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a Better California

# PG&E Electric Vehicle Charge Network Quarterly Report

Report Period: July 1, 2017 – September 30, 2017



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# 1. Executive Summary

## 1.1 Charge Network Program Overview

PG&E's EV Charge Network program was approved on December 15, 2016 through a unanimous vote of the California Public Utilities Commission (Commission).<sup>1</sup> The purpose of the program is to increase access to charging for electric vehicles within PG&E's service territory. The program intends to install 7,500 charging ports over a three-year period focusing on two key market segments, workplaces and multi-unit dwellings. The program includes deployment targets of 15% in disadvantaged communities (DACs), as well as in 20–50% in multi-unit dwellings (MUDs).<sup>2</sup> These targets aid in facilitating market entry for previously underserved communities and market segments. For participating site hosts, the program is organized into two main ownership options: "EV Charge Owner" and "EV Charge Sponsor."

**EV Charge Owner:** The majority of the electric vehicle service equipment (EVSE) (a minimum of 65%) will be owned by program participants who are PG&E non-residential customers that have EV charging stations installed on their property. All site hosts may choose to participate under this program option. For these installations, PG&E will install and maintain the EV service connection (make ready infrastructure) to support their use. The program participant will be responsible for buying and installing the EV charging station. At these locations, rebates will be offered to program participants for the EV charging station. The rebates will be paid after the charging stations are installed and operational.

**EV Charge Sponsor:** At the discretion of the individual program participant, PG&E may be requested to install, own, and maintain up to 35% (2,625) of the EV charging stations deployed. These EV charging stations will be installed in a turnkey operation to maximize site host convenience. EV Charge Sponsor program participants must be multi-unit dwellings (MUDs) or workplaces located in disadvantaged communities (DACs).

## 1.2 Summary for Quarter

The following section provides a brief summary of the milestones and actions performed throughout the quarter. This includes program outreach, site host interest, a summary of the Program Advisory Council (PAC) meeting, and a description of all relevant Advice Letters filed. Once the EV Charge Network launches to customers, this section will also provide standard metrics including the number of customers that applied to the EV Charge Network number of customers in the design and construction phase of the project, and the number of operational charging stations.

### Program Outreach

In Q3, PG&E began partnership outreach, starting with a forum bringing together Community Choice Aggregators (CCAs) in PG&E's service territory. PG&E sees CCAs as a vital resource in the success of the program as they will be able to educate customers about program participation as well as develop programs to complement the program. PG&E also began developing a strategy to pursue third-party partnerships with external organizations and industry groups to assist in prequalifying sites and providing ongoing program implementation feedback. More details regarding program outreach are provided in Section 2 of this report.

### Site Host Interest

In January of 2017, PG&E launched the first of its EV Charge Network webpages. This webpage was designed to provide basic programmatic information while stakeholder feedback is gathered to refine the larger marketing, education and outreach plan. In addition to the webpage, PG&E launched an interest form which allows customers to indicate their interest in participating in the program. By the end of the third quarter of 2017 (September 30, 2017), 465 organizations indicated their interest in participating in the EV Charge Network Program. Of these organizations, 65% were workplaces and 35% were MUDs.



FIGURE 1.1: SITE HOST INTEREST BY PROPERTY TYPE

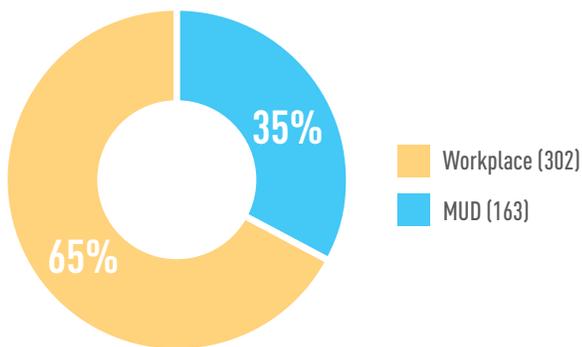
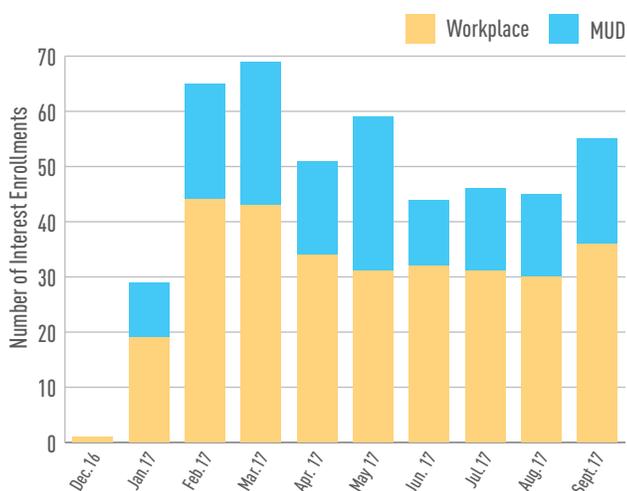


FIGURE 1.2: NUMBER OF INTEREST ENROLLMENTS BY MONTH



### Program Advisory Council (PAC)

On October 13, 2017, PG&E held its third PAC meeting. Approximately 25 organizations, representing stakeholders from industry, government, and NGOs, attended in-person and online. This meeting provided revised updates on PG&E’s marketing, education and outreach, site selection and construction, and EVSE procurement. Additionally, PG&E gave an update on the status of the program’s base cost methodology as well as an update on feedback received on load management plan development and options for guiding sites in implementing effective load management. More details regarding the PAC meeting are provided in Section 7 of this report.

### Procurement

PG&E concluded its first quarterly Request for Qualification (RFQ) process in Q2 and opened its second RFQ for the EV Charge Owner option on September 29, 2017. This qualification process is employed to establish a list of approved vendors eligible to sell EVSE hardware and software to program participants selecting the EV Charge Owner option.

PG&E released its Request for Proposal (RFP) on September 8, for vendors interested in becoming eligible to provide EVSE hardware and software to program participants selecting the EV Charge Sponsor option. Submissions to the RFP were provided on October 9, after which PG&E will begin evaluating bids before moving into equipment testing. More details on PG&E’s procurement process are available in Section 3 of this report.

### Advice Letters

In Q3, PG&E filed an Advice Letter to revise the methodology for determining the base cost for the Electric Vehicle Supply Equipment (EVSE) to be used in the program. The EVSE base cost is used for the calculation of the participation payment and rebate amounts based on market segment (MUD or workplace) and location (within a DAC or outside a DAC) of each site. The Commission’s Decision provided that the base cost should be calculated as the lowest price EVSE selected through the procurement process. Due to the wide variety of EVSE bids received and possible equipment configurations, PG&E filed Advice Letter 5131-E on August 23, 2017 to propose an alternative method for calculating the base cost. More details on PG&E’s Advice 5131-E are available in Section 3 of this report.

### Budget

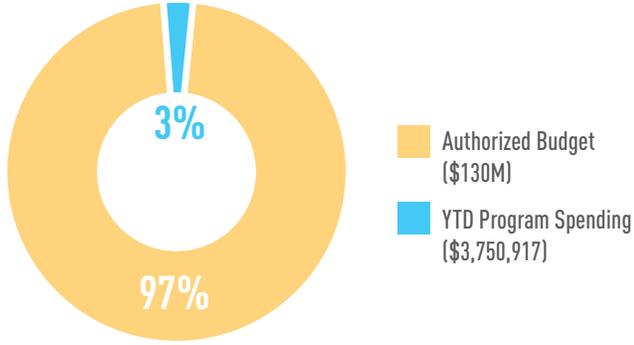
In Q3, PG&E spent \$2,925,169 for a total YTD program spend of \$3,750,917 out of the \$130 million authorized budget. \$120,866 of the funds was spent on program external outreach, and \$2,804,303 was spent on program



implementation and administration. Subsequent reports will be segmented into the following areas:

- Marketing, Education and Outreach
- Design and Engineering
- Construction
- Rebates
- Administration and Implementation

FIGURE 1.3: TOTAL BUDGET SPEND TO DATE



Overview of Challenges Encountered in Q3 2017

PG&E began working with several customers identified through the online site host interest form as potential trial sites to review in 2017 before official launch of the program in 2018. PG&E performed preliminary review of submitted sites for feasibility with the overall goal of testing PG&E’s siting processes. See Section 5 for more information on these activities.

During Q3, PG&E experienced new challenges slowing the trial site process and implementation including complexity of program terms and conditions and high interest in the EV Charge Sponsor option. These issues led to a decision to hold off on beginning any site construction until Q1 2018. PG&E planned to have 10 trial sites completed by the end of 2017; however, logistical hurdles slowed the rate at which eligible sites moved

through the implementation process. Instead, PG&E will focus on fine-tuning program processes and will continue to work on building a pipeline of pre-qualified site candidates to establish a backlog of customer sites ready for construction in Q1 2018.

PG&E has found that the program terms and conditions present a hurdle for customers, resulting in significant delay in moving sites forward through planning and design phases. The length and complexity of the terms and conditions resulted in long internal legal counsel review from program participants and several rounds of requested edits. This process of adjusting terms and conditions on a site-by-site basis held up promising sites for extended periods of time, and cost PG&E time and resources. PG&E is currently working on developing a simplified version of the terms and conditions, and will require applicants to review and agree to program terms and conditions before submitting their application in order to avoid delays later in the implementation process.

Additionally, many of the sites PG&E engaged in the trial phase had preference for the EV Charge Sponsor option, whereby PG&E owns the chargers. However, PG&E has yet to finalize the approved vendor list for this option, leading to many sites opting to wait until the RFP process is complete and a list of approved vendors is finalized. Sites were reluctant to sign on to the program without knowing their charger options, as these options impact participation costs. Over the next quarter, PG&E will conduct detailed evaluations of the RFP bids which will result in a final list of approved vendors for the EV Charge Sponsor option.

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1. The Commission approved the EV Charge Network in D 16-12-065.
2. Disadvantaged Communities are defined as the top 25% most impacted census tracts within PG&E’s service territory per the CalEnviroScreen3.0, or the latest version.



## 2. Customer Outreach and Enrollment

### 2.1 Charge Network Education and Outreach

#### EV Charge Network Webpage and Interest Form:

In Q1, PG&E launched its EV Charge Network webpage and interest form, which has seen steady customer activity and interest submissions from potential site hosts. A summary of site host interest is included in the figures and tables below.

**EV Charge Landing Page:** The EV Charge webpage received 2,907 visits in Q3 for a total of 7,990 since its launch in December 2016.

**EV Charge Interest Page:** From launch through September 30, 2017, 465 organizations indicated their interest in participating in the EV Charge Network. Of this group, 20% are located in disadvantaged community eligible census tracts. Approximately two-thirds (65%) of total sites are workplaces while one-third (35%) are multi-unit dwellings. The sites span PG&E’s service territory geographically, but the majority are located in PG&E’s “Central Coast” region which spans South San Francisco to San Luis Obispo, including the South Bay Area. Alameda and Santa Clara counties demonstrated the greatest interest, followed by San Francisco, San Mateo, and Contra Costa counties. See map below for breakdown of interest level by county.

FIGURE 2.1: SITE HOST INTEREST COUNTY

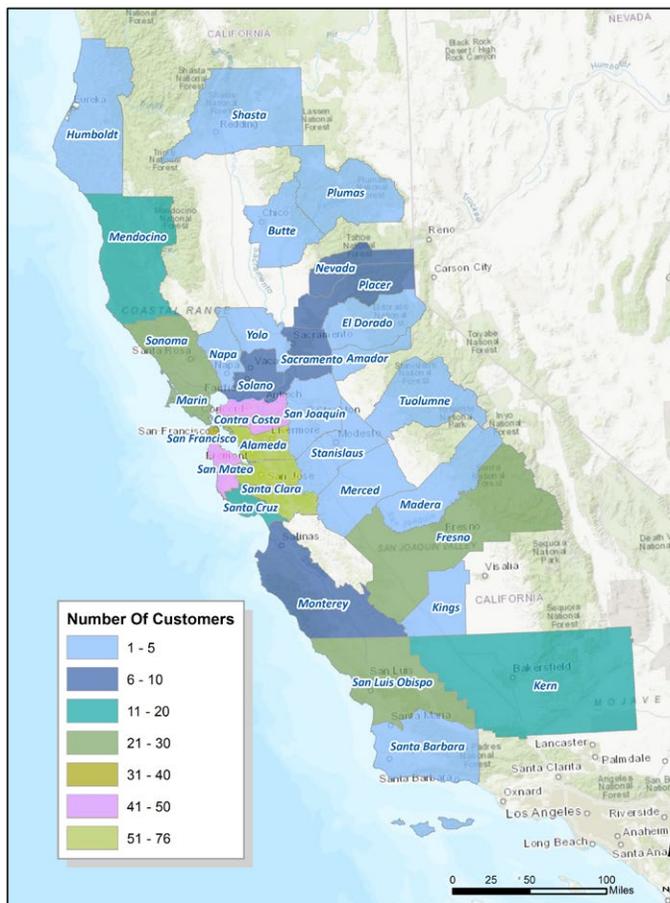
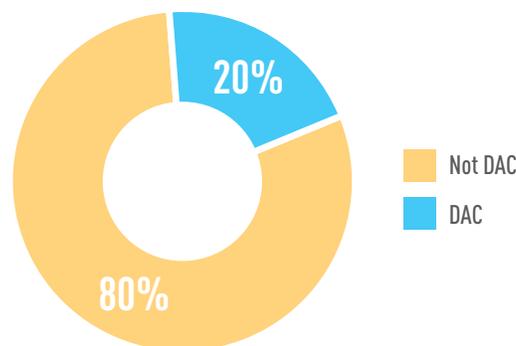


FIGURE 2.2: SITE HOST INTEREST IN DACS AND NON-DACS

TABLE 2.1: SITE HOST INTEREST COMPOSITION

Total	MUD	Workplace	DAC	Non-DAC
465	163	302	86	373



Though PG&E has not yet formally launched marketing efforts, potential sites have expressed their interest. Of those submissions, customers indicated they heard about the program through:

TABLE 2.3: SITE HOST SOURCE OF PROGRAM KNOWLEDGE

Other	40%
PG&E General	15%
PG&E Website	18%
External Group	17%
PG&E Rep	10%

## 2.2 Community Choice Aggregator Forum

In August 2017 PG&E met with Community Choice Aggregators (CCAs) to share knowledge about EV programs and discuss potential collaboration on the EV Charge Network. CCAs are a key stakeholder group for the program, and effective engagement is essential to the program's success.

Attendees included eight operating and future CCAs serving nearly 1 million customers in nine counties:

- CleanPowerSF
- MCE Clean Energy
- Peninsula Clean Energy
- Redwood Coast Energy Authority
- San José Community Energy
- Silicon Valley Clean Energy
- Sonoma Clean Power
- Valley Clean Energy Alliance

At the forum, PG&E presented an overview of the EV Charge Network, heard from a sample of CCAs who have existing EV offerings, and discussed opportunities for CCAs to collaborate with PG&E on the program. A few examples of existing or planned programs presented by CCAs included a proposed multi-unit dwelling program focused on smaller sites and an existing dealer incentive program. Over time, an opportunity exists for CCAs to design complementary programs to the EV Charge Network program, or become familiar with all programs to present the best fit to interested sites.

A number of productive outcomes and next steps were generated from the forum focused on building partnerships between PG&E and CCAs. CCAs will become a critical resource in reaching potential customers interested in participating in the program. CCAs agreed to help expand PG&E's bandwidth by engaging interested customers, educating customers about the program and eligibility, and working with customers to prequalify sites before applying to the program. PG&E is in the process of developing supporting materials to facilitate informed customer engagement. PG&E will also check in periodically with CCAs to receive any feedback from customers, share lessons learned, and explore opportunities to improve program outreach efforts. CCAs are also active in PAC meetings and activities where they will be able to help provide ongoing support and feedback.

## 2.3 Third-Party Outreach

A key tactic in promoting the program will be collaborating with third-party partners (including CCAs). This benefits both partners who can use the program to deepen relationships with their customers or constituents, and PG&E as an additional channel to attract program participants.

Third-party partners can include:

- Community Choice Aggregators (CCAs)
- EV service providers, such as charging station vendors



- Automakers
- Non-profits
- Trade associations

The proposed structure of third-party partnerships is for partners to help prequalify sites for the program. PG&E will provide a checklist of eligibility criteria, talking points, and supporting material that partners can use in conversations with sites. Partners identify sites based on the criteria, engage them for interest, and encourage sites meeting basic qualification criteria to apply for the program. Over time, feedback flows in both directions as PG&E pursues its own outreach and partners learn from their sites. By keeping communication open, PG&E and partners can adjust their approach to most effectively serve sites over the course of the program.

## 2.4 Disadvantaged Communities Outreach Events

PG&E has not yet engaged in any outreach events or DAC-targeted events but we will track their occurrence in this report.

## 2.5 Website

The website ([www.pge.com/evcharge](http://www.pge.com/evcharge)) has been developed and is scheduled to deploy in late October. The new website provides detail on program ownership options, costs, and key features, provides additional resources for customers to learn about program participation, details charger vendor options, and includes an online application for customers to apply for the program. Although the program does not officially launch until 2018, PG&E will begin to review applications as soon as they are submitted through the online application portal.

## 2.6 Marketing, Education & Outreach Next Steps

Following the website launch, PG&E will kick off an email campaign to the list of early hand-raisers who previously expressed interest via the online interest form. The email will notify recipients that the application is available, and encourage customers to apply in order to be one of the first sites in line for 2018. Following up on preliminary customer research conducted in Q2, a second round of customer research will take place in late October through early November and will focus on obtaining feedback for customer-facing resources. PG&E will conduct in-person focus groups with businesses and phone interviews with MUD sites as part of this research. This will support PG&E in developing finalized marketing and customer material by the end of 2017.

The RFP process will evaluate competitive price proposals for vendor EVSE packages to be offered under the EV Charge Sponsor option of the program. Vendors for the RFP must meet PG&E's minimum requirements for the RFQ process and will be evaluated on criteria including, but not limited to, price, quality of bid, supplier diversity, environmental commitment, and financial stability. PG&E intends to award a contract to a more limited number of suppliers than those identified in the RFQ.



# 3. Electric Vehicle Supply Equipment Procurement

## 3.1 Procurement Process

PG&E is conducting both a Request for Qualification (RFQ) and Request for Proposal (RFP) process to determine eligible electric vehicle service equipment (EVSE) packages that will be available to customers through the EV Charge Network program. EVSE packages are inclusive of EVSE hardware, software, and network services. The RFQ will identify vendors that offer EVSE packages that meet PG&E’s minimum hardware, software, and network requirements. PG&E will not limit the list of vendors; all vendor EVSE packages that meet the minimum requirements will be approved. In addition, suppliers will have the option to qualify EVSE packages every 3 months with quarterly RFQs.

## 3.2 RFQ – EV Charge Owner options

The first RFQ evaluation, conducted in Q2, produced a list of 15 approved vendors. The approved EVSE packages, including hardware, software, and network services will be presented on the website to inform customers of their options, along with vendor contact information for further inquiry.

The following 15 vendors are currently approved for the EV Charge Owner option:

- Andromeda Power LLC 
- BTCPower 
- ChargePoint 
- EV Box North America 
- EV Connect 
- EVoCharge LLC 

- EVSE LLC
- Shell
- Greenlots
- Kitu Systems
- Oxygen Initiative
- Liberty Plug-Ins
- SemaConnect
- Tellus Power
- Verdek



## 3.3 RFP – EV Charge Sponsor options

Vendors approved through the first RFQ were eligible for the RFP. The RFP will select vendor(s) for the EV Charge Sponsor portion of the program. Under this option, PG&E may be requested to install, own, and maintain up to 35% (2,625) of the EV charging stations deployed. PGE released the RFP in early September, with submissions due October 9.

The RFP process will evaluate competitive price proposals for vendor EVSE packages to be offered under the EV Charge Sponsor option of the Program. Vendors for the RFP must meet PG&E’s minimum requirements for the RFQ process and will be evaluated on criteria including, but not limited to, price, quality of bid, supplier diversity, environmental commitment, and financial stability. PG&E intends to award a contract to a more limited number of suppliers than those identified in the RFQ.

### 3.4 Procurement Next Steps

The second round of RFQ submissions are due by October 30. PG&E plans to notify approved RFQ vendors mid-Q4. This process occurs quarterly, allowing for new vendors to participate in the program and new EVSE packages to be considered.

Vendors approved through the first RFQ were eligible for the RFP, opened in Q3 of 2017, which will select vendor(s) for the EV Charge Sponsor portion of the program. The RFP deadline is October 9, and PG&E will evaluate bids and conduct equipment testing as necessary. PG&E plans to notify approved RFP vendors mid-Q4.

### 3.5 Revision of the Base Cost Method

The Commission's Decision (D-16-12-065) established that the participation payment and rebate amounts for program participants will be calculated based on the "base cost" for the EVSEs, which was established as the price of the lowest price qualified EVSE bid selected through the procurement process. PG&E proposed an alternative methodology for determining the base cost due to the wide variations in hardware models and sub-models qualified in the first RFQ, as well as the numerous possible configurations for the equipment at a site, since simply selecting the lowest price EVSE model as the base cost would not reflect all necessary equipment to create a functional set of charging ports.

PG&E requested that each qualified vendor submit additional data on a proposed installation of 10 ports, utilizing their equipment in the least-cost configuration. The goal of this request was to allow PG&E to calculate the lowest cost for each vendor on a per port basis that is inclusive of the necessary components for each vendor's unique configuration of 10 ports at a site.

On August 8, 2017, PG&E held a meeting with the non-market participant members of the program Advisory Council to discuss the base cost analysis. On August 23, 2017, PG&E filed Advice 5131-E to propose an alternative method of calculating the base cost based on the additional vendor information. PG&E proposed that the base cost be determined as the median of all the least-cost configurations from all qualified vendors, resulting in a proposed base cost of \$2,300. PG&E recommended the use of the median due to a clear clustering of least-cost configuration prices around \$2,300 per port. The median allows for a base cost that is better suited to reflect the wide range of configurations and models available in the EVSE market, and allows for greater customer access to varying configurations.

This method also includes the following protection measures. The rebate will be capped to ensure that the rebate will never exceed the cost of the EV charging equipment. PG&E also established an annual review process. As described in the Advice Letter, any new EVSE models and configurations qualified through the RFQ will be evaluated annually, and the base cost will be modified if any new qualified models would result in a material change of 25 percent to the base cost. This provides a measure to modify the base cost as the market changes.

The Commission has not yet released a final decision on the base cost amount and methodology.

## 4. Electric Vehicle Charging Utilization and Load Management

### 4.1 Overview of Utilization and Load Management

Once the first charging stations in the EV Charge Network are operational, PG&E will summarize utilization and load management data and observations. Data will include items such as utilization rate by site and charger type, charger uptime, pricing, and charging load profiles. Additional data and metrics will be reported in the Appendix.

At this time, PG&E does not have any installed EV charging stations, and therefore, does not have any utilization or load management data to report.

### 4.2 Development of Load Management Plan Guidelines

PG&E continues to develop the framework and guidelines for the load management plans that program participants will need to provide if they decide to create their own pricing structure for drivers. In Q3, PG&E reviewed the feedback received from the PAC members and qualified vendors on potential load management frameworks and strategies.

PAC members and qualified vendors generally agreed with the goals that PG&E outlined for load management plans: to provide **grid benefits** by integrating variable renewable resources and supporting the electric distribution system; to provide **customer benefits** by supporting customer choice and enabling fuel cost savings; and to provide **innovation benefits** by encouraging innovations in the EV charging market and informing future development of vehicle-grid integration. In general, commenters expressed that a unique framework for load management plans is necessary, instead of utilizing existing Demand Response programs. Commenters noted that a new

framework specific for the EV Charge Network should include shorter event times, site host flexibility, and sufficient incentives and/or penalties.

PG&E presented the above feedback at the Q3 Program Advisory Council meeting on October 13, 2017. Based on the feedback received, PG&E plans to develop a new framework for the EV Charge Network's load management plans. PG&E is currently evaluating the implementation details of a new program, and plans to present its load management proposal to the Program Advisory Council at the Q4 meeting.

### 4.3 Utilization Data from Suppliers

PG&E is currently finalizing and testing its systems to collect data from all sites in the EV Charge Network. In a meeting on June 27, 2017 with suppliers that passed the initial stages of the RFQ, PG&E requested sample data from each supplier to confirm that the supplier will be able to provide the required data elements. PG&E reviewed each supplier's sample data file and provided feedback on any errors to help prepare suppliers for sending data through PG&E's platform.

On September 13, 2017, PG&E held another conference call with all qualified suppliers and reviewed the specifics of PG&E's platform, the timelines for providing data, and the process for testing each supplier's ability to send data. All suppliers will be tested to ensure that they can meet the data reporting requirements. PG&E recently started the testing process, and plans to complete testing by early 2018.



# 5. Site Host Selection and Construction

## 5.1 Summary of Trial Sites

In PG&E's effort to install a number of trial sites in 2017, 54 locations were identified as likely trial sites. Of these sites, 56% (30) are workplaces, 44% (24) are multi-unit dwellings, and 17% (9) are in disadvantaged communities. After reviewing these initial sites for viability, 37 of these sites were waitlisted or cancelled due to a range of issues, such as high estimated project costs, insufficient electric service capacity, ownership option preferences, and delay in reviewing participation documents. By the end of Q3, 15 confirmed sites were in final design, of which two sites had agreed to and signed the program terms and conditions. See the map below for the approximate trial site locations.

FIGURE 5.1: EV CHARGE NETWORK SITE LOCATIONS



## 5.2 Trial Site Challenges

As mentioned above, PG&E encountered new challenges with trial site implementation in Q3. These unforeseen challenges posed time delays in moving these sites through to construction by the end of 2017. However, this provided valuable learning outcomes that will help to streamline these processes once the program formally launches. PG&E is postponing construction of any sites until Q1 2018, giving time to improve internal program implementation processes and ensure a smooth and efficient launch. The section below describes the two biggest challenges faced during the trial site process.

### Complexity of program terms and conditions

The length and complexity of the program terms and conditions presents a challenge to finalizing site host participation. As described above, PG&E and program participants spent considerable time negotiating terms and conditions. The process of adjusting terms and conditions on a site-by-site basis held up promising sites for extended periods of time, and cost PG&E time and resources. To expedite the signing process, the terms and conditions are being shortened, and applicants will be required to agree to and sign the document before completing an online application.

### High interest in EV Charge Sponsor option

Many trial site hosts (mainly MUDs) are interested in the EV Charge Sponsor option but are reluctant to sign on until EV Charge Sponsor equipment solicitation has been completed. Site hosts want to know what charging station equipment is available so that they can gain a sense of potential program costs based on EVSE package options. Site Hosts are specifically concerned with the amount of the one-time participation payment which will be calculated from the base cost as well as the cost of the selected charger (3). Sites interested in the EV Charge Sponsor option of the program are being waitlisted until the RFP is finalized.



### 5.3 Updated Construction Schedule

The initial cost estimates received for performing to-the-meter (TtM) and behind-the-meter (BtM) construction were higher than expected for trial sites. In an effort to reduce costs and improve construction efficiency, PG&E will release an Engineer Procure Construct (EPC) RFP in November which will establish PG&E's contracting strategy for EV Charge Network design review and site construction. Establishing a streamlined contracting strategy will allow PG&E to receive more competitive pricing and coordinate EV charging station installations by geography.

In the interest of efficiency and smooth implementation, PG&E is delaying construction until Q1 of 2018. This will allow time to focus on generating a pipeline of construction-ready sites that meet the program's minimum qualifications and have agreed to the terms and conditions. During this time, PG&E will also focus on bundling site installations over a shorter time period by grouping construction schedules by site location. Key milestones to construction include:

- Finalize terms and conditions
- Launch application website portal to attract qualified sites
- Begin customer outreach to grow interest in the program
- Conduct internal desktop reviews of applicants to evaluate design and economic viability of the site
- Complete EPC and EVSE RFPs to support the program build

### 5.4 Selection of Construction Providers

PG&E is conducting both a Request for Information (RFI) and RFP process to determine eligible suppliers to for EPC service work. A Contract Opportunity Announcement (COA) was released September 11, 2017 that provided a description of the procurement process and outlined the EPC services for the program.

The EPC RFI was released on September 25, 2017. The RFP process will be open to suppliers meeting qualification criteria under the RFI process. The RFP process is designed to receive competitive price proposals for supplier EPC services. Criteria will include, but are not limited to price, quality of bid, safety, supplier diversity, environmental commitment and financial stability. PG&E intends to award a contract to a more limited number of suppliers than those qualified through the RFI. In addition, PG&E will also take into account responses to interviews (if necessary) and ability to perform the services to PG&E's satisfaction. The expected RFP release date is November 2017.

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3. Participation Payments for MUDs in DACs are calculated as follows:  
Base Cost-Selected Charger Cost. Participation Payments for MUDs in non-DAC and workplaces in DAC are calculated as follows:  
.5\*Base Cost+(Base Cost-Selected Charger Cost).

## 6. Operations

PG&E is still in the pre-launch phase of its EV Charge Network operations and therefore does not have data to report at this time. This section of the report provides an outline of the operational metrics that will be reported starting in Q1 of 2018.

### 6.1 Charge Network Program Operations

Interested site hosts will be guided through six steps to participate in the EV Charge Program:

1. **Info & Application:** Site hosts express their interest and apply online at [www.pge.com/evcharge](http://www.pge.com/evcharge).
2. **Approval:** PG&E reviews the site and determines eligibility for the program.
3. **Design and Contracting:** If the site is selected, PG&E will create a preliminary design which is shared with the site host who then selects their equipment for the project and the ownership model (EV Charge Owner or EV Charge Sponsor).
4. **Final approvals:** If the site host approves the designs, they will sign their approval, the easement for PG&E to access their property, and the participation agreement.
5. **Activation:** Once construction is complete, the charger receives electricity, and an inspection occurs. Then PG&E will issue rebates or collect participation payments depending on the ownership model selected by the site host.



## 6.2 Status Update

Through the end of Q3 2017, PG&E actively reviewed the 465 interest statements received from prospective program participants and determined their eligibility in the program on a rolling basis. As PG&E approves sites, performs design and contracting, and completes additional operations steps, we will track and report on the number of sites at each stage. As data is made available, PG&E will report on:

- Average installation costs (per port)
- Actual and projected installation costs
- Actual and projected infrastructure costs
- Explanation of any significant differences between projections and actuals
- Review of cost drivers and remedy actions as needed
- Total estimated pilot costs and remaining budget

## 6.3 Operational Metrics for Quarter

As data is made available, we intend to provide the following metrics:

- Total number of applications received
- Number of approved and confirmed sites
- Number of applicants rejected
- Number of applicants withdrawn

## 6.4 Costs

As data is made available, we intend to provide the following metrics:

- Total pilot costs
- Average cost per site (EV Charge Owner)
- Average cost per port (EV Charge Owner)

- Average cost per site (EV Charge Sponsor)
- Average cost per port (EV Charge Sponsor)

## 6.5 Installation Process Time

As data is made available, we intend to provide the following metrics:

- Average time for each installation step
- Average total installation time

## 6.6 Charging station request

As data is made available, we intend to provide the following metrics:

- Number of charge ports requested
- Number of total charge ports approved
- Average number of charge ports approved per site

## 6.7 Supplier Diversity

PG&E is committed to diversity in the workplace and with the companies with which we do business. Our Supplier Diversity program provides vital opportunities for businesses owned by women, minorities, service-disabled veterans and lesbian, gay, bisexual and transgender (LGBT) individuals. Supplier diversity will be scored as part of the RFQ and RFP process for the EV Charge Program and will be incorporated in any contracts for services as part of this program.



## 7. Program Advisory Council Feedback

The third PAC meeting was held on October 13th and included a diverse group of stakeholders. Twenty-five organizations attended including representatives from the EV charging station industry, non-profits, government entities and community choice aggregators. The table below describes the distribution of the stakeholders present at the meeting.

TABLE 6.1 – DISTRIBUTION OF PG&E PAC MEMBERS

ORGANIZATION TYPE	NUMBER OF CONTACTS
Electric Vehicle Service Providers	11
Non Profit	2
Government	3
CCA	5
Industry Group	3
Installer	1
TOTAL	25

PAC members were active in discussions and comments throughout the meeting. Overall most questions and comments sought clarification of information presented. Conversation focused on how to communicate cost of installation, ownership and electricity to site hosts. Questions involved issues related to ADA compliance and the trial site process.

PG&E captured stakeholder comments during the meeting and also collected feedback by email submission after the meeting. Feedback was organized into the following categories: Marketing, Education, and Outreach; Site Selection and Construction; Procurement; and Load Management. PG&E has provided responses to the questions and comments in the Appendix.

## 8. Conclusion

In the third quarter of the EV Charge Network program, PG&E continued to receive a high level of interest registrations from potential sites within its service territory, despite minimal marketing, education and outreach efforts. PG&E actively engaged with potential trial sites and by the end of the third quarter, 15 trial sites progressed to the plan and design phase of program implementation. PG&E issued its second RFQ and shared vendor information with trial sites. The RFP was issued in early September and will close the RFP in early October.

PG&E will continue to develop and implement standard procedures to ensure smooth customer engagement and efficient siting processes beginning in 2018. In Q4, PG&E will build from lessons learned and feedback received thus far to confirm internal logistical processes in preparation for full scale program launch in 2018. These open items to be completed in Q4 before program launch include: launching the program website; finalizing the program terms and conditions; confirming the base cost; and establishing load management plan guidance. As the online application goes live in Q4, and formal marketing efforts begin, PG&E will have the opportunity to learn from and refine customer engagement strategy through targeted outreach and education.

PG&E values the feedback and input stakeholders have provided through the Program Advisory Council meetings, and looks forward to continued collaboration with participants.



## 9. Appendix

### 9.1 Summary of Program Advisory Council Comments and PG&E Response

The following PAC members provided comments during or after the meeting:

PAC MEMBER NAME	PAC MEMBER ORGANIZATION
Noel Crisostomo	California Energy Commission
Audrey Neuman	California Public Utilities Commission
Newonda Nichols	ChargePoint
Stacey Reineccius	Powertree
Steve Bloch	EV Connect
Jessica Leader	FreeWire Technologies
Mila Buckner	Coalition of California Utility Employees (CUE)
Tom Ashley	Greenlots
Junaid Faruq	Tesla
Phil Villagomez	Shell
Paul Liotsakis	Marin Clean Energy
John Supp	Silicon Valley Clean Energy
Eric Borden	The Utility Reform Network
Beau Whiteman	Tesla Motors
Joel Espino	The Greenlining Institute
Eric Borden	The Utility Reform Network

## 9.2 Direct Program Advisory Comments

The table below describes the comments received from PAC members and PG&E's response.

### 1. Marketing, Education and Outreach

COMMENT	RESPONSE
If customers do not qualify for the EVCN Program, does PG&E have a process to monitor what other programs these customers utilize?	PG&E will respect customer confidentiality and does not plan to monitor customers who are not eligible for the EVCN.
Is there a way to provide customers a resource to point them towards other incentives to help out in providing alternative programs or incentives?	Yes, this is something PG&E is currently considering. This is also a resource that could be developed and made publicly available by a state agency.
What variables will be included in the cost calculator?	The cost calculator will be an enhancement to the website which will provide a high level cost estimate for interested program participants. Inputs include number of ports and ownership options, with the intention of providing the customer with an estimated rebate or participation payment amount, and an estimate of total upfront and ongoing project costs.

### 2. Site Selection and Construction

COMMENT	RESPONSE
Of the confirmed sites so far, how many are MUD, how many are DAC?	We have received interest from a mix of sites. Of the 15 potential sites, 4 are in disadvantaged communities, and 6 are MUD sites.
Do you have more information on the character/type of buildings that are coming through as confirmed sites? Which types of sites are successful?	We have seen a range of property types expressing interest. We cannot say at this point which types of buildings make a successful EV Charge Network site.
Where exactly are these potential sites located in the Central Coast region? It would be helpful to subcategorize regions for more detailed site locations.	Santa Cruz, Sunnyvale. We will look into breaking down regional categorizations further. (See Section 5 for a map of trial sites and Section 2 for a map of interest by county from online interest form).
How are customers who have expressed interest referred to the program?	Sites are coming to us from a mix of channels, as we have not yet formally begun marketing the program. Most have been organic leads. Other sources of interest include word of mouth, CCA referrals, PG&E reps or website. As formal marketing campaigns begin, we will have more detailed information on this.



COMMENT	RESPONSE
How important is co-location in siting chargers?	We are trying to co-locate chargers onsite when possible to keep additional infrastructure build out costs to a minimum. ADA spaces pose a challenge for co-locating and may be cause for a dispersed charger layout.
Why have trial sites so far opted for the EV Charge Owner option?	Since the RFP has yet to be finalized, there is uncertainty surrounding charger options, and therefore estimated costs, of the EV Charge Sponsor ownership option.
In terms of MUD sites, are you seeing more individually owned condos, homeowner's associations or individual owners of MUD complexes?	We've seen examples of all these ownership structures.
What has PG&E's experience been with trial sites dropping out due to unforeseen siting or participation challenges?	There is a range of challenges encountered by early sites and interested customers. Capacity issues have come up when reviewing sites, where extensive infrastructure upgrades would be required to support charging stations at the site. This level of work implies a high cost and can be a disqualifier.

### Discussion:

#### PROGRAM COSTS

**Participant A:** Can you report on cost estimates coming out of final design for sites so far?

**PG&E:** Not yet. We are waiting for sites to have sites ready for construction before reporting out on costs.

**Participant B:** SCE was finding higher costs in implementation than as proposed. This is something to look out for, and will be interesting to know what PG&E is finding.

**PG&E:** The number of ports will vary, costs will change based on scale of site. We are looking at cost per port at sites, and aggregate costs per site to average out across total program costs.

### 3. Procurement

COMMENT	RESPONSE
Will the 200 word summary submitted by vendors be posted on the website or provided directly to sites?	These will be posted on the website.



COMMENT	RESPONSE
Are the vendors applying for round 2 of the RFQ those that were rejected in round 1?	Some applicants are returning vendors who did not qualify in round 1.
In the case that vendors have updates to approved hardware or software services, will vendors need to resubmit an RFQ proposal?	This can be addressed on an ad hoc basis. Minor upgrades are likely passable without reapplication.
How is the network vendor recommended to implement the TOU rate to the drivers? Is this something vendors will implement over OpenADR, or something vendor hard codes into platform?	This is something the vendor will code into their platform.
What has PG&E seen in terms of networking fees from vendors?	The RFQ yielded a range of networking fees. We are seeing high upfront costs, low ongoing costs, and vice versa across qualifying vendors. It will depend on the provider. This part of the program will allow customers to choose what they prefer, and serve as an opportunity for PG&E and vendors to learn about most effective pricing to encourage larger EV adoption goals.

#### 4. Load Management

COMMENT	RESPONSE
Participant didn't think that the minimum load requirement of 100kW would be an issue if these resources can be aggregated at multiple sites. Why is this a challenge?	The minimum resource requirements must be met by one aggregator in one sublap. It will be difficult to aggregate multiple sites when there are 15+ different vendors in the program, considering that the vendor will be the aggregator. There may not be other sites for aggregation in the same area with the same vendor, especially in the first 1–2 years as the program scales up (especially since not all sites will be participating in the load management program).

COMMENT	RESPONSE
<p>How does the framework presented by PG&amp;E build off of past and existing pilot programs, such as PG&amp;E/BMW's iChargeForward?</p>	<p>PG&amp;E's proposed framework is a combination of existing demand response programs; however, it is specific for the unique conditions of sites in the EV Charge Network program (i.e. would not require a minimum resource; shorter event times better suited for EV charging, etc.). This program will also build off lessons learned from iChargeForward, and serve as a pilot to help inform future EV charging programs.</p>
<p>Looking at technologies proposed in the RFQ, how is the load management plan going to affect vendor qualification of technology? How does this proposed strategy impact technology requirements in the RFQ?</p>	<p>Right now, this will not affect vendor qualification. We require OpenADR 2.0b and charger models are required to pass pricing signals onto customer.</p>
<p>Could you talk about counterpoints around financial incentives for load management?</p>	<p>Initial feedback on load management plans showed support for financial incentives. There was mixed feedback on if penalties should be used, in addition to incentives. However, incentives and penalties are both used to influence behavior in other DR programs, so using such strategies appropriately will play into effective load management.</p>
<p>How will load management plans be enforced?</p>	<p>All vendors are providing utilization data to PG&amp;E daily. We will be tracking this data with an eye for load management, and energy use. We will monitor how sites are implementing and responding to the load management plans. Sites may then be shifted to the pass-through pricing option if their load management plan is not sufficient.</p>

## Discussion:

### PILOT PROGRAMS

**Participant:** How are you thinking about excess supply pilot? Are you thinking of bidding in the load to CAISO? How will load be curtailed in case of curtailment order?

**PG&E:** The CAISO does not currently have a product for load consumption similar to the existing Proxy Demand Resource (PDR). As a result the excess supply pilot does not bid into the market, it is an out of market pilot. At this time, PG&E does not plan to have its load management program bid into the CAISO market for load increase or curtailment.



## LOAD MANAGEMENT PLAN EVALUATION

**Participant:** It will be important for PG&E to explain their process for evaluating load management plans submitted from vendors/site hosts and how this would play into accepting program participants.

**PG&E:** We don't want to be too prescriptive in how we evaluate the load management plan. We will leave it to the site, as long as they meet minimum criteria. This criteria will depend on the final program that PG&E develops.

## 5. Base Cost Methodology

COMMENT	RESPONSE
When can we expect a decision from the Commission on a final base cost?	As this was filed as a Tier 2 Advice Letter, the decision does not require a vote. We are waiting for CPUC staff to issue a decision.
Once the base cost is finalized, do you anticipate pricing changes from vendors?	This is not a concern right now. The base cost we proposed is in line with SCE's base cost.

### Discussion:

#### BASE COST METHODOLOGY

**Participant A:** The base cost boils down to a policy issue. Having two base costs, one for MUD and one for Workplace will add complexity to program implementation.

**Participant B:** Is there any way for stakeholders to be engaged in the base cost decision?

**Participant C:** The CPUC is open to comments from anyone within the next few days.

**Participant B:** Providing a larger rebate for MUDs could help get sites from this segment to sign on to the program, when MUD sites are challenging to acquire to begin with. Although, workplaces have their challenges too.

**Participant C:** The percent of rebate for each segment will not be changing. The only issue that is up for debate is that of the amount the rebate is based on.

#### ADDITIONAL COMMENTS SUBMITTED BY PAC STAKEHOLDERS, PROVIDED VERBATIM:

**Organization:** Center for Sustainable Energy

**Organization representative:** Paul Hernandez

**Organization representative title:** Sustainable Transportation Infrastructure Policy Manager

### Mapping

CSE seeks clarification on the "Interest by Region" information (as presented in slide 7), and specifically requests feedback from PG&E on how it has defined this Interest by Region. Notably, PG&E's "Central Valley" region appears to overlap with Alameda County, (including possibly the cities of Fremont, Pleasanton, and Dublin). In addition, the Central



Coast region may contain portions of Santa Clara County, and Sacramento is depicted as within PG&E's Interest by Region, yet this area is a Sacramento Municipal Utility District's territory.

CSE attests to the value of ensuring a uniform regional identification methodology as a key path to developing "tool(s) and interface(s) that the public and other utilities can use to track the progress and attributes of the deployment."<sup>4,5</sup> Regarding slide 7, it is worth noting that there are higher PEV adoption rates in Alameda County and in Santa Clara County (as evidenced by the Clean Vehicle Rebate Project's Rebate Statistics<sup>6</sup>) which may impact PG&E's depicted Interest by Region. Moreover, as programs pursue regional, place based approaches similar to the Energy Commission's Block Grant,<sup>7</sup> which has a Central Valley focus in its initial implementation, it will be even more important to ensure the use of uniform identifiers, and more important to maintain coordinated implementation. In this regard, CSE encourages PG&E to consider supplementing this current Interest by Region percentage estimate with data at the air district, county, and ZIP code levels. Adding these additional lenses will promote data uniformity and support the decision-making process while aligning with existing and complementary data sources such as the CVRP Rebate Statistics database. In addition, should this reforecasting reveal lower interest in the Central Valley region, CSE would encourage PG&E to consider increasing marketing, education, and outreach activities in the Central Valley, with concentrated activities in Fresno County, to complement current efforts underway via the Energy Commission's Block Grant Program.

**Organization:** Marin Clean Energy

**Organization representative:** Paul Liotsakis

**Organization representative title:** Customer Programs Manager

## Load Management

MCE wants to note a concern around PG&E's proposed EV demand response program envisioned to be paired with the EV Charge Network' Load Management Plans. Because PG&E does not settle with MCE on a meter level, MCE does not have control or visibility into our customer's participation in PG&E DR programs. We are concerned about furthering this limitation into the growing EV load in our service area. We are also concerned about limitations this might present to MCE customers participating in future MCE DR programs or opt-outs this might trigger for current customers. We hope to find a resolution to the above concerns since we envision partnering and working with PG&E to refer MCE customers to the EV Charge Network program.

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4. Decision Regarding Underlying Vehicle Grid Integration Application and Motion to Adopt Settlement Agreement; Decision 16-01-045 January 28, 2016
  5. Decision Regarding Southern California Edison Company's Application for Charge Ready and Market Education Programs; Decision 16-01-023 January 14, 2016
  6. Center for Sustainable Energy (2017). California Air Resources Board Clean Vehicle Rebate Project, Rebate Statistics. Data last updated October 02, 2017. Retrieved [retrieved 10/23/2017] from <https://cleanvehiclerebate.org/rebate-statistics>
  7. Energy Commission; Block Grant for Electric Vehicle Charger Incentive Projects; Website Access: <https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=17-EVI-01>



### 9.3 Description of Program Operational Metrics

The section below provides a summary of the metrics that will be included in subsequent reports, once data becomes available.

#### PG&E Operational Metrics:

- Total estimated pilot costs and remaining budget
  - Actual and projected installation costs
  - Actual and projected infrastructure costs
- Total applications received
- Total number of sites installed
- EVSE's installed by make and model
- Deployment breakdown (by MUD, Workplace, DAC)
- Total actual construction costs for PG&E infrastructure (Make Ready)
- Average actual construction cost for PG&E infrastructure per site (Make Ready)
- Total actual construction costs for PG&E infrastructure including charger costs (Turnkey)
- Average actual construction costs for PG&E infrastructure including charger costs (Turnkey)
- Operating costs
- Program installation time metrics (charger uptime)
- Customer Experience and Satisfaction (convenience, ease of use) – by survey of site hosts and EV drivers
- EV Rate Adoption
- EV Adoption in Service Territory
- EV Driver Enrollment (total and by site)
- Utilization rate by site, by type of charger
- kWh usage by price
- Average plugged in time, charging duration, charging power level
- Charging load profiles (aggregate and by charger)
- Load impacts
- PAC full program comments

