



Together, Building
a Better California

PG&E EV Charge Network Quarterly Report

Report Period: January 1, 2018 – March 31, 2018



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1. Executive Summary

1.1 EV Charge Network Program Overview

PG&E's EV Charge Network (EVCN) 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 (EV) 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 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).



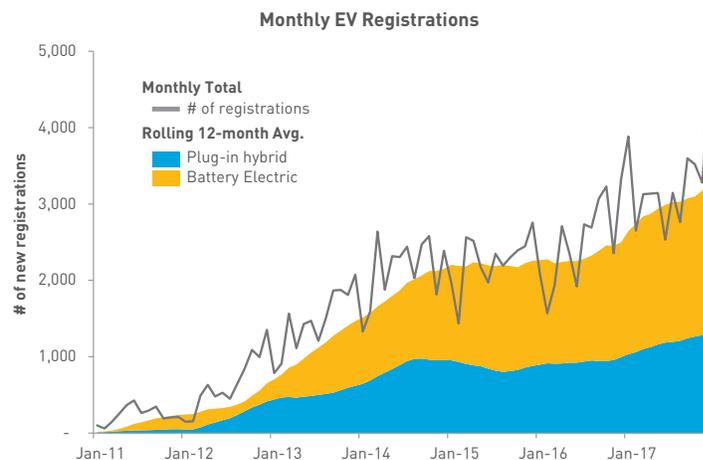
1.2 Summary for Quarter

The following section provides a brief summary of the milestones and actions performed throughout the quarter. This includes EV adoption in PG&E's service territory, program participation interest, a summary of the Program Advisory Council (PAC) meeting, program milestones, and challenges and lessons learned.

EV Adoption in PG&E Service Territory

The EV Charge Network program intends to support the adoption of EVs in PG&E territory by providing the infrastructure to support adequate charging and remove obstacles to adoption. At the end of 2017, PG&E service territory had 150,659 registered EVs, representing 42% of total plug-in electric vehicles registered in California.

FIGURE 1.1: EV REGISTRATIONS IN PG&E TERRITORY



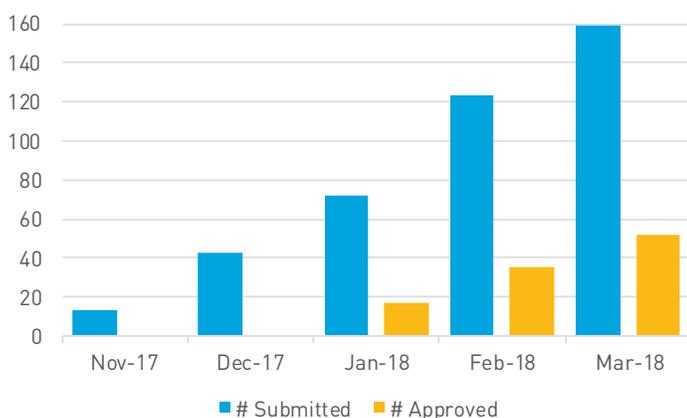
SOURCE: EPRI analysis of vehicle registration data

PG&E offers two residential EV rates for customers who own an EV. Both of these rates are time-of-use (TOU) rates and will vary based on time of day. The EV-A rate combines the customer's EV electricity use with the main household consumption on the same meter whereas the EV-B rate tracks EV electricity consumption separately from household use through a new meter dedicated to charger. At the end of Q1 2018, 42,800 PG&E customers were enrolled in the EV-A rate and 540 customers were enrolled in the EV-B rate.

Program Participation Interest

PG&E officially launched the EV Charge Network program in January 2018. However, the program has been operating under a soft launch since late October 2017 when the online application was made available. PG&E has experienced steady interest from customers applying for participation in the EVCN program. Figure 1.2 shows the cumulative number of submitted and approved applications through Q1.

FIGURE 1.2: CUMULATIVE NUMBER OF APPLICATIONS SUBMITTED AND APPROVED THROUGH Q1



As of March 31, 2018, PG&E had received 159 applications. At the close of Q1 2018, 48 sites had been approved and moved into final design and pre-construction phases, including 2 sites that have completed construction, installation, and activation of chargers. A total of 66 applications have been waitlisted or cancelled. More details on the status of applications can be found in Section 2 of this report. Further information on approved and in-progress sites can be found in Section 5 of this report.

Program Advisory Council (PAC)

On March 23, 2018, PG&E held the first Program Advisory Council meeting of 2018. Beginning in 2018, PG&E expanded the focus of the PAC meeting to address broader clean transportation programs and initiatives, creating the Clean Transportation Program

Advisory Council. PG&E presented additional programs discussed at the meeting including new pilot projects focused on response to the North Bay wildfire recovery effort and the installation of EV charging stations to support autonomous vehicles. In addition, PG&E presented proposed programs in response to AB 1082 and AB 1083, which target the installation of EV charging stations at schools and parks throughout PG&E's service territory. The Clean Transportation Program Advisory Council will continue to meet quarterly to discuss progress of these projects along with the EV Charge Network program.

Approximately 29 organizations, representing stakeholders from industry, government, and non-profits, attended in-person and online. This meeting provided updates on the number of applications received since the official launch of the EV Charge Network program in January 2018 as well as an update on procurement and construction. More details on the 2018 Q1 PAC meeting can be found in Section 7 and the Appendix of this report.

Q1 2018 Program Milestones

- **First ports installed.** During Q1 2018, PG&E completed construction of the first two sites participating in the EV Charge Network program. Across the two sites, a total of 22 ports have been installed and activated.
- **EV charging station education.** PG&E developed resources to educate customers on EV charging station hardware and software, and facilitate vendor selection for participants. These resources include a filtering tool to help customers narrow the list of approved charging station vendors based on hardware and software features, as well as a hardware and software guide intended to provide information on the various hardware features and software capabilities EV charging station vendors offer in the market today.



- **Selected first Charge Sponsor EVSE vendor.** As part of an ongoing RFP evaluation process, PG&E has selected its first vendor, EVBox, to provide charging stations owned by PG&E under the Charge Sponsor option. PG&E continues to evaluate other finalist vendors and EVSE for PG&E ownership.
- **New construction.** PG&E encountered complexity with a number of new construction sites that applied for EVCN participation. New construction sites bring into question how to appropriately integrate the EVCN program with construction being built in compliance with the 2016 California Green Building Standards Code which mandates all new buildings include infrastructure to support the installation of EV chargers. In addition, some sites may be too far along in the construction and development of their parking areas or structures for the EVCN program to be an appropriate fit. PG&E is working to develop guidance on how to evaluate eligibility of new construction sites.
- **EV Charge Sponsor Procurement Process.** Throughout most of Q1 2018, PG&E was in final negotiations with the first vendor selected as an option for EV Charge Sponsor participants. Since PG&E was not able to provide complete information to the customer on the EV Charge Sponsor option, including the participation payment amount, until the first vendor was selected, this created delays in moving these sites forward into design and construction. PG&E will be able to provide the customer more details on cost and vendor information for the EV Charge Sponsor option in Q2.

Q1 2018 Challenges and Lessons Learned

- **Design phase attrition.** Since program launch in January 2018, PG&E has been tracking participant attrition closely throughout the six steps of the EVCN program. PG&E has identified higher attrition in the design phase, compared to the other steps of the process. The reasons for attrition vary, but include finding unknown construction challenges in the field and not obtaining program participation agreement with the appropriate parties. PG&E is working to mitigate the risk of participant attrition in the design and later phases by enhancing the eligibility assessment phase. Planned improvements include increased communication between PG&E customer support and the applicant, investing more time and resources in engaging the customer in site layout and design, and introducing formalized documentation of participant agreements. PG&E has identified these challenges early and are developing process improvements which are critical to program success.

-
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.

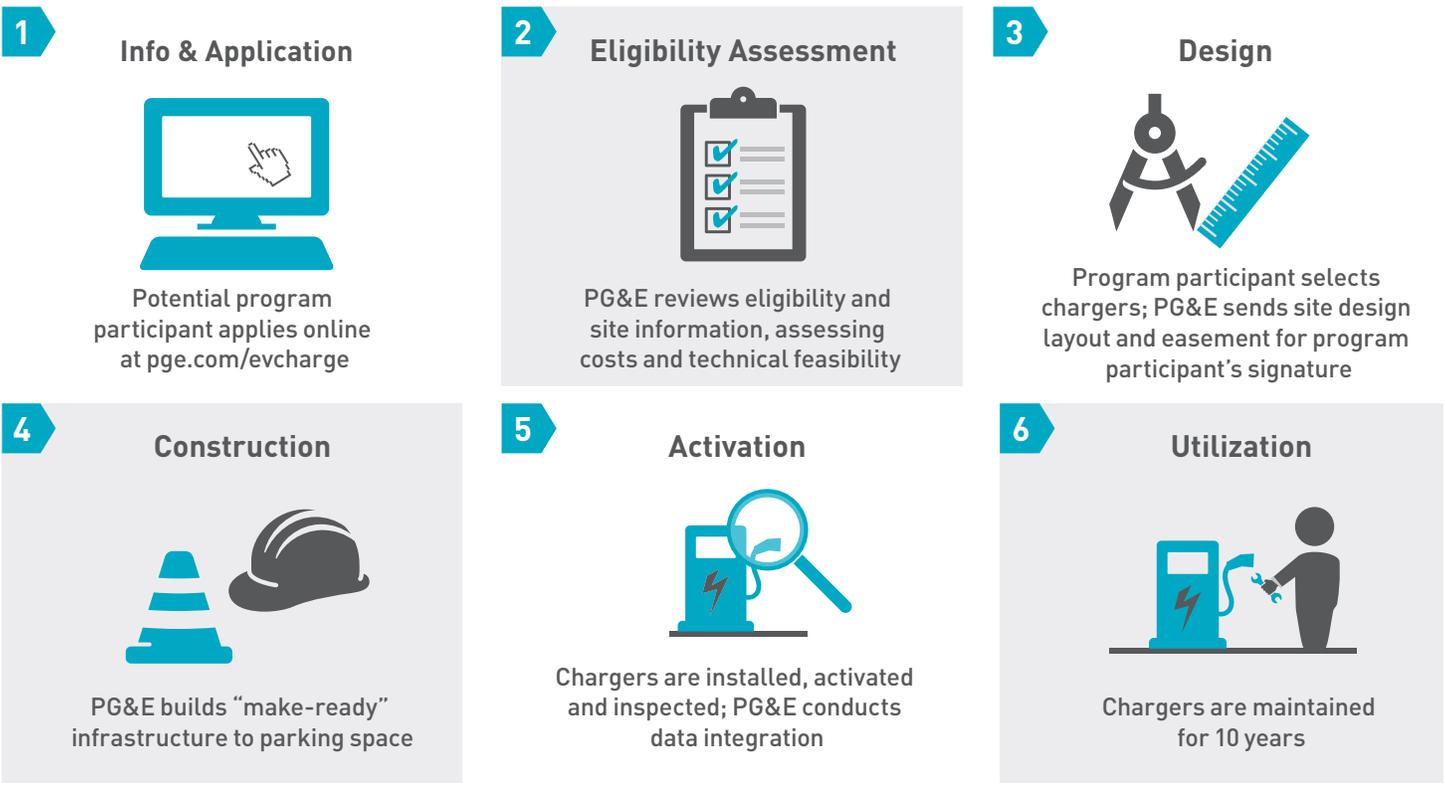


2. Customer Interest, Outreach, and Education

2.1 EV Charge Network Application

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

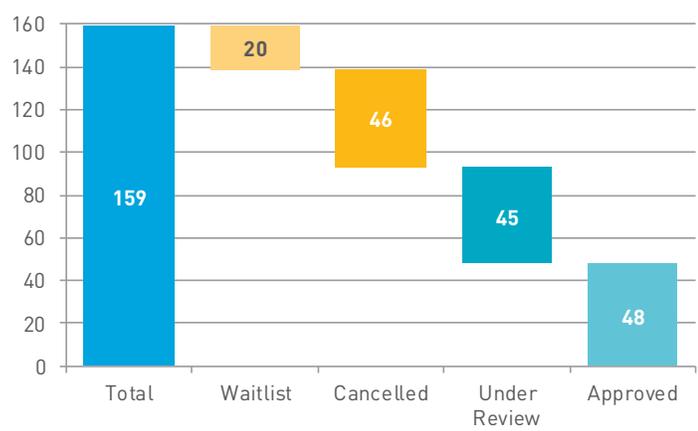
- 1. **Info & Application:** Potential program participants apply online at www.pge.com/evcharge.
- 2. **Eligibility Assessment:** PG&E reviews eligibility and site information, assessing costs and technical feasibility.
- 3. **Design:** If the site is approved, the program participant selects their chargers, and PG&E sends the site design layout and easement for signature. If the program participant is an EV Charge Owner, they submit their proof of purchase for the chargers; if an EV Charge Sponsor, they submit their participation payment.
- 4. **Construction:** PG&E builds the “make-ready” infrastructure to the parking spaces.
- 5. **Activation:** Once construction is complete, chargers are installed, activated and inspected, and PG&E conducts data integration. If the program participant is an EV Charge Owner, PG&E issues the rebate
- 6. **Utilization:** The chargers are maintained for the life of the program (10 years) — by the program participant, in the case of EV Charge Owner; by PG&E, in the case of EV Charge Sponsor.



Since launch of the EV Charge Network program website and online application in Q3 2017, PG&E has received a total of 159 applications. Of these applications, 115 were received in Q1 2018. Almost a third of applications were cancelled for various reasons, 5 of which were due to customers withdrawing their application. Common reasons for sites being cancelled include:

- **High anticipated project costs:** PG&E may cancel a site that has high estimated costs, often due to the required trenching distance from the transformer to the parking spaces, or the need for a transformer upgrade.
- **Customer budget constraints:** In some cases, participation in the EVCN program exceeds the customer’s budget for EV chargers.
- **Program features:** Some customers are unable to meet program requirements, such as the minimum of 10 ports per site, or a site served by customer-owned infrastructure that PG&E cannot utilize under this program.
- **Land or legal challenges:** Participant concerns with the program terms and conditions or land easement can be a barrier to participation.

FIGURE 2.1 SUMMARY OF APPLICATION STATUS THROUGH Q1 2018



- Through Q1, the EVCN program has received interest from a range of sites, with most applications coming from workplaces. Additionally, early data suggest applicants have preference for the EV Charge Owner option at the time of application, possibly due to uncertainty in Q1 regarding the charging station vendor options, and therefore cost, for the EV Charge Sponsor option. It is important to emphasize that it is too early to determine the preference, but PG&E will continue to track this metric and include this in future quarterly reports. Table 2.2 shows the breakdown of property type, disadvantaged community status, and program participation across all applications received.

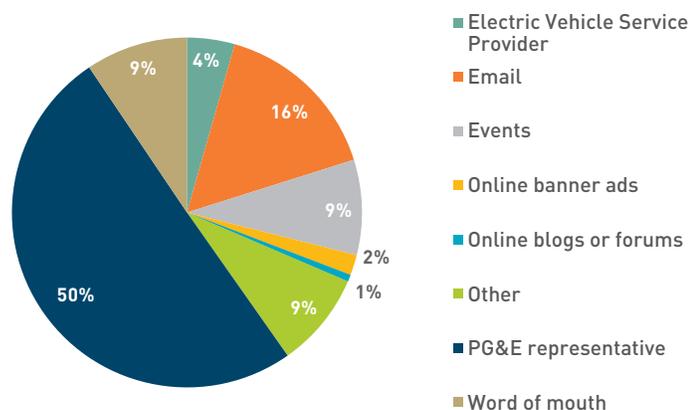
TABLE 2.2 APPLICANT PROFILE

	NUMBER OF APPLICATIONS	PERCENT OF APPLICATIONS
PROPERTY TYPE		
MUD	46	29%
Workplace	113	71%
DISADVANTAGED COMMUNITY STATUS		
Disadvantaged Community	29	18%
Other PG&E Territory	130	82%
PROGRAM PARTICIPATION		
EV Charge Owner	126	79%
EV Charge Sponsor	33	21%

Applicants reported hearing about the EVCN program from various sources. Outreach conducted by PG&E’s sales team contributed to approximately 50% of total applications submitted. PG&E also initiated an email campaign in January 2018 which led to increased awareness and applicant leads. Figure 2.3 depicts how applicants have heard of the EVCN program as indicated on the online application form.

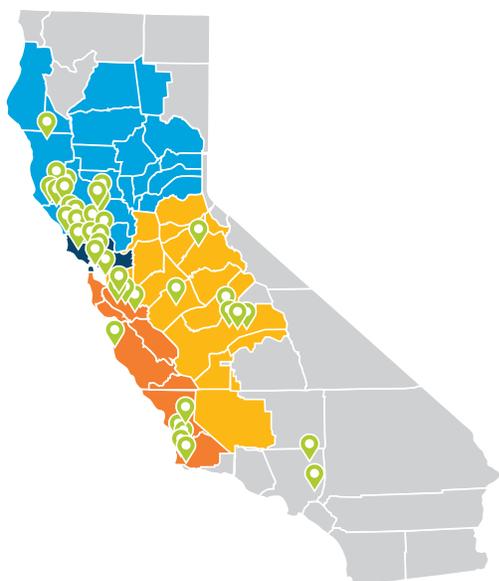


FIGURE 2.3: EVCN PROGRAM APPLICANT SOURCE OF PROGRAM KNOWLEDGE



Sites applying for the EVCN program span PG&E’s service territory geographically, but the majority are located in PG&E’s Central Coast region which includes South San Francisco to San Luis Obispo, including the South Bay Area. Over two-thirds of applications have been received from sites located in the Bay Area and Central Coast regions. Figure 2.4 depicts the locations of all sites received thus far.

FIGURE 2.4: GEOGRAPHIC DISTRIBUTION OF TOTAL APPLICATIONS RECEIVED



2.2 Marketing and Sales

PG&E formally launched the EV Charge Network program in January of 2018 with internal and external communications. A series of emails was deployed to targeted customers. This email campaign achieved an open rate of 19% and a click-through rate of 5%, with average open rate and click-through rate for investor-owned utilities at approximately 24% and 2%, respectively. PG&E’s sales team then followed up with these customers to gain a sense of interest, answer questions about the program, and help determine if the program would be a good fit for the customer. In mid-January, a press release was also issued to announce the official launch.

2.3 Online Tools & Resources

In Q1 of 2018, PG&E enhanced the EV Charge Network program website with new and updated information, as well as tools and resources to support customer engagement and charger selection. Information about the new vendors who qualified through the quarterly RFQ was also added.

The website now hosts two new tools to help customers better understand the market for EV supply equipment. The first is a Hardware and Software Guide that neutrally describes the various hardware and software features that may be available from EV Charge Network vendors. The second companion tool is an interactive filter that allows customers to select the hardware and software features they want, see the chargers and vendors that offer those features, and access contact information for the vendors’ sales teams. This tool was developed with data input from each of the approved program vendors.

Planned web enhancements for Q2 of 2018 include a tool in which customers will input their address and property type to learn more about the incentives and costs they can anticipate based on available program participation options. This will help customers better understand the costs associated with participating in the EVCN program,



facilitate customer decisions, and illustrate the cost savings offered through the program. 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 to provide alternative incentive program opportunities for customers who are found ineligible for participation in PG&E's EV Charge Network program.

2.4 Customer Experience and Satisfaction

PG&E is developing a customer satisfaction survey to be distributed to program participants after project completion. PG&E will report on this feedback when data is available.



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 EVSE packages that will be available to customers through the EV Charge Network program. The RFQ qualifies EV charging station vendors for the EV Charge Owner option and occurs on a quarterly basis. Vendors will continue to have the option to qualify EVSE packages every 3 months with quarterly RFQs. PG&E leveraged the RFP to qualify EV charging station vendors for the EV Charge Sponsor option, those that PG&E will own.

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.

3.2 RFQ – EV Charge Owner Options

Through the quarterly RFQ evaluation process, 18 vendors are currently approved under the Charge Owner option. The approved EVSE packages, including hardware, software, and network services are presented on PG&E's website to inform customers of vendor options, along with vendor contact information for further inquiry.

In the last quarterly RFQ of 2017, 17 vendors expressed interest, six vendors applied, three new vendors were approved, and two existing vendors expanded their hardware offerings.

PG&E conducts a 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 in 2017 were eligible for the RFP. The RFP is designed to select vendor(s) for the EV Charge Sponsor portion of the program. Under this option, program participants may request PG&E to install, own, and maintain up to 35% (2,625) of the EV charging ports deployed. The RFP process evaluates 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 has selected its first vendor, EVBox through the RFP process and continues to evaluate remaining finalists.

3.4 Procurement Next Steps

The first RFQ submissions of 2018 were due March 15, 2018. PG&E will notify approved RFQ vendors April 15, 2018. The Q2 RFQ process will conclude July 15, 2018. This process occurs quarterly, allowing for new vendors to participate in the program and new EVSE packages to be considered. As part of the RFP process, PG&E continues to evaluate remaining finalist vendors for the EV Charge Sponsor option after making its first selection of EVBox.



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 and sufficient data is collected, 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.

Chargers at the first two sites were activated at the end of Q1 2018, and therefore PG&E does not have sufficient utilization and load management data to report at this time.

4.2 Development of Load Management Plan

Program participants who select the custom pricing option will be required to participate in 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. In Q1 2018, PG&E continued to finalize its load management plan program and implementation details. Based on feedback from Program Advisory Council members and vendors, PG&E will leverage its existing demand response (DR) pilots with some modifications as its load management plan framework.

The load management plan will leverage the event structure of the Excess Supply Pilot (XSP) and Supply Side Pilot (SSP). Program participants will be called for two types of events: load increase events where EV charging load is shifted to the event hours and load decrease events where EV charging load is shifted away from event hours. These two event types will test the ability of EV Charge Network sites to shift EV charging load in two directions and thus provide grid support for both excess supply (particularly during times of significant renewable energy generation) and during peak periods.

Program participants that choose to have custom pricing for drivers at their site will meet the load management plan requirement by participating in the DR pilots with their Electric Vehicle Service Provider (EVSP). Program participants can work with their EVSP to develop their tactics for participating in both load increase and load decrease events. 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. To enroll in the load management plan, program participants will need to inform PG&E that they are using custom pricing, what type of custom pricing structure they will implement, and the load management tactics they plan to use to shift EV charging at their site during events. The EVSP for that site will enroll in the DR pilots in order to receive the signal for the events, and the site will participate in the DR events out of market.

PG&E will establish the hours when program participants can expect to be called for load management events. For example, load increase events will be called in the morning and early afternoon when solar is plentiful (e.g. 8 am to 1 pm), and load decrease events will be called in the evening peak hours (e.g. 4 pm to 9 pm). Typically, actual events will be 1–2 hours long within the established time frame for each event type. PG&E will determine when an event should be called based on grid and market conditions, and send a signal the day before an event to the EVSP via Open ADR. The EVSP will receive the Open ADR signal and pass the event information on to the program participants and drivers, and carry out their selected load management tactics during the event. Each site will be evaluated for its performance during the event period using a baseline methodology, and PG&E will calculate an incentive payment up to \$10/kW for the



average monthly performance of each site. PG&E plans to distribute the incentive payment to each load management plan participant quarterly as a credit on their electric bill.

In Q1 2018, PG&E held a webinar with all qualified vendors to discuss the load management plan. In this meeting, PG&E reviewed the DR pilot structures, examples of events, the process for enrolling in the program, and vendor responsibilities for receiving the event signals. PG&E continues to finalize the implementation details and communication materials, and plans to have custom pricing sites begin to enroll in the load management plan in Q2–Q3 2018.

4.3 Load Management Data

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

- Charging load profiles (aggregate and by charger)
- Load impacts

4.4 Utilization Data from Vendors

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 an automated process 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.

In Q4 2017, PG&E worked with vendors to test their ability to send data through PG&E's platform. In Q1 2018, PG&E completed the data testing with all vendors that qualified in the initial RFQ. PG&E also began testing with new vendors that qualified in subsequent RFQs, and will conduct testing on an ongoing basis with any newly qualified vendors.

4.5 Charger Utilization Data

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

- 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



5. Program Operations

5.1 Summary of Approved Sites

Once an application is received, PG&E reviews the site for eligibility, evaluating site feasibility based on criteria including available electrical capacity, number of chargers to be installed, environmental risks, 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 approved for EVCN participation and is moved into design and pre-construction phases.

Since the launch of the online application, PG&E had received 159 applications through the end of Q1 2018, 48 of which have been approved as eligible for EVCN program participation. The program is targeting 20% of sites to be at multi-unit dwellings (MUD) and 15% in disadvantaged communities. Figure 5.1 depicts the breakdown of property type, disadvantaged community status, and program participation for applications approved through Q1.

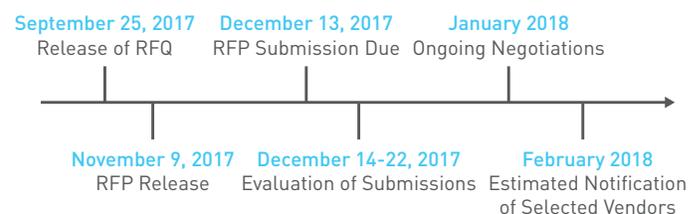
TABLE 5.1 APPROVED PROGRAM PARTICIPANT PROFILE

	NUMBER OF SITES	PERCENT OF SITES
PROPERTY TYPE		
MUD	21	44%
Workplace	27	56%
DISADVANTAGED COMMUNITY STATUS		
Disadvantaged Community	6	13%
Other PG&E Territory	42	88%
PROGRAM PARTICIPATION		
EV Charge Owner	36	75%
EV Charge Sponsor	12	25%

5.2 Construction

As soon as a project is approved for participation in the EV Charge Network program, PG&E assigns a project manager to connect with the customer and guide the site from design to activation. This includes coordinating with one of PG&E's competitively selected Engineer, Procure and Construct (EPC) vendors to complete the design, permitting, and construction for EV charging sites.

In February, PG&E finalized a partnership with two EPC firms, Black & Veatch and Cupertino Electric, to complete design and construction for the program. This was a result of a rigorous Request for Qualifications (RFQ) and Request for Proposal (RFP) selection process mentioned in the previous quarterly report, and detailed in the timeline below. Of the 39 vendors engaged, PG&E qualified twelve based on their ability to meet mandatory requirements for financial capability, ethics, safety, and supplier diversity. Of the 12 qualified, PG&E received bids from 9, and selected two partners based on their price, technical capabilities, and strategic effectiveness.



PG&E completed the construction, installation and activation of the first two EV Charge Owner projects. The first two sites completed were Merced Community College in Los Banos and Travis Credit Union in Vacaville. This work was largely completed with PG&E internal IBEW-represented resources.

As of March 31st, the EVCN team has built a pipeline of 48 approved sites that meet the program's minimum qualifications, can be completed within reasonable

cost, and have agreed to the terms and conditions. This represents 642 ports and provides a pipeline of construction through the month of June. Construction will continue to ramp up in Q2 2018. During this time, PG&E will also focus on bundling site installations geographically to improve costs and reduce delivery cycle times.

PG&E will continue to progress approved projects to a construction-ready state. This includes working with customers, EPC partners, and local agencies to:

- Help customers finalize selection of their EVSE
- Complete the project design and estimate, ensuring that customer and ADA requirements are met
- Receive customer agreement for site easement
- Submit and receive approval for the permit package with the appropriate agencies

PG&E is working to improve permitting challenges that have come up during the design phase. Considering that local agencies have varied interpretations of Title 24 and Cal Green code, including ADA and accessibility requirements, PG&E has run into issues requiring design rework and construction delays. Each agency has a different permitting processes and requirements, often requiring different documentation and levels of detail. This makes it difficult to standardize permit deliverables and estimate the level of effort for planning purposes. From this initial experience, PG&E is performing additional outreach to local agencies to ensure alignment on requirements before submitting permits, and working to standardize a “one size fits all” permit package.

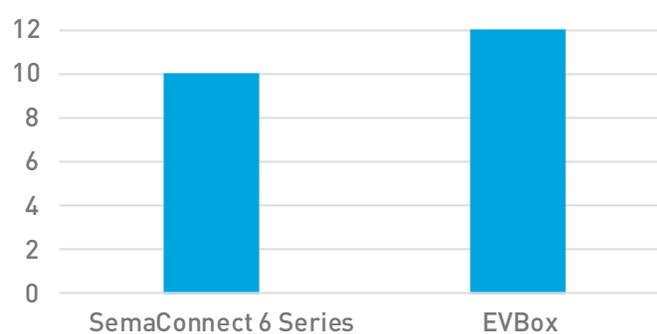
5.3 Operational Metrics

Through the end of Q1 2018, PG&E had completed installation of two sites for the EVCN program. The following metrics reflect construction and installation of approved sites through March 31, 2018.

TABLE 5.2 SUMMARY OF NUMBER OF PORTS AND INSTALLATION

Number of total ports approved	642
Number of ports installed	22
Average number of ports approved per site	15
Average number of ports installed per site	11
Average time for each installation step	Insufficient data to report in Q1 2018
Average total installation time	

FIGURE 5.3 NUMBER OF PORTS INSTALLED BY EVSE MAKE AND MODEL



5.4 Program Costs

In Q1 2018, PG&E spent \$2,366,066 for a total program spend of \$9,136,714 out of the \$130 million authorized budget. Figure 5.4 details program spend through Q1 for each of the categories, Administration and Program Implementation; Marketing, Education, and Outreach; IT Projects; Engineering and Construction, and Procurement.

FIGURE 5.4 EVCN PROGRAM SPEND THROUGH Q1 2018

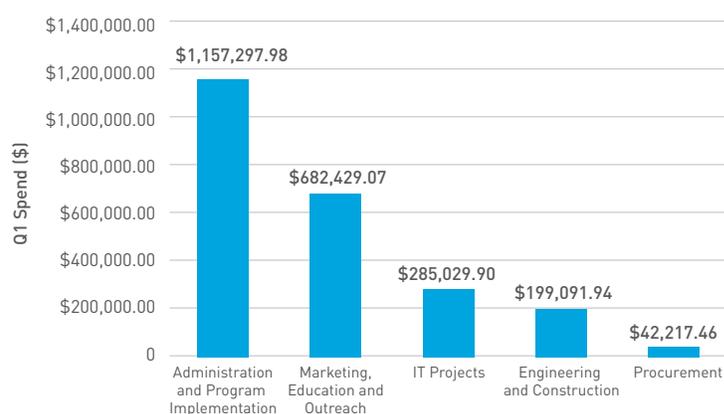


TABLE 5.5 SUMMARY OF PROJECT COSTS

A complete breakdown of the project costs will be provided per the table below when more information is available ³.

Total actual installation costs	Insufficient data to report in Q1 2018
Projected installation costs	
Total actual infrastructure costs	
Total actual construction costs for make ready infrastructure	
Average actual construction costs for make ready infrastructure (per site)	
Total actual construction costs for make ready infrastructure and charger (turnkey)	
Average actual construction costs for make ready infrastructure and charger (turnkey)	
Average cost per site (EV Charge Owner)	
Average cost per site (EV Charge Sponsor)	
Average cost per port (EV Charge Owner)	
Average cost per port (EV Charge Sponsor)	

3. Site specific cost data will be available in the Q2 report, since both projects were completed and activated at the end of Q1.

6. 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 first PAC meeting of 2018 was held on March 23, 2018 and included a diverse group of stakeholders. Twenty-nine 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 PARTICIPANTS
Electric Vehicle Service Providers	12
Non Profit	6
Government	9
CCA	6
Industry Group	2
Installer	1
TOTAL	36

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 Q1 2018, PG&E executed the official launch of the EVCN program, and began to see consistent interest through application submission and customer inquiry. The first two sites moved through construction and successfully completed charger installation and activation in Q1, marking a major milestone for the program. These chargers will soon be operational, kicking off data collection and utilization of the EV Charge Network chargers.

PG&E looks forward to expanding outreach efforts in Q2 and building on the momentum started in Q1. Construction is set to ramp up for the remainder of 2018, with a healthy pipeline of applications in the queue. PG&E continues to look for opportunities to improve and streamline program implementation and will focus on fine-tuning the eligibility assessment phase moving forward to provide a positive customer experience and efficient project development.

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
Amy Mesrobian	California Public Utilities Commission
Audrey Neuman	California Public Utilities Commission
Liam Weaver	California Public Utilities Commission
Noel Crisostomo	California Energy Commission
Newonda Nichols	ChargePoint
Leanna Huynh	City of San Jose
Enid Joffe	Clean Fuel Connection, Inc.
Paul Cort	Earthjustice
Larissa Koehler	Environmental Defense Fund
Steve Schwartz	Freewire
John Mclean	Greenlots
J.R. Killigrew	Marin Clean Energy
Maxwell Baumhefner	Natural Resources Defense Council
Dana Boudreau	Redwood Coast Energy Authority
Christina Jaworski	Santa Clara Valley Transportation Authority
Phil Villagomez	Shell New Energies
Henry Ahern	Shell New Energies
Lillian Rafi	Small Business Utility Advocates
Junaid Faruq	Tesla

9.2 Direct Program Advisory Comments

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

A. Application and Participation

COMMENT	PG&E RESPONSE
Who will be responsible for the account tied to the new meter serving the chargers?	The customer (program participant) will always be the customer of record with PG&E and will pay the electricity bill. Program participants have the opportunity to recover all or a portion of these costs through driver pricing.
What are some reasons customers would be waitlisted?	So far, we have waitlisted applications that are new constructions and have a long lead time until PG&E can install chargers. Another reason is geography. PG&E may waitlist sites in order to group construction together for sites in the same area.
What resources does PG&E provide to applicants who are waitlisted or cancelled?	PG&E guides them to existing incentive programs in PG&E territory. PG&E is working internally to provide a more formalized resource on the website that will support customers more broadly who are interested in EV charging stations but do not qualify for the EVCN program.
Are applicants showing a preference for the EV Charge Owner or EV Charge Sponsor option?	At this time we are seeing an interest in the EV Charge Owner but it is too early to tell what the preference is for program participants. Participants don't yet know what charger PG&E has selected for the EV Charge Sponsor option which is a significant factor in making a decision between the EV Charge Owner or EV Charge Sponsor.
Where are EVCN application leads coming from?	PG&E sales representatives have started conducting outreach which led to a number of applications from these efforts.
What portion of the customers who are eligible for the "Sponsor" PG&E ownership option (i.e., the customers in MUDs or DACs) are choosing that option vs. the "Owner" option?	Of all sites eligible for the Sponsor option (MUDs and workplaces in disadvantaged communities), 32% have selected the EV Charge Sponsor option.

B. Procurement, Construction and Activation

COMMENT	PG&E RESPONSE
Do you have a standard ADA compliance design, or will negotiate each site with controlling permitting office	ADA compliance requirements will vary based on the local agency code and regulations.
Are there any checks done on network connections within installation of chargers?	In all cases, PG&E will conduct network testing in the Design phase to ensure charger compatibility.

Additional comments submitted by PAC stakeholder, provided verbatim:

Organization: ChargePoint

Organization representative: Newonda Nichols

Organization representative title: Program Manager

General EVCN Program Comments

The updates on the EVCN program was informative. It would have been great to have more time so vendors can ask questions or provide additional comments on what they see is happening in the field. Can PG&E provide a budget update for example, the amount filed vs to date how much was spent on utility side infrastructure, customer infrastructure, rebate, etc?

EV Charge Network Application and Participation comments

The updates for the application and participation was informative. It would be great if PG&E could provide on average what the reason was for customers on the waitlist and cancellations. This would help vendors understand why customers are waitlisted or canceled. Was the decision to cancel made by PG&E or the customer and why? This would help the sales team understand some of the issues in the market and determine the best way to approach when working with customers. Are rejections a part of the cancellations? What percentage of applications are rejected by PG&E and what are the reasons? It would be helpful to see in a graph the number of ports or percentage of ports by

segment and the number of ports per customer stage i.e. application, design, construction, activation and utilization.

EV Charge Network Procurement, Construction and Activation comments

The updates for the procurement, construction and activation process was helpful. Including the next quarterly RFQ would be helpful. As construction and installs progress, can PG&E include the number of ports per site. I would have liked more time at this stage to discuss the transition process between permitting, construction and activation.

Organization: Institute of Transportation

Organization representative: Caroline Rodier

Organization representative title: Researcher

General EVCN Program Comments

Public goods charges are collected from ratepayers throughout the entire PG&E territory and should be reinvested throughout your entire territory. Your current program (i.e., minimum of 10 rechargers per multi-unit housing development) is biased in favor of urban areas at the expense of rural disadvantaged areas (largely in the San Joaquin Valley) where numerous public funded efforts are underway to support electric vehicle car-sharing and ridesharing. Your programs should have a rural component, which focuses outreach on small, rural disadvantaged communities and allow for small projects of 2 or more chargers.

