Together, Building a Better California

Pacific Gas and Electric Company

EV Charge Network Quarterly Report

Report Period: July 1, 2018 – September 30, 2018

EV charge network

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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 up to 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% 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% 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).

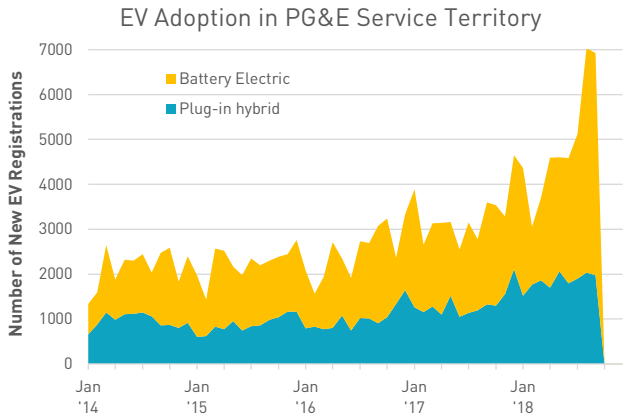
1.2 Summary for Quarter

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 participant interest, a summary of the Program Advisory Council (PAC) meeting, program milestones, and key barriers to implementation.

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. Q3 2018 is the fifth consecutive quarter reporting over 10,000 EV registrations in PG&E territory and saw a 50% improvement over Q3 2017. At the end of Q3 2018, there were 194,872 EVs registered in PG&E service territory.

FIGURE 1.1 MONTHLY EV REGISTRATIONS IN PG&E TERRITORY



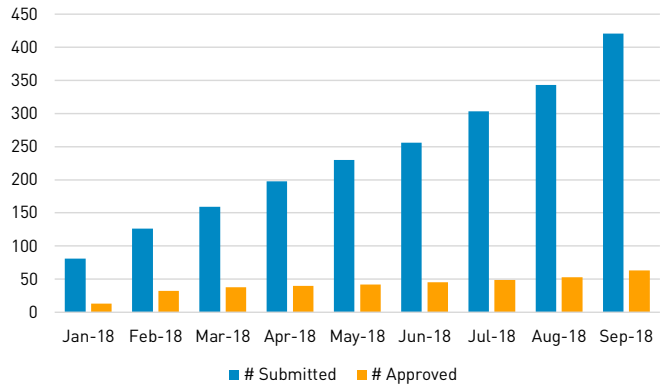
SOURCE: EPRI analysis of vehicle registration data

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 the charging equipment. At the end of Q3 2018, 47,967 PG&E customers were enrolled in the EV-A rate and 351 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 Q3 2018.

FIGURE 1.2 CUMULATIVE NUMBER OF APPLICATIONS SUBMITTED AND APPROVED THROUGH Q3 2018



As of September 30, 2018, PG&E had received 421 applications. At the close of Q3 2018, 63 sites representing 1016 ports had signed agreements with customers and were active in final design and construction phases.[3] 11 sites representing 143 ports had been completely activated (with another nine sites representing 145 ports in the final stretches of installing/activating charging stations) by the end of the quarter. A total of 137 applications had been waitlisted or cancelled. More details on submitted applications can be found in section 2 and on approved/in-progress sites in section 5 of this report.

Program Advisory Council (PAC)

On September 20, 2018, PG&E held the third 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. In the Q3 presentation, PG&E provided a brief update on the EV Charge Network program and focused the majority of the agenda on SB350 projects and pilots. PG&E provided detailed implementation updates for the four SB350 Priority Review Projects: Medium/Heavy Duty Fleet Customer Demonstration; Electric School Bus Renewables Integration; Idle Reduction Technology; and Home Charger Information Resource Pilot. Finally, PG&E walked through market segmentation and strategy approach for EV Fleet and Fast Charge as well as implementation timelines. The Clean Transportation Program Advisory Council will continue to meet quarterly to discuss progress of the EV Charge Network, EV Fleet, and Fast Charge programs.

Approximately two dozen organizations, representing stakeholders from industry, government, and non-profits, attended in-person and online. The meeting's objective is to inform an external audience on the progress of the various infrastructure programs authorized by the CPUC. More details on the 2018 Q3 PAC meeting can be found in Section 7 and the Appendix of this report.

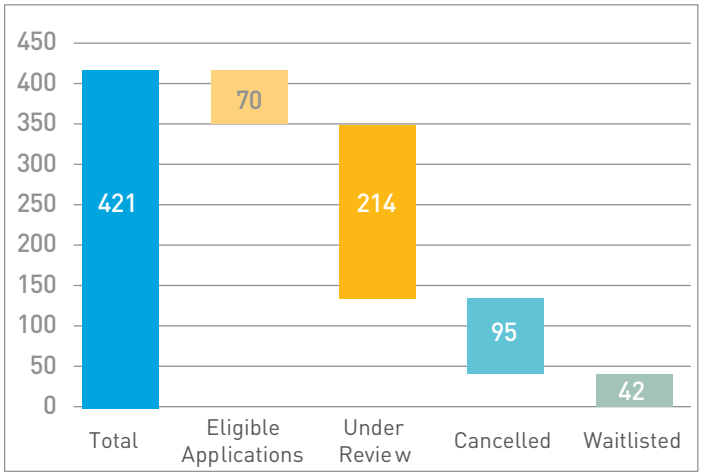
1. The Commission approved the EV Charge Network in D 16-12-065.
2. Disadvantaged Communities are defined as the top 25% most impacted census tracts within PG&E's service territory per the CalEnviroScreen3.0, or the latest version.
3. As of the end of Q3 2018, 63 applications had been approved and were still in an active stage of the program; i.e., this total is excluding applications that were approved but then later waitlisted or cancelled.

2. Customer Interest, Outreach, and Education

2.1 EV Charge Network Applications

Since launch of the EV Charge Network program website and online application in Q3 2017, PG&E received a total of 421 applications through Q3 2018. Table 2.1 shows the total number of applications received and the number of applications in each stage at the end of Q3 2018.

TABLE 2.1 SUMMARY OF APPLICATION STATUS THROUGH Q3 2018



In Q3 2018, the EVCN program received interest from a range of sites, with most new applications continuing to come from workplaces. However, MUDs did make up some ground driven by portfolio customers (customers submitting multiple sites for infrastructure investment), increasing MUD share of applications to 29% at the end of Q3 up from 24% for end of Q2. There was also a continued preference for the EV Charge Owner option demonstrated by applications submitted in Q3. Table 2.2 shows the breakdown of property type, disadvantaged community status, and program participation across all applications received through Q3.

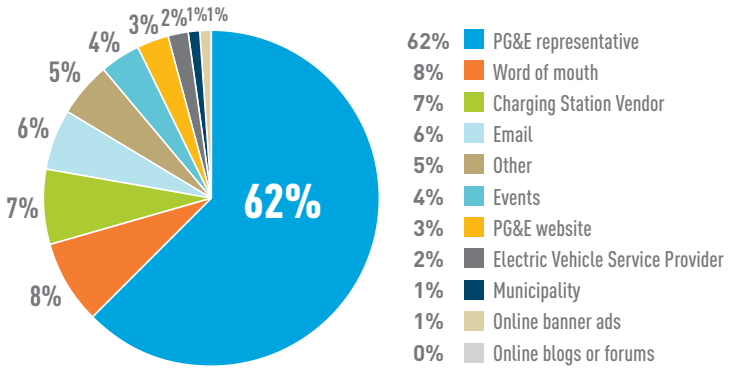
TABLE 2.2 APPLICANT PROFILE THROUGH Q3 2018

	NUMBER OF APPLICATIONS	PERCENT OF APPLICATIONS
PROGRAM PARTICIPATION		
EV Charge Owner	310	74%
EV Charge Sponsor	111	26%
PROPERTY TYPE		
MUD	124	29%
Workplace	297	71%
DISADVANTAGED COMMUNITY STATUS		
Disadvantaged Community (DAC)	111	26%
Other PG&E Territory	310	74%

CROSS-SECTION (Applications)	DAC (% of Grand Total)	NOT IN DAC (% of Grand Total)
MUD	26 (6%)	98 (23%)
WORKPLACE	85 (20%)	212 (51%)
Sub Total	111	310

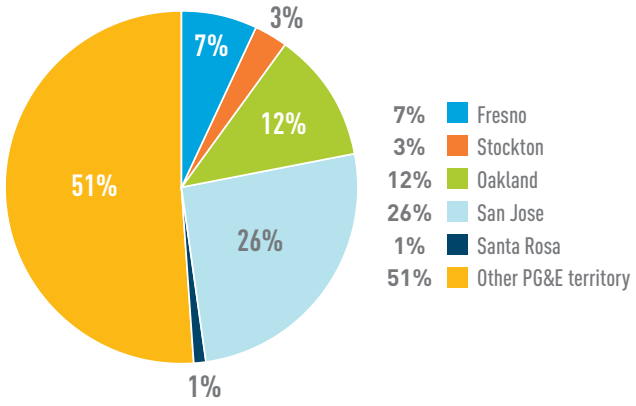
Applicants reported hearing about the EVCN program from various sources. Building on Q2, PG&E's Sales team continued to increase their outreach and bring in a larger share of the application pool, representing the source of over 60% of applications through Q3 2018. Figure 2.1 depicts how applicants reported hearing of the EVCN program on the online application.

FIGURE 2.1 EVCN PROGRAM APPLICANT SOURCE OF PROGRAM KNOWLEDGE THROUGH Q3 2018



Starting in the second quarter, PG&E implemented a targeted geographic campaign—with the support of its sales staff—in 5 specific cities and surrounding areas: Fresno, Stockton, Oakland, San Jose, and Santa Rosa. At the end of Q3, roughly 50% of applications were coming from these 5 areas with Fresno and Stockton increasing from less than 1% each to 7% and 3% respectively. Refer to section 2.2 to learn more about the next step of the targeted outreach.

FIGURE 2.2 EVCN PROGRAM APPLICANT PROFILE BY GEOGRAPHIC AREA THROUGH Q3 2018



Approximately 23% of submitted applications were cancelled through the end of Q3 for various reasons. The two most common reasons, contributing to over half of all cancelled applications, are due to program features ultimately being unworkable for customers and/or the project being cost prohibitive for PG&E. Descriptions for common reasons for sites being cancelled include:

- **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.
- **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.
- **Land or legal challenges:** Participant concerns with the program terms and conditions or land easement can be a barrier to participation.

Q3 2018 Program Milestones

- **Expanded Site Eligibility Operations.** During the quarter, PG&E saw significant growth in submitted applications requiring more resources to move those applications through the site eligibility process. This included expanding the application management function and onboarding additional design contractors to build preliminary designs and work through the backlog of applications under review.
- **Continued Refinement of Eligibility Process.** As the new resources were onboarded, the process and customer experience continued to be refined to minimize inefficiencies in customer engagement as well as establish improved quality control on the designs produced by the design firms.
- **Construction Activity Ramp Up.** This quarter, the cumulative number of ports installed jumped from 58 to 208 which included executing a large portion of the early projects identified in late 2017 to early 2018. Continued growth in construction activity is expected starting in 2019.
- **Introduced New Materials in the Construction Process.** PG&E developed a new smaller format meter allowing for a smaller meter panel to be installed. This new material will help minimize construction obstacles and provide a better look and feel for the customers.
- **First Ribbon Cutting Events Completed.** PG&E conducted two ribbon cutting events to demonstrate the successful partnership between PG&E and these site hosts, increase program visibility, and ultimately lead to greater program participation.

Q3 2018 Challenges and Lessons Learned

- **EVSP data integration.** There continued to be challenges encountered by some EV charging station service providers in transmitting utilization data for newly activated sites in a format consistent with PG&E's program requirements. This required coordination with PG&E to troubleshoot, develop a solution, and confirm via additional testing efforts. Similarly, PG&E deployed process improvements to better ensure activated sites are prepped in our internal systems to start receiving the utilization data in a timely manner.
- **Backlog of applications in review**. While PG&E was successful on the marketing and sales front in increasing total submitted applications by roughly 65% in Q3 2018, this led to a backlog of applications under review with the number of approved applications unable to keep up pace. PG&E addressed this resource constraint by expanding the application management function and onboarding additional design contractors to build preliminary designs. This placed PG&E in a position entering Q4 to both work through this application backlog and start approaching a steady-state.
- **Time and Consistency Challenges with Permitting.** The construction team is seeing an average of at least 6 weeks for a permit to be issued and in one case as long as 21 weeks. Also, the construction team received inconsistent requirements from the various jurisdictions creating redesign and additional cost. Agencies specifically varied on ADA requirements and expectation of bringing existing facilities up to code. Strategies that PG&E has implemented to mitigate these issues included conducting training with the Division of State Architects and developing a comprehensive design template capturing all the feedback from various agencies as well as other lessons learned.
- **Experiences with Several Unexpected Design Changes.** The construction team uncovered unforeseen field conditions, changes initiated by customers, and ADA changes from permitting jurisdictions as mentioned above. Design changes cause delays and additional cost for the program. PG&E focused on implementing improvements during site eligibility to address some of these lessons learned including looking at a revised site walk approach that will be instituted in January 2019

2.2 Sales and Marketing

A new strategy was developed for outreach that is intended to be more efficient in acquiring our target customers.

Key components of PG&E's strategy include:

- **Geographic focus:** additional key geographies were chosen to begin targeted outreach in Q4, with more to be added over time. Any site is welcome to apply, but a targeted approach ensures that marketing spend is used most effectively and costs are reduced by having crews travel short distances between consecutive projects. PG&E started with 5 cities and surrounding areas in Q2 and Q3 and expanded the locations for Q4. The following 16 cities are now being targeted: Berkeley, Vacaville, San Francisco, Oakland, South San Francisco, Stockton, Burlingame, San Ramon, Pleasanton, Menlo Park, Milpitas, Mountain View, Santa Cruz, Fresno, San Jose, and Bakersfield.
- **Target portfolio:** a target portfolio was developed that will be proactively built through outreach. The main components are CPUC targets for MUDs and DACs, with added components such as larger sites to balance the higher costs of small MUD or DAC sites. Performance metrics (e.g., composition of installed and submitted sites, attrition rates) are continually being evaluated to ensure DAC and MUD sites are prioritized, while balancing with overall program budgetary constraints.

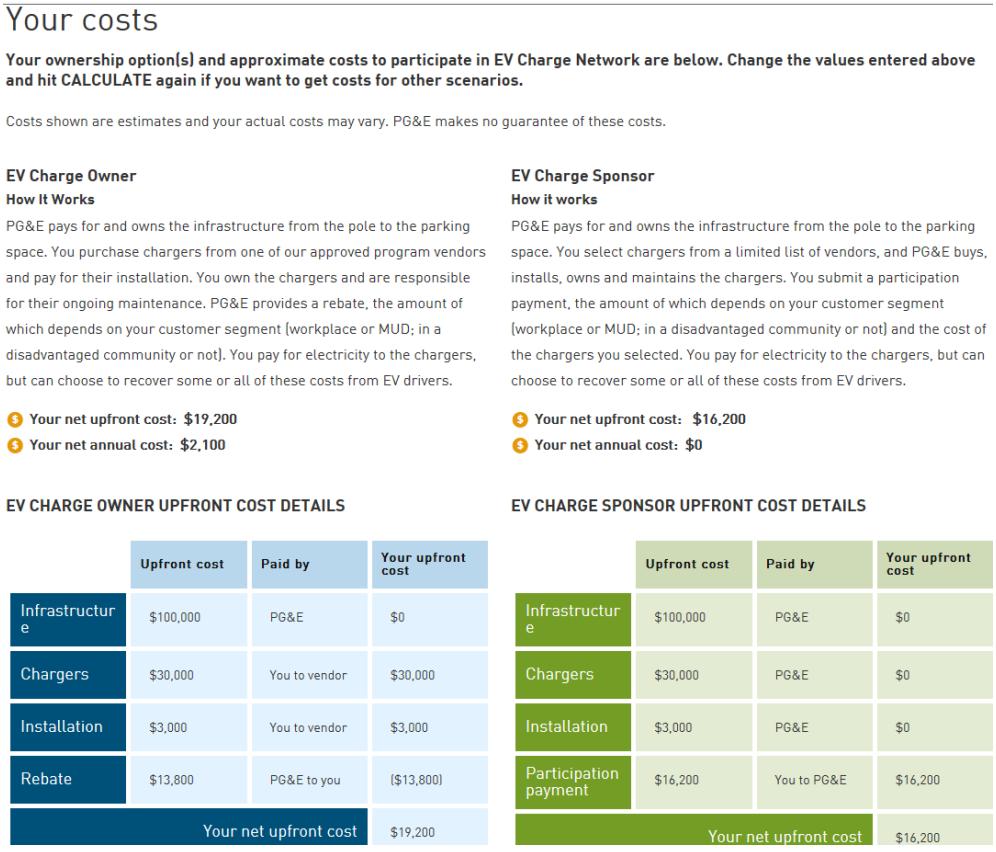
Next steps include expanding our partnerships to increase adoption. Partners, especially on a local level, are key stakeholders that serve as advocates for promotion. Sample partners include local non-profits/ working groups, community choice aggregators, local governments, and trade associations. They can be very helpful in providing venues for PG&E to discuss EVCN with their constituents, providing feedback on pain points that can be addressed as we continue customer conversations, offering additional funding sources that further bring down costs for customers, and, in some cases, become customers themselves.

Finally, PG&E was approached by a customer whose location failed to be scored by the CalEnviroscreen Map used to define qualifying Disadvantaged Community lines. Upon further evaluation and consultation with the CPUC, PG&E has clarified the DAC definition to report unscored sites surrounded by a single DAC census track as DAC sites for reporting of program metrics; however, these sites would not be eligible for the EVSE rebate as a DAC site. This clarification allows for proper reporting of investment benefits for pollution reduction yet complies with the program design for rebate allocation. Refer to the Office of Environmental Health and Hazard Assessment website for further information about the mapping methodology and the tool itself: https://oehha.ca.gov/calenviroscreen.

2.3 Online Tools & Resources

As of the end of Q3 2018, the EV Charge Network program website has the following tools and resources to assist customers in their decision-making process.

- The website hosts an integrated cost calculator tool that helps customers understand the incentives and ownership options they are eligible for, and projects one-time and annual program costs for each ownership option based on inputs that the customer



Your costs

Your ownership option(s) and approximate costs to participate in EV Charge Network are below. Change the values entered above and hit CALCULATE again if you want to get costs for other scenarios.

Costs shown are estimates and your actual costs may vary. PG&E makes no guarantee of these costs.

EV Charge Owner

How It Works

PG&E pays for and owns the infrastructure from the pole to the parking space. You purchase chargers from one of our approved program vendors and pay for their installation. You own the chargers and are responsible for their ongoing maintenance. PG&E provides a rebate, the amount of which depends on your customer segment (workplace or MUD; in a disadvantaged community or not). You pay for electricity to the chargers, but can choose to recover some or all of these costs from EV drivers.

Your net upfront cost: $19,200
Your net annual cost: $2,100

EV Charge Sponsor

How it works

PG&E pays for and owns the infrastructure from the pole to the parking space. You select chargers from a limited list of vendors, and PG&E buys, installs, owns and maintains the chargers. You submit a participation payment, the amount of which depends on your customer segment (workplace or MUD; in a disadvantaged community or not) and the cost of the chargers you selected. You pay for electricity to the chargers, but can choose to recover some or all of these costs from EV drivers.

Your net upfront cost: $16,200
Your net annual cost: $0

EV CHARGE OWNER UPFRONT COST DETAILS

	Upfront cost	Paid by	Your upfront cost
Infrastructure	$100,000	PG&E	$0
Chargers	$30,000	You to vendor	$30,000
Installation	$3,000	You to vendor	$3,000
Rebate	$13,800	PG&E to you	($13,800)
Your net upfront cost			$19,200

EV CHARGE SPONSOR UPFRONT COST DETAILS

	Upfront cost	Paid by	Your upfront cost
Infrastructure	$100,000	PG&E	$0
Chargers	$30,000	PG&E	$0
Installation	$3,000	PG&E	$0
Participation payment	$16,200	You to PG&E	$16,200
Your net upfront cost			$16,200

selects. Customers can use PG&E's established ranges for each cost, or can enter costs provided in vendor quotes. Customers can edit their cost inputs to understand their obligations under different scenarios.

- A Rate Adder Tool helps customers implement their pricing for drivers if they select the Pass-Through pricing option. In this option, drivers receive the A-6 or A-10 time-of-use (TOU) rate for the time during which they choose to plug in. The tool allows customers to calculate a "rate adder", which will distribute the non-energy charge components of the customer's rate (e.g. demand charge, customer charge) among the estimated electricity consumed from the chargers as a dollar per kilowatt-hour amount. This adder can be added directly to the customer's TOU energy rates implemented at the chargers, to be passed through to drivers. This will allow customers to more accurately recover the total amount of their electricity bill from drivers.
- PG&E also completed user research, design, and development for the "EV Savings Calculator", also known as the Total Cost of Ownership (TCO) Tool. The goal of the TCO Tool is to reduce EV ownership cost research time by providing residential customers with a tool that is quick, easy to use, and provides an accurate cost breakdown of owning an EV. The tool will capture total cost of ownership, available EV incentives, and a match score to help users find the right EV for them. PG&E launched the tool at the end of 2018 and enhancements will be deployed in early 2019. The tool is available at ev.pge.com.

A-6 RATE PLAN, 10 CHARGERS

Average usage for each charger	Suggested add-on price per kWh
Low (2 hours per day)	$0.005
Medium (6 hours per day)	$0.002
High (10 hours per day)	$0.001

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 conducts 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, for which PG&E will own the charging equipment.

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

PG&E completed the Q3 RFQ for EVSE solutions which resulted in three vendors applying for qualification. Additionally, one final pending provider from the Q2 RFQ was approved and added to the list. 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. Appendix C details the criteria all approved EVSE approved packages must meet.

The following are currently approved program vendors:

- ABM
- Andromeda Power LLC
- BTC Power (Broadband Telcom Power, Inc.)
- ChargePoint
- Electric MotorWerks, Inc.
- EV Connect
- EVBox
- EVoCharge LLC
- EVSE LLC
- Greenlots
- Kitu Systems
- Liberty Plug-ins
- National Car Charging
- Oxygen Initiative
- PowerFlex Systems
- SemaConnect, Inc.
- Shell New Energies
- Tellus Power Inc.
- Verdek
- Video Voice Communications

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% 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 Q4 RFQ opened 10/30/18 and closed 11/30/18; no additional vendors completed the process of submitting documentation for review in this cycle. 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. Charger Utilization and Load Management

4.1 Charger Utilization

In Q3 2018, eight additional sites were fully activated for driver use including the first MUD sites of the program (the first three sites were all workplace sites). Two additional sites located in disadvantaged communities (DAC) were activated bringing the total DAC sites to three at the end of Q3 2018. Table 4.1 shows the summary of all active sites through Q3 2018.

TABLE 4.1 SUMMARY OF ACTIVATED SITES THROUGH Q3 2018

	NUMBER OF SITES	NUMBER OF PORTS	PERCENT OF PORTS
PROGRAM PARTICIPATION			
EV Charge Owner	7	74	52%
EV Charge Sponsor	4	69	48%
PROPERTY TYPE			
MUD	5	73	51%
Workplace	6	70	49%
DISADVANTAGED COMMUNITY STATUS			
Disadvantaged Community (DAC)	3	38	27%
Other PG&E Territory	8	105	73%

CROSS-SECTION (Sites/Ports)	DAC (% of Grand Total)	NOT IN DAC (% of Grand Total)
MUD	0/0 (0%)	5/73 (51%)
Workplace	3/38 (27%)	3/32 (22%)
SUB TOTAL	3/38	8/105

PG&E continues to work with EV Service Providers (EVSPs) on collecting driver utilization data from its activated sites and will provide more detailed analyses (e.g., utilization by location and price, load profiles, etc.) once the sample size of the data increases. From the data collected thus far, however, PG&E can share the following observations:

- Through Q3 2018, there were 1685 unique charging sessions.
- On average, drivers charged their vehicles for roughly 2.5 hours per session.
- However, total connected time was roughly twice as long at about 5 hours per session.
- The average energy consumed per session was 10.65 kWh.
- The average cost to *drivers* per session was $2.25. (Note: multiple site hosts offer free charging and do not pass on the cost of electricity to drivers.)
- The average cost to *drivers* per session for sites not offering free charging was $4.58.

4.2 Load Management Plan

Program participants who select the custom pricing option are 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. PG&E will leverage its demand response (DR) pilots to call events to ask program participants to both increase and decrease EV charging load at certain times. In Q3 2018, PG&E coordinated with EVSPs to identify sites enrolled in custom pricing and is working towards ensuring such sites are enrolled into PG&E's relevant DR pilot program.

4.3 Load Management Data

As data is made available, PG&E intends to provide data on Load Management Plan enrollment, events, and load impacts.

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.

As of the end of Q3 2018, PG&E had received 421 applications, 63 of which were actively 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 Q3.

TABLE 5.1 PROGRAM PARTICIPANT PROFILE – APPROVED SITES THROUGH Q3 2018

	NUMBER OF SITES	NUMBER OF PORTS	PERCENT OF PORTS
PROGRAM PARTICIPATION			
EV CHARGE OWNER	47	763	75%
EV CHARGE SPONSOR	16	253	25%
PROPERTY TYPE			
MUD	24	341	34%
Workplace	39	675	66%
DISADVANTAGED COMMUNITY STATUS			
Disadvantaged Community (DAC)	17	279	27%
Other PG&E Territory	46	737	73%

CROSS-SECTION (Sites/Ports)	DAC (% of Grand Total)	NOT IN DAC (% of Grand Total)
MUD	1/20 (2%)	23/321 (32%)
Workplace	16/259 (25%)	23/416 (41%)
SUB TOTAL	17/279	46/737

5.2 Construction

Once 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. At the end of Q3 2018, PG&E had a pipeline of 63 approved sites which represented 1,016 ports[4] and provides a pipeline of construction through March 2019.

4. This excludes approved sites considered "at risk" of being waitlisted or cancelled.

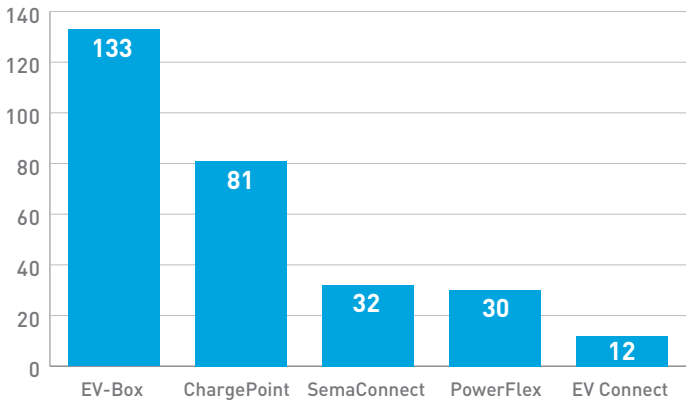
5.3 Operational Metrics

Through the end of Q3 2018, PG&E had completed installation of 20 sites for the EVCN program. The following metrics reflect construction and installation of approved sites through September 30, 2018.

TABLE 5.2 SUMMARY OF NUMBER OF PORTS AND INSTALLATION

Number of total ports approved	1102
Number of ports installed	288
Average number of ports approved per site	15
Average number of ports installed per site	14
Average time for each installation step	Insufficient data to report in Q3 2018
Average total installation time	

FIGURE 5.2
NUMBER OF PORTS INSTALLED BY EVSE PRIMARY VENDOR



5.4 Program Costs

In Q3 2018, PG&E spent roughly $ 7.3 million for a total program spend of roughly $20.0 million out of the $130 million authorized budget. Figure 5.3 details Q3 program spend for each of the categories, Administration and Program Implementation; Marketing, Education, and Outreach; IT Projects; Engineering and Construction, and Procurement. Table 5.4 provides a summary of anticipated 2018 spend, 2018 program costs year to date and percent of alllocated 2018 budget spent.

FIGURE 5.3 EVCN Q3 2018 PROGRAM SPEND

Design and installation costs are included within Engineering & Construction in Q3. In Q1 and Q2 those costs were included within Administration & Program Implementation.

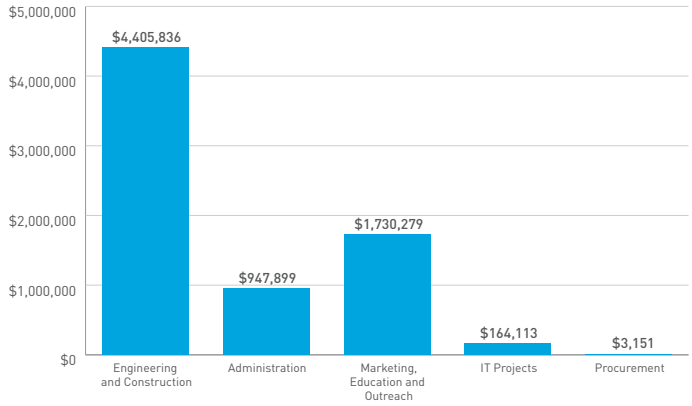


TABLE 5.4 SUMMARY OF 2018 PROGRAM SPEND

	2018 Year to Date Forecast	2018 Year to Date Spend	% of Year to Date Forecast
Total Program Cost through Q3	$17,332,304	$13,237,535	76%
Average Cost per Site (including TtM, BtM, & Rebate)	$4,032,000	$4,713,474	117%
Average Cost per Port (including TtM, BtM, & Rebate)	$14,000	$16,366	117%
Charger Cost per Port	$985	$782	79%
Total Rebate Reserved	$2,920,648	$93,150	3%

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 third PAC meeting of 2018 was held on September 20, 2018 and included a diverse group of stakeholders. Roughly two dozen organizations attended, including representatives from the EV charging station industry, non-profits, government entities and community choice aggregators. PG&E captured stakeholder comments during the meeting and also collected feedback by email submission after the meeting. PG&E has provided responses to the questions and comments in Appendix A.

8. Conclusion

At the end of Q3 2018 PG&E had completed construction of 20 sites (11 of which were fully activated for driver use) representing a total of 288 ports installed (143 fully activated). The program had a total of 63 approved applications, securing 1016 ports that are working through design and will be supporting a construction pipeline through March 2019. The composition of the program's applicant and approved site pool represent a healthy pipeline in supporting the Commission's targets for Disadvantaged Communities, Multi-Unit Dwellings, and program ownership options. As PG&E collects more data on driver utilization and the results of its outreach strategies, this information will be shared in future reports. PG&E will continue to identify opportunities for process improvement while ensuring a positive customer experience.

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 A

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

The following PAC members provided comments during the meeting regarding the EV Charge Network program:

PAC MEMBER NAME	PAC MEMBER ORGANIZATION
John McLean	Greenlots
Megha Lakhchaura	EVBox
Ziga Ivanic	Energetics
Newonda Nichols	ChargePoint
Bonnie Datta	Siemens
Larissa Koehler	Environmental Defense Fund
Dana Boudreau	Redwood Coast Energy Authority

9.2 Direct Program Advisory Comments

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

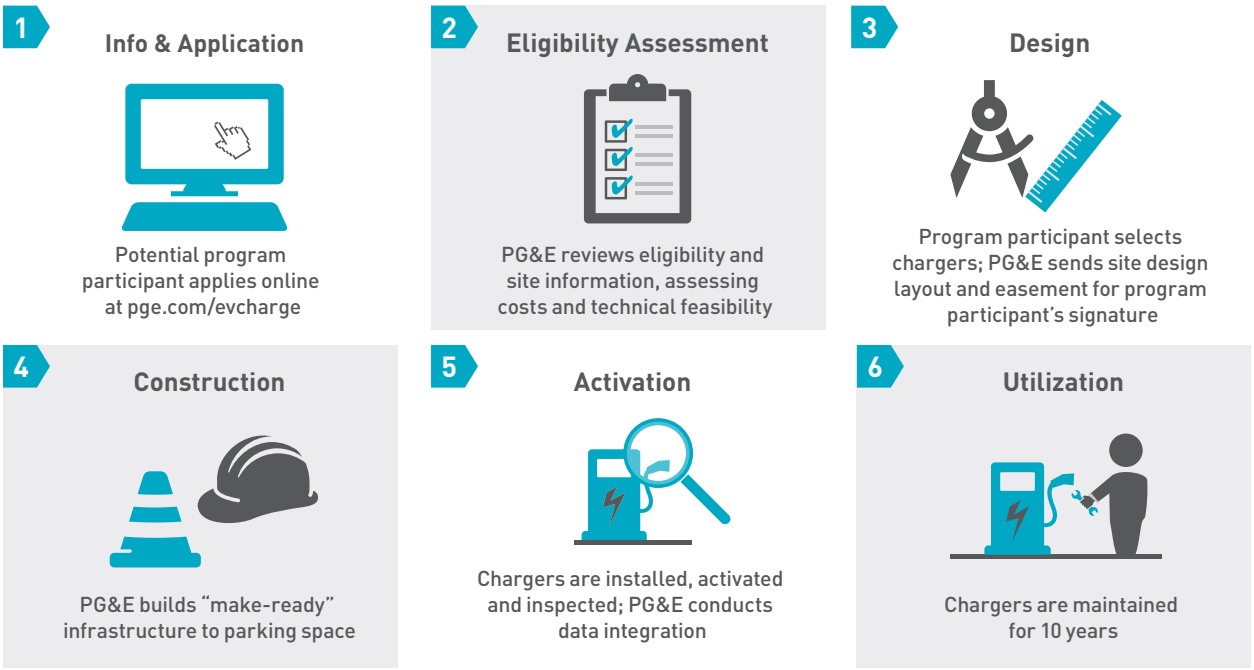
QUESTION	PG&E RESPONSE
What percentage of application submittals are vendor driven versus. PG&E driven?	Given that the majority of applications ultimately get submitted via a PG&E representative, this percentage is difficult to gauge with the current data. PG&E has implemented a process improvement to start tracking this metric going forward as part of the site eligibility phase of an application and report its findings once sufficient data is received.
What is driving the application cancellation rate (23%)?	As detailed in the report, the two most common reasons cited for cancellation are unworkable program features for the site host or the project being cost prohibitive for PG&E. Please see section 2.1 for more details.
Is PG&E tracking cycle times across the various application phases?	Yes; we are tracking cycle times across the site eligibility phases as well as the design and construction phases. PG&E has also deployed enhancements that will allow us to track cycle times more granularly at the task level in site eligibility. PG&E will share results of cycle time metrics in future reports.

QUESTION	PG&E RESPONSE
Is PG&E tracking costs per project?	Yes; PG&E is tracking costs at the project level as well as at the program level. Please see section 5.4 on program spend to date and average cost per site/port.
Can PG&E provide a deeper dive on customer segmentation?	Yes; PG&E provided an update during its Q4 PAC meeting on customer segmentation. PG&E can likewise include this information as part of its Q4 Report.
What strategies has PG&E used to penetrate the MUD market? What is driving PG&E's success in this segment thus far?	MUD site hosts have proven to be very progressive and sophisticated on the topic of vehicle electrification. Responding to this, PG&E has taken time to answer detailed questions from these site hosts on rates, pricing, managing O&M, etc. PG&E emphasized an early focus on engagement with these customers due to the specific challenges they face (e.g., multiple decision-makers such as Homeowner Associations), targeted regions with high concentrations of MUDs, and actively worked with large property management firms.
Regarding DACs, do we have details on utilization of these ports?	As of the end of Q3 2018, only three DAC sites have been activated. PG&E will share more data on utilization once the sample size has increase.
Can a sponsor rather than a site host own the electric meter (i.e., be responsible for the electricity bill)?	The Commission Decision states that the site host must be PG&E's customer of record with regard to assignment of the electricity bills.
Is PG&E tracking utilization data in 15-minute intervals?	Yes; PG&E is collecting utilization data at the session level as well as the interval level (at a 15-minute granularity).

10. Appendix B

PG&E has established a six step process that guides customers through 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.



11. Appendix C

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 distributer 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.