



Together, Building
a Better California

PG&E EV Charge Network Quarterly Report

Report Period: October 1, 2017 – December 31, 2017



Table of Contents

PAGE

1. Executive Summary	1
1.1 Charge Network Program Overview	
1.2 Summary for Quarter	
2. Customer Outreach and Education	5
2.1 EV Charge Network Interest List	
2.2 Website & Online Application	
2.3 Marketing and Sales	
2.4 Partnerships	
2.5 Disadvantaged Communities Outreach Events	
3. Electric Vehicle Supply Equipment Procurement	7
3.1 Procurement Process	
3.2 RFQ – EV Charge Owner Options	
3.3 RFP – EV Charge Sponsor Options	
3.4 Procurement Next Steps	
3.5 Revision of the Base Cost Method	
4. Electric Vehicle Charging Utilization and Load Management	10
4.1 Overview of Utilization and Load Management	
4.2 Development of Load Management Plan	
4.3 Utilization Data from Suppliers	
5. Site Host Selection and Construction	12
5.1 Summary of Applications Received and Site Development Progress	
5.2 Site Selection Challenges	
5.3 Construction Schedule	
5.4 Selection of Construction Providers	
6. Operations	15
6.1 Charge Network Program Operations	
6.2 Status Update	
6.3 Operational Metrics for Quarter	
6.4 Costs	
6.5 Installation Process Time	
6.6 Charging station request	
6.7 Supplier Diversity	
7. Program Advisory Council Feedback	17
8. Conclusion	18
9. Appendix	19
9.1 Summary of Program Advisory Council Comments and PG&E Response	
9.2 Direct Program Advisory Comments	
9.3 Description of Program Operational Metrics	

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)¹. 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).² 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 site hosts 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 site host will be responsible for buying and installing the EV charging station. At these locations, rebates will be offered to site hosts 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 site host, 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 site hosts 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, program participant interest, a summary of the Program Advisory Council (PAC) meeting, a description of all relevant Advice Letters filed, updated program budget status, and key barriers to implementation. This section also summarizes high-level metrics from the soft launch of program sales and marketing, and will report on additional high-level metrics as construction unfolds.

Total applications received: 52

Total viable³ applications: 10

Total sites in construction: 1

Total activated charging ports: 0

Program Outreach

In Q4 2017, PG&E conducted customer research, developed marketing materials, and began customer outreach. The program website and online application were launched, and program marketing began with an email to the list of customers gathered since January 2017 through an online interest form. Marketing materials were developed, informed by a second round of customer research in the form of focus groups. A customer acquisition strategy was articulated, relying on a blend of marketing, sales and partnerships. PG&E's in-house sales team was trained on program details and began conducting outreach to customers gathered via the online interest form. PG&E also continued its partnership outreach with a forum bringing together approved program vendors, following a similar forum held in Q3 with Community Choice Aggregators. These external partners will be vital resources in the success of the program, as they hold strong relationships with potential customers and present an opportunity to expand PG&E's outreach efforts. More details on customer interest, outreach, and education efforts are available in Section 2 of this report.



Procurement

PG&E concluded its second quarterly Request for Qualification (RFQ) process in Q3 and opened its third RFQ for the EV Charge Owner option on December 15, 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.

In Q4, PG&E continued its work on the Request for Proposal (RFP) that was released on September 8, 2017, for vendors interested in becoming eligible to provide EVSE hardware and software to program participants selecting the EV Charge Sponsor option. PG&E conducted interviews, equipment testing, and ongoing negotiations as part of the RFP evaluation process. PG&E estimates that notification of selected vendor(s) will first occur in January 2018. More details on PG&E's procurement process are available in Section 3 of this report.

Advice Letters

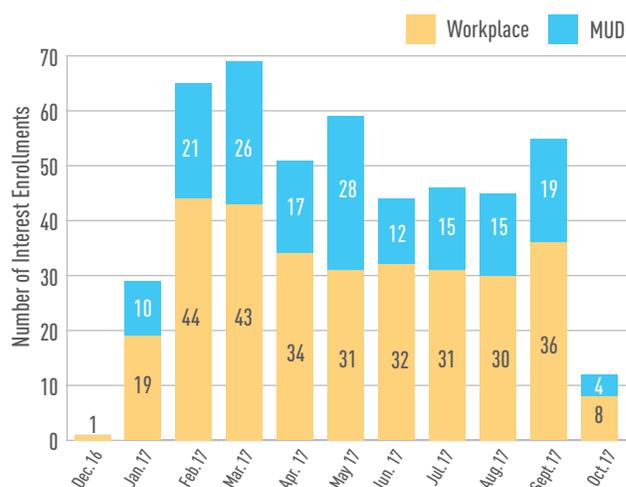
On October 27, 2017, PG&E submitted a supplement to AL 5131-E (AL 5131-E-A) which included two amendments. AL 5131-E-A ensures that rebates will not exceed charger costs by capping the rebate at cost of the EVSE configuration. Additionally, AL 5131-E-A establishes an annual evaluation of the base cost, requiring an adjustment of the base cost if prices of qualified charger models result in a material change of at least 15 percent of the base cost.

On December 20, 2017, the Commission released their decision approving of PG&E's proposed base cost methodology and setting PG&E's base cost at \$2,300. More details on PG&E's Advice 5131-E-A and the Commission's approval are available in Section 3 of this report.

Program Participation Interest

In January of 2017, PG&E launched an interest form located on the program website which allowed customers to indicate their interest in participating in the program. This interest form was removed from the website on October 9, 2017 and had collected a total of 477 interested sites.

FIGURE 1.1: NUMBER OF INTEREST ENROLLMENTS BY MONTH



Note: Customers were only able to express interest through October 9, 2017.

In late October 2017, PG&E launched an updated EV Charge Network program website and online application, allowing customer to apply to the program and beginning the application review process. As of December 31, 2017, PG&E had received 52 applications⁴. At the close of Q4, 32 of these sites were under eligibility review, 10 sites had been deemed viable and moved into final design and pre-construction phases, and 10 applications were waitlisted or cancelled. More details on the current status of applications and in-progress sites can be found in Section 5 of this report.

Program Advisory Council (PAC)

On December 11, 2017, PG&E held its fourth PAC meeting. Approximately 27 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 EV charger data collection and load management plan development, including potential strategies for implementing successful load management. More details on the 2017 Q4 PAC meeting can be found in Section 7 and the Appendix of this report.

Budget

In Q4, PG&E spent \$3,019,731 for a total YTD program spend of \$6,770,648 out of the \$130 million authorized budget. A more complete breakdown of the budget is provided below (in \$ thousands):

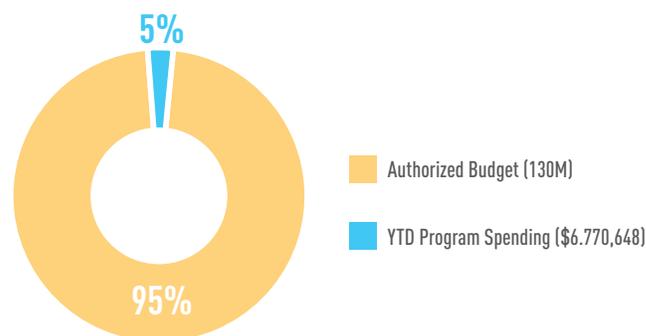
Information Technology Projects	\$2,111
Marketing, Education and Outreach	\$373
Procurement	\$137
Administration and Program Implementation	\$2,969
Engineering and Construction	\$777
TOTAL	\$6,771

Overview of Challenges Encountered in Q4 2017

In Q4 2017, PG&E began receiving applications for the EV Charge Network program. One challenge PG&E has encountered is the inability of applicants to co-locate 10 chargers onsite. PG&E has made significant effort to communicate the 10 parking space minimum requirement to customers through the new website, and on the pre-application eligibility check page. However, PG&E has still received applications from sites interested in participating, but unable to commit 10 contiguous parking spaces to EV chargers. This is one reason why sites are considered ineligible for program participation

and PG&E has needed to cancel these applications. In most cases, this is an issue with the layout of the site, where the location does not have 10 contiguous existing parking spaces but the customer is interested in splitting up the 10 spaces across the property.

FIGURE 1.3: NUMBER OF INTEREST ENROLLMENTS BY MONTH



PG&E recognizes the limitation that the 10 space minimum requirement creates for smaller sites unable to install chargers at 10 neighboring parking spaces. However, PG&E has implemented this requirement to make the program cost effective in installing infrastructure to serve one new location of at least 10 charging ports, rather than bringing service to two charging locations with fewer than 10 charging ports each. This requirement will also allow PG&E to maximize the number of charging ports installed through the program and lower per port installation costs.

PG&E sees this challenge as an opportunity to inform the design of future pilot programs to serve smaller sites, since there is a large market for properties interested in providing employees or tenants with EV charging, but lacking the available space required to participate in the EV Charge Network Program. To mitigate this challenge in the near term, PG&E is developing a resource to educate these smaller sites about alternative funding opportunities offered through state or local organizations to help install EV chargers at their site. PG&E plans to incorporate this resource on the EV Charge Network website in early 2018.

As the EV Charge Network program looks towards beginning construction rollout in Q1 2018, PG&E has taken proactive action to reduce risks and delays once construction begins. Construction permitting was identified to be a potential challenge in moving sites smoothly and efficiently through construction, a process that is often cause for construction delay. To avoid long lead times associated with obtaining the proper permits for site construction, PG&E has begun working with cities to obtain the required permitting and construction approvals needed to streamline the permitting process for EV Charge Network installations. PG&E anticipates this pre-emptive measure will save time in the future and improve customer experience by enabling timely construction.

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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.
 3. An application is deemed "viable" once it enters the final design phase.
 4. Six of these applications were from sites reviewed during the trial site period and did not submit applications through the online portal.



2. Customer Outreach and Education

2.1 EV Charge Network Interest List

In Q1 2017, PG&E launched its EV Charge Network webpage and interest form, which gathered higher than anticipated interest from potential site hosts. The interest list was removed from the website on October 9, 2017 in preparation to launch an e-mail campaign targeted at these customers and for the launch of the updated EV Charge Network website. Of the submissions received, customers indicated they heard about the program through:

TABLE 2.1: SITE HOST SOURCE OF PROGRAM KNOWLEDGE

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

From launch of the interest form in January 2017, through October 9, 2017, 477 organizations indicated their interest in participating in the EV Charge Network program. Of this group, 87 (19%) sites were located in disadvantaged community eligible census tracts. Additionally, 310 (65%) of total sites were workplaces while 167 (35%) were 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. A summary of site host interest is included in the figures and tables below.

TABLE 2.2: SITE HOST INTEREST COMPOSITION

Total	MUD	Workplace	DAC	Non-DAC
447	167	310	87	383

FIGURE 2.1: SITE HOST INTEREST IN DACS AND NON-DACS

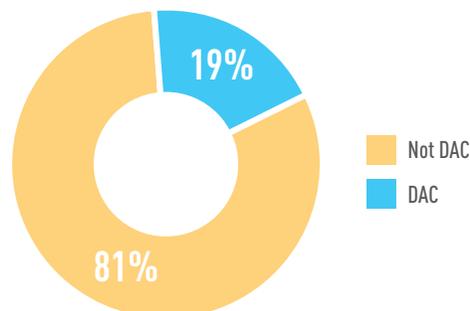
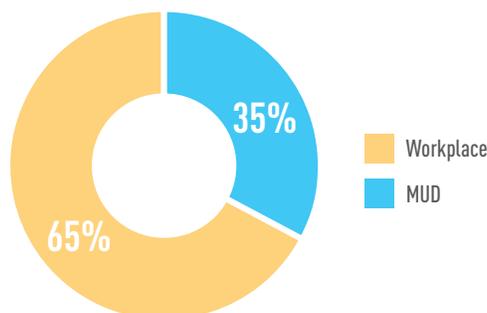


FIGURE 2.2: SITE HOST INTEREST FROM MUD AND WORKPLACE



2.2 Website & Online Application

The website includes separate sections for program participants and vendors. Within the vendor section, users will learn about the basics of the program and find out how to express interest and apply to be an approved vendor through the quarterly RFQ process.

The program participant section is designed for a self-service application strategy. This is the program’s main source of information for interested customers to walk through the details of the program, as well as provide resources to get in touch with the program team for further questions. Customers are able to educate themselves about the various aspects of the program and learn how their site can benefit from program incentives. The website update was designed to help potential program participants assess their eligibility, see responses to frequently asked questions, understand potential program participation costs, review resources (such as



the program terms and conditions and sample easement), and discover information about the approved program vendors. The program participant section also includes links to the online application, including a pre-application page with a list of eligibility criteria and information required to complete the application.

Throughout the life of the program, the website will continue to be enhanced with tools, resources and information that may be useful to customers. For example, in 2018 PG&E plans to provide a tool for customers to input their address and property type and assess their ownership options, as well as a cost calculator to estimate upfront and ongoing costs associated with various program participation options. An additional tool will help customers evaluate charger features and find vendors that offer the features best suited to their site's needs. PG&E also plans to include information on additional federal, state, and local incentive programs for customers to explore and either further drive down costs of participation, or for customers who are found ineligible for participation in PG&E's EV Charge Network program.

2.3 Marketing and Sales

A soft launch of program marketing was deployed in early November 2017 with an email distributed to the interest list described above. The email was well-received, with a 59% unique open rate and a 37% unique click rate—far above PG&E's average open and click rates of 25% and 2%, respectively. An additional indicator—a gross click rate of 473%—demonstrated that recipients who did open the email either opened it multiple times, or forwarded it to others who then opened it. This indicates high interest in the program. Follow-up was conducted by Business Energy Solutions, PG&E's in-house energy solutions sales team.

In October and November 2017, a second round of customer research was conducted to assess samples of marketing creative. This followed a first round of customer research, conducted in May 2017, to distill key customer benefits and value propositions. Program marketing materials will employ the most effective headlines,

taglines, customer messaging and calls to action, as identified by this second round of research. Ongoing A/B testing of marketing materials will help further refine the messaging and its efficacy in reaching target audiences.

Overall, PG&E's customer acquisition strategy for the program relies on a blend of targeted and broad-based marketing, sales and partnerships. Targeted marketing—including email, direct mail, digital and social media—will be deployed in early 2018 to reach decision-makers such as property managers and property owners. Broad-based marketing—such as news releases, earned media, event sponsorship and hosted events—will complement targeted marketing and is intended to produce a groundswell of interest in EVs and in the EV Charge Network program.

2.4 Partnerships

Additional sales are anticipated to come through partnerships, such as EVSE vendors and community choice aggregators. These partnerships will be crucial in assisting in identifying potential sites, educating customers about the program, and directing eligible sites to apply to the program. Regular calls have been scheduled with these groups, and co-marketing guidelines have been developed to facilitate customer engagement. PG&E continues to engage with partners on expanding program outreach and developing open and reciprocal communication where customer feedback will inform program implementation strategy.

2.5 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.

2.6 Marketing, Education & Outreach Next Steps

Marketing, education and outreach will ramp up in Q1 2018, with the program officially launching in January and targeted and broad-based marketing scheduled to deploy directly thereafter. A ribbon-cutting ceremony is also being planned for early 2018 to showcase one of the first sites to complete construction and charger installation.



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. As in past quarters, the quarterly RFQ will identify additional vendors that offer EVSE packages that meet PG&E's minimum hardware, software, and network requirements. PG&E does not limit the list of vendors; all vendor EVSE packages that meet the minimum requirements will be approved. Vendors will continue to 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 2017, produced a list of 15 approved vendors. The approved EVSE packages, including hardware, software, and network services are presented on PG&E's website to inform customers of their options, along with vendor contact information for further inquiry.

During the second RFQ process, six vendors expressed interest, one vendor applied, and no vendors were approved.

PG&E conducts thorough review of all vendor applicants based on pre-determined criteria. All EVSE packages approved through the RFQ meet the following minimum requirements:

Hardware Requirements:

- Include a commercial-grade Level 2 EVSE.
- Must be able to supply an output current of at least 30 amps per port minimum at 208/240 volts.
- Include a charge connector compliant in SAE J1772.

- Compliant with NEC article 625.
- Rated for outdoor usage, NEMA 3R or better and an operating temperature range of: -22 to 122F.
- Shall be network ready—able to communicate with an EVSE management service and use Open Charge Point Protocol (OCPP 1.5 or later).
- ADA Compliant.

Software & Network Requirements:

- Software to control, operate, communicate, diagnose, and capture data.
- The vendor shall provide network services capable of tracking usage, collecting data, billing customers and managing electrical loads.
- The EVSE software shall be certified to receive an OpenADR 2.0b signal.

Vendor Requirements:

- The EVSE Package(s) must be inclusive of all hardware, software, and network services.
- Vendor is an authorized distributor or reseller of specified EVSE hardware and software and authorized to provide the required services.
- Vendor is regularly and continuously engaged in the business and have EVSE installed and operational in the United States for at least three years immediately preceding the bid due date.
- Vendor shall be able to service the entire PG&E Service Territory.

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. 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 continues to evaluate RFP submissions and intends to award a contract to a more limited number of suppliers than those identified in the RFQ.

3.4 Procurement Next Steps

The third RFQ submissions are due January 15, 2018. PG&E plans to notify approved RFQ vendors mid-Q1 2018. This process occurs quarterly, allowing for new vendors to participate in the program and new EVSE packages to be considered. PG&E plans to announce approved RFP vendor(s) Q1 2018.

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.

On October 27, 2017, PG&E submitted a Tier 2 Advice letter, AL 5131-E-A, a supplement to AL 5131-E. The supplement amended the following protection measures. The rebate will be capped at the cost of the EVSE configuration to ensure that the rebate will never exceed the cost of the EV charging equipment. PG&E also established an annual base cost review process. As described in the AL 5131-E-A, 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 15 percent to the base cost. This provides a measure to modify the base cost as the market changes.

On December 20, 2017, the Commission issued a decision approving PG&E's proposed base cost methodology, setting the base cost at \$2,300. The Commission evaluated two key considerations in their decision: if it is acceptable to determine the base cost based on RFQ vendors rather than RFP vendors; and if PG&E can use the median of the lowest cost rather than the lowest cost in determining the base cost. The Commission found that using vendors qualified in the



RFQ is more reflective of market prices available to customers and program participants, rather than utility negotiated prices that will be finalized with the RFP. The Commission also found that using the median of the lowest cost configuration results in a base cost that is appropriate for both MUDs and workplaces, and does not impose unfair costs on either market segment that would encourage free ridership or inhibit participation. Although PG&E's base cost methodology and amount differs from those of SDG&E and SCE's base costs, the Commission found that the amount is reflective of the current market, and presents an opportunity to learn from the various IOU program outcomes.

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

Program participants who select the custom pricing option will be required to develop and submit a load management plan to maintain the intent of a time-of-use rate in shifting energy consumption to times of low demand, and away from times of peak demand. PG&E will provide program participants guidance in creating adequate load management plans. In Q4 2017, PG&E continued to develop its load management plan program and implementation details. Based on feedback from Program Advisory Council members and vendors, PG&E has been working on developing a new program framework for an EV Charge Network load management that will support the unique characteristics of EV charging and include events to both increase and decrease EV charging at certain times. PG&E found that it may be able to leverage existing demand response (DR) pilot programs with some modifications to better suit the EV Charge Network load management needs.

PG&E is currently looking into leveraging the Excess Supply Pilot (XSP) and Supply Side Pilot (SSP) as the load management program (subject to final decisions on the XSP and SSP programs for 2018-2020). These

programs test the ability of customers to both increase load at times when there is excess supply (XSP) and reduce load during peak periods (SSP). The XSP and SSP programs meet PG&E's goals for the load management program by including both load increase and load reduction events as two types of grid support. EV Charge Network sites would participate out-of-market due to the small resource sizes per site, and PG&E would set the event times and durations for all participating sites. The use of existing pilots with these modifications is advantageous because it allows PG&E to leverage existing program administration and implementation, and to offer incentives for participation.

Program participants that choose to have custom pricing for drivers at their site would meet the load management plan requirement by participating in XSP and SSP, with their Electric Vehicle Service Provider (EVSP). Program participants would work with their EVSP to develop their tactics for participating in load increase and load decrease events, and inform PG&E of these tactics. Potential tactics could include price adjustment during an event, scheduling EV charging for certain times, reducing the power capacity for the set of chargers, email/text alerts to tenants, or other strategies. The EVSPs would enroll as the direct participant in XSP/SSP, and receive the Open ADR signal the day before an event containing information for the event. EVSPs would pass this signal on to the program participants and drivers, and carry out their selected load management tactics during the event.

PG&E will continue to work through the implementation details and develop communication materials for program participants and vendors. PG&E also plans to have a training session with vendors in Q1 2018 to discuss the load management program. PG&E will also provide an update at the Program Advisory Council meeting in Q1 2018.



4.3 Utilization Data from Suppliers

As part of the EV Charge Network program, vendors are required to send site, equipment, and charging data to PG&E to support PG&E's metrics and reporting. In 2017, PG&E developed its Information Technology (IT) systems for vendors to send data to PG&E throughout the program. Vendors are required to provide data on the site and equipment, including items such as location, EVSP, equipment manufacturer, equipment power output, and any equipment outages that occur at the site. Vendors are also required to provide data for every charging session to occur at a site, including items such as connection start and end time, charging

start and end time, energy consumed, and driver's cost of charging session. Vendors will provide data for each charging session, as well as in 15 minute intervals on a daily basis. PG&E will use the data provided by vendors to report out on key metrics for the program included in the Appendix.

In Q4 2017, PG&E worked with vendors to test their ability to send data through PG&E's platform. To date, nearly all vendors have connected to PG&E's platform and sent sample data to demonstrate their ability to meet the data reporting requirements. PG&E plans to complete the testing by early 2018.

5. Site Host Selection and Construction

5.1 Summary of Applications Received and Site Development Progress

Since the launch of the online application and inclusive of sites deemed viable during the 2017 trial period, PG&E has received 52 applications. Of the 52 applications, 31 (60%) are workplaces, 21 (40%) are multi-unit dwellings, and 9 (17%) are in disadvantaged communities. Most applicants, 69%, are selecting the EV Charge Owner option in which the site host owns the chargers over the EV Charge Sponsor option in which PG&E owns the chargers. Figures 1, 2, and 3 depict the breakdown of property type, disadvantaged community status, and selected ownership options from total applications received.

FIGURE 5.1: APPLICATIONS RECEIVED BY PROPERTY TYPE

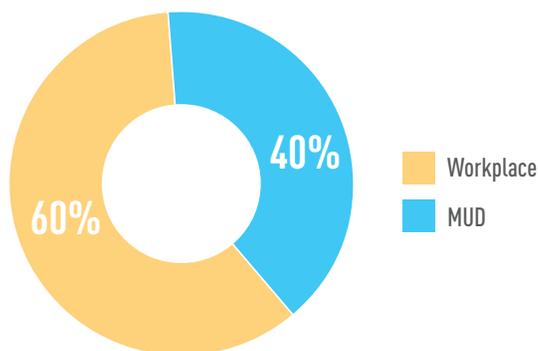


FIGURE 5.2: APPLICATIONS RECEIVED FROM SITES IN DISADVANTAGED COMMUNITIES AND OTHER PG&E TERRITORY

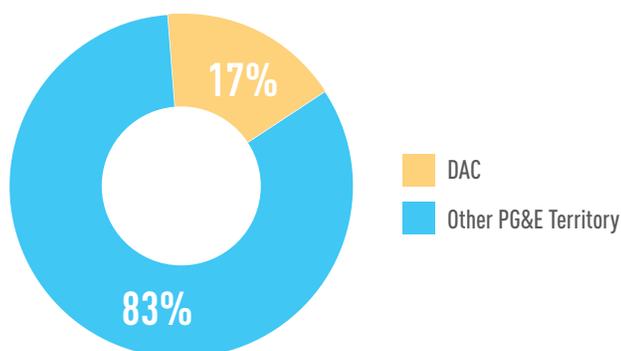
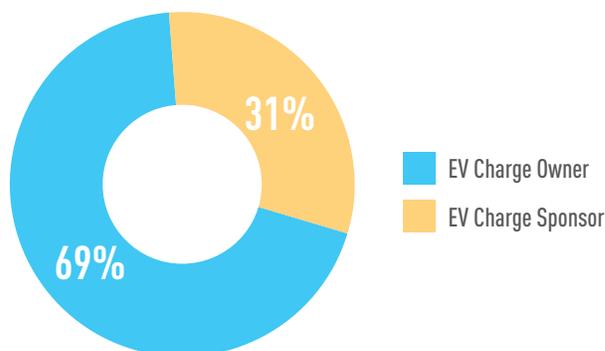


FIGURE 5.3: DISTRIBUTION OF OWNERSHIP OPTIONS SELECTED FROM TOTAL APPLICATIONS RECEIVED



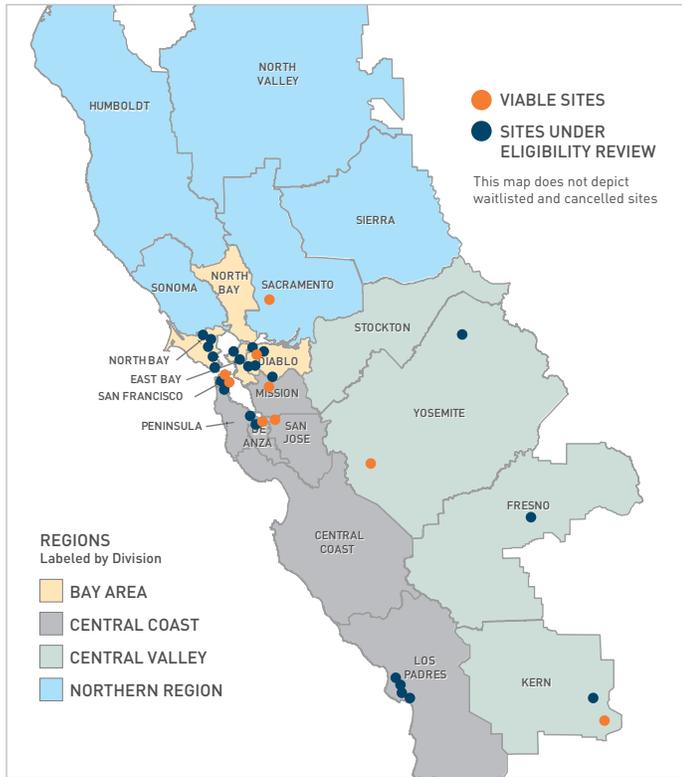
Once an application is received, PG&E conducts an eligibility review of the site, evaluating site feasibility based on a number of criteria including available electrical capacity, number of chargers to be installed, environmental hazards, and estimated project costs on a per port basis. If a site passes this eligibility review and a conceptual design of charger layout is approved by the program participant, it is deemed a viable site and is moved into final design and pre-construction phases.

Of the 52 total sites, 32 sites are in eligibility review, and 10 have been confirmed as viable sites and are in the final design or construction phases. A total of 10 sites have been waitlisted or cancelled.

Most applications are for sites located in the Bay Area and Central Coast Regions. More specifically, over 50% of sites are located in the Diablo, Peninsula, North Bay, or San Francisco Divisions. Figure 7 depicts the locations of all sites received thus far, distinguishing viable sites and sites in eligibility review.



FIGURE 5.4: GEOGRAPHIC DISTRIBUTION OF TOTAL APPLICATIONS RECEIVED



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.

PG&E broke ground on the first EV Charge Network site on December 26, 2017. PG&E will install 12 charging ports at this site and anticipates the make-ready infrastructure construction to take no more than two weeks to complete. This site selected the EV Charge Owner option, so the site host will be coordinating installation of the chargers. PG&E will then inspect and activate the chargers in late January 2018.

Construction of additional viable sites is planned to ramp up in Q1 2018. This will allow time to focus on generating a pipeline of construction-ready sites that meet the program’s minimum qualifications, can be completed within reasonable cost, 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.

5.2 Site Selection Challenges

With the release of the online application in Q4 2017, PG&E has begun reviewing applications and evaluating sites for eligibility. As mentioned, 10 applications (18%) have been cancelled or waitlisted upon initial review. The most common reasons for cancelling or waitlisting sites include inability to co-locate 10 chargers onsite to make the project cost effective, and low anticipated charger utilization at the proposed location. PG&E continues to monitor reasons for sites ineligibility and looks to mitigate attrition rates throughout the lifetime of the program.

5.3 Construction Schedule

To reduce costs and improve construction efficiency, PG&E released an Engineer Procure Construct (EPC) RFP in November which will establish PG&E’s

5.4 Selection of Construction Providers

PG&E conducted both an RFQ and RFP process to determine eligible suppliers to for EPC service work.

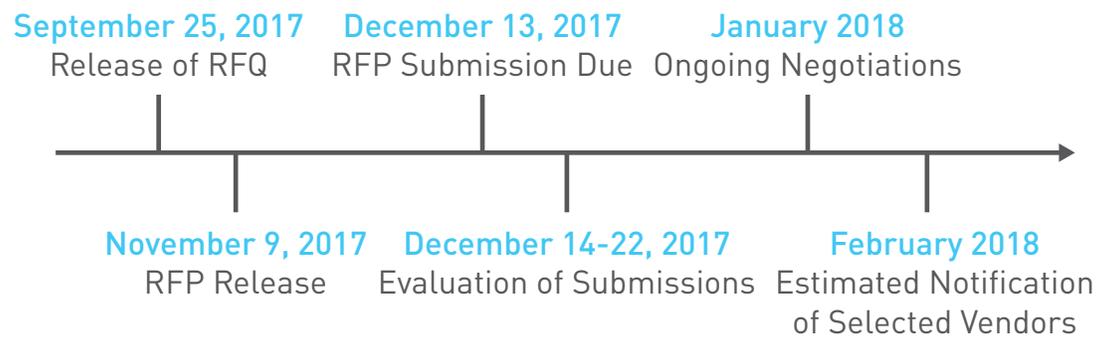
The RFQ was released on September 25, 2017, and received 18 responses, of which 12 suppliers qualified to participate in the RFP. The EPC RFP was released on November 9, 2017, and received bids from 9 suppliers.

The RFP requested bids for EPC services for the program in the following work streams:

- To the Meter (TtM) Design
- TtM Construction
- Behind the Meter (BtM) Design
- BtM Construction



PG&E is in final stages of finalizing the EPC RFP, and is evaluating bids based on 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 RFQ. In addition, PG&E will conduct interviews with qualified suppliers if necessary to further inform the decision-making process. The construction services procurement process is expected to be complete Q1 2018.



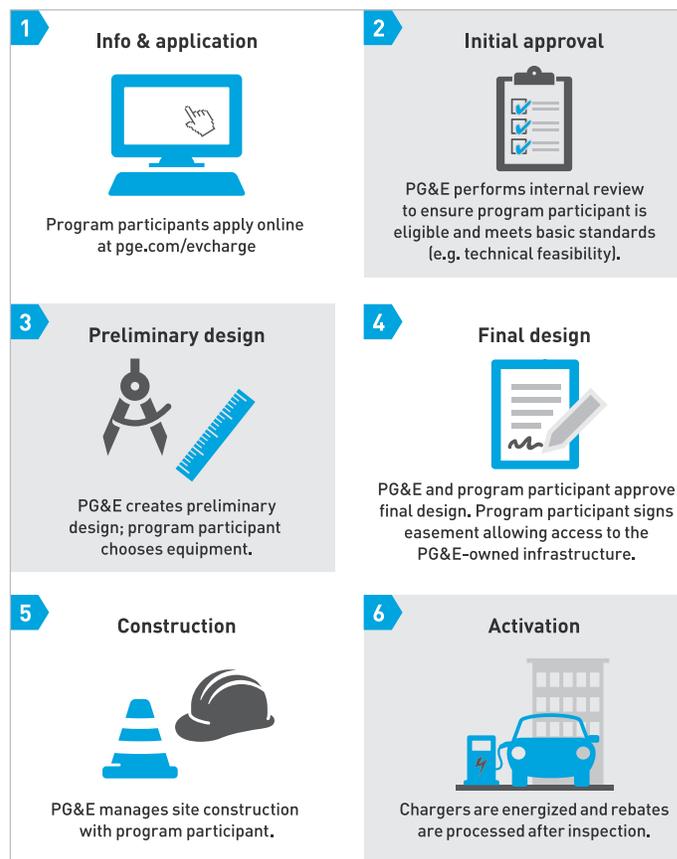
6. Operations

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 Network program:

1. **Info & Application:** Site hosts express their interest and apply online at www.pge.com/evcharge.
2. **Approval:** PG&E reviews the site and determines eligibility for the program.
3. **Design and Contracting:** 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

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 plug)
- 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 fourth PAC meeting was held on December 11, 2017 and included a diverse group of stakeholders. Twenty-seven 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 7.1: DISTRIBUTION OF PG&E PAC MEMBERS

ORGANIZATION TYPE	NUMBER OF CONTACTS
Electric Vehicle Service Providers	12
Non Profit	3
Government	5
CCA	6
Industry Group	3
Installer	1
TOTAL	30

PAC members were active in discussions and comments throughout the meeting. Conversation focused on learnings from customer engagement, customer acquisition, data collection processes and load management participation and strategies.

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

8. Conclusion

In the fourth quarter of the EV Charge Network program, PG&E began to receive applications for participation in the EV Charge Network program, despite minimal marketing, education and outreach efforts. With the launch of an official program website and online application in Q4 2017, PG&E began to receive and review applications on a rolling basis, build a backlog of sites to begin design and construction in 2018, and started construction on the first EV Charge Network site in December 2017. By the end of Q4 2017, 52 applications were received, 32 were in review and 10 are moving into final design and pre-construction phases. PG&E is gathering lessons learned from sites that have been waitlisted or canceled, using this information to better target eligible sites, educate customers, and mitigate potential implementation and construction risks.

With the program to officially launch in Q1 2018, PG&E will begin formal marketing efforts and execute on customer acquisition plans to reach both a targeted and broad customer base of eligible sites. Having received regulatory approval on the base cost calculation, PG&E will communicate this to program participants and develop resources to help interested customers understand potential participation costs and savings. PG&E will continue to develop and fine-tune program implementation processes to ensure positive customer experience, targeted customer acquisition, and efficient project completion. The following open items are still to be completed Q1 2018: finalize load management plan guidance; complete EPC RFQ; and finalize vendor RFP for EV Charge Sponsor option.

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
Enid Joffe	Clean Fuel Connection, Inc.
Audrey Neuman	Energy Division at the California Public Utilities Commission (CPUC)
Newonda Nichols	ChargePoint
Katherine Stainken	Plug In America
Michael Totah	Clean Power SF
Malavika Rao	The Utility Reform Network
Liam Weaver	Organization of Rate Payers Advocates at the CPUC
Paul Liotsakis	Marin Clean Energy
Phil Villagomez	Shell New Energies
Junaid Faruq	Tesla
John Mclean	Greenlots
Torben Spitzer	FreeWire Technologies

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
Will customers be informed about additional funding opportunities to pair with PG&E's EV Charge Network program?	Yes. We are working on developing a webpage with available funding programs in the state that customer can pair with the EV Charge Network program for additional cost offsets.
In the program video, chargers are depicted as being installed throughout California. This could be misinterpreted as a statewide program.	The video depicts chargers only in PG&E's service area.
PG&E could make it more clear on the website who this program is available to (residential or business customers), based on where the EV Charge Network webpage lives.	The website lives in the Business section of pge.com, but we will consider how customers come to find the EV Charge Network webpage and evaluate a better path to target program information at the appropriate customer base.
Is PG&E planning any larger outreach events for program launch in 2018?	Yes, PG&E is planning an official launch announcement as well as a ribbon cutting event at a project site.
Will vendors and CCAs get advanced notice of any outreach PG&E is planning?	Yes, a meeting has been scheduled in early January to share the program launch plan with vendors and CCAs.
When will a cost calculator be live on website?	This is targeted for early 2018.

2. Site Selection and Construction

COMMENT	RESPONSE
Is the program available to residential customers?	The chargers are intended to be located and available where PG&E customers live and work. The program will be available to residential customers living in multi-unit dwellings. However, the program will work directly with multi-unit dwelling owners and associations.

COMMENT	RESPONSE
What are cost thresholds for program participation?	There are no fixed cost thresholds for program participation; however PG&E is endeavoring to make the best use of the allotted program budget of \$130M, so that all 7,500 charging ports authorized for the program can be installed. This naturally will exclude some costly sites from being accepted into the program.
Do program applicants have chargers installed onsite already, or are these sites new to EV charging?	We have seen a mix among sites we have evaluated so far. Some sites already have chargers and are interested in installing more; others do not have any existing chargers onsite.
What happened to the additional sites engaged during the trial period?	We are still waiting on a number of trial sites to sign the program terms and conditions which has prohibited these sites from progressing forward into later stages.
Will site construction be completed by PG&E or subcontractors?	PG&E will use a mix of PG&E employees and subcontractors to perform the work.
AB 1236 legislation requires cities and counties in California to adopt streamlined processes for EV charging station installations; this could help inform PG&E's permitting strategy.	Yes, we will look into how we can utilize AB 1236 to help streamline project permitting.
What challenges has PG&E encountered in enrolling MUD sites so far?	There is an inherent challenge with these sites as charger users (residents/tenants) are not always the decision-makers about property upgrades. Another challenge is achieving consensus among HOA in some cases. It is also challenging to identify the sites that would be a good fit (i.e. with high number of tenants and EV interest).

3. Load Management

COMMENT	RESPONSE
How should vendors talk to customers about load management?	While PG&E continues to finalize the details of the program, vendors can discuss the program conceptually with sites: at certain times, the site will be requested to increase their EV charging load, and at other times, the site will be requested to decrease their EV charging. The vendor can offer capabilities to help the site achieve these goals.
What guidelines does PG&E have around what site host can charge for driver pricing?	Sites have two options for driver pricing: pass through of the TOU rate, or custom pricing. For the custom pricing, PG&E will be monitoring and reporting on pricing structures, but will not formally approve of the pricing. The site can implement any pricing mechanism that fits their needs.
Can CCA customers participate in DR programs?	Yes, these programs are available to CCAs. Sites will be notified about DR events through their Electric Vehicle Service Provider (EVSP), not the CCA.
How many events is PG&E anticipating (maximum)? Is there a penalty for not participating?	PG&E hasn't determined if there will be an annual maximum yet. Since EV Charge Network program participants would be out-of-market, they would not be subject to penalty; however, they would receive a lesser incentive based on level of participation.
How will PG&E communicate with participants about participation in DR programs?	At a high level we will ask customer to decrease/increase consumption at various times of the year and we will incentivize based on participation in these events.
Can sites participating in these DR programs participate in DRAM (Demand Response Auction Mechanism)? Over the 10 years, can sites participate in other programs?	Program participants cannot participate in DRAM for their chargers. However, the main site facility/building can be on separate DR programs since it is on a separate meter from the bank of chargers. Sites will only be required to participate in the load management program for 3 years.

COMMENT	RESPONSE
It would be helpful if CCAs are included on communications relating to how and when DR programs are being implemented.	PG&E will provide the CCAs with information and communications on the load management program.
Is there an approval process for participating out-of-market in these DR programs?	Participation in XSP is always out-of-market. For SSP, no, there is not a formal approval process required to participate out-of-market.

4. Data Collection

COMMENT	RESPONSE
What vehicle and driver information will vendors report to PG&E?	PG&E will receive data on vehicle model and type, and if the driver is registered in the vendor's network or if they are a one-time guest user. If the driver is registered in that vendor's network, we are asking the vendor to assign a unique, anonymous ID to this driver and use this ID when that driver uses one of the charging stations in the vendor's network. All vehicle/driver information will be anonymous.
Is data being provided to PG&E in real-time?	PG&E is asking vendors to send data by the day after the data is collected.
Is PG&E collecting different data from Owner vs Sponsor options?	No.

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:

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