and policies, multiple challenges persist for households applying to these programs, including CRH. Across most programs providing direct installations or rebates, the common challenges remain administrative complexity and financial constraints for both customers and program administrators. Although CRH is actively testing solutions to some of these barriers (including through the CCP, as discussed throughout this report), these challenges continue to constrain the pace of program adoption.

#### 4.1.1. Barriers Facing Customers

While the state has identified electrification as a major strategy in reducing greenhouse gas emissions and achieving equitable outcomes, most Californians remain unaware of electrification as a concept and the programs that support it. For those who become aware and interested in participating in programs like CRH, they face major barriers to moving forward with their applications and successfully completing the program. These barriers may differ between renters and homeowners as renters face the additional challenge of obtaining landlord approval for any home and energy upgrades as well as experiencing greater socioeconomic disparities than homeowners.

#### Complicated Application and Eligibility Verification Processes

Electrification programs often involve arduous application processes that the average customer may not have the understanding, resources, or time to follow through with. For some households, interviewees reported **language and knowledge barriers** in submitting the required documents while some customers **did not have the technology necessary to apply online**. Further obfuscating the process are **differing income eligibility thresholds between income-qualified programs**. Federal programs use federal poverty-level thresholds while state programs typically use area median income (AMI) thresholds that also vary between utilities and programs. For example, the California Energy Commission utilizes an 80% AMI threshold that is adjusted for cost of living for the Equitable Building Decarbonization Program while the San Francisco Environment Department does not adjust its 80% AMI threshold.

## Need for Retrofit

In addition, many households, particularly in older homes in disadvantaged communities, may find that they **need to retrofit their homes to be eligible for certain technologies**, which require additional time and resources—and may go beyond electrical work. Some examples interviewees shared include knob and tube wiring, asbestos, stucco patching, concrete cuts, trenching, and general site safety issues. Oftentimes, these **required retrofits are outside the scope of the program, leaving the customer to pay for the upgrades**. Furthermore, substantial retrofits may require customers to be without power or vacate their home for a period of time that may not be feasible. The need for any additional work diminishes the motivation for participating in a program as interviewees report that most households are resistant to prolonged construction in their homes.

## Distrust and Concerns About Costly Scams

Even after customers successfully apply to these programs, they face the challenge of identifying a trusted contractor in their area who can perform the upgrades or installations of newer technologies. Stories of costly solar scams in the residential solar industry add to this difficulty (Klawans, 2024; Jeong, 2025). Without consistent, transparent pricing and recommendations across contractors, **customers remain wary of fraudulent or misleading energy programs**. One interviewee said that some customers face challenges identifying a contractor who they trust who is also knowledgeable about the latest clean energy technologies and incentive programs.

## Up-Front and Operational Costs

Most interviewees identified costs as the most significant barrier. The costs of zero-emission appliances, installations, and any home upgrades needed to accommodate the installations are **out-of-reach for many households, particularly lower-income households**. For these households, paying out-of-pocket for the up-front costs of participating in a rebate program is not feasible, particularly if the rebate does not also cover the full cost of the upgrade. In addition, customers also raise **concerns about the operating costs** with new electric appliances when California's electricity rates are some of the highest across the country (Petek, 2025). Without assurance that their overall bills will go down or remain relatively the same, customers may be unwilling to risk higher electric costs. One interviewee noted that the TECH Clean California Initiative is currently conducting an analysis of how customers can achieve bill savings through electrification to help address these concerns.

### 4.1.2. Barriers Facing Program Administrators

Challenges persist for program administrators as well. Filing a load schedule, applying for a permit, coordinating with multiple entities, and administering the rebate take a long time and resources to complete. Bureaucratic inefficiencies further complicate and impede administrative responsibilities, often creating bottlenecks at multiple points in the process. Overall, longer timelines can increase the administrative burden and costs, often resulting in customers losing interest in the program.

#### Permitting Delays

It may take several weeks for local officials to issue the permits required for an electrical upgrade due to **bureaucratic capacity constraints and lack of general awareness of clean energy technology**. In addition, permitting fees and requirements can vary significantly across jurisdictions. A few interviewees noted that this variability can slow down the work for contractors who work in multiple jurisdictions.

#### Coordinating Challenges

Program administrators are **often coordinating across multiple entities in the same programs**. Depending on the program, a program administrator may need to sequence the installations with various contractors, working to balance contractor schedules and customer wishes. Additionally, a number of interviewees noted the difficulty of coordinating with Southern California Edison (SCE) on submitting required documentation. Program administrators need to submit the permit, photos of pre- and post-installation, meter spot, job cards, and other documents to SCE. **Any small inconsistency in the documentation can delay assessments, appointments, or invoicing**. While some interviewees acknowledged that SCE itself is capacity-constrained and under strict regulatory oversight, they also suggest that more intentional relationship-building with SCE and partner contractors can help ease the coordinating delays.

## 4.2. Effective Strategies to Facilitate Program Implementation

Despite the barriers, customers wanted to participate in CRH for several key reasons, such as utility bill savings, a desire to upgrade appliances, and a desire to install an electric vehicle charger. To facilitate participation, CCP and other similar programs have shifted toward a concierge-structured case management design that facilitates a more seamless customer experience. The following section details the essential strategies—ranging from trust-building outreach to regulatory reform—that are proving to be the most effective in accelerating program adoption.

### 4.2.1. Dedicated In-Person and Case Management Support

It is clear that customers prefer an in-person experience for both the outreach and home upgrade process. Street Level Strategy notes that 90% of customer traffic originated from in-person workshop attendance and that customers reveal a preference for one-on-one, in-person support to address questions and proceed with electrification. This is particularly true for CRH—

because its goal is to upgrade electrical panels, which requires contractors to visit and work in customers' homes, this in-person work is important to reduce customer burden, build trust, and successfully move customers through completion.

The case management approach is important to the success of CRH because the information about and the process for home electrification can be highly confusing to most. Interviewees shared that **having someone guide customers through the process from start to finish, be available to answer questions, and advocate for the customers to receive applicable benefits adds a personal touch to the complex process, building customer trust in and commitment to the program.** Unsurprisingly, the changes that have been made to streamline the CRH process have led to higher rates of follow-through. Street Level Strategy noted that customers move much more quickly through the CRH process than that of the Pre-Owned Electric Vehicle program, which may be due to a more accessible price point but also to the more streamlined program design.

A specific breakthrough that illustrates the power of the case management approach is Street Level Strategy's successful reduction of the meter spot timeline. The organization reported that the process of obtaining a meter spot from SCE shifted from a simple phone call to a more time-consuming online application in July, adding an extra two to three days to the typical customer's timeline (on top of the preexisting meter spot wait time). However, Street Level Strategy has developed a system to track meter spots, down to the individual SCE staff member managing them and including twice-a-week follow-ups, which has cut meter spot wait times in half over the course of the year.

Interviewees also lauded the case management approach. Several indicated that **it is one of the only ways to engage low-income households in disadvantaged communities**, perhaps second only to a more unified, statewide application for all relevant programs. One said that while some homeowners would take an initial introduction to a program or electrification concept and run with it, doing their own research and proceeding through the tasks of implementing the upgrade and applying for funds, many households in lower-income areas do not have capacity to do this. They would be overwhelmed by decisions to make and the wide array of information to understand. Having a trusted, knowledgeable individual and expert electrician take the time to walk customers through the full process, answer questions, and help with logistical and bureaucratic processes is a crucial strategy for bringing electrification to these households.

#### 4.2.2. Trust-Building Communication and Outreach Approach

While the most effective communication strategy is perceived to be via in-person workshops (based on Street Level Strategy's analysis), it is still beneficial to use multiple strategies to reach different customers, and to target communications for different groups. Street Level Strategy notes that it has used consumer marketing data on electric vehicle ownership, income, and building type to target customers more successfully for the CRH and CCP outreach campaign. **Common strategies proven to be effective include in-person engagements through workshops, community events, flyering, and digital methods such as texting and calling.**

Outreach effectiveness is shaped not only by strategy, but also by who delivers the message. Interviewees observed that many eligible households in the Gateway region speak Spanish as their primary language—thus, **employing case managers who speak Spanish was a critical component to effective outreach**. Several interviewees also emphasized **trusted community members**, such as those from a local community-based organization, as **essential to establishing trust with customers**. For example, one interviewee shared an anecdote about a community leader who had provided 20 leads and successfully enrolled 11 of those eligible. Additionally, another key component to trust-building outreach was clear communication about program eligibility, as there were several instances of customer confusion about their qualification for the program.

#### 4.2.3. Leveraging Partnerships and Overlapping Processes Across Similar Programs

Overlapping processes and partnerships across similar programs create opportunities to streamline energy upgrade adoption. In the effort to streamline the many electrification programs, such as CRH, CCP, and the Pre-Owned Electric Vehicle program (POEV), it is helpful to have overlapping processes across different programs. Street Level Strategy notes that **CRH and POEV are synergistic**: While customers in 2025 showed more interest in CRH than POEV, POEV served as a pipeline for CRH, with 40% of CRH customers also enrolled in POEV. Additionally, one interviewee discussed SCE's coordination between its building electrification pilot program and CRH. Through the pilot program, SCE collects data and facilitates eligibility and funds for CRH by enrolling customers who need panel upgrades into CRH without requiring customers to apply to both programs. Similarly, **SCE streamlined its income verification process by adapting its income requirements to that of the Valley CAN Clean Cars for All Program**, enabling all eligible customers to automatically qualify.

Coordinating and leveraging funding through partnerships also help streamline the process. One interviewee shared an example of coordinating with the San Francisco Environment Department to redirect funding to address site safety issues while Pacific Gas and Electric Company used separate funding to install electrification measures. Several interviewees discussed the importance of relationships in accelerating bureaucratic processes. For example, completing inspections and permitting are both resource and time-consuming. Implementers have eased these processes by **relying on trusted local contractors and building relationships with inspectors and permitting technicians so that they may more easily schedule and accelerate the process**. Some contractors already have these relationships, which an interviewee noted can also hasten the inspection and permitting processes.

Finally, another example of an effort to leverage and streamline overlapping programs is Empower the Bay, a pilot program run in the Bayview-Hunters Point neighborhood of San Francisco in Fall 2025 (and designed to grow into a larger-scale program). A sibling program to Empower Gateway, this program's focus on whole home electrification required coordination across incentive programs that offer different partial electrification measures. Street Level Strategy and other stakeholders have mapped out the relevant programs and ideal order of enrollment for residents. While each program requires a home assessment, Street Level Strategy has worked with administrators to eliminate some of the resulting redundancy.

#### 4.2.4. Early and Up-Front Bill Analysis

Concern about costs arose as the most common barrier across the interviews and broader literature. For many customers, clear, up-front bill analyses were essential for reducing uncertainty. To overcome this uncertainty, SCE's Energy Savings Assistance Building Electrification Pilot employs a **12-month historical bill and rate analysis to assess potential bill savings before a project begins**. This analysis is then used to identify the optimal Time-of-Use rate for all-electric customers and applies baseline allowances, if available, for zero-emission appliances. In cases **where the analysis suggests a bill increase**, some interviewees noted that **energy efficiency measures are recommended instead**, and that customers are required to sign an acknowledgement to ensure they are fully informed before proceeding. To further lower the barrier to participation, utilities employ virtual energy assessments like Maiven Energy. These virtual plans identify project scope and eligibility, which are then validated by a contractor, facilitating the initial eligibility and costs evaluation phase.

Additionally, interviewees highlighted the importance of **leveraging regional and contractor partnerships to address the funding gap between the total installation costs and available rebates**. An interviewee noted securing additional funding from Southern California Regional Energy Network to support the first 36 applicants helped customers overcome the cost barrier. Furthermore, implementers are **exploring the potential for coordinating with contractors on structured payment plans** to manage up-front costs and **widening their contractor networks** to foster competitive pricing. Altogether, these strategies help create a more predictable and accessible pathway for customer participation.

#### 4.2.5. Streamlining Permitting

Standardizing and accelerating the permitting process is key to shortening project timelines and resources. As discussed in Section 4.1.2., **permitting is a common cause of program delay**, and particularly challenging when working across multiple jurisdictions with differing permitting policies and processes. One interviewee called for regulatory changes to standardize permitting, naming Senate Bill 282 (Wiener)—a 2025 bill to mandate a statewide, streamlined administrative process for heat pump installations. Key provisions include automated real-time permitting, asynchronous and video inspections, standardized code-compliance checklist, and permit fee caps. While the bill passed key committees in 2025, it failed to move past the suspense file and was returned to the Secretary of the Senate earlier this year. Whether through this legislative effort or another mechanism, **establishing a more predictable regulatory environment could help address the administrative bottleneck of permitting**.

#### 4.2.6. Right-Sizing Energy Upgrades

While this report focuses on an electrical panel upgrade program, it is worth noting that many households are often deterred by the need to upgrade their home or electrical panel to accommodate a new zero-emission appliance or measure. **Without programmatic support, panel upgrades can often take significant time and resources to complete**, which present a major barrier to low-income households in particular. But in some instances, partial (or even

whole-home) electrification can proceed on what an interviewee called “a **100-amp diet**,” allowing households to avoid panel upgrades. Another interviewee noted that households can also install **meter socket adapters, devices that can allow electrification upgrades without panel upgrades** (as well as providing other potential resilience benefits, such as automatic shifting to backup power during outages). Interviewees suggested providing contractors with the tools and education to evaluate household potential to electrify within its existing panel capacity, and identifying 120-volt technologies that could be installed instead of higher voltage technologies. **The need to educate contractors on how to better evaluate systems to avoid triggering panel upgrades was particularly emphasized by interviewees.** The success of the TECH Clean California program has shown that when there are more knowledgeable contractors in the market, overall project costs for households decrease.

### 4.3. Coordination of Home Assessment and Program Qualification Processes

One of the goals of this study was to evaluate the potential for streamlining home electrification processes in two key ways: developing a universal home assessment process and aligning program application processes and qualification requirements. These are related, but with different needs, barriers, and benefits. A universal assessment would be conducted by contractors in collaboration with customers and potential support from case managers. An effort to streamline programs would need to be implemented by the program funders and administrators, in some cases requiring substantial policy changes. This section explores insights on these prospective streamlining efforts, and our recommendations follow in Section 5.

#### 4.3.1. Potential for a Universal Home Assessment

The majority of our interviewees said that a universal home assessment process would be beneficial but also emphasized the difficulty in developing and deploying one at scale. Nevertheless, the overarching reaction to the idea was positive, and some interviewees noted other concurrent efforts to develop such a tool.

Interviewees shared the following suggestions for a comprehensive universal assessment:

- Develop a **step-by-step workflow** to follow, allowing for both standardization and management of customer expectations.
- Include comprehensive **data collection** for all information that will affect project feasibility and specifications: basic information (e.g., location of water main, building materials), complications (e.g., electrical lines over metal poles or awnings, regulatory updates since construction), and potential dealbreakers (e.g., more than one electrical meter).
- Consider creating **templates for common home types** that can be customized, as well as a ranking system for the level of difficulty of necessary retrofits.
- **Balance thoroughness and brevity.** Consider focusing on commonly needed information, so that more specific information can be gathered as needed. Along these lines, one interviewee noted that developing a universal assessment for individual, common retrofits may be more feasible than for whole-home electrification.

- Enable **flexibility** of use across programs with different structures (e.g., those with lump-sum payments and those requiring line-item budgets).
- Integrate **early cost estimation** to help homeowners understand what programs they can benefit and avoid applying for the wrong programs.

Interviewees had several suggestions and thoughts about what could make a universal, streamlined process more feasible. Several emphasized that programs would need to actually use the assessment to qualify customers and plan the project scope. One interviewee said that utilities (which we extend to apply to other program administrators as well) would need to require its use. Multiple interviewees suggested that utilities are in a good position to take the lead on developing an assessment process due to their experience administering major electrification programs. Several interviewees expressed views that a broader streamlining and consolidation of the many electrification programs would make a universal home assessment more feasible, though this also faces several complications and barriers, as explored below.

### 4.3.2. Aligning Programs Across Regions and the State

As discussed throughout this report, home electrification programs and incentives vary widely in ways that can make it difficult or in some cases impossible for potential participants to enroll in multiple programs. And yet, many customers who qualify for one program might also qualify for and stand to benefit from several other programs as well. Interviewees discussed the many bureaucratic structures that form barriers for participants, and considerations for achieving more alignment.

One of the most discussed topics was the **wide array of household eligibility requirements**, especially for income qualifications. While many interviewees called for programs to agree on and implement a single set of income requirements, several also noted that these requirements are not selected arbitrarily, and choosing just one would have trade-offs. For instance, while program designers might agree that federal poverty level comparisons (such as those used by the Energy Savings Assistance Program) are not geographically targeted enough in California (where average incomes are substantially higher than the federal average), programs use more or less targeted income levels (state vs. area median income) to target funds in different ways. Nevertheless, consolidating income requirements would go a long way toward streamlining programs and making it easier for households to apply for and participate in several programs, optimizing the use of funds. Using categorical eligibility is an opportunity for programs to lessen the load of proving customer eligibility. Many programs already allow customers to qualify on the basis of being enrolled in another program with similar eligibility requirements.

In addition to these income requirement issues, some programs have **other requirements that are counterproductive to streamlining efforts**. For example, an interviewee said that some intentionally require the use of different contractors and separate applications for different programs to maintain clarity across program processes and achievements. This naturally leads to increased burden for customers, as it can be difficult enough to find one trusted contractor, and using multiple can complicate the already complex logistics of retrofits and installation.

Another key difficulty is that programs cannot readily share customer applications and information, even to help the customers, due to **data privacy restrictions and liability**. Data sharing agreements among different program administrators can help reduce this barrier. Efforts to streamline programs can include data sharing agreements by default, so customers can authorize information sharing with other programs that they may be eligible for.

Finally, one of the major barriers to streamlining programs is the **sheer number of entities that are involved or affected**: utilities, government agencies, funders, labor unions, and partners like nonprofits and third-party administrators. Multiple interviewees noted the need for coordination, with some calling for one organization to convene all of these entities. Interviewees presented varied views on whom this should be, and it would depend on the scope of the streamlining effort. One suggested that utilities are in the best position to do so, while another said that only a statewide organization (such as a state agency or a large nonprofit institution) would be able to coordinate all of the stakeholders and negotiate the necessary agreement. Others indicated that regional or local coordination might be more likely to succeed than statewide streamlining, given the complexity and diversity of perspectives involved.

## 5. RECOMMENDATIONS

### 5.1. Building on Successful Case Management Approaches

One very clear lesson emerged from our analysis and interviews: The case management approach to home electrification effectively reduces or eliminates several barriers to home electrification. As described in depth above, interviewees across the board spoke to the value of a knowledgeable, trusted person sitting down with a prospective electrifier to talk through the many details. Many even said that this approach is essential for low-income households in disadvantaged communities. Home electrification brings bill uncertainty, invasion of privacy, and unfamiliar technology to customers, and in-person, one-on-one conversation is a proven way to deconstruct these barriers and build trust. While this model is resource-intensive—requiring a case manager to work directly with each customer, complete paperwork and documentation, and coordinate with contractors, utilities, and government agencies—it is also proven. With strong support from most interviewees and evidence of success from the Community Contractor Pilot (CCP) program, we strongly recommend investment in this concierge or case management model to achieve electrification goals.

**Recommendation: Invest in the case management approach to home electrification, particularly for low-income households in disadvantaged communities.**

Many of the successes of the case management approach are listed above in Section 4.2. Based on interviews and learnings from Charge Ready Home (CRH) program, key goals of case management are as follows:

- **Build trust** with customers by meeting them where they are in terms of electrification knowledge, interests, and anxieties; distrust of “too good to be true” program offerings; languages spoken; and priorities for their homes.
- **Minimize customer burden** by requesting all necessary inputs at once when possible, combining information gathering into as few on-site visits as possible, and coordinating with each entity involved on the customer’s behalf.
- **Build and use relationships** between case managers and other entities involved in bureaucratic processes, such as utility staff and contractors, to help reduce friction of each step of the process.
- **Hire trusted members of the community**, if possible, to facilitate more targeted and effective outreach and case management strategies.

Customers will need to be active participants even with the best case management, but with strong design, this model can reduce the burden substantially and help overcome many significant home electrification barriers.

## 5.2. Developing a Universal Home Assessment

One driver of this study was the idea of developing a universal process to assess a home's potential for electrification and qualify the household for all major incentive programs in that location. This would address many of the barriers discussed throughout this report. As described above, our interviews largely suggest that such an assessment would be useful, but difficult to develop and potentially cumbersome for households not interested in full electrification. For such an effort to work, a wide array of stakeholders—utilities, labor, government agencies, community-based organizations, and third-party consultants and administrators—must be engaged in the process. The Community Contractor Pilot program has brought together representatives of all of these and more. Here, we present recommendations for how to develop such a universal home assessment, based on our interviews and the pilot program.

**Recommendation: Develop a modular universal home assessment process guide that can be adapted to the interests and program eligibility of any household that the assessment will cover.**

The components and characteristics we see as necessary or helpful for such an assessment guide are as follows:

- A clear but generalized **workflow** that delineates the role of case manager, contractor, and customer, providing a step-by-step process that can be used for a wide array of projects and programs, rather than being specific to any one.
- Comprehensive lists of **program offerings** considered in the design of the assessment and the eligibility and documentation requirements for each.
- Comprehensive lists of all **information required** for contractors to conduct an initial virtual assessment of a home (including documents, photos, and videos).
- A streamlined **load schedule** process and standardized templates for common home types and appliance setups.
- Defined **project tiers** to classify the complexity of upgrades for each home (with flexibility to report on unusual cases that do not fit within the tiers) and **templates** to provide recommendations for common projects and home circumstances.
- A flexible **home assessment report template** to be filled in by the contractor and/or case manager for each assessed home. This report will be used to qualify customers for relevant programs. It will include all of the information necessary to apply for relevant programs (those that the customer is eligible for and that can fund a recommended upgrade for the home).
- A **modular** format consisting of building blocks that can be added or removed based on interest, eligibility, and project fit. For example, the assessment guide could be a responsive electronic form that adjusts depending on the initial information about household characteristics and customer interests.

Appendix D presents an initial draft of such a guide, with partial or full examples to illustrate each component. Further engagement with case managers, contractors, and program administrators as well as thorough testing, will be needed to create a comprehensive product. This draft was developed largely based on CRH workflows.

The assessment guide, and the process to develop it, will need to be managed by an organization (or group of organizations) that has the capacity to conduct the activities listed in the above recommendations. This could be a nonprofit organization, a government agency, or a utility, depending on the geographic scope of the assessment. If the goal is to serve the entire state, then a statewide organization or coalition will need to own the assessment. Whichever organization ultimately chooses to take on this task will need the staff time, funding, and expertise to ensure it is executed effectively. One of the most important roles this entity would play is coordinating the many stakeholders: utilities, program administrators, nonprofit organizations, labor, and funders, among others.

**Recommendation: Conduct substantial outreach and engagement to vet the universal home assessment with contractors and secure buy-in from program administrators.**

For a universal home assessment to be as effective as possible, the subsequent report it generates must be comprehensive, accessible, and accepted by major electrification programs. The draft assessment guide should be vetted by an array of contractors with experience implementing electrification projects to ensure it covers the vast majority of what a more standard approach would cover, with flexibility to tailor to individual household and program needs. It should also be circulated among program administration staff across agencies and utilities to incorporate feedback on what would make the report as useful as possible as a program application supplement.

Ideally, the report would provide the following:

- Proof of income and other **eligibility** (in all of the forms required by a major program, including percentage of federal poverty level and area median income)
- Indication of which **programs** the household is eligible for and proof as needed
- **Recommendations** and **cost estimates** from the contractor
- **Documents** required by each program, attached as appendixes

These items would need to be packaged in an easily readable, standardized way, such that a customer or case manager can use the report as a large portion of the application. It would be most helpful if the report itself could be submitted as a program application (possibly with a brief accompanying questionnaire specific to each program). This would require such strong standardization and clear organization that the administrator could very easily find all relevant information. Ultimately, the goal is to minimize the burden placed on the customer applying for programs by shifting this task to case managers to bundle the necessary paperwork together would be much less useful if the customer must still find and upload each individual document and fill out several applications.

### 5.3. Streamlining Program Qualification Processes

While a universal home assessment could greatly benefit customers, contractors, and case managers, its utility may be limited by varying program requirements and application processes. Each program has its own set of eligibility requirements, documents, application forms, rebate processes, and other idiosyncrasies that make applying to more than one a difficult, daunting feat for many customers—and burdensome for contractors and case managers, too. Interviewees were skeptical about the feasibility of a seamless alignment across many programs, and it is clear that a large set of stakeholders must be engaged in such an endeavor. However, interviewees also indicated that if such alignment were possible, it would help to overcome some of the most significant barriers to home electrification.

**Recommendation: Lay groundwork for streamlining and aligning the qualification and application processes for residential building electrification programs across the region or state.**

Our interviews made clear that complete alignment of the qualification and application process will be an arduous task. It may be impossible to, for example, agree on a single income eligibility threshold amid many different existing thresholds (many of which were carefully selected for valid reasons). However, this is a worthwhile effort, and groundwork can be laid for eventual success—and many of our interviewees, several of whom could be involved in such a process, showed interest, if not enthusiasm, for the idea. The outcome would be a single qualification process that enables a customer to go through intake, qualification, and one or two on-site home assessment contractor visits that then enable them to be prequalified for all major residential building electrification programs in a given region or across the state. This prequalification could last up to two years, depending on how the many stakeholders involved negotiate their priorities of reducing burden and ensuring that customer eligibility does not change.

Some important steps to lay groundwork for this effort include, but are not limited to, the following list:

- Identify the major building electrification programs that should be included. Separate processes could be conducted for programs targeting different building types or other program factors, but ideally these conversations would still happen in concert, given overlap among programs.
- Identify the major entities involved in the programs: state agencies, funders, utilities, labor unions, program administrators (including case managers and other customer support roles), and more.
- Identify key points of divergence that need to be streamlined, including income eligibility, income verification processes, technological requirements, contractor requirements, and more.
- Identify factors that cannot reasonably be streamlined, such as local permitting processes, and look for strategies to make these easy for program applicants or case managers to deal with in other ways.

Similar to the universal home assessment, any effort to align programs will need to be led by an agency, utility, nonprofit, or other entity with the capacity, political will, and expertise to coalesce many different—sometimes conflicting—organizations, agencies, and interests. The same entity may be able to coordinate the universal home assessment development and program streamlining processes. The entity that leads program streamlining will determine the feasible geographic scope of an aligned program qualification process. A city or region could develop its own process, which would be substantially simpler than a statewide process but with less ability to be comprehensive. On the other hand, a state agency or statewide nonprofit—with deeper resources and capacity—may have the ability to coordinate and align the major programs throughout California.

Individual program design decision-makers can implement smaller-scale changes to align programs even without a single entity leading across a region or the state. Existing efforts discussed throughout this report have already done so, for example, by implementing categorical eligibility, such as through enrollment in a public assistance program. However, fully aligning most or all major programs will require strong leadership and some degree of centralization, making smaller and hyperlocal entities ill-fitted to the task. There may also be a need for topic-specific leadership that comes from entities different from the main lead, such as labor unions leading conversations about how to address contractor-related barriers.

## 6. CONCLUSION

The proliferation of residential building electrification programs in California offers resources that could support many residents—particularly income-qualifying households in disadvantaged communities—to switch their homes from gas to electricity. But the sheer number of programs poses a problem: Applying to more than one program often doubles the work for customers, even though programs often need the same information. To add to this difficulty, many customers begin the process of enrolling and then learn they need substantial home retrofits or other upgrades to proceed. These barriers combine with others—lack of knowledge, distrust, uncertainty, and costs that are not covered by program funds—to erect a wall between low-income residents of disadvantaged communities and the electrification measures that could bring utility affordability and health benefits.

The Community Contractor Pilot (CCP) program operated by Valley CAN and Street Level Strategy, and funded partly by Southern California Regional Energy Network, is a successful addition to Southern California Edison’s Charge Ready Home program. The program introduces a comprehensive home assessment early in the process, removes the majority of financial risk and administrative burden from customers, and provides a trusted guide to shepherd participants through the process. Through these measures, the CCP has reduced the time and energy it takes customers to upgrade their electrical panels—a critical first step to significant electrification measures for many customers.

This study highlights several areas of success and opportunity. Repeated insights from our interviewees—not to mention the success of the CCP and emPOWER Gateway more broadly—point to the value of the case management approach to home electrification. Our analysis also shows the potential for two avenues of streamlining to lessen bureaucratic barriers to electrification: a universal home assessment process and an effort to align processes and requirements across programs. Moving forward, there is room to build on all of these, as our recommendations outline above.

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## APPENDIX A. DETAILS OF COMMUNITY CONTRACTOR PILOT PROGRAM PROCESS

TABLE A1

### Step-By-Step Breakdown of the CCP Process

Phase	Step	Description
<b>Outreach</b>	Step 1: Outreach and marketing	Street Level Strategy (SLS) hosts workshops and conducts direct outreach (phone, text, and door-to-door canvassing) to generate customer leads.
<b>Intake</b> 8–39 days* Median 20 days (n = 114)	Step 2: Customer screening and intake	emPower Gateway representative identifies program routes for the interested customer and explains rebate qualification. If enrolling, intake documents are collected, the customer profile is created, and a photo appointment is scheduled.
<b>Assessment</b> 5–21 days* Median 8 days (n = 83)	Step 3: Household document collection	Customer qualification is verified through documents. Collection of any additional documents required for prequalification begins.  SLS works with the customer to complete the Southern California Edison (SCE) Charge Ready Home application, double-checking to ensure the customer is eligible for the program.
	Step 4: Pre-install photo collection	emPower Gateway representative acquires photos of customer property and panels to allow for contractor site assessment and verify home eligibility.
	Step 5: Meter spot request	emPower Gateway team submits a meter spot request to SCE to determine panel location.
	Step 6: Contractor assessment and cost estimate	Contractor verifies home eligibility, determines the tier of installation complexity, and provides a quote to the customer.
<b>Application</b> 17–45 days* Median 31 days (n = 64)	Step 7: Customer approval	After receiving the quote, installation expectations, and their expected rebate coverage, the customer approves or declines the work.
	Step 8: Prequalification application	Team from emPower Gateway submits prequalification application for the customer who has approved the installation work and communicates prequalification status to both contractor and customer.
<b>Installation</b> 9–40 days* Median 20 days (n = 45)	Step 9: Installation	Once the customer obtains a prequalification ID and completes the meter spot, emPower Gateway schedules the installation appointment. The contractor's electric team visits the customer property to complete the installation and schedules a city inspection.
<b>Close-out</b>	Step 10: Post-installation documentation	Contractor procures permits, final inspection documentation, post-install photos, and creates an itemized invoice for rebate application.
	Step 11: Rebate application	Contractor submits a rebate claim to be paid out by SCE and finalizes all work.
	Step 12: Close-out conversations	EmPOWER Gateway team gathers feedback on the customer journey and holds closing conversations with the customer.

\*Typical range of phase duration for middle 50% of customers in 2025. See Figure 5 (Section 3.3) to understand time ranges.

## APPENDIX B. CHARGE READY HOME APPLICATION DETAILS AND REQUIREMENTS

The Charge Ready Home (CRH) program has several eligibility and application requirements for participants, as outlined below. The information provided here was obtained from Southern California Edison (SCE) program documentation and internal case management documentation provided by Street Level Strategy.

### Applicant Requirements

- SCE residential customer
- Home electric panel less than 200 amps
- Attached or detached single-family home
- Owner of the residence or provide the owner's written approval/authorization
- Installation completed within six months of application approval
- L2 charger installation within 180 days of upgrade (EV Charger Attestation Form)

### Program Expectations

- Expected application timeline: 4-6 months process
- Panel installation time: 6-8 hours
- Rebate covers panel installation only, charger not included
  - Already Upgraded = Panel upgrading within last 6 months, must install charger
  - Looking to Upgrade = Must install charger 180 days after panel upgrade
- Not a requirement to own or lease an electric vehicle prior to participating in CRH program

### Required Documents ([based on the CRH Application Checklist](#))

- **Proof of identity** (Driver's License, Passport, or California ID)
- [EV Charger Attestation Form](#)
- **Income verification** (if income qualified) through [CRH Household Summary](#) and IRS [Form 4506-C](#), or proof of public assistance for eligible programs
- Itemized invoice for all work completed, including date of service, address of installation, permit fees, and cost breakdowns
- **Permit documentation** required by city to begin project and site assessment
- **Pre- and post-install photos** of meters, breaker panels, amp ratings, panel locations, and EV charger (if installed)
- **Final inspection documentation** provided by city once work is inspected
- Additional documents for specific circumstances:
  - Charge Ready Home Mail-In Enrollment Form (if applying via mail)
  - Charge Ready Home Mail-In Rebate Form (if applying by mail or if contractor not in-network)

## APPENDIX C. ELIGIBILITY REQUIREMENTS ACROSS PROGRAMS

The following table lists a selection of relevant income-qualified building decarbonization programs across the state, namely in the Gateway Cities and Bay Area regions, to illustrate the variation in eligibility requirements that several interviewees discussed. Similar to Charge Ready Home (CRH), these programs involve direct installations and/or home upgrades to accommodate new electric appliances and systems. However, they also vary in eligibility requirements and specific offerings. Programs typically compare applicants' income levels to federal poverty levels (FPL) or area median income (AMI) to determine eligibility.

TABLE A2

Relevant Direct-Install Building Decarbonization Programs in the Gateway Cities Region

Scope	Funding Opportunity	Household Income Qualifications	Offerings
Federal	Low Income Home Energy Assistance Program (LIHEAP)	150% of FPL	Weatherization
	Weatherization Assistance Program (WAP)	200% of FPL or receive Supplemental Security Income (SSI)	Weatherization
State	Home Electrification and Appliance Rebates (HEEHRA)	<80% of AMI for maximum rebate; 80%–150% of AMI for 50% rebate	Electric panels and other home electrification upgrades
	Energy Savings Assistance (ESA) Program	250% of FPL (from California Alternate Rates for Energy [CARE]/Family Electric Rate Assistance Program [FERA])	Weatherization
	California Public Utilities Commission Solar in Disadvantaged Communities	250% of FPL (from CARE/ FERA)	Solar
	California Air Resources Board Clean Cars 4 All	300% of FPL	Plug-in hybrid or zero-emission vehicles
	TECH Clean California	80% of adjusted AMI or 250% of FPL	Heat pump water heater and HVAC
	Disadvantaged Communities-Single Family Solar Homes (DAC-SASH)	250% of FPL	Solar

Scope	Funding Opportunity	Household Income Qualifications	Offerings
<b>Southern California Edison territory</b>	Charge Ready Home	<80% of AMI OR enrolled in public assistance program for maximum rebate; located in DAC tract for 50% rebate	Electric panels
	ESA Building Electrification Program	250% of FPL (from CARE/FERA)	Electric panels and other home electrification upgrades
<b>Pacific Gas &amp; Electric Company territory</b>	Empower My Home	80% of unadjusted AMI for free upgrades 400% of FPL for reduced-cost upgrades	Electric appliances and whole-home electrification
	BayREN Efficiency and Sustainable Energy (EASE) Home Program	120% of AMI	Weatherization, energy efficiency, induction cooking, and health and safety

Note: This is a limited selection of programs showing different income qualifications for illustrative purposes and not a comprehensive list.

## APPENDIX D. INITIAL DESIGN OF A UNIVERSAL HOME ASSESSMENT

This section illustrates what a potential “universal” home assessment process and documentation could look like, grounded in our examination of Charge Ready Home and the Community Contractor Pilot program, as well as insights from our interviews. The content here generalizes beyond these specific programs, but further work is needed to achieve a process and documentation framework that truly accommodates all potential programs for any given geographic area, many of which require their own assessments. There is room to continue to refine and improve the content below, building upon lessons not only from the pilot program, but from other efforts.

### Potential Universal Home Assessment Workflow

Table A3 shows a potential step-by-step process for a universal home assessment, designed for program administrators, case managers, and contractors (not customers). It is expansive in order to inform the design of a universal assessment process that could be used across multiple programs, but these steps could be combined or condensed to minimize complexity (particularly for customers).

TABLE A3

Universal Home Assessment Workflow

Step	Case Manager	Contractor	Customer
1. Customer intake	Collect household, eligibility, and interest information	<i>No direct role</i>	Provide information and initial documents; respond to detailed questions from the case manager
2. Program identification	Assess eligibility, fit, and interest for list of relevant programs	<i>No direct role</i>	<i>No direct role</i>
3. Create documentation and photo/video list	Determine the list of necessary documents and photos based on program selection	<i>No direct role</i>	<i>No direct role</i>
4. Collect documents and photo/video	Request documents and photos/videos from customer (as needed, site visit to support collection)	<i>No direct role</i>	Provide documents and photos (or work with case manager to schedule time for site visit to collect)

Step	Case Manager	Contractor	Customer
5. Determine potential projects and complexity tiers	Review all documentation and develop a list of potential projects based on feasibility, programs, and customer interest	<i>No direct role</i>	<i>No direct role</i>
6. Submit pre-assessment documentation as needed	Submit pre-home assessment paperwork or applications to program administrators and others as needed (e.g., meter spot request to utility)	<i>No direct role</i>	<i>No direct role</i>
7. Initial document/photo home assessment	Send documents, photos, and videos to the contractor. Share list of potential programs and projects.	Review documents, photos, and videos. Assess whether potential programs and projects are appropriate and determine whether on-site assessment is needed.	<i>No direct role</i>
8. Schedule on-site home assessment (if needed)	Coordinate between contractor and customer to schedule on-site assessment.	Provide availability for on-site assessment	Provide availability for on-site assessment
9. On-site home assessment (if needed)	<i>No direct role</i>	Visit customer home, assess remaining issues, and answer customer questions	<i>No direct role</i>
10. Contractor work estimate	Review for accuracy and make sure to understand enough to discuss with customer	Provide proposed project specifications and estimated cost	<i>No direct role</i>
11. Home assessment report	Use information provided by contractor to develop report on household eligibility and recommended/feasible projects, using template	Review and validate report produced by case manager	<i>No direct role</i>

The home assessment process above culminates in a report, which should provide comprehensive information that can be used to process program applications, upgrade planning and approval, installation, and post-installation follow-up. A potential workflow for this implementation process is presented in Table A4.

**TABLE A4**

**Program Application, Participation, and Follow-Up Workflow**

Step	Case Manager	Contractor	Customer
1. Customer communication and approval	Review recommendations with customer, including project details, estimated timeline and cost, and applicable program funding/support	Answer customer questions where case manager cannot	Receive and review recommendations, details, cost, program applicability; ask questions, request revisions if needed, and approve
2. Revised or alternative proposal and quote (if needed)	If customer does not approve initial proposal, work with contractor to provide revised proposal; seek second opinion if needed/appropriate	Revise/update proposal based on customer's updated request	Review new proposal and approve (repeat if needed)
3. Additional documentation (if needed)	Request any additional documents, photos, or videos from customer (as needed, site visit to support collection)	<i>No direct role</i>	Provide additional documents, photos, or videos (or work with case manager to schedule time for site visit to collect)
4. Program prequalification / applications	Submit applications and documentation to program administrators	<i>No direct role</i>	<i>No direct role</i>
5. Utility, program, and government approvals	Ensure permits are approved, prequalification is complete, and other prerequisites to work are fulfilled (e.g., meter spot)	<i>No direct role</i>	<i>No direct role</i>
6. Schedule retrofits and installation	Coordinate between contractor and customer to schedule retrofit construction and installation appointments	Provide availability to implement projects	Provide availability for home access for work

Step	Case Manager	Contractor	Customer
7. Pull necessary permits	<i>No direct role</i>	Acquire remaining permits as needed	<i>No direct role</i>
8. Retrofits and installation	Provide coordination as needed	Implement projects as approved by customer	Provide access to home for projects to be implemented
9. Post-installation documentation	Submit completed permits, invoice, and documentation of inspection to program administrators	Provide completed permits, invoice, and photos of completed work to case manager	<i>No direct role</i>
10. Invoicing and reimbursement	Support and expedite distribution of funds from program and customer to contractor	Receive reimbursement for project	Receive and pay invoice for portion of work not covered by program funding
11. Post-installation support	Provide ongoing support for customer to ensure optimal experience with new appliances and other home upgrades	<i>No direct role</i>	<i>No direct role</i>

## Home Assessment Report Structure and Content

The universal home assessment should produce a report that can be used to apply for (nearly) any home electrification program. This section outlines the key components that should be included in such a report. These components include basic information about the applicant and their home, indication of programs a customer is interested in and eligible for, proof of eligibility (in all of the forms required by a major program, including percentage of federal poverty level and area median income), recommendations and cost estimates from the contractor, and documents required by each program, attached as appendixes.

Each of the lists below provides a starting point for the information a universal assessment must gather, largely based on Charge Ready Home. Further work is needed to develop complete lists and ensure they comprehensively cover all potential information needs for all relevant programs.

### Basic Information

- Name
- Email
- Phone
- Address
- Cross-streets
- Utility account number

## Income Eligibility Criteria

- Annual household income
- Household size
- Area median income (AMI)
- % of AMI
- % of federal poverty level
- Tax status (dependent or not)
- Participation in income-qualified assistance programs
  - e.g., Bureau of Indian Affairs General Assistance, CalFresh/SNAP (food stamps), CalWorks (TANF)/Tribal TANF, Drive Clean in the San Joaquin Replace Program, GRID Alternatives Prequalification, Head Start Income Eligible (tribal only), Low Income Home Energy Assistance Program (LIHEAP), Medi-Cal (income-qualified Medi-Cal only), Medi-Cal for Families (Healthy Families A&B), Supplemental Security Income (SSI), Special Supplemental Nutrition Program for Women, Infants, and Children (WIC)

## Geographic Eligibility Criteria

- DAC designation based on the [SB353 Disadvantaged Communities Map](#)
- Utility provider

## Home Details and Eligibility Criteria *[for building electrification programs]*

- Building type (single-family attached/detached, multifamily 2-4 unit or 5+ unit)
- Tenure (renter/owner)
- Authority (permission from owner, if not self)
- Number and types of rooms
- Electric panel capacity
- Electric load
- Building heating system
- Metering (master/individual)

## Vehicle and Charger Eligibility Criteria *[for electric vehicle purchase and charger install programs]*

- Make
- Model
- Year
- Purchase date
- Used or new
- Charger model
- Charger level

## Program Interest / Intent to Electrify Questions and Checklist

The following list can be used to indicate what electrification measures customers are interested in pursuing. In addition, the assessment should note relevant factors such as intended or recent purchase of an electric vehicle (EV) and any desired energy services not currently served (e.g., cooling if no air-conditioning).

Project	Interest?	Feasible?	Cost Estimate	Tier	Recommendation	Notes
Electrical panel						
EV charger						
Heat pump water heater						
Heat pump HVAC						
Weatherization						
Electric resistance stove						
Induction stove						
Solar panels						
Battery system						
Clothes dryer						
Refrigerator(s)/Freezer						
Other:_____						

## Programs to Consider

This list of programs can be modified and expanded depending on the intended scope of the universal home assessment.

Program	Eligible?	Benefit Estimate	Projects Covered	Notes
Low Income Home Energy Assistance Program (LIHEAP)				
CA California Energy Smart Homes				
CA Low-Income Weatherization Program (LIWP)				
CA Energy Savings Assistance Program				
CA Equitable Building Decarbonization Program				
SCE Building Electrification Program				
SCE Charge Ready Home (CRH)				
SCE Electric Back-Up Power Units Rebate				
SCE Induction Lending Programs on Induction Hobs				
QuitCarbon				
PACE Financing from Renew Financial				
GoGreen Financing				
National Energy Improvement Fund (NEIF)				
Other: _____				

## Potential Required Documents [to be checked off based on program interest]

This table provides an initial list of documents required to illustrate the needs of a home assessment. Similar lists will need to be developed for other relevant project types.

Form	Required For	Stage	Need?
Driver's License, Passport, or California ID			
CRH Mail-in Enrollment Form (if applying by mail)			
CRH Mail-in Rebate Form (if applying by mail or contractor not in-network)			
<a href="#">EV Charger Attestation Form</a>			
Income Verification: <a href="#">CRH Household Summary</a>			
Income Verification: <a href="#">Form 4506-C</a> (if income qualified)			
Proof of Public Assistance (optional replacement of income verification, select programs only)			
Itemized Invoice with Line-Level Breakdown of Costs			
Permit Documentation (required by city)			
Final Inspection Documentation (from city)			
Other: _____			

## Potential Required Photos and Videos [to be checked off based on program interest]

This table provides an initial list of photos and videos to illustrate the needs of a home assessment. Similar lists will need to be developed for other relevant project types.

Item / Location	Photo Needed	Notes
Main Breaker	Open breaker with dead front removed.	If subpanels are present, please specify location and capture breakers
Electrical Meter	Close-up of meter that shows reading	
	Surroundings of meter from ~5 feet away	
Circuit Box Max Amp Rating	Max amperage found on panel label or panel control	Ensure numbers on photo are legible
Panel Location	Close-up of panel from 5 feet away	
	Surroundings of panel from 10-15 feet away	Capture exterior of home, including panel location, service riser, obstructions, etc.
House	Wide shot showing vent route	
	Close-up of main water line showing proximity to panel	
	Video of front, back, roof, foundation, interior of house	Begin at front, walk along side to back, ensure whole home is visible (roof, foundation and crawl spaces, waterlines, vents, cables, poles, panels/subpanels, and proximity to windows/obstructions)
Visible Wiring		Note whether dealing with knob and tube

## Project Complexity Tier Definitions

The home assessment process should include a system for ranking the difficulty or complexity level of each retrofit or installation for each household. For instance, interviewees indicated that the CRH program uses three complexity tiers to categorize homes:

- Tier 1: Surface mount, easy access.
- Tier 2: In-wall, plaster repair, clearance issues.
- Tier 3: Panel relocation needed, major site challenges.

Similar tiers could be developed for all project types covered by the universal assessment.



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