



A Scalable Model for Improving Community Access  
to Environmental Benefit Programs in California

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COVER PHOTO: A member from East Yard Communities for Environmental Justice tries out a plug-in electric vehicle at a community event.  
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# ■■■ EXECUTIVE SUMMARY

**THE emPOWER OUTREACH CAMPAIGN** was catalyzed by Liberty Hill Foundation to enable households across Los Angeles County to realize more fully the benefits offered by existing local and state environmental programs. Another motivation for emPOWER was to build best practices in public sector contracting, including full transparency in business operations, administrative economies of scale and local economic stimulation by funding community organizations with local knowledge and trust in neighborhoods affected by systemic problems of poverty, pollution and now the pandemic to support local households in increasing their financial and health resiliency.

Through its partnerships, and with Liberty Hill acting as a regional hub administrator, emPOWER has in turn funded eight community-based organizations (CBOs) across the county to connect low-income residents with a suite of environment-related financial assistance programs, including those offering clean and affordable energy and clean transportation. This effort is essential to ensure a just transition in the necessary process of climate change adaptation over the next several decades, and to serve as a replicable model across the state that prioritizes funding to authentic grassroots organizations working to build power in communities on the frontlines of industrial pollution.

For this preliminary assessment of the campaign, we conducted separate quantitative and qualitative analyses of the first year of emPOWER deployment. We found that the eight CBOs held or participated in 482 community events, including eight Electric Vehicle Ride and Drive functions. These efforts resulted in over 11,000 meaningful interactions with

distinct Los Angeles County households and more than 2,700 emPOWER eligibility applications.

The campaign was highly successful in reaching the most impoverished and environmentally disadvantaged communities in the county, especially compared to existing individual programs. Over 90% of emPOWER participants live in a state-identified disadvantaged community (DAC) or low-income community (LIC) census tract. Moreover, emPOWER applicant households had much lower incomes than the average household in the county or the state, were much more likely to be from under-represented minority groups and were more likely to have appliance and vehicle needs. Consequently, on average, each emPOWER participant was eligible for more than nine environmental incentive programs promoted by the campaign.

Tracking sign-ups for individual programs through the first year of emPOWER was challenging due to the complexity of the case management process and platform that the campaign was developing. However, baseline estimates of potential—or “realizable”—benefits that could be received by emPOWER participants based on current incentive program eligibility determinations suggest that if even one-third of eligible individuals sign up for a small subset of ongoing bill assistance programs and remain enrolled for five years, \$1.2 million in benefits could be accessed by LA County residents in need. If one-tenth of eligible participants sign up for one-time incentive programs, another \$1.2 million in benefits would be realized.

Notable process successes of the campaign included CBOs’ ability to build upon existing relationships with their communities; a focus on program benefits



A representative from the Social Justice Learning Institute shares details about the emPOWER program with a community member in Compton.

that participants were consistently motivated to apply for; and active technical assistance and program adaptation from Liberty Hill and Valley Clean Air Now. Frequently reported challenges that need to be addressed in future phases of the program include community hesitance and misconceptions regarding emPOWER and the associated incentive programs, technical problems with the application platform and campaign management obstacles.

Resolving these challenges will enable the CBOs

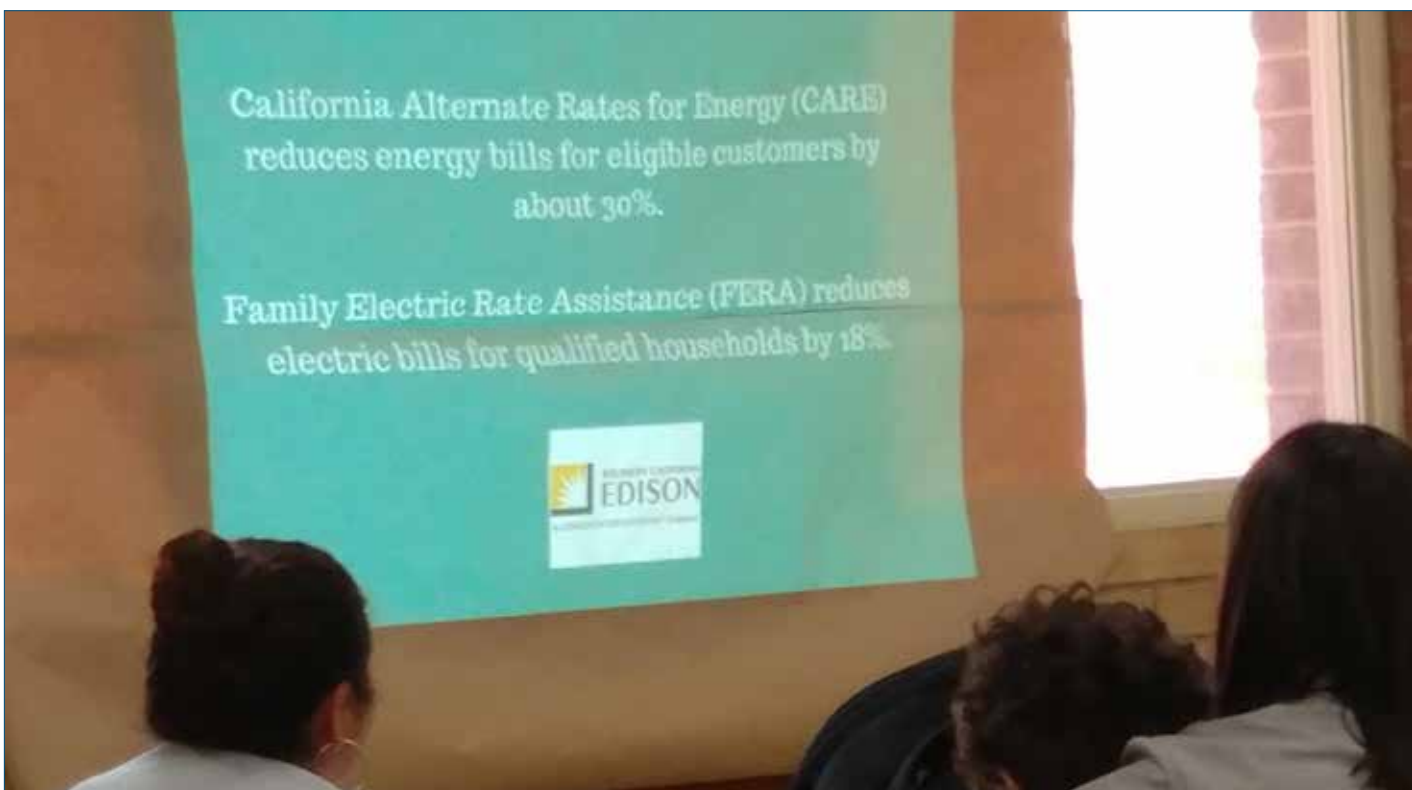
to expand the campaign's reach and allow existing participants to realize more benefits more quickly from assistance programs. emPOWER will continue to operate in LA County through 2020, and there are actively discussed plans to grow this campaign model, beginning with an expansion into SoCal Edison (SCE) territory in the Inland Empire in California and progressing statewide. Broadening and deepening this campaign through the leadership of frontline organizations can help ensure a just transition in the process of climate change adaptation over the next several decades.

# 1 ■■■ MOTIVATION AND BACKGROUND FOR EMPOWER CAMPAIGN

**THE EMPOWER OUTREACH CAMPAIGN** was catalyzed by Liberty Hill Foundation to serve as a model for enabling households across Los Angeles County to realize more fully the benefits offered by existing local and state environmental programs. Through its partnerships, emPOWER has in turn funded eight community-based organizations (CBOs) across the county to connect low-income residents to a suite of environment-related financial assistance programs, including clean and affordable energy and clean transportation. These incentive programs provide benefits including but not limited to utility bill savings, zero-emission vehicle (ZEV) incentives and energy efficiency home upgrades.

Efforts like emPOWER are essential to ensure a just transition throughout the necessary process of climate change adaptation over the next several decades. A concerted policy and advocacy effort must be made to shield disadvantaged communities from bearing the brunt of this transition. This is evident considering low-income households already face larger energy, transportation and water affordability burdens than other populations in terms of the percentage of the household income spent on utilities (for instance, see Drehobl & Ross, 2016; Pierce et al., 2019; Pierce et al., 2020).

State and local agencies' passive provision of environmental benefit programs is not sufficient to ensure household access. For instance, a recently



published study by colleagues at UCLA highlights inequities in energy consumption and uptake of clean energy programs across Los Angeles County (Fournier et al., 2020). The authors find that some of the state’s climate programs are disproportionately benefiting higher-income households using large amounts of energy, rather than lower-income households who are the most in need. Procedural justice in household-benefit program administration involves targeted outreach to particularly vulnerable communities, along with additional information sharing and technical assistance to households (Smith & Lipsky, 2009). Programs offered without targeted outreach and enrollment assistance have historically seen low rates of enrollment among eligible households (for instance, see Pierce et al., 2020). This means that programs are not effectively delivering benefits to the vulnerable households they were designed to serve. Even programs that have high enrollment rates in Los Angeles County, such as SCE California Alternate Rates for Energy (CARE), represent further opportunities to reach targeted populations (SCE, 2019). About 5% of disadvantaged community (DAC, based on Senate Bill 535 [2012]) census tracts served by SCE do not have any enrollment in CARE, and the average gap between eligible and enrolled households is 23%.

The emPOWER platform was launched to realize these opportunities via existing community relationships. Activating community-based organizations can also provide an advantage compared to top-down approaches to providing this technical assistance because such groups tend to be more trusted and embedded within the community (Austin, 2003). Much of the philosophy and justification behind Liberty Hill’s approach was laid out in its 2017 report *Green Zones and Grassroots: How California’s Climate Investments Benefit Los Angeles County’s Disadvantaged Communities* (Liberty Hill, 2017).

Beyond starting with the trust of communities, Liberty Hill recognized that there was a need for a regional hub outreach model to establish best practices in public sector contracting. In some ways, its model of public sector contracting adapts the largely neoliberal concept of “public private partnership” (Miraftab, 2004; Forrer et al., 2010) to be more progressive and equitable, as well as efficient.

The emPOWER model synthesizes public and private funding sources that should yield administrative economies of scale, creates interprogram integration across jurisdictions and investment categories to maximize local economic



benefits and statewide environmental benefits, and allows for flexible implementation based on the strengths of individual community partners. Best practices also include complete transparency in expenditures, which is often lacking in this type of contracting. By committing a minimum of 60% of all funding directly to on-the-ground outreach, emPOWER prioritizes investments in frontline communities and trusted organizations with established histories of organizing in these communities. Providing funding for CBOs to do this work ensures that rather than being extracted, more program dollars stay in the communities that most benefit from the investment.

EmPOWER strives to reduce endemic barriers associated with low-income household enrollment in environmental incentive programs. Even when significant effort is put into streamlining their designs and contracting nonprofit organizations to assist in administration, many of the programs can be challenging to enroll in (for instance, see Pierce & DeShazo, 2017). These programs often require significant documentation, including printed and mailed applications, and even direct contact with the agencies operating the programs to discuss application questions and issues. Additionally, there is evidence indicating that if households are participating in a single assistance program, they are more likely to enroll in other assistance programs, a phenomenon referred to as “bundling” (Frank et al., 2006; Higgins & Lutzenhiser, 1995; Murray & Mills, 2014). This concept further supports the potential utility of a campaign such as emPOWER, in which CBOs enable households to learn about a large suite of programs at once, and can enroll in as many as they are eligible for more smoothly than on a one-by-one basis.

There were 48 programs identified by Liberty Hill in its initial campaign design, illustrating the

time-consuming and complex endeavor faced by households in navigating program enrollment. Moreover, these programs differ in terms of how many eligible applicants can enroll. Some are entitlement programs (all eligible households can enroll; i.e., CARE), whereas many are discretionary or limited-fund programs with high degrees of competition, especially in Southern California (Replace Your Ride, or RYR).

Program implementation models simultaneously offering multiple carbon-reduction incentives fill a recognized need to meet California's greenhouse gas reduction targets, but to date, there has been no publicly available, practical model to assist households in accessing multiple incentives across sustainable energy and low-carbon transportation benefit programs.<sup>1</sup> In the emPOWER model, the role of CBOs involved is to educate low-income residents on the available incentive programs and simplify the associated enrollment process for each program. The CBOs do this for several programs simultaneously through a durable and technologically sophisticated new platform. As a result, LA County residents who would not have otherwise signed up are able to successfully participate in these incentive programs and thus realize multiple benefits. These benefits can be accessed with the aid of CBOs or directly by households through publicly available websites that can provide program information on which households are eligible. Enrollment can build financial and health resiliency in historically underserved communities within the county, many of which are designated as Senate Bill 535 DACs and low-income communities (LICs) based on Assembly Bill 1550 (2016).

The development of emPOWER was facilitated by funding from Electrify America, SCE, the Los Angeles Department of Water and Power

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<sup>1</sup>One prominent program in development is the California Air Resources Board's (CARB) One Stop Shop, administered by GRID Alternatives. This online web tool provides information about clean vehicle purchase and use incentives (GRID Alternatives, 2018) which will “lay the foundation for a centralized approach to accessing opportunities for clean energy, energy efficiency and water-efficient upgrades for housing serving low-income residents.” Currently, the program promotes CARB's suite of equity-focused private passenger vehicle incentives alongside the California Public Utilities Commission's Single-family Affordable Solar Homes (SASH) Program, also administered by GRID Alternatives. Liberty Hill was brought in as a subcontracted outreach partner for the One Stop Shop and continues to coordinate CBO testing and feedback of the online tool, which is not yet available to the public directly. CARB has also proposed a pilot for a Sustainable Transportation Equity Project (STEP) program with a community-based approach to overcoming barriers to providing clean transportation and mobility options in California. However, this is still in the planning stages, and again, it is unclear if or how this project will offer benefits to eligible households.



(LADWP), the California Air Resources Board (CARB) and the Strategic Growth Council. In the first stage of the campaign, Liberty Hill collaborated with the following longstanding CBOs to carry out campaign activities locally:

- Active San Gabriel Valley (Active SGV)
- Day One
- East LA Community Corporation
- East Yard Communities for Environmental Justice (EYCEJ), with teams in Southeast LA (SE) and Long Beach (LB)
- Pacoima Beautiful

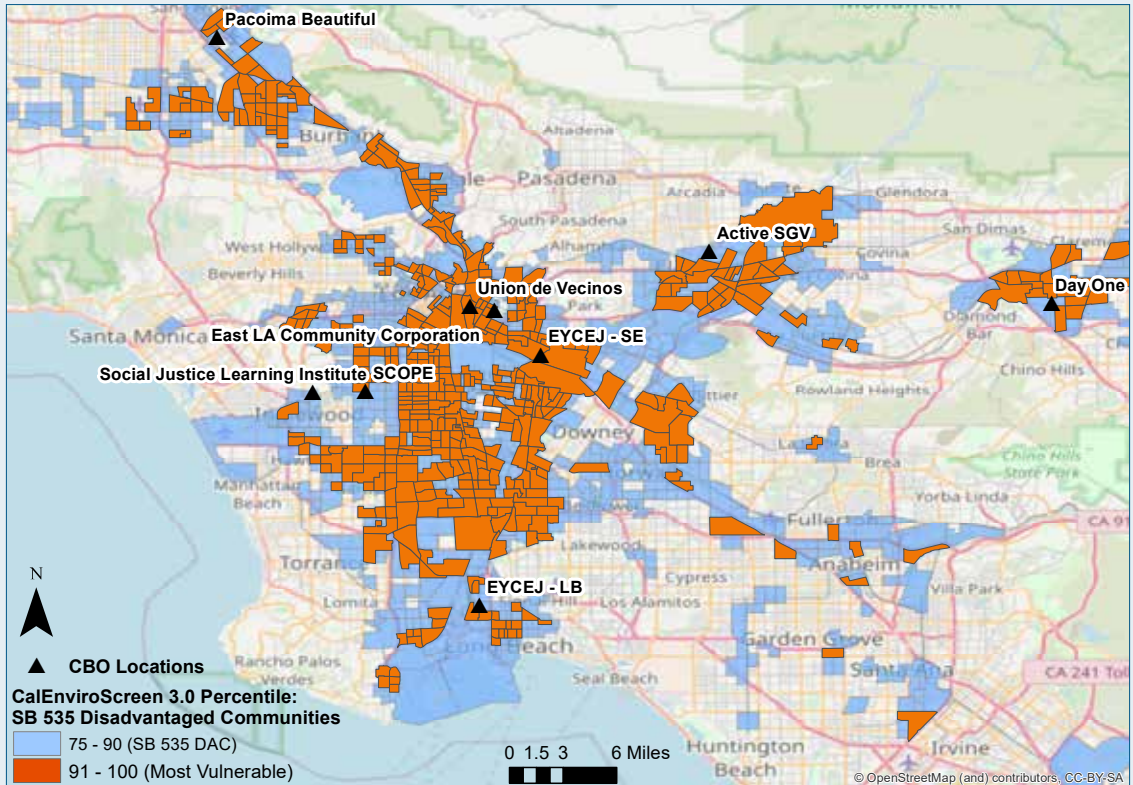
- Social Justice Learning Institute
- Strategic Concepts in Organizing & Policy Education (SCOPE)
- Union de Vecinos

The table below provides additional information about each of the organizations collaborating on the emPOWER campaign, highlighting their strategies and areas of focus. Each of these organizations has a grounded, long-term relationship with the communities they serve, aiding them in building connections with community residents through emPOWER outreach.

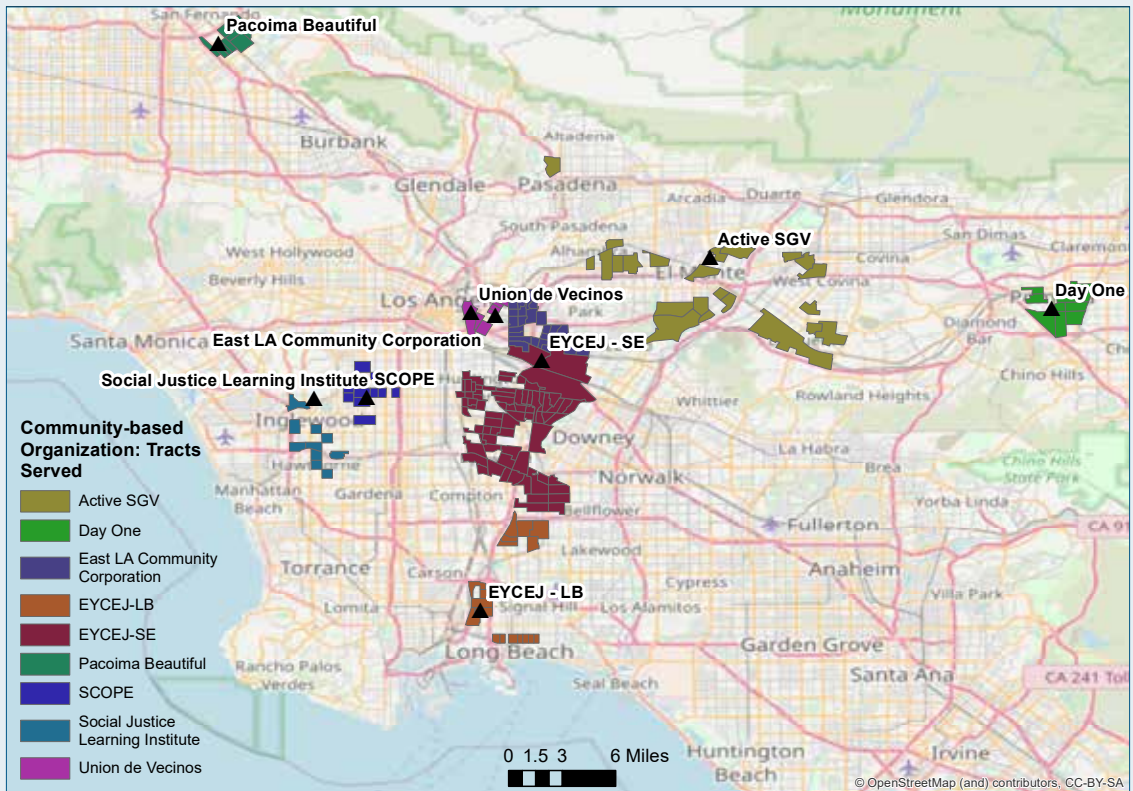
## CBOs collaborating on emPOWER campaign

Community-based Organization (CBO)	Year Founded	Communities Served via emPOWER	Strategies and Issue Areas of Focus
Active San Gabriel Valley	2010	El Monte, South El Monte, Bassett, Avocado Heights	Healthy, active and resilient communities, with many projects focused on active transportation and greenways
Day One	1987	Pomona	Public health and prevention, advocacy and leadership, community service and environmental policy
East LA Community Corporation	1995	East Los Angeles	Community development, including financial and housing assistance
East Yard Communities for Environmental Justice	2001	Gateway Cities (Southeast LA - SE), Long Beach (LB)	Building self-advocacy, environmental policy change, movement building for environmental health and justice
Pacoima Beautiful	1996	Pacoima, Sun Valley	Community organizing and education, including on environmental issues (energy, water, waste and recycling), promoting cultural arts, safer homes and youth organizing
Social Justice Learning Institute	2008	Inglewood, Lennox, Hawthorne	Empowering through education, creating thriving communities and changing systems
Strategic Concepts in Organizing & Policy Education	1993	South Los Angeles	Community empowerment as well as training and capacity building with initiatives focused on economic improvement, reducing unemployment and climate resilience
Union de Vecinos	1996	Boyle Heights	Building community, developing leaders and reclaiming neighborhoods with initiatives focused on improving the health and stability of neighborhoods, environmental justice and housing

**Figure 1: emPOWER CBO locations**



**Panel 1: CalEnviroScreen Disadvantaged Communities.** Census tracts in blue have CalEnviroScreen scores in the highest 25% statewide; tracts in orange have scores in the highest 10% statewide.



**Panel 2: Census tracts in Los Angeles County that each CBO serves**



A family tries out an electric vehicle during a community event.

Liberty Hill is also working with Valley Clean Air Now (Valley CAN), Service Employees International Union (SEIU), GRID Alternatives and several service providers implementing incentives promoted by emPOWER on various aspects of campaign implementation. Valley CAN worked very closely with Liberty Hill during program development, since Valley CAN has substantial experience conducting community outreach through the programs it operates, which involve enrolling residents of the San Joaquin Valley (SJV, a region with historically poor air quality) in vehicle-focused environmental incentive programs. Valley CAN's role is discussed further in Section 3.2.1 below.

After an initial pilot stage in late 2018 and early 2019 involving two of the eight CBOs, emPOWER officially launched in February 2019. The thousands of interactions that CBOs have with residents through emPOWER are recorded in Salesforce, a customer relationship management (CRM) platform.

The purpose of this report is to provide an evaluation of the first year of this campaign, including distributional equity implications, efficacy

of outreach and areas for growth. This analysis primarily uses household-level participant data, but also includes other quantitative and qualitative information provided by the CBOs directly to the researchers. This evaluation assesses strengths and weaknesses of this one-stop grassroots outreach approach to empower vulnerable communities and increase their resiliency.

First, Section 2 includes the data and methodology. The results are then organized in terms of emPOWER campaign evaluation (Section 3), which includes project inputs, activities, outputs and outcomes (realizable benefits), and process evaluation (Section 4), which includes an assessment of outreach methods and programwide successes and challenges. Then next steps for evaluation are discussed in Section 5, while Section 6 presents a summary conclusion.

# 2 ■■■ DATA AND RESEARCH METHODOLOGY

**FOR THIS PRELIMINARY ASSESSMENT**, the research team conducted separate quantitative and qualitative analyses to review various metrics.

## ■ 2.1. Quantitative Methods

The emPOWER outreach program's Salesforce data was provided through November 30, 2019, for most of the quantitative analysis; these data were cleaned and analyzed using RStudio software.<sup>2</sup> There were approximately 2,710 total valid responses after removing clearly erroneous entries, though each entry did not include a response to every question. Some individuals only filled out a survey or answered a few eligibility questions, while others completed the entire application, which explains why the sample sizes vary slightly throughout this assessment.

In this report, when providing statistical percentages of responses to questions, the total number of respondents to each particular question is used to calculate those statistics, not the total number of participants overall (2,710).

Several other administrative data sources were joined to participant data and used throughout this assessment to provide context for the effectiveness of the emPOWER model in reaching the most

vulnerable communities. CalEnviroScreen 3.0 data (OEHHA, 2018) and Assembly Bill 1550 low-income community data (CARB, 2018) were joined with the participant-level data to determine the Senate Bill 535 DAC and Assembly Bill 1550 LIC statuses of the participants' tracts. The "meaningful interactions" and pledges metrics discussed in Section 3.3.1 were drawn from information provided by the CBOs and are entirely separate from the Salesforce platform.

## ■ 2.2. Qualitative Methods

To assess the efficacy of various CBO outreach methods, as well as to develop an understanding of the successes and challenges faced by the CBOs throughout the emPOWER process, the research team undertook three research activities. We spoke with CBOs implementing the pilot, facilitated a group discussion with the CBOs at a larger outreach meeting in May, and held individual interviews with one or more representatives from each CBO from late May to August 2019, and again in January 2020, with the exception of one CBO without an available representative in the latter period. A summary of our findings from this process evaluation is found in Section 4 below.

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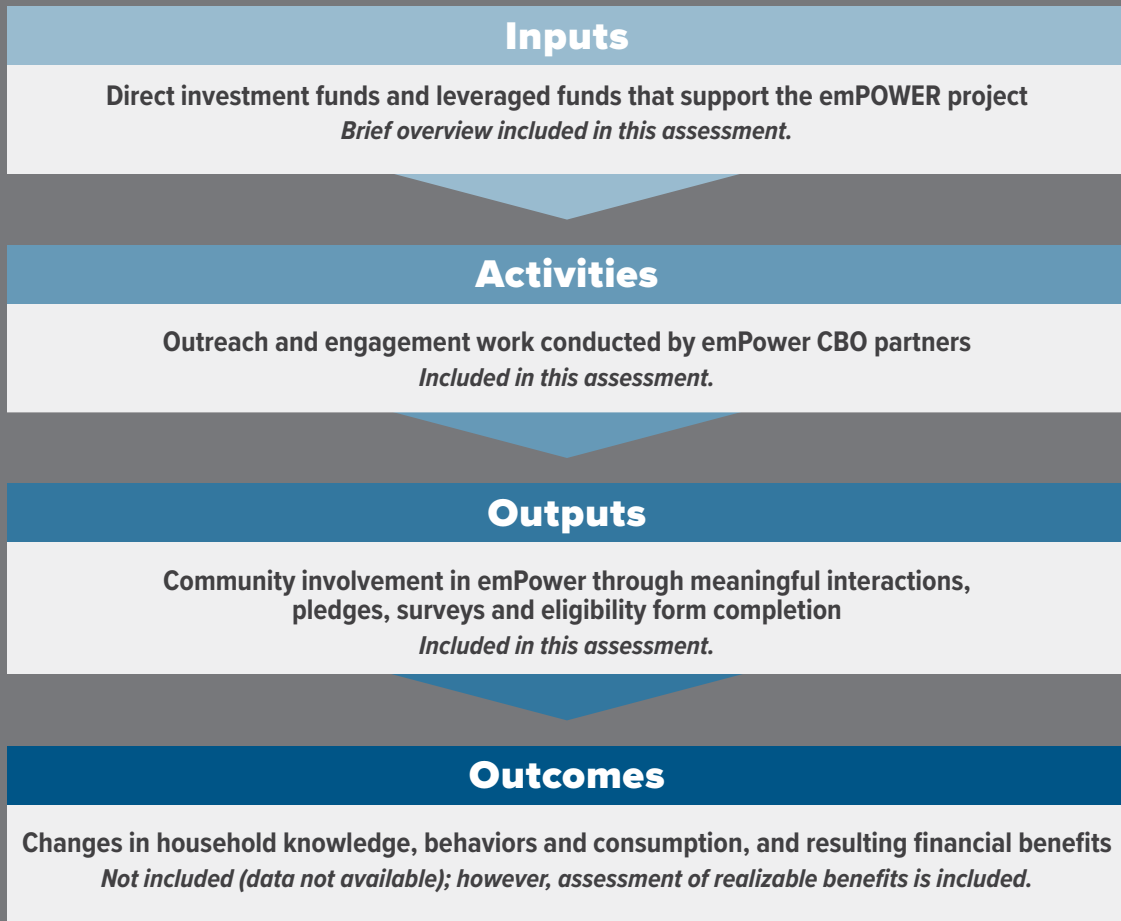
<sup>2</sup> Erroneous data was removed during cleaning processes: dummy participant entries used for Salesforce platform testing; entries from census tracts outside LA County; annual household income values less than \$100 and one equal to \$700,000; reported household sizes equal to zero and those with zero adults; and utility bill outlier values above the interquartile range by 1½ times the size of the range, as well as bills lower than \$20 for electricity and \$10 for gas. No other data were deemed to be improperly collected or outliers in need of removal.

# 3 ■■■ FIRST-YEAR CAMPAIGN RESULTS

**AS SHOWN IN FIGURE 2**, there are a number of ways to evaluate a campaign such as emPOWER by examining different stages. These stages range from inputs to outcomes. Given that the campaign was still in the pilot stage and that there were some delays in the process, we were limited to focusing

our assessment on the Activities and Outputs stages, in addition to potential or “realizable” benefits (Section 3.5) based on program eligibility. As noted below, we anticipate performing further evaluation in the future.

**Figure 2: Components of emPOWER campaign evaluation**



### ■ 3.1. Inputs to Campaign

Approximately \$1.2 million of funding was provided from Electrify America, SCE, LADWP and CARB to Liberty Hill for the first year of emPOWER's operation. In turn, Liberty Hill finalized grants totaling \$720,000 for all participating CBOs; executed contracts with event coordinators, technical consultants, program evaluators, CRM developers, designers and translators for approximately \$175,000; incurred approximately \$100,000 in direct expenses, the vast majority of which was spent to increase the capacity of CBO partners (tablets, printers, phone plans, CRM user accounts, event costs, signage, etc.); with the remainder of funds (about \$300,000) remaining with Liberty Hill for staffing (program design, implementation, management, communications and grant writing) and indirect expenses.

### ■ 3.2. Campaign Activities

#### 3.2.1. Development of Salesforce platform

Liberty Hill partnered with Valley CAN to develop the emPOWER Salesforce CRM tool. Valley CAN was an excellent candidate for this role since it operates an integrated vehicle repair, retirement and replacement program focused on reducing emissions from older vehicles, and Valley CAN's staff use Salesforce to maintain all participant records and to track enrollment status, outreach methods and communications. They have successfully served approximately 65,000 residents of the SJV since 2005. Valley CAN's Salesforce system manager worked closely with Liberty Hill to serve the campaign's needs by building a new platform for emPOWER on Salesforce.

The development process was complex and took several months to finalize. As CBOs started to use the interface, they provided the development team with regular feedback and the tool was adjusted as needed. There were challenges associated with development due to the complex requirements of program tracking, as described in Section 4.3, but most issues were successfully resolved throughout the first year of emPOWER implementation, and the tool is running smoothly.

#### 3.2.2. Training of CBOs

Liberty Hill trained the eight CBOs on 48 programs with 75 possible incentives for

participants. Before emPOWER was launched, Liberty Hill held an introductory training session. They also held three CBO convenings throughout 2019, which provided time for the CBOs to come together and discuss lessons learned with emPOWER thus far while receiving technical Salesforce training.

#### 3.2.3. Events

The CBOs conducted outreach for emPOWER using various methods. These included tabling at their ongoing events, canvassing door-to-door, collaborating with school districts and other groups, and more. They held or participated in a total of 482 events.

Additionally, Liberty Hill coordinated eight Electric Vehicle Ride and Drives (Compton, Pomona, Van Nuys, South LA, Wilmington, Commerce, San Gabriel and South Gate) with the CBOs. More than 600 people attended these events.

### ■ 3.3. Campaign Outputs

#### 3.3.1. Outreach and Application Statistics

The emPOWER CBOs had several deliverable-focused goals to reach during the first year of emPOWER. These included meaningful interactions, energy pledges, surveys and program eligibility applications, which were ultimately used to determine eligibility for all of the environmental incentive programs. Each of these are described in further detail below.

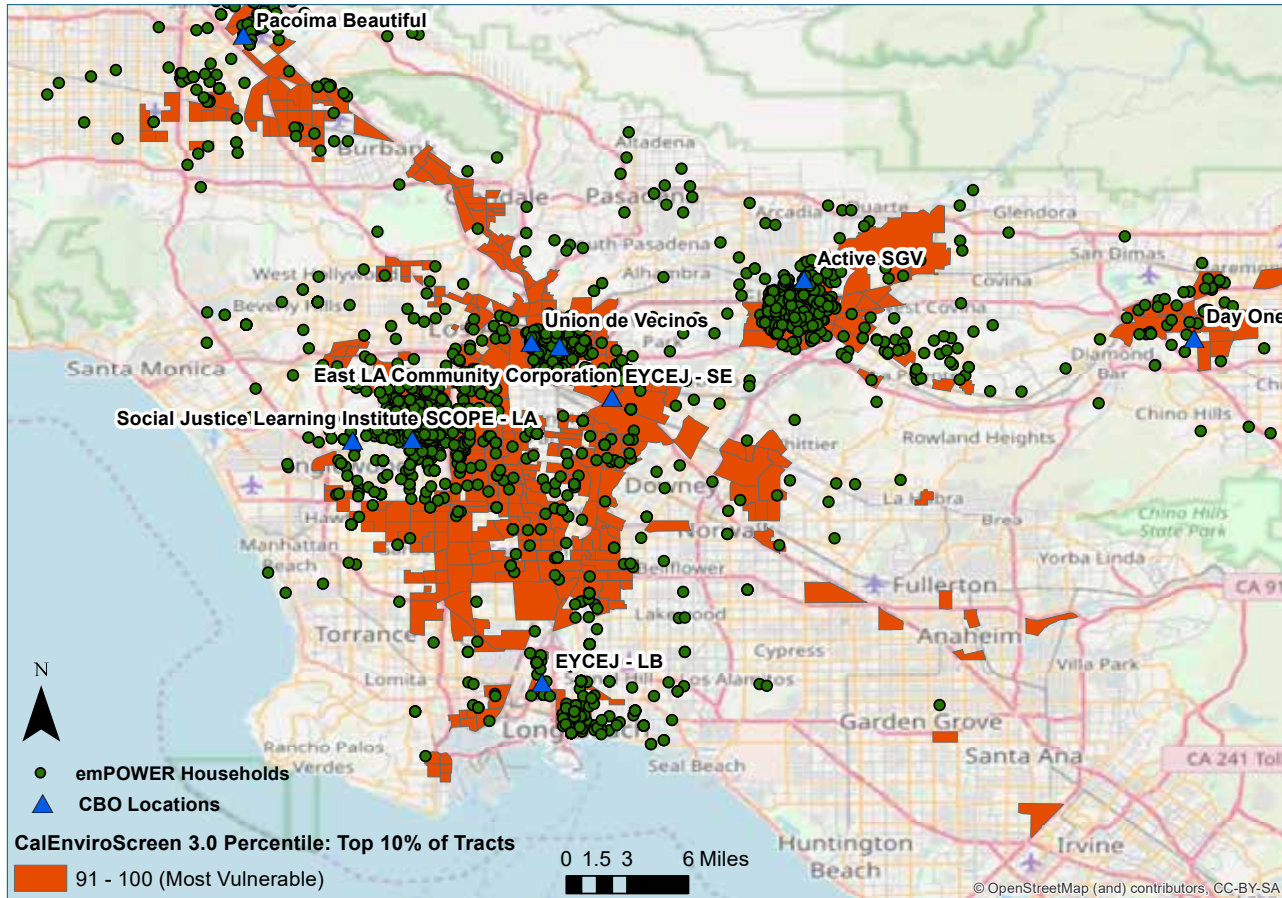
##### *Meaningful Interactions*

The CBOs tracked meaningful interactions with participants throughout the process. Meaningful interactions are defined as interactions with distinct households where emPOWER and the incentive programs are discussed, regardless of whether the individual decides to participate in emPOWER. CBO outreach resulted in meaningful interactions with more than 11,000 LA County residents over the course of 2019.

##### *Pledges*

The CBOs also collected pledges focused on energy-saving behaviors as a method of engaging with participants. The CBOs have had varying levels of success with the pledges, but the majority did not use them for follow-up in any way. Some found that pledges were a great way to educate

**Figure 3: Households that participated in emPOWER (2019)**



about emPOWER and related topics through connecting with residents over something shorter than a full eligibility form. Others found that it was challenging to track accountability from the pledges and that the pledges have not resulted in many additional emPOWER participants.

### Surveys

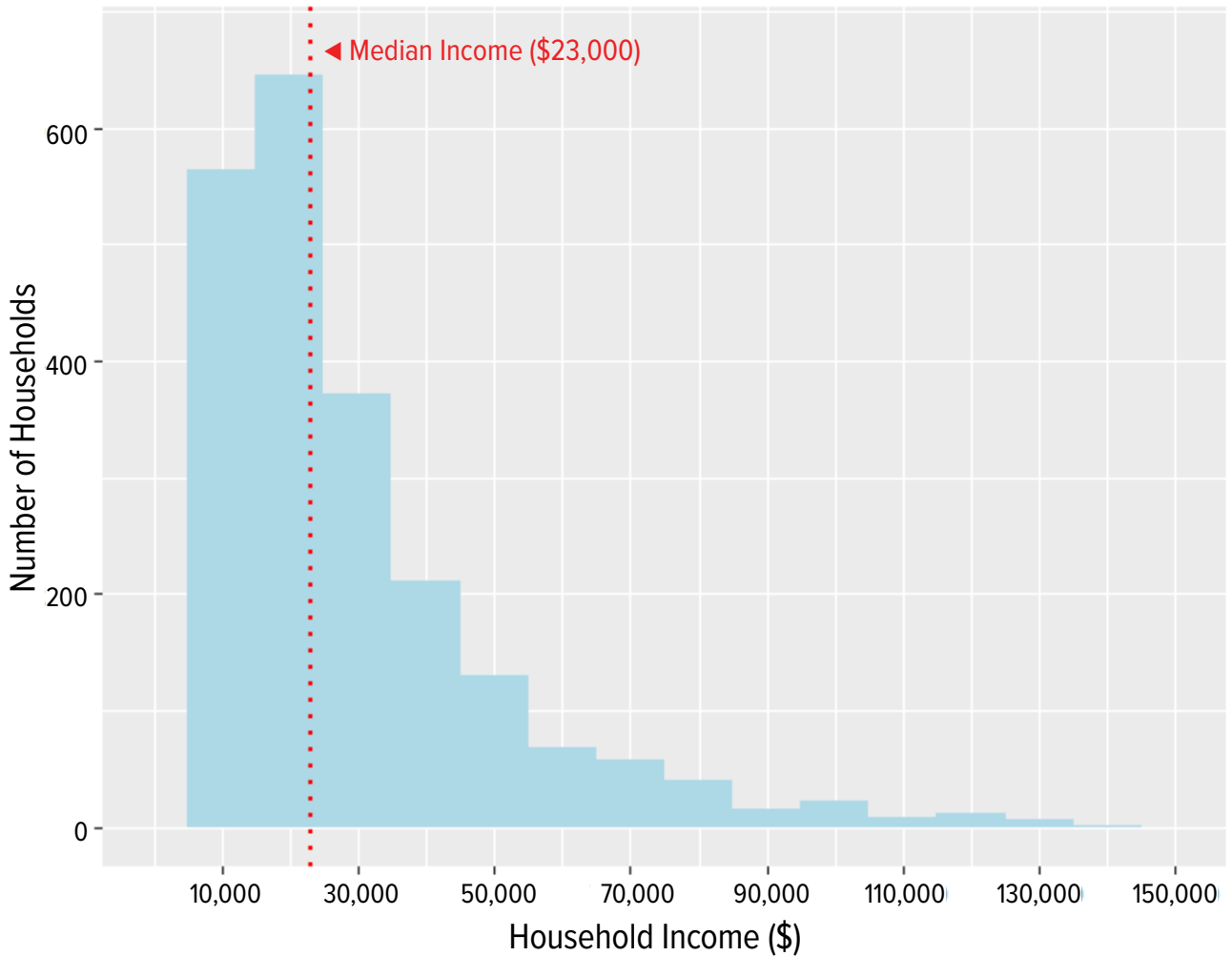
In the first few months of operation, emPOWER also administered a survey to accompany the program eligibility application form. The purpose of the survey was to gather additional information from participants, particularly about energy-saving behaviors. However, early in the process of emPOWER implementation, the CBOs were consistently reporting challenges associated with the length of the combined forms and the existence of two forms instead of just one. Liberty Hill quickly acted upon this feedback, reducing the size of the eligibility form and removing the survey entirely. Since the survey did not have vital information for assessing eligibility for the different incentive programs, this was deemed a simple way to increase

program uptake without compromising efficiency. This decision was finalized at a May 2019 outreach meeting that included representatives from each CBO, as well as the research team and other partners. The survey was no longer collected after that time. From mid-February to mid-May 2019, approximately 530 surveys were completed.

### Program Eligibility Applications

From February 7, 2019, to November 30, 2019, approximately 2,710 emPOWER eligibility applications were filled out. These applications involved a series of questions posed to participants to determine whether the necessary criteria were met for each separate incentive program in the suite of emPOWER programs. The applications included questions on residence location, household size, income, housing tenure, utility bills and existing enrollment in other benefits programs. The application also collected a minimal amount of information on the characteristics of program participants for data analysis purposes.

**Figure 4: Number of households at each annual income level**



### 3.3.2. Profile of Participants:

#### Sociodemographic and Housing Characteristics

The sociodemographic profile of emPOWER participants is different from the county population as a whole (see Table A1 in the Appendix). As compared to the entire population of LA County, emPOWER participants have much lower incomes, and a much higher percentage of emPOWER participants identify as minorities; only 3% reported being Caucasian, compared to 26% of the county population. EmPOWER participants were also much less likely to own their residence. In terms of housing tenure, which is not available at the county level, the LA/Long Beach metropolitan area has a close to even split between owners and renters, while 74% of the emPOWER population are renters and 26% are owners.

#### DAC/LIC Outreach

Based on almost 2,200 total census tract entries generated using participant household addresses, 86% of individuals participating in emPOWER live in a Senate Bill 535 designated DAC, and 88% live in an Assembly Bill 1550 LIC. Ninety-two percent of individuals live in either a DAC or an LIC. The average CalEnviroScreen percentile of participants is 86%. These statistics demonstrate that the emPOWER campaign is successfully reaching the most underserved, environmentally and economically burdened communities in the region.

#### Income Level

The median annual household income of emPOWER participants was \$23,000, which is about one-third of the state's median income level and only 36% of the county median (again, see Table



A1 for relevant census data). The mean reported annual household income is approximately \$30,500. Figure 4 below is a histogram showing the income distribution of participant households.

**Race/Ethnicity<sup>3</sup>**

Nearly all emPOWER respondents also identified as people of color, far more than the LA County average. The vast majority of respondents identified as Hispanic/Latinx (73.7%), followed by Black/African American (17.2%) and Asian/Asian American (2.7%).

**Table 1: Race and ethnicity**

Identified Ethnicity	Percent
Hispanic/Latinx	73.7%
Black/African American	17.3%
Asian/Asian American	2.7%
Caucasian	2.7%
Two or More Races	1.1%
Other	2.5%
All Respondents	100.0%

**Gender**

In terms of the gender of respondents, 77% of participants who responded to this question identified as female, 22% as male and 1% as other or preferred not to answer. However, we note that 41% of respondents did not answer this question, a data gap due to the delayed transition of this question to the eligibility form from an earlier “survey,” the latter of which was phased out in May 2019.

**Table 2: Housing characteristics**

	Own	Rent	Total	Percent of Total Housing Types
Single-Family Home	570	696	1,266	48.0%
Multi-Unit Dwelling (2 – 4 units)	70	498	568	21.5%
Apartment Building	15	720	735	27.9%
Other	25	44	69	2.6%
<b>Total</b>	<b>680</b>	<b>1,958</b>	<b>2638</b>	<b>100%</b>
<b>Percent of Owning vs. Renting</b>	<b>26%</b>	<b>74%</b>	<b>100%</b>	<b>NA</b>

<sup>3</sup> Race and ethnicity responses were grouped into U.S. Census Bureau categories, which include Asian/Asian American, Black/African American, Caucasian, Hispanic/Latinx, Two or More Races, Native Hawaiian and Other Pacific Islander, Native American, Other, and Prefer Not to Answer (the last four were grouped together into “Other” due to low reporting numbers).

**Household Size and Tenure**

The average reported household size of emPOWER participants was 3.5 people and the median household size was three, higher than county and state averages. Moreover, 74% of respondents reported renting their dwelling space, again, about 43% higher than the regional average. The types of buildings residents live in were more evenly distributed; 49% live in multi-unit buildings or apartment buildings, and 48% live in single-family homes.

Distinctions in ownership and building type matter particularly for the emPOWER campaign because they affect the functional ability of residents to upgrade their infrastructure and appliances, and to have full information and control regarding their utility expenditures. The distribution of housing type and tenure status is shown below.

**Household Utility Use**

Low-income households, such as those enrolled in emPOWER, generally use less energy and water than higher-income households, but this relationship is not linear. These households may still face utility affordability concerns, especially depending on the structure of the utility bill and their household appliances and insulation. Moreover, there are differential rates of access to sufficient heating and cooling by household income, with cooling access generally being of more concern for emPOWER households given the local climate.

About 23% of emPOWER households do not have any heating devices in their homes, which is much



An Electric Vehicle Ride and Drive sign-up event in Commerce

higher than the slightly more than 1% of households in the state without heating appliances, as reported in the 2017 American Housing Survey (AHS) (US Census Bureau, 2017). At the same time, only 22% of emPOWER households reported having central air conditioning (AC) in their households, in many cases combined with another method of home cooling.

This is less than half of the proportion of central AC penetration for households generally in California, where 58% of households have central AC (U.S. Census Bureau, 2017). An additional 26% of emPOWER participants had a window AC unit, often combined with other methods of cooling, but no central AC. Access to AC is beneficial to health, as research has found that using air conditioning has reduced heat-related illness and mortality (Barreca et al., 2016), but more than half of emPOWER households have none. Accordingly, the large number of emPOWER households without any form of AC is an environmental health and justice concern. At the same time, high use of AC can exacerbate affordability concerns.

The median electric bill of emPOWER participants is \$89, and the median gas bill is \$40.4. Forty-five percent of participants reported having trouble paying their utility bills. Additionally, 27% reported being in danger of utility shut-offs. Of the participants reporting both income and utility bill amounts, more than 40% have an energy burden

of 6% or higher based on their reported electricity bill alone, which is a threshold considered by the American Council for an Energy-Efficient Economy's (ACEEE) September 2019 topic brief on energy affordability to be a high burden (ACEEE, 2019). The average energy burden among emPOWER participants is approximately 11%. This evidence all demonstrates that emPOWER is reaching low-income households in need of financial assistance programs as intended.

### **Vehicle Characteristics**

Sufficient access to vehicles is also a concern among emPOWER participants, as access to vehicles leads to better household economic outcomes. The median number of vehicles in emPOWER households was one, and the mean was slightly higher than one. On the other hand, the average number of vehicles held by California households is 2.2, and even among low- to moderate-income households, the average is around two (Pierce et al., 2019).

Moreover, almost 20% of more than 1,900 participants reported that their vehicle had recently failed a smog test, which is approximately twice the statewide percentage (California Bureau of Automotive Repair, 2020). This indicates that emPOWER households have older, higher-emission vehicles than the general population in California.

Considering the disproportionate and adverse impact that these older, high-emitting vehicles have

<sup>4</sup> EmPOWER participants also reported their average water bills (The median was \$90 and mean was \$110), but the amount was significantly higher than averages reported in the 2017 American Housing Survey (mean of \$60). This discrepancy may be due to reporting of bimonthly bills, which are common for water. Accordingly, the research team does not consider these values to be reliable and recommends clarifying the question going forward.

on air quality, a high failure rate on emission tests is one of many reasons to facilitate the replacement of gasoline-powered vehicles in disadvantaged regions with clean vehicles through incentive programs such as RYR. A recent study commissioned by CARB found that the low-income population in California is heavily reliant on light-duty vehicles and resistant to transition to other modes of transit. This population would largely benefit from switching to clean vehicles, considering that while vehicle access needs to be supported, emissions associated with vehicle use clearly need to be mitigated (Pierce et al., 2019). Initial uptake in vehicle replacement programs by the low-income population in California was low, partially because when some incentive programs were first developed, the income eligibility criteria and associated incentives were not high enough to induce participation from low- to moderate-income households (Pierce et al., 2019). In recent years, Valley CAN has successfully reached the low-income population in the SJV, replacing vehicles in the majority of disadvantaged tracts by using targeted outreach and in-person assistance to aid participants in signing up for the SJV's local version of RYR (Pierce & Connolly, 2019). emPOWER aims to increase RYR uptake using similar strategies.

When asked if they were interested in replacing or retiring their vehicle in the next six months, only 22% of responding emPOWER participants indicated that they were. The CBOs reported that they highlighted the clean vehicle replacement programs while posing this question. In order to reduce barriers to program uptake in communities in

need, future analysis of the emPOWER participant population should explore in more depth the reasons for low interest in vehicle replacement.

■ **3.4. Example Outcomes for Participants and Collaborating Organizations**

Using participant demographics, the emPOWER process assessed participants' eligibility for environmental benefit programs. On average, largely because of their near ubiquitous below-average household incomes, each emPOWER participant was eligible for more than nine incentive programs included in the campaign. Table 3 below shows program eligibility data for the four individual programs targeting low-income households with the highest percentages of eligible participants. However, it is important to note that approximately 80% of emPOWER participants in the SCE and LADWP regions are also eligible for an electricity discount program, either SCE's CARE or LADWP's Low Income Discount Program.

In fact, several of the organizations have already received feedback from residents who enrolled in programs through emPOWER. Social Justice Learning Institute reported that several residents were able to qualify for the Replace Your Ride program, and already exchanged an older, high-polluting vehicle for a new clean vehicle.

Pacoima Beautiful heard back from residents who signed up for programs including the Home Energy Improvement Program, Refrigerator Exchange Program, Replace Your Ride and others. Community members cited various benefits they

**Table 3: The four programs targeting low-income households offered via emPOWER with the highest eligibility percentages**

Program	Number of Participants Eligible	Percent of Participants Eligible
Replace Your Ride (RYR)	2,190	81%
Low Income Home Energy Assistance Program (LIHEAP) Efficiency/Weatherization	1,780	66%
CARE (SCG)	1,580	77%
Energy Savings Assistance Program (SCG)	1,360	66%

have experienced from enrollment in each program. Those who replaced their vehicles stated that their monthly vehicle expenses were reduced significantly as a result, and that having access to a reliable vehicle provided them with confidence and a new sense of stability. One resident assisted by EYCEJ reported that enrollment in multiple programs resulted in bill reductions of 60% and provided financial relief during a particularly difficult time.

Along with transformative outcomes for some participants, the CBOs have noted positive impacts on their organizations and local residents. One such impact is an increase in organizational capacity. emPOWER has enabled the CBOs to leverage funding to hire additional staff members, which also supports their communities.

For instance, Active SGV, EYCEJ and Pacoima Beautiful were all able to add new full-time staff positions to support the emPOWER campaign. Additionally, ELACC reported that they were able to create new partnerships between various departments within their organization. Via emPOWER, they were also able to engage East LA residents on environmental justice, a new focus area for their organization.

Another impact of emPOWER outreach is the facilitation of community leadership development. ELACC, SCOPE and Union de Vecinos all hired community residents (some were preexisting members of their organizations) as part-time organizers to help with neighborhood canvassing and case management, and reported having positive experiences working with them.

### ■ 3.5. Realizable Benefits

Tracking actual sign-up rates for programs that participants were informed of via emPOWER proved challenging for the CBOs during the pilot phase of the campaign.<sup>5</sup> This was due to the complexity of the case management process and platform the campaign was developing, as described in section 4.3. Accordingly, it is not currently possible to quantify accurately the benefits emPOWER participants have already received or

will receive in the near future from applications that they have submitted or CBOs have submitted on their behalf through emPOWER.

Instead, this section includes a baseline estimate of potential, or “realizable,” benefits that could be received by emPOWER participants based on current incentive program eligibility determinations. Table 4, separated into Tables 4a (realizable benefits for ongoing utility bill programs) and 4b (realizable benefits for one-time incentive programs) shows the potential monetary benefits for emPOWER participants based on their eligibility for a select number of programs. This analysis only focuses on several of the most common incentive programs for which emPOWER participants were eligible, and for which we could calculate estimates with existing data. For instance, since assistance can vary by household, our calculations do not include appliance replacement/energy efficiency programs, such as LIHEAP Weatherization and the SoCal Gas (SCG) and SCE Energy Savings Assistance Program (ESAP).

Table 4 outlines the total potential benefits that could be realized by emPOWER participants if 10% or 33% (one-third) of eligible participants enrolled in the listed incentive programs. For Table 4a, this also outlines the potential five-year cumulative benefits if one-third of participants signed up and remain enrolled. Based on existing eligibility (those that have already enrolled in emPOWER), if even one-third of eligible individuals sign up for the utility bill assistance programs (Table 4a) and remain enrolled for five years, \$1.2 million in benefits would be distributed. If one-third of eligible participants sign up for the one-time incentive programs (Table 4b), approximately \$4.2 million in benefits would be distributed. One would also expect the marginal cost of program expansion to be low compared to program startup costs.

In the future, Liberty Hill plans to gather data on program enrollment, and future analyses will use this data to estimate the actual realized benefits experienced by households as a result of the emPOWER campaign.

<sup>5</sup> At this point, the research team is not able to verify whether all CBOs readily updated Salesforce once they found out a participant successfully applied for or enrolled in an incentive program. However, the data indicate that at least 225 participants either applied for or received benefits, adding up to 430 program applications submitted and benefits accessed.

**Table 4a: Realizable benefits for emPOWER participants from long-term utility bill assistance incentive programs**

Program	Utility Bill or Incentive Affected	Median Monthly Bill Amount (\$)	Typical Savings (% of bill or total \$)	Number of emPOWER Participants Eligible	Approximate Potential Annual Benefits for Each emPOWER Participant (\$)	Approximate Potential Annual Benefits at 10% Enrollment	Approximate Potential Annual Benefits at 33% (1/3) Enrollment	5-Year Projection: Approximate Total Potential Benefits at 33% (1/3) Enrollment
CARE (SCE)	Electric	\$89	30% <sup>a</sup>	870	\$320	\$27,875	\$92,916	\$464,580
CARE (SCG)	Gas	\$40	20% <sup>b</sup>	1,580	\$96	\$15,168	\$50,560	\$252,800
Low-Income Discount Program (LADWP)	Electric	\$89 (Electric)	20% <sup>c</sup>	780	\$214	\$16,661	\$55,536	\$277,680
	Water	\$63 (Water) <sup>c</sup>	20% <sup>d</sup>	780	\$151	\$11,794	\$39,312	\$196,560
<b>Total Benefits</b>						<b>\$71,497</b>	<b>\$238,324</b>	<b>\$1,191,620</b>

**Table 4b: Realizable benefits for emPOWER participants from one-time incentive programs**

Program	Utility Bill or Incentive Affected	Median Monthly Bill Amount (\$)	Typical Savings (% of bill or total \$)	Number of emPOWER Participants Eligible	Approximate Potential Benefits at 10% Enrollment	Approximate Potential Benefits at 33% (1/3) Enrollment
LIHEAP Financial Assistance – Bill Payment (State) <sup>e</sup>	One utility bill credit	N/A	\$15 <sup>f</sup>	1,000	\$15,200	\$50,667
LIHEAP Financial Assistance – Energy Crisis Assistance (State) <sup>e</sup>	Assistance in an energy crisis	N/A	\$447 <sup>g</sup>	1,000	\$44,700	\$149,000
RYR (South Coast AQMD)	Clean vehicle purchase	N/A	\$5,500 – \$9,500	2,190	\$1,204,500 – \$2,080,500	\$4,015,000 – \$6,935,000
<b>Total Benefits<sup>h</sup></b>					<b>\$1,264,400</b>	<b>\$4,214,667</b>

a: (SCE, 2020)

b: (SCG, 2020)

c: \$63 is the average monthly water bill for the Los Angeles/Long Beach metropolitan area reported by the 2017 American Housing Survey (AHS) (U.S. Census Bureau, 2017).

d: (CD Tech, 2015; U.S. Department of Health and Human Services, 2020b)

e: Individuals could potentially receive LIHEAP benefits more than once; we consider it a one-time incentive here as a conservative estimate.

f: This value is the minimum benefit reported on the LIHEAP governmental website for California for the 2020 fiscal year, both for heating and cooling incentives. Therefore, this is conservative (U.S. Department of Health and Human Services, 2020a).

g: This number is an Energy Crisis Intervention Program (ECIP) 2015 estimate (Pierce et al., 2020).

h: Using RYR minimum incentive value (\$5,500)

# 4 ■ ■ ■ PROCESS EVALUATION RESULTS

In addition to the assessment of emPOWER based on quantitative data described above, we also used qualitative methods to undertake a process of evaluation. This effort allowed us to assess more holistically the efficacy of various CBO outreach methods, as well as to develop an understanding of the successes and challenges that the CBOs faced throughout the emPOWER process.

## ■ 4.1. Outreach Methodologies

While emPOWER was in early development stages, Liberty Hill recognized that one of the strengths of using various CBOs to reach out to their respective community residents was the CBOs' preexisting

community-based knowledge, including insights into the best approaches and potential barriers that emPOWER could face. The CBOs also have well-established relationships with many residents and other community groups.<sup>6</sup> Therefore, Liberty Hill encouraged each CBO to decide on the most effective outreach strategies for its particular region.

CBOs undertook different approaches to conducting emPOWER outreach based on existing community knowledge. The strategies included door-to-door outreach, tabling at community events, recruiting participants at membership meetings, collaborating with school districts to disseminate information

**Table 5: CBO methods and results**

CBO	CBO Primary Method	Approximate Number of Staff Focused on emPOWER	Number of Completed Eligibility Forms
1	Door-to-door	3 full-time, 9 hired as contract workers, worked 20 hours a week on emPOWER (12 staff total)	540
2	Community events/tabling	4 staff in the field, 2 staff once transitioned to follow-up	410
3	Community events/tabling	2 staff (full-time) and help from interns	410
4	Community events/tabling	2 staff (full-time) and help from interns	340
5	Door-to-door	2 staff and 2 community members	320
6	Door-to-door	2 staff, 4 community volunteers	300
7	Community events/tabling (Schools/parent centers)	2 lead staff (full-time), 3 support staff (half-time)	200
8	Community events/tabling	4 staff, none full-time. Hours varied as need varied	130
9	Community events/tabling	2 staff, not full-time. Stopped participating partway through the year	42

Note: Data based on what CBOs reported as their primary outreach methods.

<sup>6</sup> We anonymized results from and comments made by individual CBO staff in this report to facilitate candid feedback.

about emPOWER, and many others. At least one of the CBOs also scheduled designated application gatherings with interested residents, where the residents were invited to the CBO office at a specific time to fill out their applications together.

Each CBO has various other campaigns and incorporated successful outreach strategies from their other projects. Approximately half of the CBOs experienced the most success with door-to-door outreach, but most others cited challenges with that approach and primarily utilized community events and membership meetings to complete the intake process. However, several CBOs cited challenges in engaging residents at an event where they were tabling, since people are quickly ready to move on to other tables.

## ■ 4.2. Notable Successes From the First Year of emPOWER

Many aspects of the emPOWER campaign contributed to a successful first year of implementation. These include, but are not limited to: 1) each CBO's ability to utilize and build upon existing relationships with their communities; 2) focusing participant interactions on program benefits that participants were consistently excited about; and 3) active technical assistance from Liberty Hill and Valley CAN.

### 4.2.1. Ability of CBOs to build upon existing relationships within their communities

The fundamental design of the emPOWER campaign involves activating CBOs because they are embedded in their communities and have existing relationships that make them more trusted. This rapport enabled the CBOs to provide information about emPOWER through a widespread network, as well as to overcome some of the mistrust and misconceptions (discussed in Section 4.3) that participants had about emPOWER and the associated incentive programs.

Several CBOs also mentioned that word of mouth is powerful in their communities and has been vital to cumulatively increasing interest in emPOWER. They have noticed that as they continue to reach more individuals in their communities and enroll people in emPOWER, residents who they have not yet engaged with are increasingly familiar with emPOWER and more willing to participate.

Additionally, a few of the CBOs mentioned collaborations with school districts, politicians and local community organizations (including farmers markets) as key to their emPOWER process. There is currently no existing metric to measure the success of these strategies, but the CBOs expressed that these types of collaborations have been particularly effective.

### 4.2.2. Focusing interactions on program benefits that consistently excited participants

The CBOs indicated that, among the opportunities, community members were very excited specifically to learn more about and sign up for utility bill savings programs. Mentioning those types of financial assistance programs in the introductory conversation often piqued the resident's interest and resulted in a meaningful interaction. The CBOs noticed this very quickly and highlighted these programs consistently, reporting maintained participant engagement during conversations about emPOWER. People were also interested in the vehicle replacement programs, but there was significant hesitation around those, with some CBOs citing that participants considered those luxuries they could not afford, even with incentives.

### 4.2.3. Active adaptation of technical assistance from Liberty Hill and Valley CAN

CBOs also viewed the strategic changes made by Liberty Hill throughout the process to adapt to CBO concerns and feedback as helpful. Every CBO cited that reducing the size of the eligibility form resulted in substantial improvements in the quality and quantity of responses, with some even suggesting that staff interaction time with participants was reduced by half as a result.

Several CBOs also highlighted how Liberty Hill and Valley CAN were very responsive and supportive as the organizations were navigating Salesforce and learning the data collection processes. Though there were technical challenges, noted in Section 4.3 below, the managing organizations did their best to support the CBOs throughout the process.

## ■ 4.3. Challenges and Areas for Growth

As is typical when developing a new and ambitious outreach program with multiple partners, especially

one as novel as emPOWER, the campaign has faced several challenges during implementation and these are resulting areas for growth. Frequently reported challenges by CBOs, Liberty Hill and other partners are categorized into four sections and described below: 1) widespread community hesitance and misconceptions regarding emPOWER and the associated incentive programs; 2) technical problems with the emPOWER Salesforce platform; 3) program management; and 4) follow-up with participants. Resolving these challenges will enable the CBOs to keep participants engaged, avoid attrition and enroll them in assistance programs that will ultimately yield the outcomes for households and the environment that were envisioned for emPOWER.

#### **4.3.1. Community hesitance and misconceptions about emPOWER and associated incentive programs**

There was well-founded initial hesitance by community members regarding enrolling in these types of environmental incentive programs due to past scams commonly perpetrated in these communities. One example cited by multiple CBOs as an obstacle to interest in emPOWER was residents having bad past experiences with other solar panel installation programs. This type of mistrust leads individuals to feel uncomfortable providing personal information, such as household income, despite CBO staff explaining why that information is necessary to determine eligibility for the incentive programs.

There are also existing misconceptions about EVs in many of the target communities, as there are across the broader population (Krause et al., 2013). Some residents reported considering EVs to be only affordable to high-income individuals (one CBO even referred to them as a “luxury” when describing responses from participants). Despite education about the incentive programs and the capability to add up EV incentives across multiple programs, interest and resulting uptake in clean vehicle incentive programs through emPOWER remained mixed.

#### **4.3.2. Technical issues: Developing the Salesforce platform**

emPOWER is a new program and the Valley CAN

team built the Salesforce participant tracking system from the ground up to meet the program’s needs. This included adjusting to multiple unanticipated challenges in the development of the platform and issues with online functionality throughout the first several months of program operation. During that time, the CBOs cited the technical issues with the Salesforce platform and the tablets they were provided as major issues impacting their ability to reach deliverable goals. It was particularly challenging for the CBOs to keep participants engaged when they experienced technical difficulties while attempting to enroll community members in emPOWER. Several CBOs were still relying on paper forms and inputting information into Salesforce at the end of each week. However, by the end of 2019, most CBOs reported that the technical issues had been resolved. This is an example of an issue successfully addressed and a lesson learned. As additional technical challenges arise, Liberty Hill and the technical team with Valley CAN will continue to address them as quickly and efficiently as possible.

#### **4.3.3. Program management**

Other issues that accompanied the difficulties with Salesforce were coordination challenges related to communicating ongoing platform updates between all stakeholders and providing sufficient training to the CBOs to utilize them during interactions. Due to the nature of developing a new program, Liberty Hill made strategic updates to procedures in order to adapt to needs after emPOWER’s deployment. As cited above, these changes were beneficial. However, some CBOs expressed that they felt unable to keep pace with the new changes. While each CBO agreed that reducing the length of the eligibility form, ceasing to use the survey and other adjustments throughout the process were necessary, it was difficult for them to keep up at times and they often felt a step behind. This problem can be alleviated as the program infrastructure becomes more established and the rate of updates slows.

One other program implementation challenge elucidated during interviews with CBO staff may have been an indirect result of Liberty Hill’s efforts toward procedural equity in its regional, decentralized hub model. CBOs had the flexibility to determine their staffing for emPOWER, but





A representative from SCOPE shares information about the emPOWER program during a tabling event in Expo Park.

were given fairly uniform deliverables targets, and staffing choices resulted in disparities in deliverables production (see Table 5). Further consideration should be given toward allowing CBOs to customize their numerical deliverables while also holding campaignwide targets and standards for outreach and benefit realization.

#### **4.3.4. Follow-up procedures and timing**

There were several challenges associated with the process of following up with each participant interested in program sign-up, whether they had already filled out an emPOWER eligibility form or had simply provided their contact information to a CBO representative at an event.

Several of the incentive programs have lengthy and complicated applications, some of which require a hard copy of the application mailed to agencies operating the programs. Since the CBOs were aiming to provide as much support as possible to residents, CBO staff often visited residents' homes, helped them gather necessary documentation, mailed their applications, and even contacted the agencies to follow up on application statuses. However, this case management process proved extremely difficult for CBOs to maintain, and almost all of them cited this aspect of follow-up as a significant challenge throughout the first year of emPOWER. While this is something the

emPOWER model was not able to overcome at this time, they are working with SCE and other agencies with the ultimate goal of streamlining these processes.

CBOs also had challenges determining the most efficient way to conduct the follow-up process. Some focused on meeting an initial deliverable by having a certain number of eligibility forms completed before beginning to follow-up. However, by the time they moved forward to follow-up with residents, too much time had passed and the residents were no longer interested. CBOs who reported continuously conducting follow-up throughout the process tended to report fewer issues with such attrition, though this cannot be quantitatively measured with existing data.

Additionally, there were some associated challenges with the agencies managing incentive programs, including an inability to contact and communicate with agency representatives and lag times after application submittal, during which emPOWER participants were confused about the statuses of their applications. In many of these cases, the CBOs were unable to provide support, either because they were not able to reach agency representatives, or they did not have the bandwidth to manage those issues. Not having the power or capacity to help in these situations was cited as a frustration for the CBOs.

# 5 ■■■ NEXT STEPS FOR EVALUATION

**THERE ARE SEVERAL POTENTIAL** analyses that the research team plans to explore as the emPOWER campaign continues past the first year of operation. We briefly describe these below:

■ **Quantify realized rather than realizable monetary benefits to LA County residents distributed through emPOWER.**

As discussed in Section 3.5, in order to provide a more robust estimate of benefits distributed to emPOWER households, where the realizable benefits are presented, the campaign needs to collect comprehensive data on whether households applied for and ultimately enrolled in incentive programs. They have already built the capacity to do so in Salesforce and are working closely with the CBOs to improve data tracking processes.

■ **Estimate the relative efficacy of various outreach methods.**

Quantitative evidence on the comparative success of different outreach methodologies will be useful for increasing the efficiency of the emPOWER campaign, as well as other similar initiatives involving community outreach. Liberty Hill is not currently able to collect specific data to quantify this, but they plan to add the functionality to collect data for these purposes, which may be available for analysis in future assessments.

■ **Identify and assess longer-term outcomes.**

This includes changes in household energy consumption and related financial effects, which the research team will be able to evaluate with additional data on utility bills and consumption.

On a participant level, these outcomes include:

- Change in utility expenditure associated with program participation and/or behavior change.
- Change in electricity, natural gas and water consumption, and estimated change in gasoline consumption, associated with program participation and/or behavior change.

■ **Analyze regional differences in emPOWER campaign implementation and effectiveness.**

Not all metropolitan areas will face the same challenges and experience the same successes when implementing emPOWER, and operation will need to adjust accordingly. This analysis will inform the continued expansion of emPOWER, as well as the development of other similar initiatives.

There are also impacts that the research team is not able to evaluate with existing data, such as actual changes in environmental conditions and social welfare as a result of emPOWER. These include estimated reductions in air pollution and greenhouse gas emissions associated with the consumption changes, potential health benefits from reduced exposure to combustion pollutants and ambient air pollution more broadly, and reduced shut-offs and evictions for households as a result of more flexible utility payment options. As the emPOWER campaign continues to expand, the research team can identify additional data collection that will be necessary to explore these concepts further.

# 6 ■■■ CONCLUSION

**WITH THE GOAL OF PROVIDING** participants a means to enroll in and benefit from a wide range of environmental incentive programs, the emPOWER campaign has successfully reached residents of vulnerable communities throughout LA County by using local CBOs to engage each community in customized ways. Despite several barriers to uptake and other challenges faced throughout early emPOWER implementation, the CBOs engaged more than 11,000 distinct households in meaningful interactions about emPOWER and received over 2,700 eligibility applications through the first year of the campaign's operation (2019).

The profile of emPOWER participants thus far demonstrates their vulnerability. Ninety-two percent of emPOWER participants live in either a DAC or LIC, the average CalEnviroScreenile of participants is 86%, and the median income of an emPOWER participant is \$23,000, which is considerably lower than both the statewide and LA County median. Together, these statistics highlight that the emPOWER campaign is successfully reaching underserved communities in the region.

On average, each emPOWER participant is eligible for more than nine incentive programs. An estimate of the potential, or "realizable," benefits to emPOWER participants based on incentive program eligibility found that if even one-third of eligible individuals signed up for a small subset of bill assistance programs and remained enrolled for five years (see Section 3.5), \$1.2 million in benefits would be distributed to LA County residents in need. If one-third of eligible participants signed up for the one-time incentive programs, including RYR, approximately \$4.2 million in benefits would

be distributed. This only accounts for the fewer than 3,000 individuals who have filled out an emPOWER eligibility form. This demonstrates the magnitude of the potential positive effect that the emPOWER campaign could have on disadvantaged communities across the county.

EmPOWER will continue to operate in LA County through 2020, with actively discussed goals of expanding this campaign model, first to the Inland Empire, and ultimately statewide. Liberty Hill is currently conducting research in the Inland Empire to identify whether the current emPOWER model is compatible with that region, and they are already connecting with local CBOs that could potentially join the campaign. Liberty Hill also plans to deepen engagement efforts in existing regions and continue to connect LA County residents to incentive programs, as well as to develop a training curriculum for CBOs outside of LA County to use in the future. Liberty Hill, Valley CAN and other participating agencies are committed to maintaining, improving and expanding emPOWER, so that vulnerable populations throughout California increase their uptake of existing environmental incentives, which will benefit households and improve environmental conditions throughout the state.

## ■ ■ ■ REFERENCES

- ACEEE. (2019). *Understanding Energy Affordability*. American Council for an Energy-Efficient Economy. <https://www.aceee.org/sites/default/files/energy-affordability.pdf>
- Austin, M. J. (2003). The Changing Relationship Between Nonprofit Organizations and Public Social Service Agencies in the Era of Welfare Reform. *Nonprofit and Voluntary Sector Quarterly*, 32(1), 97–114. <https://doi.org/10.1177/0899764002250008>
- Barreca, A., Clay, K., Deschenes, O., Greenstone, M., & Shapiro, J. S. (2016). Adapting to Climate Change: The Remarkable Decline in the US Temperature-Mortality Relationship over the Twentieth Century. *Journal of Political Economy*, 124(1), 105–159. <https://doi.org/10.1086/684582>
- California Bureau of Automotive Repair. (2020). *Executive Summary Report: Smog Check Statewide January 2020*. California Bureau of Automotive Repair. [https://www.bar.ca.gov/pdf/ExecSumRepData/Executive\\_Summary\\_Report\\_January\\_2020.pdf](https://www.bar.ca.gov/pdf/ExecSumRepData/Executive_Summary_Report_January_2020.pdf)
- CARB. (2018, October 1). *Priority Population Investments*. California Air Resources Board. <https://ww3.arb.ca.gov/cc/capandtrade/auctionproceeds/communityinvestments.htm>
- CD Tech. (2015). *LADWP Low Income Discount Program (LIDP)*. Community Development Technologies. <http://www.cdtech.org/ladwp-low-income-discount-program-lidp/>
- Drehobl, A., & Ross, L. (2016). *Lifting the High Energy Burden in America's Largest Cities: How Energy Efficiency Can Improve Low Income and Underserved Communities*. American Council for an Energy-Efficient Economy. <https://www.aceee.org/sites/default/files/publications/researchreports/u1602.pdf>
- Forrer, J., Kee, J. E., Newcomer, K. E., & Boyer, E. (2010). Public-private partnerships and the public accountability question. *Public administration review*, 70(3), 475–484.
- Fournier, E. D., Cudd, R., Federico, F., & Pincetl, S. (2020). On energy sufficiency and the need for new policies to combat growing inequities in the residential energy sector. *Elem Sci Anth*, 8(1).
- Frank, D. A., Neault, N. B., Skalicky, A., Cook, J. T., Wilson, J. D., Levenson, S., Meyers, A. F., Heeren, T., Cutts, D. B., Casey, P. H., Black, M. M., & Berkowitz, C. (2006). Heat or Eat: The Low Income Home Energy Assistance Program and Nutritional and Health Risks Among Children Less Than 3 Years of Age. *Pediatrics*, 118(5), e1293. <https://doi.org/10.1542/peds.2005-2943>
- GRID Alternatives. (2018). *California Air Resources Board Selects GRID Alternatives to Run Clean Transportation Pilot*. <https://gridalternatives.org/sites/default/files/One%20Stop%20Shop%20Announcement%208.22.18.pdf>
- Higgins, L., & Lutzenhiser, L. (1995). Ceremonial Equity: Low-Income Energy Assistance and the Failure of Socio-Environmental Policy. *Social Problems*, 42(4), 468–492. JSTOR. <https://doi.org/10.2307/3097042>

- Krause, R. M., Carley, S. R., Lane, B. W., & Graham, J. D. (2013). Perception and reality: Public knowledge of plug-in electric vehicles in 21 U.S. cities. *Energy Policy*, 63, 433–440. <https://doi.org/10.1016/j.enpol.2013.09.018>
- Liberty Hill Foundation (2017). Green Zones and Grassroots: How California's Climate Investments Benefit Los Angeles County's Disadvantaged Communities. See [https://www.libertyhill.org/sites/default/files/GZGR\\_2017-full-report\\_0.pdf](https://www.libertyhill.org/sites/default/files/GZGR_2017-full-report_0.pdf)
- Miraftab, F. (2004). Public-private partnerships: The trojan horse of neoliberal development?. *Journal of planning education and research*, 24(1), 89-101.
- Murray, A. G., & Mills, B. F. (2014). The impact of low-income home energy assistance program participation on household energy insecurity. *Contemporary Economic Policy*, 32(4), 811–825. <https://doi.org/10.1111/coep.12050>
- OEHHA. (2018). *CalEnviroScreen 3.0*. <https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-30>
- Pierce, G., Chow, N., DeShazo, J. R., & Gmoser-Daskalakis, K. (2020). *Recommendations for Implementation of a Statewide Low Income Water Rate Assistance Program*. UCLA Luskin Center for Innovation. <https://innovation.luskin.ucla.edu/wp-content/uploads/2020/02/Recommendations-Low-Income-Water-Rate-Assistance-Program.pdf>
- Pierce, G., & Connolly, R. (2019). *Initial Assessment of Valley Clean Air Now's Clean Car Community Clinic Initiative*. UCLA Luskin Center for Innovation.
- Pierce, G., & DeShazo, J. R. (2017). *Design and Implementation of the Enhanced Fleet Modernization Plus-Up Pilot Program: Lessons Learned from the San Joaquin Valley and South Coast Air Districts' First Year of Operation*. UCLA Luskin Center for Innovation. [https://innovation.luskin.ucla.edu/wp-content/uploads/2019/03/Design\\_and\\_Implementation\\_of\\_the\\_Enhanced\\_Fleet\\_Modernization\\_Plus-Up\\_Pilot\\_Program.pdf](https://innovation.luskin.ucla.edu/wp-content/uploads/2019/03/Design_and_Implementation_of_the_Enhanced_Fleet_Modernization_Plus-Up_Pilot_Program.pdf)
- Pierce, G., DeShazo, J. R., Sheldon, T., McOmber, B., & Blumenberg, E. (2019). *Designing Light-Duty Vehicle Incentives for Low- and Moderate-Income Households*. UCLA Luskin Center for Innovation. Prepared for CARB. [https://innovation.luskin.ucla.edu/wp-content/uploads/2019/06/Designing\\_Light-Duty\\_Vehicle\\_Incentives\\_for\\_Low-and\\_Moderate\\_Income\\_Households.pdf](https://innovation.luskin.ucla.edu/wp-content/uploads/2019/06/Designing_Light-Duty_Vehicle_Incentives_for_Low-and_Moderate_Income_Households.pdf)
- SCE. (2019). *Southern California Edison Company's (U338-E) 2019 Annual Report for 2018 Low Income Programs. Report to the CPUC*. Southern California Edison.
- SCE. (2020). *CARE/FERA Program*. Southern California Edison. <https://www.sce.com/residential/assistance/care-fera>
- SCG. (2020). *California Alternate Rates for Energy (CARE)*. SoCalGas. <https://www.socalgas.com/save-money-and-energy/assistance-programs/california-alternate-rates-for-energy>
- Smith, S. R., & Lipsky, M. (2009). *Nonprofits for hire: The welfare state in the age of contracting*. Harvard University Press.
- U.S. Census Bureau. (2017). *American Housing Survey*.
- U.S. Census Bureau. (2018). *American Community Survey, 5-year Estimates*.
- U.S. Department of Health and Human Services. (2020a). *Benefit Levels for Heating, Cooling, and Crisis*. LIHEAP. <https://liheapch.acf.hhs.gov/tables/benefits.htm>
- U.S. Department of Health and Human Services. (2020b). *California Ratepayer Funded Programs*. LIHEAP. <https://liheapch.acf.hhs.gov/dereg/states/casnapshot.htm>

# ■ ■ ■ APPENDIX

**Table A1: Census data**

	California		LA County	
<b>POPULATION</b>				
Total Population	39,148,760		10,098,052	
Number of Households	12,965,435		3,306,109	
	<b>California: Total Number</b>	<b>Percent of California Pop</b>	<b>LA County: Total Number</b>	<b>Percent of LA County Pop</b>
<b>RACE</b>				
Hispanic or Latino (of any race)	15,221,577	38.9%	4,893,603	48.5%
White alone	14,695,836	37.5%	2,659,052	26.3%
Black or African American alone	2,164,519	5.5%	795,505	7.9%
American Indian and Alaska Native alone	138,427	0.4%	20,307	0.2%
Asian alone	5,525,439	14.1%	1,451,560	14.4%
Other races	1,402,962	3.6%	278,025	2.8%
<b>INCOME AND BENEFITS (IN 2018 INFLATION-ADJUSTED DOLLARS)</b>				
Total Individuals Reporting Income	12,965,435		3,306,109	
Less than \$25,000	2,266,017	17.5%	657,936	19.9%
\$25,000 to \$34,999	1,023,222	7.9%	282,438	8.5%
\$35,000 to \$49,999	1,415,573	10.9%	386,040	11.7%
\$50,000 or more	8,260,623	63.7%	1,979,695	59.9%
	<b>California Values</b>		<b>LA County Values</b>	
Median Household Income (dollars)	\$71,228		\$64,251	
Mean Household Income (dollars)	\$101,493		\$94,484	
Per Capita Mean Income (dollars)	\$35,021		\$32,469	
	<b>California: Total Number</b>	<b>Percent of California Pop</b>	<b>LA/Long Beach Metro Area: Total Number</b>	<b>Percent of LA/ Long Beach Metro Area</b>
<b>HOUSING TENURE</b>				
Total Occupied Housing Units	13,176,800		4,395,700	
Owned	7,210,400	54.7%	2,114,800	48.1%
Rented	5,966,300	45.3%	2,280,900	51.9%

Source: ACS 2018 five-year estimates (U.S. Census Bureau, 2018)  
and AHS 2017 estimates (U.S. Census Bureau, 2017)



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