

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

Order Instituting Rulemaking to Consider
Alternative-Fueled Vehicle Programs, Tariffs,
and Policies.

Rulemaking 13-11-007
(Filed November 14, 2013)

**ELECTRIC VEHICLE-GRID INTEGRATION PILOT PROGRAM
("POWER YOUR DRIVE") FOURTH SEMI-ANNUAL REPORT OF SAN DIEGO
GAS & ELECTRIC COMPANY (U902-E)**

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March 20, 2018

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Pursuant to Decision ("D.") 16-01-045 (the "Decision"),¹ and Commission Rules 1.8, 1.9(d) and 1.10(c), San Diego Gas & Electric Company ("SDG&E") submits this Electric Vehicle-Grid Integration ("VGI") Pilot Program ("Power Your Drive") Semi-Annual Report.

¹ See, Decision, p. 139; finding of fact ("FOF") 80, p. 173, ordering paragraph ("OP") 3.k, p. 183:

We will also require SDG&E to file in R.13-11-007, or in a successor proceeding, semi-annual reports containing the information reported in the quarterly check-in meetings, the data described in Appendix B to Attachment 2 of this decision, and a description of any program changes implemented by SDG&E prior to the date of the report. This reporting requirement will terminate on February 1, 2021. The report shall be posted on SDG&E's website, and a notice of the availability of that report shall be served on the R.13-11-007 and A.14-01-014 service lists [note that the Decision (pp. 156, 161, 183) closed A.14-04-014].

Id., FOF 80, p. 173:

The alternative program terms shall include the following: SDG&E shall have quarterly check-in meetings with the Commission's Energy Division to provide the staff with updates concerning the information set forth in today's decision; SDG&E shall file semi-annual reports in R.13-11.007, or a successor proceeding, containing the information described in today's decision, and in the manner described in today's decision; and parties may file and serve opening and reply comments on the semi-annual reports in the manner described in today's decision.

Id., OP 3.k., p. 183:

If SDG&E decides to accept and to implement the 2016 VGI Pilot Program, SDG&E shall comply with all the meeting and reporting requirements as set forth in this decision and in Attachment 2.

Respectfully Submitted,

/s/ John Jenkins

John Jenkins

Vice President, Electrical Engineering and
Construction

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March 20, 2018

SDG&E

Semi-Annual Report

ELECTRIC VEHICLE-GRID INTEGRATION PILOT PROGRAM (POWER YOUR DRIVE)
SEMI-ANNUAL REPORT OF SAN DIEGO GAS & ELECTRIC COMPANY (U902-E)
MARCH 2018



I. Introduction

Power Your Drive was established by San Diego Gas & Electric (SDG&E) and approved by the California Public Utilities Commission (CPUC) as a pilot program. It is designed to integrate the charging of electric vehicles (EVs) with the grid through an hourly rate. Power Your Drive seeks to satisfy this objective through the installation of up to 3,500 EV charging stations at 350 apartments, condominiums and places of work.

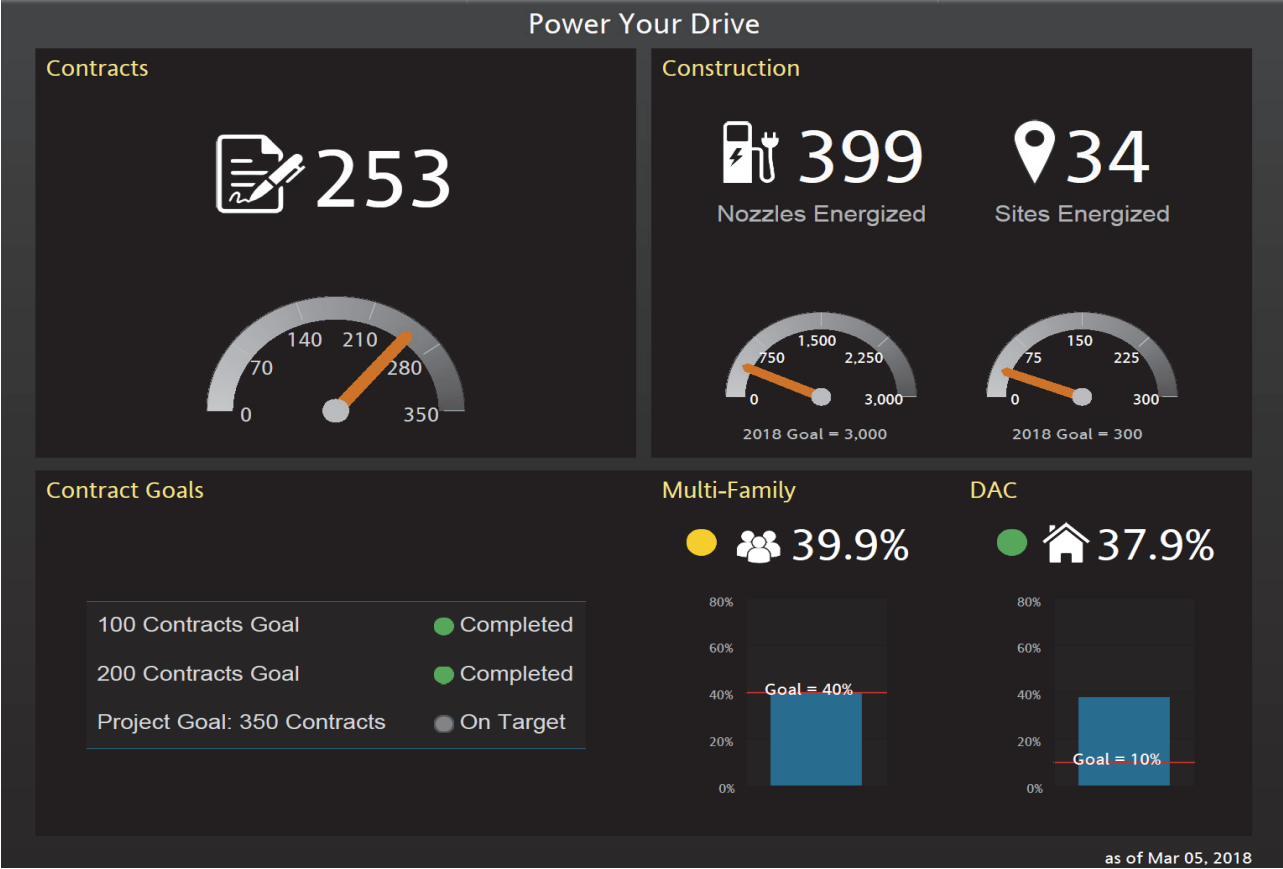
Under the terms of Power Your Drive, SDG&E maintains ownership of the infrastructure to simplify the experience for customers installing chargers and to ensure the reliability of the charging network. Customers that participate in the program are assessed a nominal one-time participation payment unless the site is within a designated disadvantaged community, in which case, the participation payment is waived. SDG&E coordinates the design, permitting, construction, and commissioning of the charging stations. Once drivers begin charging, SDG&E handles the billing, provides customer support, and all maintenance for the charging equipment.

Power Your Drive sites are either multifamily or workplaces with an overall goal to reach at least 40% of installations in multifamily communities. Additionally, the program seeks to provide deployment in areas that have higher than average levels of pollution by setting a target of at least 10% of installations in designated disadvantaged communities.

II. Executive Summary

Power Your Drive closed 2017 with a strong finish and start to the 2018 new year. Customer interest has grown exponentially, with site hosts often requesting more chargers than originally planned as they proceed through the process and learn about drivers' needs at their own properties. Power Your Drive has also experienced challenges: software implementation incurred initial schedule setbacks associated with required customization to accommodate the hourly rate, contracting multifamily sites, and approvals of multiple EVSE vendors. Fortunately, overcoming these challenges early on by fine-tuning and streamlining processes through lessons learned has created a robust billing platform, impressive increase in multifamily contracted sites, and an additional approved EVSE vendor.

To date, SDG&E has contracted 253 sites, totaling more than 2,617 charging nozzles. A total of 1,071 customers have indicated interest in participating in Power Your Drive. Of the 1,071 customers who have indicated interest, 32% are within disadvantaged communities, 47% are in multifamily communities, and 53% are workplaces. SDG&E continues its focus on customer outreach targeting multifamily sites while implementing planning, engineering, permitting, construction and commissioning processes. The following report details the program progression, including how challenges were overcome.



III. Customer Engagement

Maintaining an excellent Power Your Drive customer experience is vital during all touch points of customer engagement. SDG&E has received a strong and positive response from both customers and community stakeholders regarding the program. This is demonstrated by the number of customers who have signed up on the program interest list, as well as requests from community partners to learn more about Power Your Drive. An integrated approach to the program’s communication efforts helps leverage the work SDG&E is already doing throughout the region, and helps ensure customers and stakeholders are informed about the EV charging opportunities and benefits Power Your Drive offers.

A. Employee Involvement

In 2015, SDG&E launched its “Race to 500” shareholder incentive program with the goal of having 500 employees driving electric cars by 2020. As of March 1, 2018, SDG&E has 451 employees driving EVs, and has installed more than 250 grid-integrated EV charging stations at 21 company work locations. By implementing an employee education and outreach program to

inform all SDG&E departments about electric transportation and Power Your Drive, SDG&E employees have become important clean transportation ambassadors for the region, and are prepared to inform customers about Power Your Drive and the benefits of driving electric when out in the community.

In February 2018, Clean Transportation launched another Employee Roadshow. As part of this effort, representatives from Clean Transportation visited 11 of the SDG&E satellite offices to educate the employees on the Power Your Drive program and other clean transportation initiatives. The goal of the Employee Roadshow is to engage employees who are in the field working with our customers to help spread the word on the program. An employee referral competition component was added to the Roadshows to incentivize employees to participate and provide leads on possible Power Your Drive sites.

Additionally, the Clean Transportation team held an information session for employees on February 15, 2018, at the main SDG&E office. This session was focused on sharing the vision of the Clean Transportation Department, current regulatory proceedings, and Power Your Drive.

B. Community Outreach Events

San Diego International Auto Show

For the sixth year, SDG&E sponsored the Think Blue Eco-Center at the San Diego International Auto Show. The expansive Eco-Center area was dedicated to showcasing clean transportation innovations and technologies, including EVs, plug-in hybrids, standard hybrids and hydrogen fuel cell vehicles.

SDG&E was on hand for the five-day event to engage Eco-Center visitors as they had the opportunity to check out a variety of eco-friendly models first hand and learn about the different types of electric vehicles and talk to experts about the different vehicle types and benefits of driving electric.

SDG&E hosted EV 101 talks every hour r from 11:30 a.m. to 3:30 p.m. for all five days of the Auto Show to answer questions on all things EV- related. EV 101 talk topics included Power Your Drive, EV rates, incentives and rebates, the EV Climate Credit and EV chargers. Guest speakers during the EV 101 talks included SDG&E Clean Transportation experts and partners from the Auto Association, Electric Vehicle Insider and Plug- In America.

Participation at the San Diego International Auto Show provided SDG&E with an opportunity to increase outreach to customers of all demographics in an environment that was driven by technology, innovation and curiosity towards the recent advancements of EV design and progression.



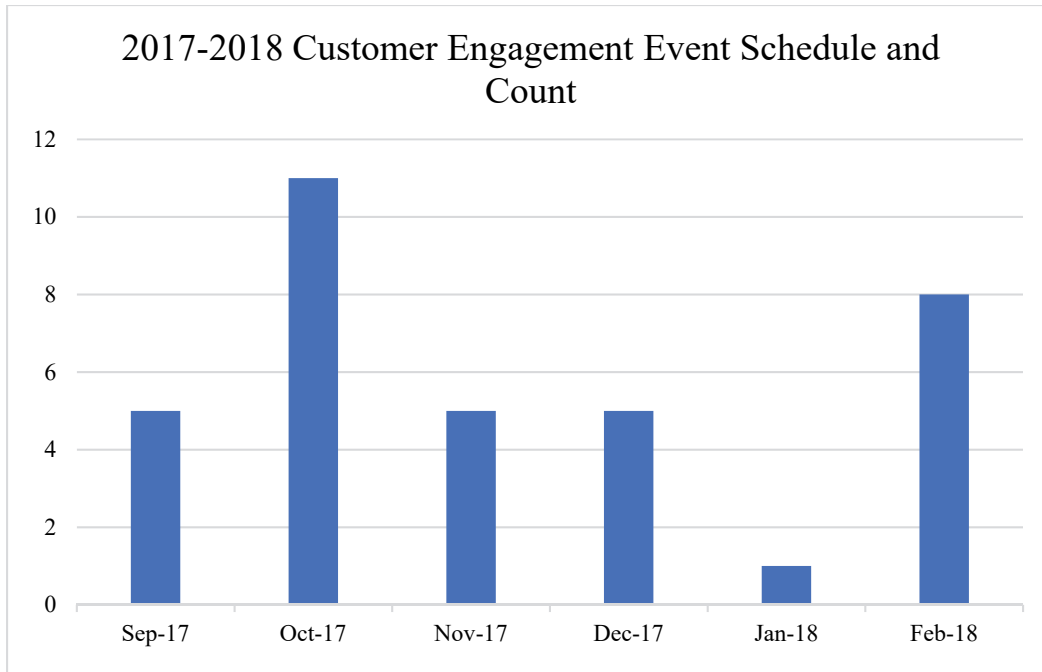
Broadway at Del Oro Ribbon Cutting

As part of the Power Your Drive initiative to increase EV charging availability within multi-family communities, SDG&E's Clean Transportation team partnered with the developer of one of Chula Vista's newest multi-family developments, Broadway at Del Oro for their EV charging solution.

By entering the program prior to the construction of the residential community, the collaboration between the developer and SDG&E began early on in the design and planning and allowed the construction of the charging stations to run parallel with the community development so that there would be minimal impact to new residents. The 80-unit development, consisting of one- and two-bedroom apartments, features 24 EV charging spaces and is a featured amenity for existing residents and an attractor for potential new residents.

SDG&E was a proud participant in the site Ribbon Cutting, opening the chargers for use by the residents. Also in attendance for the Power Your Drive ribbon cutting were Chula Vista Mayor Mary Casillas Salas, SDG&E's Senior Director of Clean Transportation Linda Brown, Chula Vista City Councilmember John McCann along with other dignitaries.





SDG&E has hosted, participated in, and facilitated a variety of outreach events since the inception of Power Your Drive, including 35 events from September 2017 through February 2018.

IV. Regulatory Requirements & Key Implementation Activities

A. Vehicle Service Provider Partner Relationship Development

Critical to the successful implementation of Power Your Drive, SDG&E began the qualification of multiple EV service providers (EVSP) who will be authorized to provide the Power Your Drive EV supply equipment (EVSE) networks and Software Services necessary to implement the program’s requirements. The inclusion of multiple vendors into the program fosters innovation and enhances the customer’s experience by allowing for customer choice of vendor, equipment, and service. The first step in the process was the issuance of a Request for Information (RFI) to industry subject matter experts. The RFI was necessary to help develop and refine the requirements and criteria in the Request for Proposal (RFP) that followed. Under the RFP process, vendor proposals were evaluated, scored, and ranked based on the ability to meet the technical and operational requirements of Power Your Drive.

As described in the Decision (e.g., Attachment 2, ¶ 19, p.10) the minimum requirements for qualified vendors include but are not limited to the following:

1. Ability to send the hourly rate on a day-ahead basis to the customer or driver
2. Allow the customer or driver to set charging needs
3. Collect the EV charging usage data, and then send the EV charging usage data to SDG&E for billing processing

All vendor bids are evaluated on the vendor’s specific capabilities, past performance, qualifications, and experience. Part of the bid evaluations includes a preliminary meter test by an independent third party. Once vendors are contracted with SDG&E, when their systems are ready, they continue through Solution Acceptance Testing (SAT) which is a comprehensive detailed test of the vendor’s equipment and software interface of various data exchange scenarios with simulated and actual EV loads. SAT also includes testing of the three program goal requirements: the vendor’s ability to receive and send the hourly rate on a day-ahead basis, collect the EV charging usage data, and the ability to send the data to SDG&E for billing processing.

- Solution Acceptance Testing Challenges

The ability of vendors to navigate the demands of Solutions Acceptance Testing (SAT) has been challenging. As of today,¹ only two vendors have passed all aspects of SAT. The increased time from what was forecasted in the original schedule for EVSPs to complete all qualification testing has resulted in cost increases in this area of the program.

|Vendor RFP contracting and testing milestones:

RFI Issued: February 9, 2016
RFI Closed: March 8, 2016
RFI Vendor Debriefing: March 24, 2016

RFP Issued: May 31, 2016
Bidder’s Conference: June 9, 2016
RFP Closed: July 12, 2016

Bid Evaluation Commenced:
 July 12, 2016

Initial Scoring and Prioritization:
 August 9, 2016

Vendor Demonstrations, Questions & Answers:
 August 23 to September 13, 2016

Final Scoring and Prioritization:
 September 13, 2016

Contract Negotiations Commenced:
 September 14, 2016

1st and 2nd Vendors Start Solutions Acceptance Test:
 February 2017

1st Vendor Approved: June 2017

2nd Vendor Approved: November 2017

3rd Vendor Starts Solutions Acceptance Testing:
 March 2018

Test Name	Description
Meter Certification Testing	Full Battery of Safety and Accuracy Testing performed by Meter Operations on First Article EVSE as described in Agreement Exhibit D: Meter Test Plan Document
Solutions Acceptance Test (SAT)	Test and Validation of EVSP Solution: Apps, Portals, Enrollment, Price, and Consumption using mix of mocked up and real data in Test Environment

¹ As of 2/28/2018.

End-to-End	Test of EVSP and SDG&E system processes successively using real data in Test Environment
End-to-End (Alpha Test)	Test of EVSP and SDG&E system processes successively using real data
Production Validation	Test of EVSP and SDG&E system processes at Customer Site using real drivers and live data

Currently SDG&E has two approved vendors; ChargePoint and Greenlots. ChargePoint was approved in June 2017 and has two pieces of approved hardware as solutions. Greenlots was approved as a vendor in November 2017 with one piece of hardware (Siemens) as a solution. Greenlots has an additional piece of hardware undergoing the approval process.

As a result of the program's requirement to maintain an open RFP, SDG&E and Oxygen Initiative came to an agreement to develop a solution for the program in June 2017. Despite the late start, the third vendor has been able to produce a solution that is in the initial stages to demonstrate information security and meter accuracy before SAT begins in earnest.

The experience of SAT emphasizes the magnitude of the challenge that vendors face to develop system architecture to support the technical requirements of the program. None of the existing software solutions had the capabilities to fully support the key components of Power Your Drive. As a result, vendors are developing custom solutions for the program that required an additional level of effort.



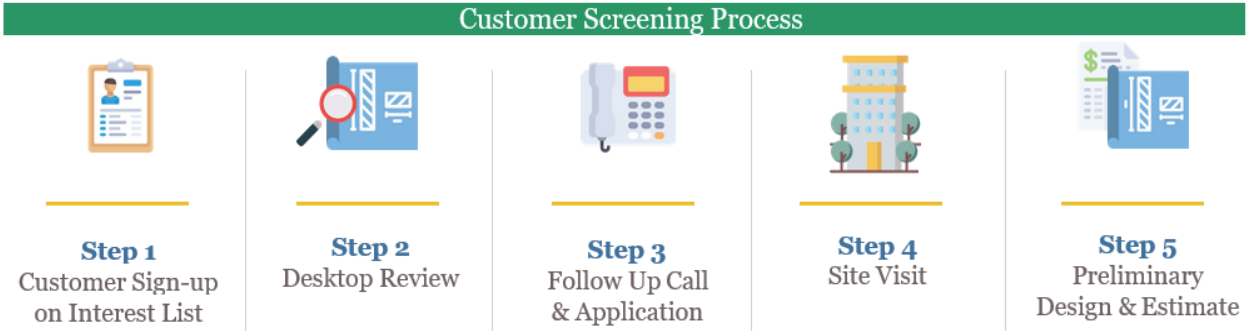
B. Customer Screening Process

The customer screening process is employed to provide initial feedback that indicates an interested site's overall alignment with Power Your Drive goals and viability given program requirements. Through the progress of the program, the screening process has been updated to include criteria that reflect the experiences gained through the application, design, and construction phases of the program. The screening process is continually assessed to ensure that the program remains sensitive to the diverse set of project circumstances and constraints of suitable sites.

After commencing the Power Your Drive site screening process, as described in the Prepared Direct Testimony of Randy Schimka, the following criteria has been utilized to evaluate and prioritize sites for installation once a workplace or multifamily host customer expresses interest in Power Your Drive.

- » Date of indicated interest (first-in-line-priority)
- » Current and expected volume of EV drivers
- » Number of installations desired
- » Type of installation (workplace, multifamily)
- » Nearby transformer available capacity
- » Distance between transformer and new service point
- » Site conditions related to construction feasibility (i.e., trenching surface, EVSE mounting surface, condition of facility)
- » Land and property ownership
- » If leasing, term and conditions of lease
- » Existing/available Americans with Disabilities Act (ADA) accessible parking.

At this time, the above criteria used to evaluate and prioritize sites remains unchanged. However, the steps to implement the screening process have been further refined from what was included in the previous Semi-Annual Report. Further editing of the screening process may be exercised in the future to ensure the best customer experience and program execution.



Step 1: Customer Interest List

Customers who are interested in the program initiate interest by submitting their site information to the interest list. The customer submits the interest submission via the Power Your Drive website and this interest is received via the PYD inbox at ev@sdge.com. The customer is then contacted by a Power Your Drive client representative to discuss the benefits of the program and determine if the site fits the criteria of the program.



Step 2: Desktop Review

Once a customer signs up through the online Interest List, an initial desktop review of the proposed site is completed. The desktop review pre-qualifies sites prior to scheduling the site visit by verifying the information identified on the Site Qualified Checklist found in Appendix D. Google Earth and a GIS database is utilized to locate and identify existing SDG&E transformers and underground infrastructure servicing the potential site.

This information is used to pre-qualify potential program sites and facilitate the discussion during the follow-up phone call to schedule site walks. This ensures that the potential site meets the goals of Power Your Drive and a positive customer experience for the program life cycle is maintained.

Site Qualification Checklist



Location of existing transformer(s)



Approximate distance from transformer to installations



Potential locations for installations



For parking structures, determine feasibility of aboveground conduit installation



If installation of ADA parking stalls will be required



Proposed equipment locations



If possible, identify existing ADA parking stall locations



ADA path of travel from parking stalls to building

Three Objectives of the Phone Call



To obtain a clear understanding of the customer's EV charging needs



To inform the customer about the online application and EV survey to be completed prior to scheduling a site walk



To confirm with the customer if the next steps should be taken to fill out the online application and schedule a site walk

Site Walk Clarifications



Location



Type



Number of charging stations



Location of new meter pedestal



Location of new transformer if needed

Step 3: Follow Up Call and Application

When a customer initiates an application via the Power Your Drive online application, the customer is then contacted to verify and obtain additional site data. It is also confirmed to the customer that their application is currently in the review process for the program and that a follow up phone call will occur within 2 business days with feedback and site walk scheduling. After the follow up call has been conducted with a client, the client intake team creates either a multifamily or workplace number in the customer database system.

Step 4: Site Visit

Once a multifamily or workplace site has met the qualifications for the program, a site-walk appointment is initiated with the site host. A civil engineer and an electric engineer, in addition to the site host meet on the property of the proposed build area on the day and time of the site walk to evaluate current site conditions and obtain additional data specs needed to produce a preliminary design. The client relations lead has a copy of the desktop review available for reference and checks in with the site host at the designated time.

Specific information about the property's history and future plans are gathered through dialogue with the site host, i.e.: any reconstruction coming soon, any environmental challenges, or home owner association issues which would impede progression to construction. An explanation of the Power Your Drive process flow is provided by the client relations lead to indicate what happens in the coming phases of the program.

Once the engineering team has obtained the data needed to coordinate a preliminary design, the client relations lead then secures a date/time between 10-12 days of the site walk to have a design review call.

Step 5: Preliminary Design and Estimate

A preliminary design and cost estimate is completed by the design engineer, taking into consideration the information provided from the initial desktop review, existing site conditions verified during the site walk, and input provided by the customer. Once completed and approved by SDG&E the preliminary design is sent to the site host for final review and confirmation that the design is acceptable before proceeding with final engineering. The preliminary construction cost estimate is reviewed by SDG&E for approval of the site into the program.

C. Competitive Construction Request For Bid Solicitations

Upon completion of the final engineering deliverables, each site is included in a bid package issued for 6 contractors, who hold Master Service Agreements (MSAs), to submit competitive pricing. As of February 28, 2018, a total of 14 bid packages have been issued, containing between 4 and 17 project sites.

The following Bid Package Summary Table describes the number of sites and nozzles included in each bid package.

Bid Package	Bid Adv. Date	Bid Award Date	Total Sites	Total Nozzle Count	Average Nozzles Per Site
0	N/A ¹	N/A ¹	4	44	11
1	N/A ¹	N/A ¹	9	105	12
2	9/22/17	10/4/17	5	84	17
3	10/7/17	10/24/17	5	58	12
4	10/14/17	10/30/17	4	45	11
5	10/25/17	11/3/17	12	110	9
6	11/1/17	11/22/17	12	123	10
7	11/8/17	11/29/17	12	153	13
8	11/30/17	12/28/18	8	88	11
9	11/30/17	12/28/18	13	132	10
10	11/30/17	12/28/18	8	76	10
11	12/6/17	12/28/18	9	105	12
12	1/5/18	2/7/18	8	71	9
13	1/22/18	2/12/18	11	96	9

14	2/14/18	3/16/18	17	224	13
		TOTAL	137	1514	

Note 1: Bid package direct awarded to SDG&E on-call contractor

- Bidding Process and Update

The contractor bidding process has been implemented to ensure a fair and competitive process. Once program sites have finalized engineering designs and customer approvals they are scheduled to be included in the upcoming bid solicitation. The Power Your Drive team collaborates with site hosts in advance of the tentative bid advertisement to determine which sites will require special access requirements for contractors to visit during their bid preparations.

The bid advertisement typically lasts for 2-3 weeks. The bid period allows sufficient time for contractors to review the final site designs, request and receive clarification, and provide competitive pricing. Guided site walks are typically held during the first week of the solicitation period with a member of the Power Your Drive project team in attendance to ensure a positive site host experience and to ensure proper safety protocols are met during the visit. SDG&E utilizes a third-party sourcing portal to manage the solicitation and receive bids from the contractors. When the solicitation closes the proposals are then evaluated according to pre-determined and weighted criteria including, but not limited to:

- Price
- Safety Record
- Prior Performance
- Workload Availability
- Social Responsibility

Bid packages typically range in size from 5-15 projects and an individual package may be awarded to one contractor or split between contractors according to bid criteria and program requirements including required construction schedules. Once the projects are awarded contractors are then notified of the award the projects move into the construction phase.

V. Engineering, Permitting, & Construction

Customer Approval Process

Along with submitting each preliminary design to the customer for approval, the following documents are submitted to the customer for review and approval:

Owner authorization letter allowing SDG&E or other designated third party to proceed with processing agency permits on the owner's behalf.

Easement document to be signed by owner granting SDG&E access to install and maintain new EVSE equipment and supporting infrastructure.

Drone Data Acquisitions

Data Capture

Final engineering requires accurate as-built information to identify how the proposed construction improvements will interface with existing site conditions. Record drawings have been requested from customers with varying degrees of success, timeliness, and accuracy. SDG&E has developed a data capture initiative to supplement the traditional survey to assist sites where as-built information is not readily available.

Aerial Survey

For parking areas that are above grade and free of significant vertical obstruction SDG&E utilizes an aerial survey team to capture high resolution site imagery utilizing drones. A typical survey requires 45 minutes on site and can be processed into a georeferenced orthophoto or a 3d model for the engineers to use in creating the final design.

All drone flights require customer approval prior to scheduling. Flights are conducted by a licensed flight crew in compliance with FAA regulations as well as SDG&E safety protocols. Due to the high number of military and civil airports located within SDG&Es service area, aerial survey is not an available option to document existing conditions for all sites in the program.

Laser Scanning

For parking areas that are in garages or other enclosed spaces SDG&E utilizes 3d laser scanners to capture a precise point cloud and stitched 3d photos of the existing space. Multiple scans are taken over the project site and the resulting point clouds are stitched together to create a unified point cloud that can be utilized for final design. The level of detail provided by the scan data prevents the need for additional site visits and duplicate access of sensitive areas such as vaults and manholes during final design.





Final Engineering

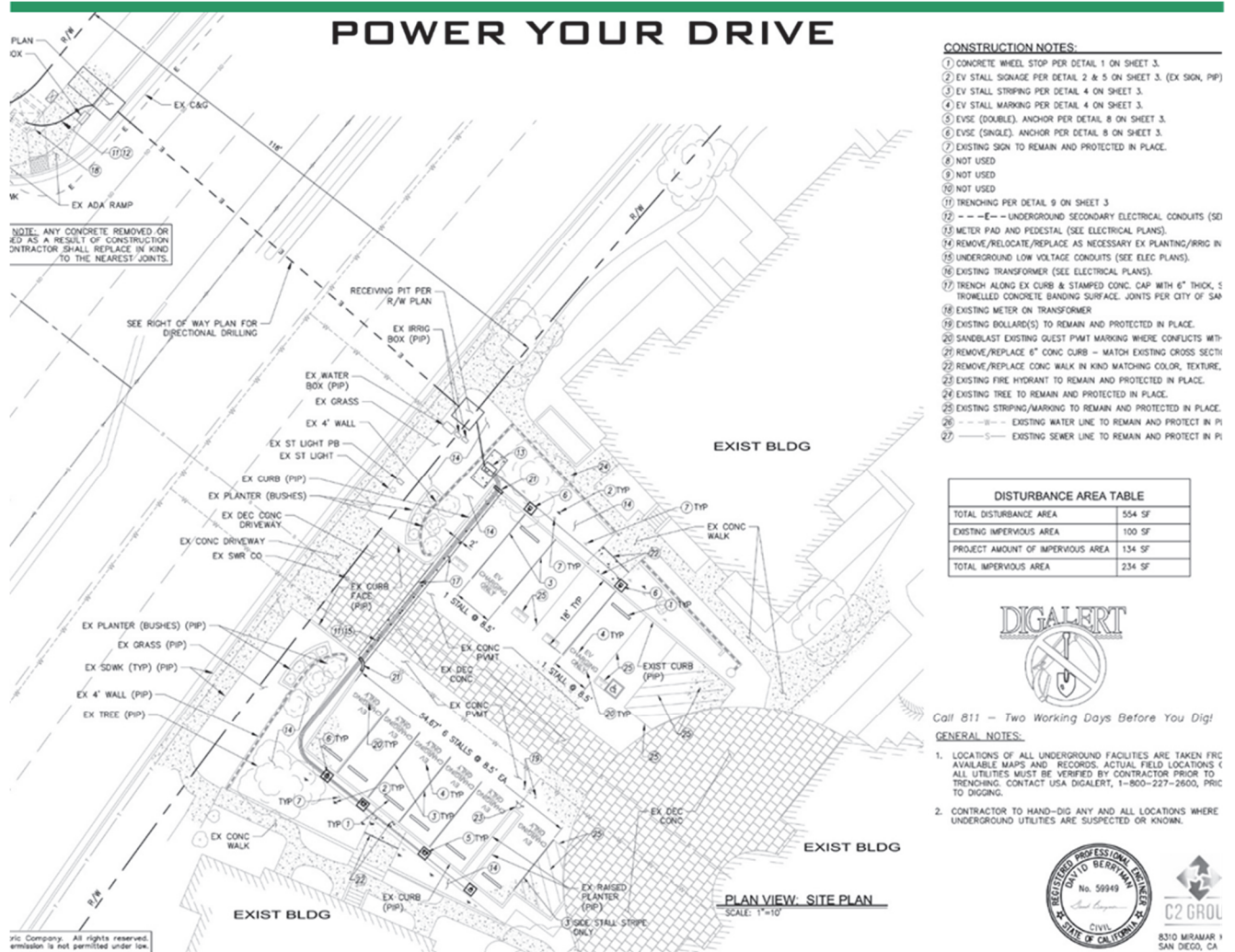
Once each preliminary design is approved by the owner, direction is provided to the design engineer to proceed with final engineering submittals through a formal Notice To Proceed, clearly defining schedule expectations for each deliverable. Design teams are required to submit progress sets of all final engineering deliverables for review at the 100% design milestone as defined by SDG&E.

Documents included in each submittal package are as follows:

» 100% Design Submittal – Civil and electrical engineering plans, structural engineering plans for equipment installations inside parking structures, materials to be procured for each site, existing transformer load data, and SDG&E approvals of EVSE loads on existing circuits and equipment.

Once approved by SDG&E, final plans are submitted for agency permitting and issued for construction.

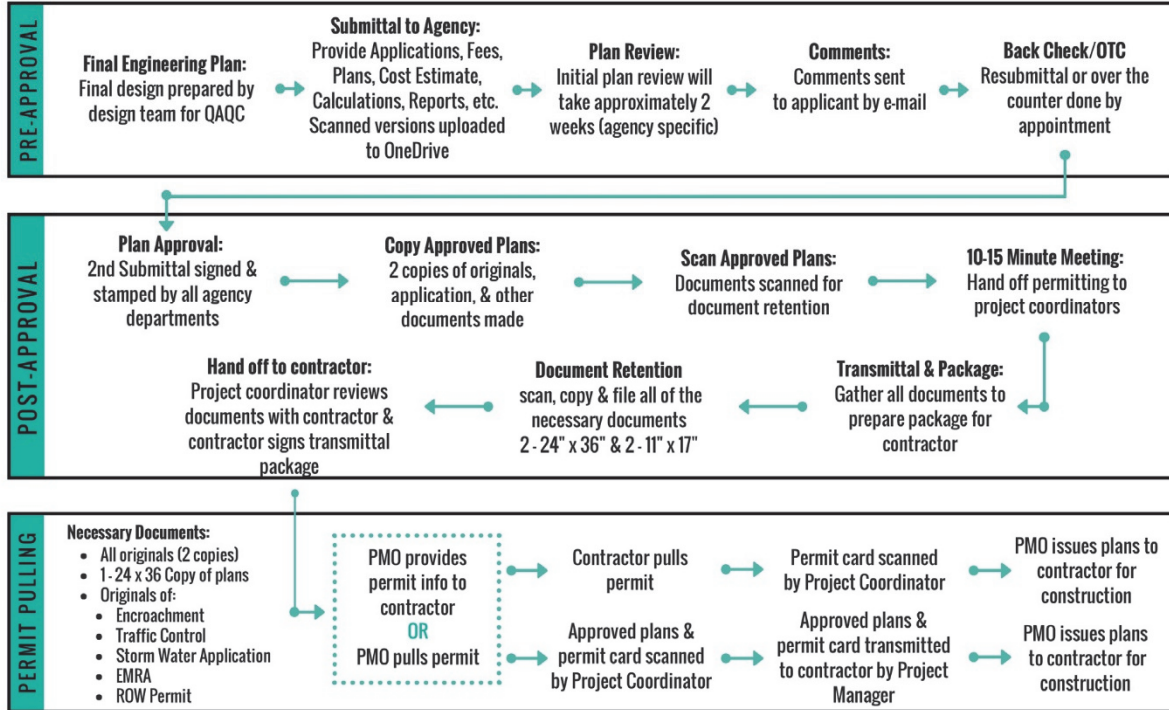
All engineering deliverables are subjected to a standardized quality control and quality assurance process by SDG&E to ensure all information is complete, accurate, results in a constructible design, and in compliance with all applicable standards, laws, and ordinances.



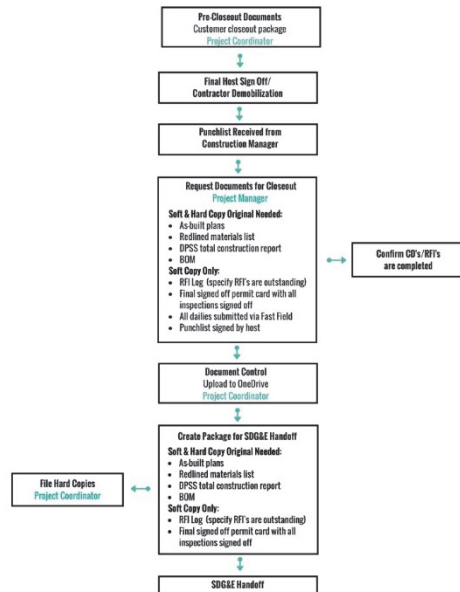
Agency Permitting

Before each design is issued for construction it must be submitted to the municipality having jurisdiction over the site location to obtain all required permits and approvals. Once approved by SDG&E, each set of 100% plans is submitted for agency permitting. With the volume of projects requiring permits on an ongoing basis, relationships have been developed between SDG&E, the authorized agents to obtain permits, and each agency in order to clearly define submittal package expectations and streamline approvals.

PERMITTING PROCESS



CLOSEOUT PROCESS



Cycle Issues		THE CITY OF SAN DIEGO		1/30/18 4:02 pm
LS&A-003A		Development Services Department		Page 1 of 1
1222 9th Avenue, San Diego, CA 92101-4154				
Project Information				
Project No:		Title:		
Review Information				
Cycle Type:	3 LDR-Eng Building Review(Sum)	Submitted:	01/12/2018	Deemed Complete on 01/13/2018
Reviewing Discipline:	LDR-Eng Building Review	Cycle Distributed:	01/16/2018	
Reviewer:	Traci Thain	Assigned:	01/22/2018	
	(619) 446-5408	Started:	01/26/2018	
Hours of Review:	1.00	Review Due:	01/26/2018	
Next Review Method:	LDR-Eng Building Review(Sum)	Completed:	01/26/2018	COMPLETED ON TIME
		Closed:	01/26/2018	
<ul style="list-style-type: none"> The reviewer has indicated they want to review this project again. Reason chosen by the reviewer: First Review Issues. The request is not complete according to LDR-Eng Building Review on this project set: LDR-Eng Building Review(Sum). The reviewer has requested more documents be submitted. Your project still has 6 outstanding review issues with LDR-Eng Building Review (all of which are new). The reviewer has not signed off 1.00. Last month LDR-Eng Building Review performed 579 reviews, 93.3% were on-time, and 85.0% were on projects at least that < 3 complete submittals. 				
Right of Way Permit				
Checked?	Item	Issue Text		
<input type="checkbox"/>	1	Please prepare a Right of Way Permit and submit the documents with the plan set to Area 3 on the 3rd floor of the Development Services Department a construction plan for the proposed work in the Right of Way.		
<input type="checkbox"/>	2	The project proposed to build in the city of San Diego and to relocate utility sidewalks, which will need to be reviewed in kind from job to job. (New Issue)		
<input type="checkbox"/>	3	File a Back Check after their projects are set up: http://www.sandag.gov/development-services/infrastructure/information/backcheck.html		
For more information please see Information Bulletin 165: http://www.sandag.gov/development-services/infrastructure/information/ib165.pdf				
PM: All right of way permits must be obtained prior to approval of the building permit. Please reference the right of way permit number on the building permit. (New Issue)				
Building Plans				
Checked?	Item	Issue Text		
<input type="checkbox"/>	1	Sheet 5: Please make the revisions to the DS-566 as redlined (New Issue)		
<input type="checkbox"/>	4	Sheet 1: Please provide a table with the following information: Total Disturbance Area Proposed amount of required impervious area NOTE: Impervious areas shall include roof, sidewalk, parking area, walkways, etc. (New Issue)		
General				
Checked?	Item	Issue Text		
<input type="checkbox"/>	1	To facilitate reworking, provide an itemized written response to the issues noted in this plan review sheet. The written response must clearly, concisely and comprehensively address the issues noted. NOTE: Specify on what page/section each issue was addressed. Additional comments may be left with follow-up on all review comments are addressed and resubmitted for review. (New Issue)		
<input type="checkbox"/>	2	Please address all comments and respond to the revised plans and the required documents to Area 3, on the 3rd floor of the Development Services Department for review. If you have any questions please feel free to contact me at: Tina.T@sdgedesign.com (New Issue)		
<p>For visitors stopping in: LDR-Eng Building Review (review, please call Tina Thain at (619) 446-5406. Project No: 15N223 - Cycle: 1</p> <p>dsr v 02.03.16</p> <p>DSR Reports 446-5000</p>				

Agency Permitting Examples

PYD-Agency Department Review:

City of San Diego

Civil only

- Structural/Accessibility
- Engineering
- Landscape

City of San Diego (City Sites)

Civil and Electrical

- Structural/Accessibility
- Engineering
- Landscape
- Land Services
- Parks and Recs (Some sites)
- Right of Way (some Sites)
- ERMA (some Sites)
- Encroachment (Some Sites)

City of Chula Vista-ADA only

- General building

City of Carlsbad-Civil and Electrical

- Building, ~~Esail~~
- Planning
- Engineering
- Costal ~~Commission~~ (Some sites)
- Fire
- Right of Way (Most sites)
- Encroachment (Most sites)

City of El Cajon-Civil and Electrical

- Building
- Planning
- Engineering

City of La Mesa-Civil and Electrical

- Building
- Planning
- Engineering

City of Dana Point-Civil and Electrical

- Building
- Planning
- Engineering

Fire

Accessibility

Structural

Fire Life & Safety

City of Vista-ADA Only

Building

Planning

Public Works (On Some sites)

City of Oceanside-Civil and Electrical

- Building
- Planning
- Engineering

City of San Marcos-ADA only

- Building
- Planning
- Fire
- Planning commission approval (Some sites)

County of San Diego-Civil and Electrical

- Building
- Planning
- Engineering
- Fire

City of Escondido-Civil and Electrical

- Building
- Planning
- Engineering
- Fire

City of Laguna Hills-Civil and Electrical

- Building
- Planning
- Engineering

Fire

National City-Civil and Electrical

- Building
- Planning
- Engineering

Fire

City of Poway-Civil and Electrical

- Building
- Planning
- Engineering

Fire

City of Encinitas-Civil and Electrical

- Building
- Planning
- Engineering

Fire

DSA-Civil

- ~~Accessibility~~
- Structural
- Fire Life & Safety



Equipment Procurement and Testing

Procurement of the major electrical equipment for each site is initiated upon customer approval of the preliminary design. Material procurement is managed in conjunction with final design and permitting to reduce potential construction delays due to long lead times for fabrication, delivery, and testing of electrical equipment. The material for each site is ordered based on the customer choice of EVSP, the number of charging ports, as well as the general site arrangement.

A proactive approach to equipment procurement is accompanied by detailed material tracking and reporting to identify changes in final design and agency permitting and updating material orders accordingly. The project team is in regular communication with equipment vendors to monitor the progress of fabrication and to ensure that agreed timetables for delivery are being met.

Upon delivery to SDG&E, all major electrical runs through rigorous quality control testing for visual, communication and accuracy guidelines. These processes guarantee that equipment installed is in excellent working condition and free of any manufacturer defects before installation. Once equipment passes all quality control testing protocols it is released, making it eligible for contractor installation.

Construction Management

Following the successful completion of the customer approval, final engineering, and permitting process each Power Your Drive site transitions into the construction management process.

After the project site has been awarded to a qualified contractor and all permits, easements, and materials are procured, construction activities may commence. The PYD construction process is comprised of three distinct phases of coordination.

Pre-Construction Coordination

Pre-construction encompasses all the coordinating efforts required as the project shifts from the design phase to the construction phase. It allows SDG&E, the site host, and the contractor an opportunity to clarify expectations prior to the start of active construction.

A pre-construction meeting is scheduled with the site host to walk the project site and answer any questions they may have that were not addressed during design. During the site walk, the construction manager identifies potential construction constraints such as work hours, loud noise operations restriction, construction staging areas, and outage coordination. After site host pre-con is completed a pre-con is scheduled with the contractor to walk the site, review site host constraints, and to identify any potential issues due to existing field conditions which require submitting a Request for Information (RFI). After the contractor meeting a construction start date is agreed upon and material delivery is scheduled.

Active Construction Coordination

Active construction commences when the contractor mobilizes to the project site on the date mutually agreed to between the contractor, SDG&E, and the site host. During active construction coordination the contractor is responsible for constructing all surface features per permitted plans (grading, ADA stalls, asphalt and concrete repair, etc.) as well as installation of all project equipment including transformers, meter pedestals, charging stations, and all the supporting appurtenances including foundations, conduit, and cable. Daily site visits are conducted to ensure work is being built per plan, inspections are being scheduled with SDG&E and local agencies, and to ensure the contractor is adhering to the construction schedule. Weekly site host coordination meetings are held to keep site host informed of construction progress, schedule updates, and any issues or delays due to weather, inspections, or design revisions.

Each quarter SDG&E holds safety meetings with the Power Your Drive construction contractors. At the meeting safety risks common to the program projects are discussed, such as the potential for digs in with existing utilities and pedestrian foot traffic around projects, as well as proposed preventative measures. Safety incidents are covered in meetings immediately after events to discuss root causes and follow up actions. Routine site safety inspections and observations are completed at all project construction sites by SDG&E Field Safety Advisors.

Construction Closeout Coordination

Coordinating efforts during construction close out focus on providing a smooth transition from active construction to beneficial use by the site host. When a project has been energized and the contractor is approximately 90% complete with construction activities, a walk through is scheduled with the site host to develop a closeout punch list which will identify any outstanding items that require repair such as irrigation and landscaping replacement, construction debris removal, asphalt or concrete repair, etc. Final project closeout is determined once all agreed-upon punch list items have been completed, all EVSE are fully operational, and the contractor has demobilized from the site and the site is released to the customer.

Commissioning

The objective of the Commissioning process is to drive participation in Power Your Drive seamlessly. Commissioning is the final process that ties together all previous efforts and enables the hand-off to the customer for driver enrollment. Measures taken during commissioning further promote involvement from the end-user primarily due to consumer confidence in the accounting of accurate electrical consumption readings on an individual user basis.

Commissioning begins during the construction closeout phase with the collection of metadata consisting of EVSE detail and connection point. Information is then shared with the EVSP and administrative management access is shared to link EVSP, SDG&E, and a site. Stations are then eligible for activation and pinpointing by a certified contractor on site and any necessary station firmware updates are completed over the air. Behind the scenes, an EVSE "virtual premise" is created, creating a billing address for each charging station. The system architecture allows

customers with multiple locations participating in the Power Your Drive Program to access all of their sites through a Host Dashboard for analytics and historical review.

Completion of the commissioning process involves physical testing of the EVSE and setup of SDG&E billing accounts. Testing includes the physical connection to an electric vehicle by a qualified SDG&E representative trained in the use of EVSE and ensuring access policies allow only authorized access to the equipment and that session data flow from the charging station to the EVSP and then to SDG&E. Site Specific billing accounts are then created based on the Site Host's billing preference: Rate to Host or Rate to Driver.

SDG&E monitors the testing and account creation for each site, informs hosts when their site is ready for turnover and gives a date that enrollment and use of charging stations can begin. SDG&E provides the site host with documentation to support a rollout to employees or tenants and leads a "soft" rollout with a small group of site "ambassadors" which go through the signup process before all others. The ambassador then trains their coworkers or neighbors on enrollment and use of the EVSE.



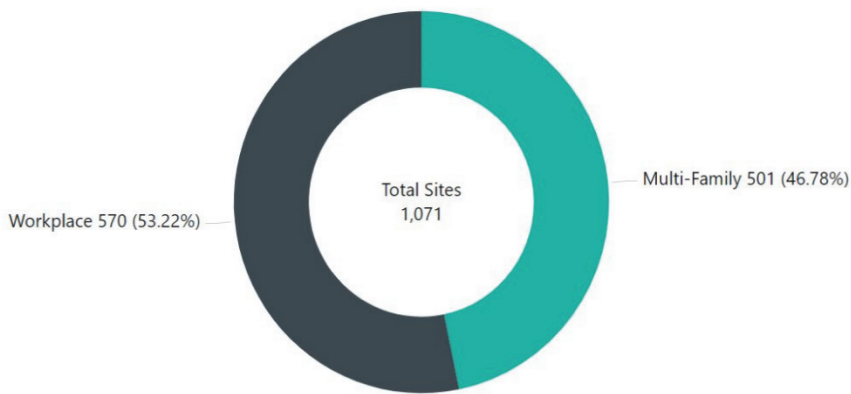
VI. Reporting Requirements

This section reports the number of customers who have expressed interest in participating in the program, reported by site type: multifamily or workplace, and whether located within a disadvantaged community as defined and approved in AL 2876-E. This section presents the most recent data for Power Your Drive metrics outlined in the Decision. The data that is presented in this section is summarized in Appendix B – Semi-Annual Report Summary.

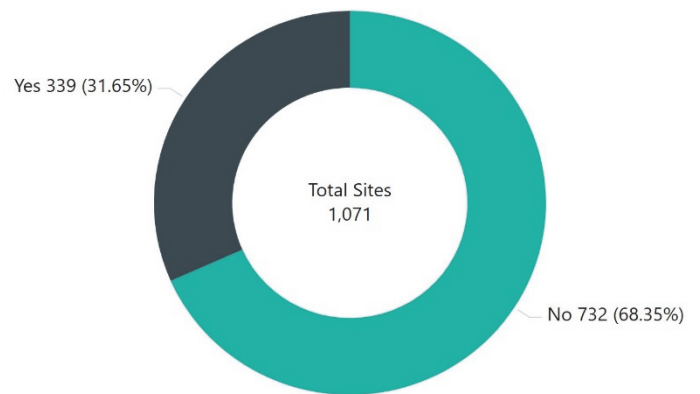
A. Customer Interest

This section reports the number of customers who have expressed interest in participating in the program, reported by the site type: multifamily or workplace, and whether located within a disadvantaged community as defined and approved in AL 2876-E. As of March 5, 2018, 1071 customers have indicated interest in participating in Power Your Drive. Of the total customers on the Interest List, 46.78 % are multifamily sites and 53.22% are at workplace locations. 31.65% of the interested sites are in a DAC.

Overall Site Distribution by Segment



Overall Sites Disadvantaged Communities

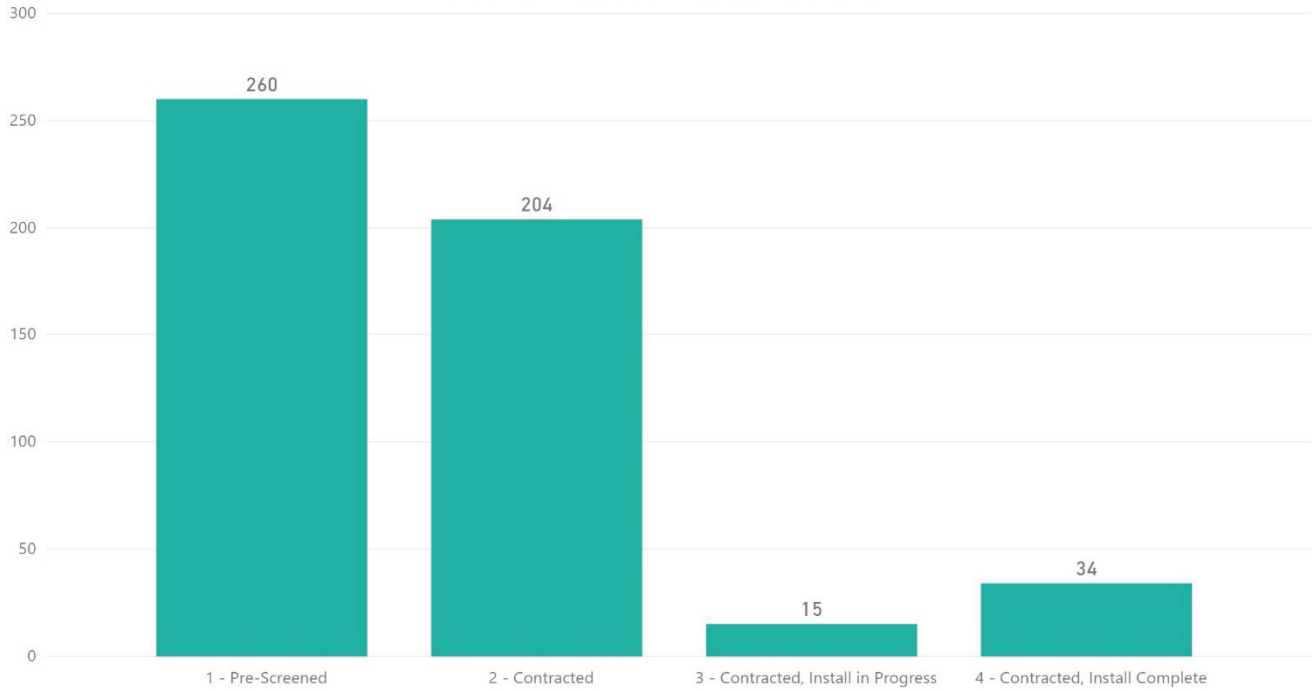


B. Installations

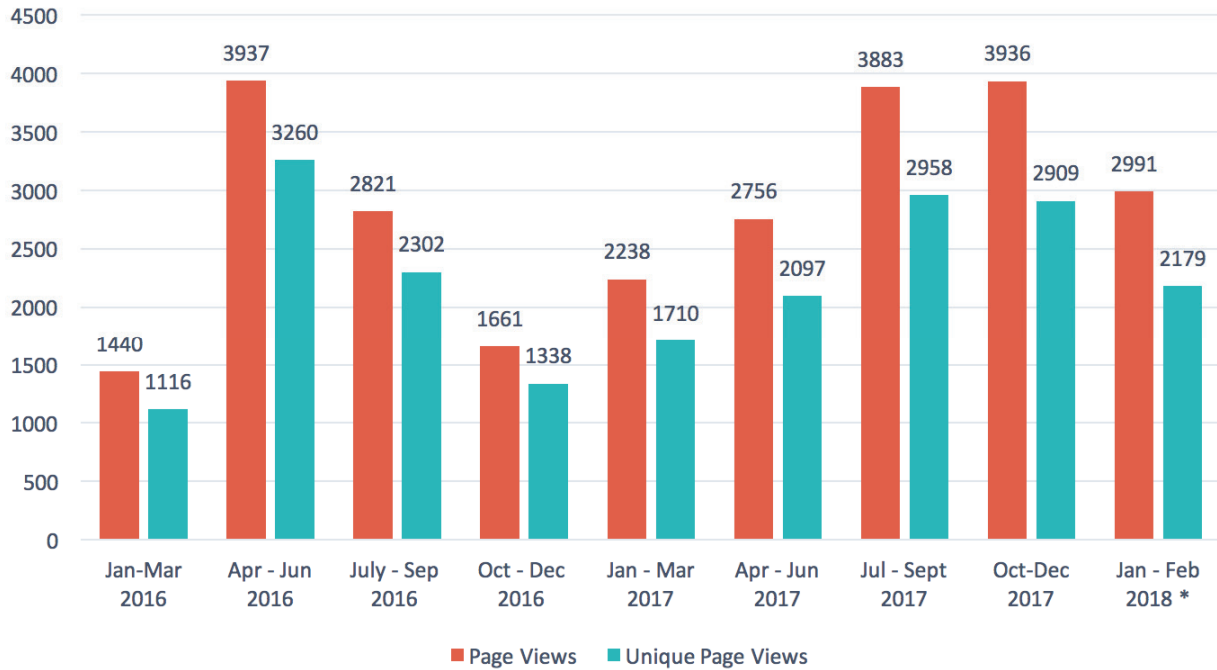
This metric describes the number of potential sites that are in progress toward facility deployment. The sites represented have advanced beyond initial customer interest and are in various stages of the program.

As of February 28, 2018, 513 sites have progressed to various stages beyond initial interest. Of the total sites in progress 260 sites have been pre-screened by SDG&E, 204 sites have been contracted, 15 sites are in the process of installation, and 34 site installations with 399 charging stations have been completed. The status of the sites in deployment is illustrated in the EV Site Installations Deployment Status Chart.

EV Site Installations Deployment Status

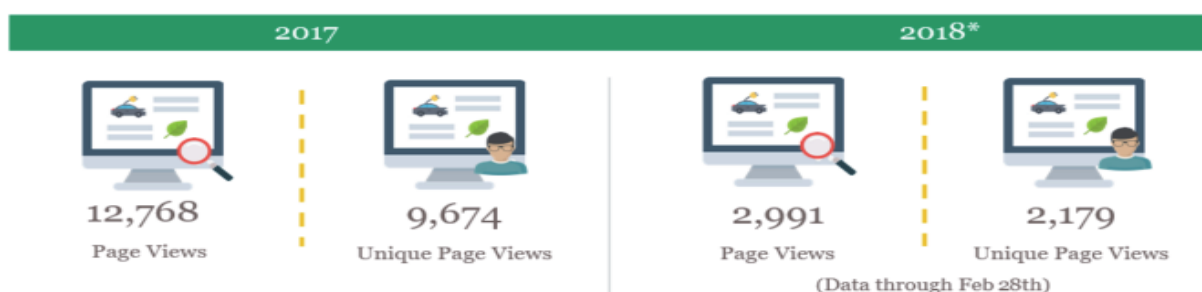


C. Power Your Drive Website Views



With the customer engagement efforts discussed in Section III, customers are directed to the Power Your Drive website to learn more about the program, sign up for the Interest List, and submit the application. The website also outlines the program’s easy to follow steps both in writing and in an upbeat video for customers to get familiar and understand the overall program process.

As part of the Power Your Drive reporting, the website metrics have been recorded from the initial launch of the website and will continue through the program life cycle. The metrics record both the Page Views and the Unique Page Views as presented below. Page Views represent each time a user visits a page, and the Unique Page Views are an aggregated count of page views generated by the same user during their session on the website.



D. Billing Option Preferences

This metric reports the billing option selected by the customer, broken down by workplace, multifamily, and disadvantaged communities. Refer to the charts on the next two pages. There are two billing options available within Power Your Drive: rate-to-driver, where the EV driver participant receives the (separately metered) rate directly and is billed to the EV driver’s residential bill/account; and, rate-to-host, where the customer receives the (separately metered) rate and is billed to the hosts commercial bill/account. Since Power Your Drive has reached the stage where a sufficient number of sites have been contracted, SDG&E will continue to report the customer initial intentions, including “undecided.” SDG&E will also report the customer final decisions regarding the billing option for the completed sites. Providing metrics for both intentions as well as final decisions will highlight any changes in rate preference that takes place through the site approval process.

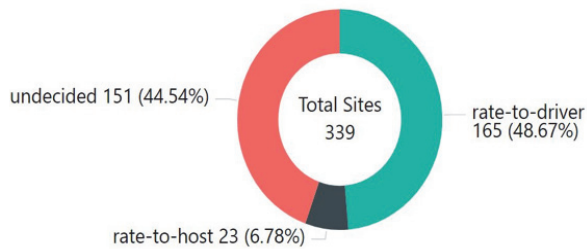
The rate-to-driver billing option is preferred initially for sites overall and for contracted sites as well. 41% of customers overall are initially undecided in the regards to the billing preference. For contracted sites, the rate of preference for rate-to-driver is 81% compared to 53% initially. The rate of preference for rate-to-host for contracted sites is 9% compared to 5% overall. The

differences between the initial and contracted billing preferences for rate-to-host and rate-to-driver indicates that customers who are initially undecided choose the rate-to-driver option at a significantly higher rate than the rate-to-host option.

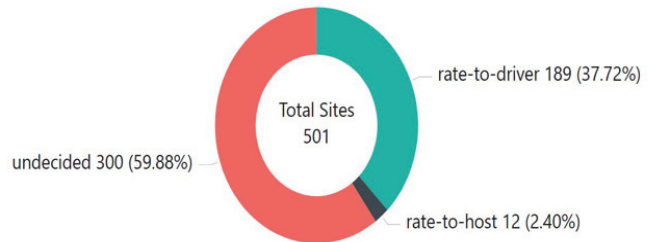
Of the 501 multifamily sites that have entered the interest list, 38% have opted with the Rate to Driver option while 2% have opted for the Rate to Host option. 60% of the remaining sites remain undecided. Of the 570 workplace sites that have entered the interest list, 49% have opted with the rate to driver option while 7% has opted with the rate to host option. 44% of the remaining sites remain undecided.

Overall Sites

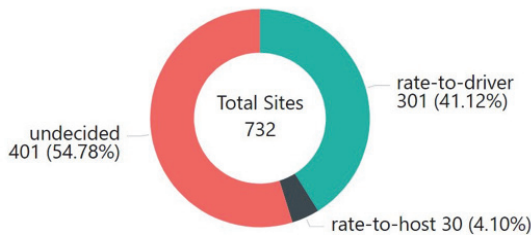
Overall Sites DAC Billing Preference



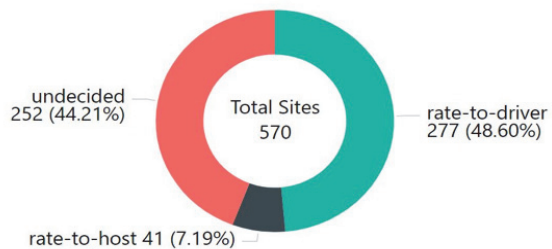
Overall Sites Multi-Family Billing Preference



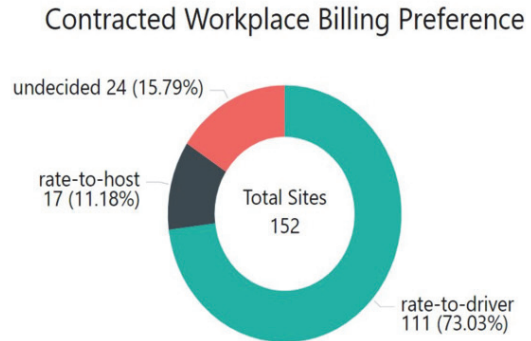
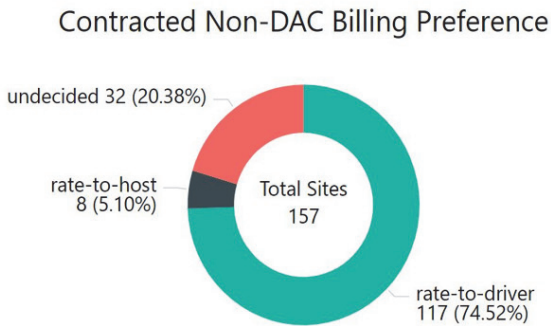
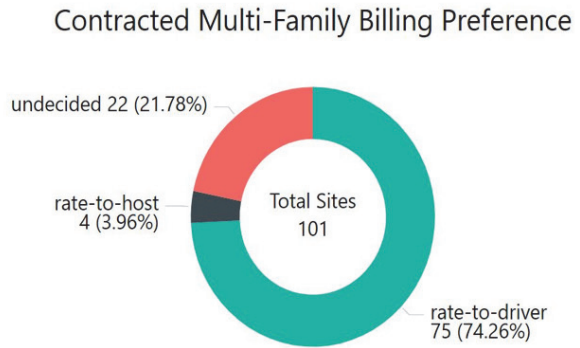
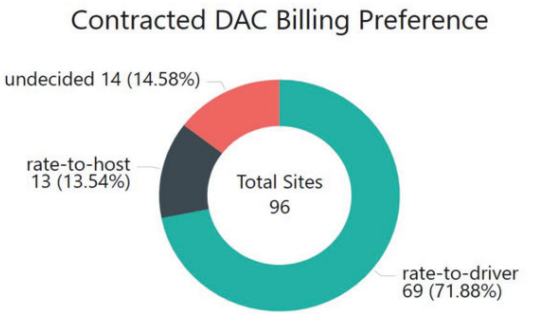
Overall Sites Non-DAC Billing Preference



Overall Sites Workplace Billing Preference



Contracted Sites



E. Rate-to-Host Load Management Plans

Conditions for customer eligibility for the rate-to-host option requires the customer to submit a load management plan. This section reports the various load management (and execution) plans, proposed and approved for Power Your Drive. Results will be reported to summarize the effectiveness of the various load management plans (e.g., tactics utilized to avoid or reduce EV charging during system and circuit on-peak periods). As of February 28th, 2018, 10 sites have submitted a load management plan. Under this plan, when prices increase, power output to the stations is throttled down.

All of the sites completed that are rate-to-host have submitted plans that make use of the power management capabilities provided with the charging stations. Nine of the sites plan to set a maximum power output ceiling that will go into effect automatically when the rate is greater than a preset price trigger. The implementation of an overall output ceiling means that power reduction will be distributed between vehicles that are plugged in and will have a greater effect on individual drivers when utilization is at its peak. One site has opted to shut the power to the charging stations down completely when the rate is greater than the preset price trigger and restore power when the rate returns below the trigger price.

F. Timing Patterns of EV Charging

The charging patterns captured by the usage data are an important indicator of the overall effectiveness of Power Your Drive to encourage EV charging usage during periods of lower grid utilization. The program seeks to influence charging behavior through the implementation of a program specific hourly rate which is calculated for each circuit based on projected demand and communicated to enrolled drivers daily for the following day. Since the rate is hourly, it is designed to be more flexible than typical off-peak and on-peak Time-of-Use rate schedules to communicate overall grid utilization to EV drivers and incentivize charging at times that will optimize overall grid and circuit utilization which will benefit all SDG&E ratepayers.

Timing patterns are summarized in Appendix B – Semi-Annual Report Summary. The data is presented in rate groupings that correspond with existing Electric Vehicle Time-of-Use rate schedules. Total charging usage is presented for each grouping with corresponding minimum, average, and maximum pricing data for the hourly rate. Price grouping and rate presentation will be further evaluated as more data is available and the reporting approach will be adjusted to provide relevant insight into the charging patterns as they develop.

G. Usage Rates

The usage rates reported in this section are designed to reflect the growth in use of the Power Your Drive facility (kWh usage and number of EV drivers) in total, by workplace and multifamily locations measured for total program.

Construction has been completed and charging stations have been fully deployed for use at 30 sites over the current reporting period. SDG&E began receiving usage data from the first site on June 29th with the latest site deployment beginning to report as of February 22nd. A total of 170 EV drivers are currently enrolled in the program. Usage volume for the reporting period comprised 6,777 unique charging sessions and 62,705 kWh sold. Facility utilization summarized by quartile in Appendix B – Semi-Annual Report Summary.

H. Spend

This section reports the amount of program funds spent to date and during the last reporting period. As of February 28, 2018, Power Your Drive has spent \$11,069,000 since the previous amount of \$4,661,000 reported as of August 31, 2017. The total program spend to date is \$15,730,000. Some program costs such as project management, the vendor qualification process, IT development, permitting, and the cost of installations at multi-unit dwellings is trending higher than initially expected. Efforts to look at areas to gain more efficiencies with this pilot project is on-going. Observable Trends

As described in the Decision, this section will endeavor to report observable trends or correlations between the number of EV site installations deployed compared to EV charging use and growth in the number of EVs. For example, one approach would be to measure the impact of the presence of Power Your Drive EV charging facilities at a given location on EV adoption at that specific location (i.e., workplace or multifamily settings).

SDG&E identified early on that attracting and qualifying multifamily sites was and continues to be challenging to meet the CPUC program goal of 40% multifamily sites and data is showing that these sites are more expensive. Some of the reasons for this are due to multiple factors including lack of available parking, customer concerns associated with losing an additional parking space to comply with ADA requirements for van accessibility parking garage constraints, as well as deeded parking scenarios to name a few. To address this challenge, SDG&E shifted customer outreach strategies to target qualifying multifamily sites through a territory wide search, increasing customer outreach resources, and creating program educational videos for program awareness.

The Power Your Drive website online application streamlined the customer qualifying process through utilizing the “click-through” capability and includes the program terms and requirements that are critical to implementation.

VII. Supplemental Data Collection & Monitoring

This section presents the most recent data for the Power Your Drive supplemental metrics designed to aid in the evaluation of the overall program performance and cost effectiveness. The data that is presented in this section is summarized in Appendix B – Semi-Annual Report Summary.

With the completed deployment of the first sites in the program, initial data is presented for estimated fuel cost savings and deployment in disadvantaged communities. The remaining sections will be updated as data becomes available. The Supplemental Data Collection Objectives and the Research plan adopted by the Decision are presented in Appendices F and G of this report.

A. Evaluation

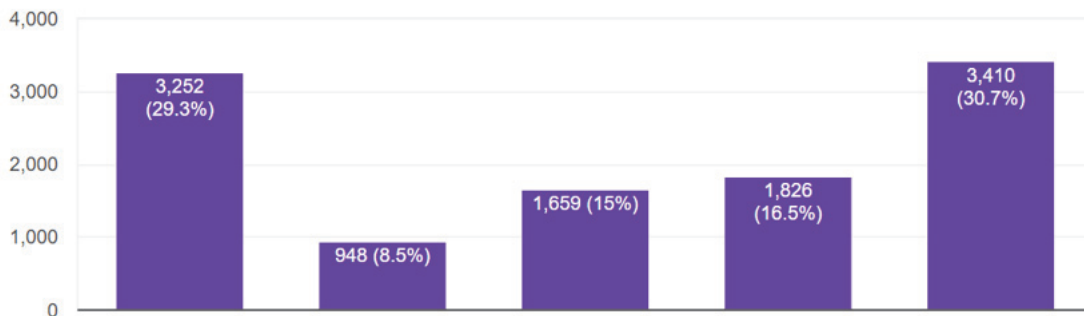
The Research Plan proposed by SDG&E to evaluate Power Your Drive provides a methodology for testing the effects of grid-integrated EV charging, which SDG&E developed cost-effectiveness tables to model and track. As EV charging data and cost information become available through the program deployment and operations, observed results will replace hypothesized assumptions used to evaluate the cost-effectiveness of the program.

B. Surveys

Surveys of drivers are a part of the Research Plan. These surveys identify a number of factors that are measured as part of the application and contracting process. An example of the survey is found in Appendix H: Online EV Survey and capture information as identified in the Research Plan (Data Collection and Analysis):

There have been 11,095 EV survey responses to the program survey with 31% of respondents indicating they were very likely to adopt an EV within 1-3 years if electric vehicle charging became available. Of the overall survey respondents, 36% are interested in all-electric vehicles and 33% preferring a hybrid option. 78% respondents indicated that they drive less than 25 miles one way between work and home.

11,095 responses



C. Disadvantaged Communities

To date, 15 projects have been installed in disadvantaged communities: four multifamily and eleven workplaces.

D. Programmatic Changes

The following programmatic changes have been implemented by SDG&E following the submittal of the September 18, 2017 report:

- As discussed in the previous report, SDG&E had identified the challenges associated with obtaining the 40% multifamily sites for the program, and SDG&E implemented a new customer outreach strategy discussed in Observable Trends of this report that has increased contracted multifamily sites from 24.27% from the September 2017 Report to 39.92% to date.
- To transition from engineering design to construction with minimal delays, SDG&E implemented a robust quality assurance and quality control (QA/QC) process during the

engineering design phase for each submittal milestone. This QA/QC process captures and corrects any potential omissions or mistakes, and facilitates coordination upfront with both the customer, engineers, and construction managers by addressing issues prior to breaking ground, reducing costs and setting expectations from the beginning.

E. Fuel Cost Savings Estimate

This section provides estimates of fuel cost savings achieved by the displacement of gasoline in favor of electric charging usage at Power Your Drive facilities, grouped by rate-to-driver and rate-to-host billing options. The estimation method is based on the total cost of the electricity usage at Power Your Drive facilities from program data compared to the estimated total cost of fuel consumption by equivalent ICE vehicles based consumption required to travel equivalent. The estimated savings also reflect current market conditions in the relative fuel efficiency of EVs compared to ICE vehicles and the average price of gasoline for the reporting period.

The data shows a higher than anticipated total savings for the rate-to-driver billing option relative to the rate-to-host billing option due to the uneven representation of rate-to-driver sites in the completed sites.

Estimated Fuel Cost Savings	Rate to Host	Rate to driver
Usage (kWh)	13,785.66	48,937.50
Average \$/kWh	\$0.171	\$0.165
Total Cost	\$2,351.35	\$8,090.77
Gas Equivalent (Gallons)	1,730.10	6,141.65
Average \$/gal	\$3.08	\$3.08
Total Cost	\$5,320.05	\$18,885.58
Estimated Savings	\$2,968.70	\$10,794.81

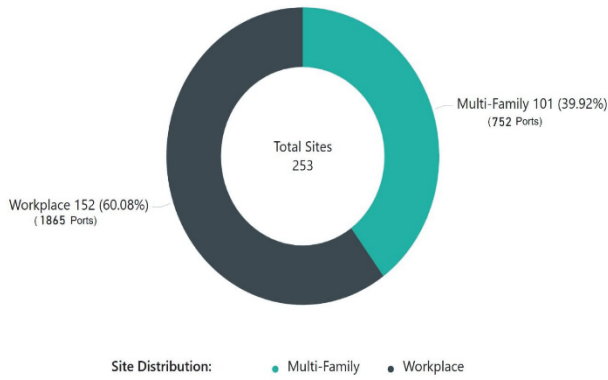
F. Power Your Drive Data Trends

The following measurable trends and correlations have been identified to date in Power Your Drive.

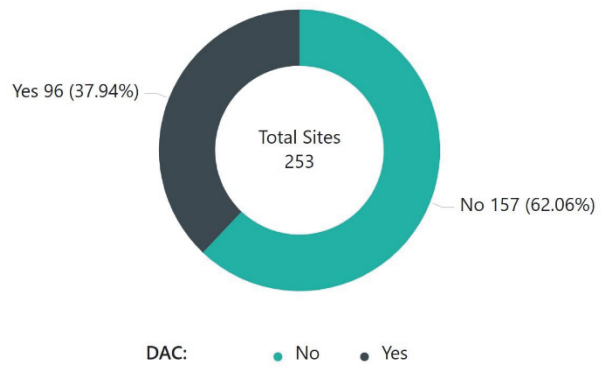
Total Contracted Sites

To date, a total of 253 customer applications have been submitted with a total of 152 workplaces and 101 multi-families with 37.94% of applicants located in disadvantaged communities as shown below:

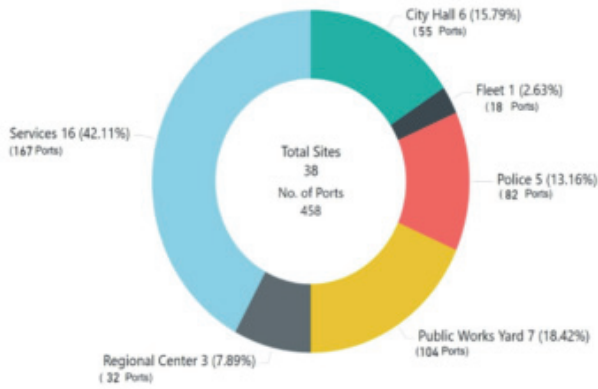
Contracted Sites Distribution by Segment



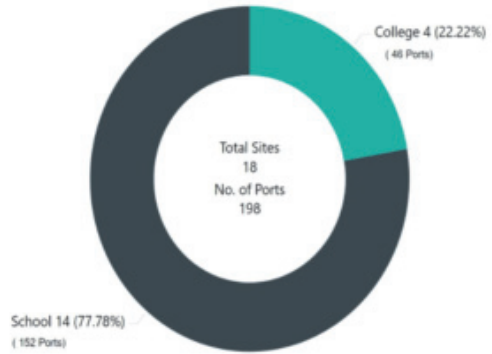
Contracted Sites Disadvantaged Communities



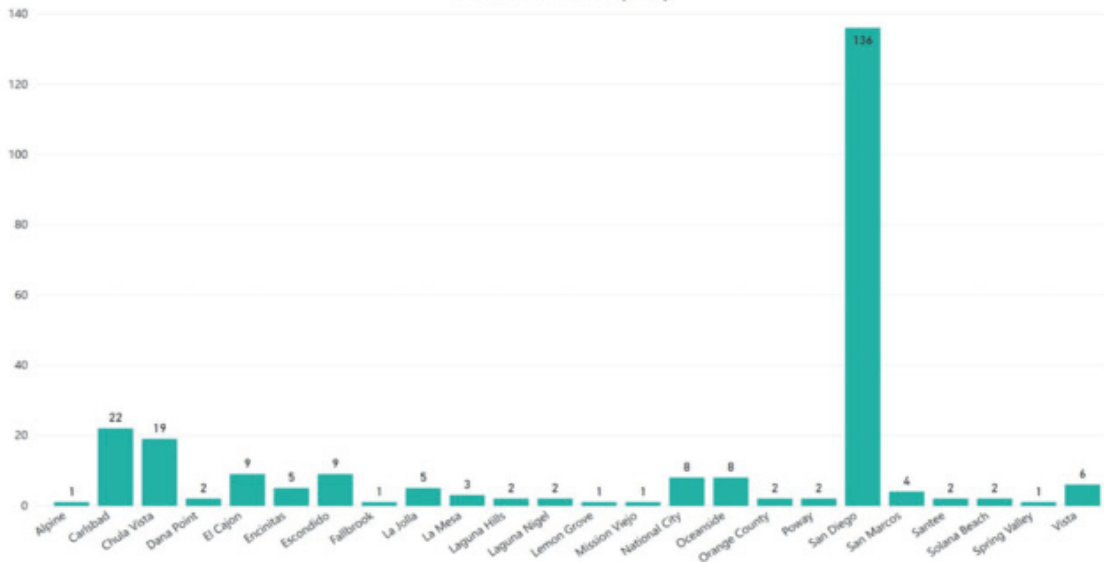
Contracted Municipality Sites



Contracted School Sites



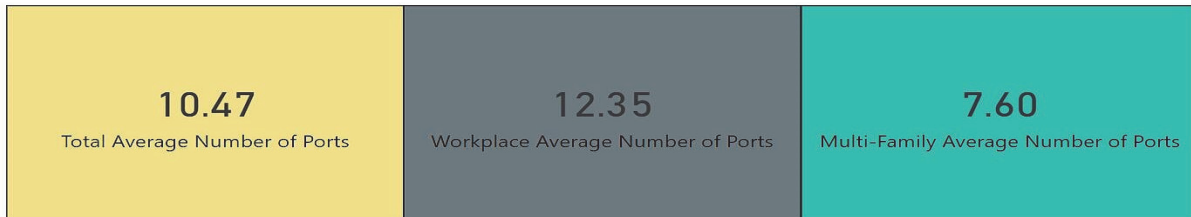
Contracted Sites by City



Number of Charging Ports

The original target was to average 10 charger ports per installation across all projects. The average number of charger ports for contracted multifamily sites is slightly more than 7 and 12 at workplaces.

Contracted Sites - Average Ports per Site



Project Site Cost Trends

Economies of scale based on the quantity of charging ports for contracted sites are observed to break into three distinct groupings. Higher than average estimated pricing per charging port is noticeable for sites with five or fewer charging ports. Estimated pricing that is in line with the overall average price per charging port is noticeable for sites with 21 or more charging ports.

Parking Structure vs. Open Lots

A total of 45 applications have been submitted to install charging ports in parking structures with preliminary designs and cost estimates completed for 40 of these sites. With the unique construction challenges presented to install new electrical conduit and transformers inside parking structures, these sites have resulted in higher than average estimated construction cost estimates.

As previously noted to date the quantity of charging ports per site is less than originally anticipated at both workplace and multifamily dwellings resulting in increased costs.

VIII. Summary & Conclusion

Power Your Drive has made significant progress in the last six months. Thirty-four projects sites are energized, with bills being generated utilizing the grid-integrated hourly program rate, the first of its kind for a utility EV charging program. Two vendors have completed all required Solutions Acceptance Testing, information security and meter testing, allowing the program to offer customers equipment choice. Multiple union construction contractors are completing program construction, bringing increased diversity and competition to the program. Education, outreach and marketing continues strongly, with the added effort to bring multifamily sites into the program

producing results with the increased number of multifamily projects. Power Your Drive is on track over the next six months to sell out the program, and complete construction on many more sites.

SDG&E is in regular consultation with Energy Division staff and has met with its Program Advisory Council five times since the Commission approved the Decision. SDG&E appreciates the input it has received and looks forward to continued stakeholder interest.

Appendix A. Provisions in the Decision that Addresses Power Your Drive Reporting

Decision, OP 3.k: If SDG&E decides to accept and to implement the 2016 Power Your Drive, SDG&E shall comply with all the meeting and reporting requirements as set forth in this decision and in Attachment 2.

Id., Attachment 2, ¶ 23. In order to provide an assessment of the 2016 Power Your Drive consistent with the Guiding Principles, six months after the 2016 Power Your Drive is launched, and every six months thereafter until February 1, 2021. SDG&E shall file an interim progress report in R.13-11-007 or in a successor proceeding, and shall post the report on its website and serve a notice of availability on the service lists in A.14-04-014 and R.13-11-007. The interim progress report shall include the information described in D.16-01-045, the data as described in Appendix B of this Attachment, and a description of any programmatic changes implemented by SDG&E prior to the date of the report. Parties may then file and serve opening comments on each semi-annual report within 30 days of the service of the report in R.13-11-007, and may file and serve reply comments within 50 days of the service of the report.

- a. SDG&E shall be required to have a check-in meeting (in person or by telephone) with the Commission's Energy Division staff every three months to provide the staff with updates regarding the information described in D.16-01-045.

5.7.8. Monitoring, Reporting, and Data Collection¹⁸ As part of the alternative Power Your Drive terms, we will require SDG&E to have a check-in meeting with the Commission's Energy Division staff every three months to provide the staff with updates regarding the following: (1) the amount of interest in siting EV site installations at multi-families and workplaces; (2) the number of EV site installations that were approved, or that are in the pipeline, for deployment; (3) the site selection criteria used in selecting the sites that will host the EV site installations; (4) the number of EV site installations and EV charging stations that SDG&E has deployed under the approved alternate Power Your Drive terms; (5) the rate option that the site hosts have chosen; (6) how the VGI-rate-to-host option is being implemented by the site hosts; (7) the usage rates at these EV site installations and charging stations; (8) the timing patterns of EV charging and the degree to which these times correlate to times of low hourly rates; (9) the amount of program funds spent during the quarter, and the cumulative amount spent; and (10) observable trends or correlations between the number of EV site installations deployed compared to EV charging use and growth in the number of EVs.

We will also require SDG&E to file in R.13-11-007, or in a successor proceeding, semi-annual reports containing the information reported in the quarterly check-in meetings, the data described in Appendix B to Attachment 2 of this decision, and a description of any program changes implemented by SDG&E prior to the date of the report. This reporting requirement will terminate on February 1, 2021. The report shall be posted on SDG&E's website, and a notice of the availability of that report shall be served on the R.13-11-007 and A.14-01-014 service lists. Parties may then file and serve opening comments on each semi-annual report within 30 days of the service of the report in R.13 11 007, and parties may file and serve reply comments within 50 days of the service of the report.

Regarding the type of data that is to be reported, Appendix B to the Proposed Settlement addresses the supplemental data collection. This supplemental data collection is in addition to the data collection and analysis referenced in Exhibit SDG&E-6 at 35-37. Attachment 2 of this decision, and Appendix B of Attachment 2 replicate the type of data to be reported. As discussed above, we have modified the Proposed Settlement by the alternative Power Your Drive terms. The alternative terms add quarterly updates for SDG&E to provide information on 10 issues, and accelerate the time in which the reports are to be filed.

We recognize, however, that the format of the monitoring, data reporting, and collection is crucial. There is a need to report data in a manner that ensures that the Commission can conduct an analysis of EV charging technologies that

will work in a harmonious manner across the utilities' service territories. (See Public Utilities Code Section 740.2(e)). Due to the common geospatial nature of the proposed pilot programs of SDG&E, SCE, and PG&E, SDG&E shall work with the PAC to select a geographic information system (GIS) based tool and interface that the public and other utilities can use to track the progress and attributes of the deployment.¹⁹ The task of selecting a GIS tool has been included as part of the modifications to the alternative Power Your Drive terms in Attachment 2 of this decision. As discussed earlier, the Commission also encourages SDG&E to use this data to help inform SDG&E's DRP efforts pursuant to Public Utilities Code Section 769 in which SDG&E identifies the hourly rate design as a means of optimizing the use of grid assets on the local distribution system.

¹⁷ Decision, OP 3.k, p. 183 and Attachment 2, ¶ 23, p. 11.

¹⁸ Decision, pp. 138 – 142, per section 5.7.8., only the language associated with “reporting” is noted here. Language pertaining to monitoring, data collection and program evaluation is not referenced here.

¹⁹ H&S Code § 44268.2(b) requires that an EV charging provider disclose to the National Renewable Energy Laboratory the geographic location of the charging station and other information.

Appendix B: Semi-Annual Report Summary

Reporting Requirement	Update	
1) Interest in EV site installations at MUDs and workplaces <i>[Interest List: Number of host sites by]</i>	MUD	501
	MUD DAC	144
	WP	570
	WP DAC	195
2) Number of EV Site installations that were approved, or that are in the pipeline for deployment	Pre-screened by SDG&E	260
	Contract & Easements Executed	253 Contracts/89 Easements Executed
	Installations in progress	15
3) Site selection criteria used in selecting the sites that will host the EV site installations <i>[within MUD, WP & DAC segments]</i>	<ul style="list-style-type: none"> • Date of interest (first-in-line priority); • Current and expected volume of EV drivers; • Circuit Type – See Appendix E – Circuit Taxonomy • Number of VGI installations desired; • Type of VGI installation (workplace / MUD); • Nearby transformer available capacity; • Distance between transformer and new service point; • Site Conditions related to construction feasibility (i.e. trenching surface, EV Supply Equipment (EVSE) mounting surface, condition of facility); • Land and property ownership; • If leasing, term and conditions of lease; • Existing / available Americans with Disabilities Act (ADA) accessible parking 	
4) Number of EV site installations and EV charging stations that	34	

SDG&E has deployed under the approved alternative VGI program terms					
5) Rate <i>[billing]</i> option that the site host have chosen <i>[number of hosts by option, number of drivers]</i>	Overall List of Sites	Rate-to-Driver		466	
		Rate-to-Host		53	
		Undecided		552	
	Contracted Sites	Rate-to-Driver		186	
		Rate-to-Host		21	
		Undecided		46	
6) How the Rate-to-Host option <i>[load management plan]</i> is being implemented by the site <i>[number of host sites per load management plan type; categories of load management plan types will expand as they are reviewed and approved]</i>	Powering Down/off	10			
	Host Pricing				
	Facility Mgmt				
	Other				
7) Usage <i>[facility utilization]</i> rates at these EV site installations and charging stations <i>[frequency per quartile of drivers / charging sessions volume and kWh sold per facility]</i>	Quartile	Volume		kWh Sold	
	25%	12 drivers / 96 sessions		623	
	50%	23 drivers / 424 sessions		2,725	
	75%	52 drivers / 991 sessions		7,734	
	100%	105 drivers / 5266 sessions		51,622	
	Total ²	192 drivers / 6777 sessions		62,705	
8) Timing patterns of	Time	kWh	Min	Avg	Max

² Some drivers may charge at multiple sites. This means that this single driver will show up in different sites and, therefore, will be double counted in how this quartile breaks out. The sessions and kWh are not duplicated.

<p>EV charging and the degree to which these times correlate to VGI rate categories [kWh consumed by price range: min, average, max] Times are based on EV-TOU rate</p>			\$/kWh	\$/kWh	\$/kWh	
	Summer Peak	1670.4	.1195	.3766	1.3450	
	Summer Off-Peak	13085.9	.1108	.3376	1.3248	
	Winter Peak	4226.2	.1502	.1864	.2598	
	Winter Off-Peak	41711.7	.1190	.1793	.6866	
	Super Off-Peak	2010.4	.1121	.1672	.7085	
	Totals	62704.5				
	Single Event	783.0				
	Dual Event	13.0				
<p>9) The amount of program funds spent during the last reporting period and the cumulative amount spent</p>	Spend since August 31, 2017	\$11,069,000				
	Spend to Date (as of February 28, 2018)	\$15,730,000				
<p>10) Observable trends or correlations between the number of EV site installations deployed compared to EV charging us and growth in the number of EVs</p>	Discussion of observable trends included in the body of the report.					
<p>Decision, Attachment 2, Appendix B – Combined with the Quarterly Report for the Semi-Annual Report (served to R.13-11-007 and A.14-01-014 service lists)</p>						
<p>A) Estimates of fuel savings through</p>	Rate-to-Host	\$10,794.81				

the use of the VGI facility, under both the VGI Rate-to-Driver and VGI Rate-to-Host pricing plans	Rate-to-Driver	\$2,968.70
B) Deployment of VGI Facilities [number of] within Disadvantaged Communities (DAC), including EV Car-sharing deployment	DAC - Workplace	11
	DAC - MUD	4
C) Status of Program Implementation to date	Embodied in this report	
D) Comparing the installations of non-utility EVSE to VGI EVSE	This is outside of the scope of the VGI pilot program which is not responsible for tracking the installation of charging stations by others outside of the VGI pilot program. Furthermore, there was no funding in Decision X to perform this type of analysis. There are public sources of this information regarding the deployment of public (not private) charging stations (e.g. PlugShare).	
E) Surveys of customer and driver decisions to adopt PEVs	Will be provided when implemented	
F) Rate of achievement of supplier diversity and workforce objectives	59.5%	
G) Description of any programmatic changes implemented by SDG&E prior to the date of the report	Programmatic changes are included in the body of the report	

Appendix C: Program Advisory Council Company/Organizational Representation

Advanced Energy Economy
AeroVironment, Inc.
Black & Veatch
California Apartment Association
California Energy Commission
California Governor's Office of Business and Economic Development
California PEV
Collaborative Center for Sustainable Energy
ChargePoint
City of Chula Vista
Clean Fuel Connection
Collins Group, Inc.
CPUC Energy Division
CPUC Office of Ratepayer Advocates (ORA)
Electric Power Research Institute (EPRI)
Environmental Defense Fund
General Motors
Greenlining
Greenlots
HG Fenton Company
Honda Motor Co., Inc.
Hyundai-Kia America Technical Center, Inc. (HATCI)
IBEW Local 569
Intel Corporation
JRP Charge
Kn Grid
National Resources Defense Council (NRDC)
National Strategies
Plug In America
Powertree Services Inc.
Proterra
Recargo
RWE
San Diego Association of Governments (SANDAG)
San Diego Green Building Council
San Diego Unified School District
Shell
Siemens Digital Grid
Southern California Edison
Strategy Integration, LLC & The Energy Collaborative
The Utility Reform Network (TURN)
Utility Consumers' Action Network (UCAN)
Vote Solar

Appendix D: Site Qualification Checklist

POWER YOUR DRIVE PROGRAM SITE QUALIFICATION CHECKLIST

- Identify location of existing transformer.
- Identify potential electric vehicle charging station locations.
- Identify if ADA parking stalls are required for charging stations.
- Identify existing ADA parking stall locations if possible.
- Identify pedestrian path of travel from ADA parking stalls to building entrance.
- Check approximate distance from transformer to farthest charging station – distance shall not exceed 300-ft to the maximum extent possible.
- Where charging stations are proposed to be installed in a parking structure determine if it will be feasible to route rigid conduit aboveground to parking stalls.
- Identify proposed electric vehicle charging station locations, both single and dual charging stations.



Customer Screening Tool

01 - Customer Screening

in list [Card Templates \(Use to Create New Project Sites\)](#)

Single EVCS Double EVCS DPSS.WO

Description [Edit](#)

Address:

SDG&E Account Executive:

Applicant

- Name:
- Title:
- Phone:
- Mobile:
- Email:
- Authority to sign easements:
- Referral:

Cost Estimate:

Other Info

- Property/Business General Description:*
- Number of Employees and/or Residents:*
- Estimated Number of EV Drivers:*
- Expected Number of Future EV Drivers:*
- Jurisdiction:*
- DAC:*
- Census Tract:*
- WP/MF Type:*
- Initial Billing Preference:*
- Circuit Number:*
- Operating District:*
- All Other POCs:*
- Company Decision Maker/Authority:*

Add

- [Members](#)
- [Labels](#)
- [Checklist](#)
- [Due Date](#)
- [Attachment](#)

Power-Ups

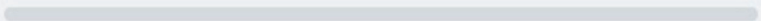
- [Custom Fields](#)

Actions

- [→ Move](#)
- [Copy](#)
- [Subscribe](#)
- [Archive](#)

[Share and more...](#)

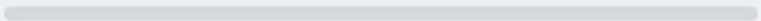
Interest List [Delete...](#)

0% 

- 20 Minute Call Scheduled
- 20 Minute Call Completed
- Customer Survey and Application Sent

Add an item...


Application Phase [Delete...](#)

0% 

- Customer Survey Received
- Desktop Review
- Preliminary Estimate
- Application Received
- Schedule Field Review

Add an item...

Field Review Phase [Delete...](#)

0% 

- Preliminary Customer Layout
- Land Service Easement Request
- Environmental Request
- Billing Request
- Upload Photos
- Drone 3-D Cloud
- Upload Job Walk Notes
- Cost Estimate
- Load Study
- Fusing Request

Add an item...

Ongoing Requests

[Delete...](#)

0%

Customer Site Drawings (Parking Garage Only)

Add an item...

Customer Approval Package in Process

[Delete...](#)

0%

Cover Letter

Easement Documentation

Environmental Release

Final Site Layout

Participation Payment Invoice

Sent to Customer

Signed and Received from Customer

Add an item...

Customer Preliminary Design Approval & Authorization Letter

[Delete...](#)

0%

Customer Preliminary Design Approval & Authorization Letter Requested

Customer Preliminary Design Approval & Authorization Letter Received

Add an item...

Power Your Drive

Property/Business Name *

Property/Business Address

Street *

City *

State *

Zip Code *

Property/Business Description *

- Multifamily Community
- Workplace

Contact Name *

Phone Number *

Email Address *

How many employees and/or residents?

How did you hear about the program?

Estimated number of existing EV drivers?

Submit 

Power Your Drive Application

Property Information

Name of the apartment, condo or business *

Address of property *

Property type *

- Business
- Apartment or Condo

General description of apartment, condo or business

Approximate number of residents and/or employees *

Applicant Information

Name *

Title *

Office Number

Mobile Number *

Email Address *

Authority to Execute

Does the applicant have authority to execute contracts?

- Yes
- No
- Not Sure

Easement Terms

Recording Requested by San Diego Gas & Electric Company	
When recorded, mail to:	
San Diego Gas & Electric Company P O Box 129831 San Diego, CA 92112-9831 Attn: Real Estate Records – SD1170	
Project No.	SPACE ABOVE FOR RECORDER'S USE

Review of Sample Easement Terms *

I have read the sample easement terms

I understand I will be requested to sign an easement and this is a sample of the terms of that easement.

Operational Contacts

Designated contact person for operations

Name

Address

Email

Phone

Designated backup contact person for operations

Name

Address

Email

Phone

I understand that I am required to perform certain operational functions such as direct drivers to SDG&E operational support, notify SDG&E when drivers are no longer approved to use Power Your Drive facility, or report conditions and issues related to the Power Your Drive facility. For these purposes and other related reasons, applicant shall have two designated applicant contacts with current and available contact information at all times.

Program Terms

Please review the Terms and Conditions.*

SDG&E's Power Your DriveSM
Terms and Conditions

Acknowledgement and Term: Applicant agrees to abide by these terms and conditions for the *Power Your Drive* Program, including all requirements included by reference, for the duration of applicant's participation but for a period of not less than 10 years from the date applicant's *Power Your Drive* facility becomes operational.

Participation Fee: As a condition of participation in the *Power Your Drive* Program, applicant may be required to make a participation payment in accordance with California Public Utilities Commission requirements prior to selection of an EVSP. The Program participation fee may vary and is determined upon approval of the *Power Your Drive* application.

Selection of Electric Vehicle Service Provider (EVSP): Upon approval of application from SDG&E and execution of required easement, applicant shall select one EVSP from the SDG&E

I have reviewed and agree to the Power Your Drive program Terms and Conditions.

Appendix E: Circuit Taxonomy

Operational Definitions for Circuit Taxonomy

Circuit Attributes	Count
Total SDG&E Circuits	1,040
Circuits with Attributes	860
Circuits without Attributes	180*
*4 kV circuits not included in distribution	

Circuit Type	Count
Residential (R)	196
Mixed(M)	451
Commercial & Industrial (C&I)	213
Circuit Type is classified as Residential, Mixed, or Commercial & Industrial if 70% of the total consumption on that circuit is from that class.	

Summer Week Day Peak Hour	Count
11:00-14:59	203
15:00-19:59	185
18:00-18:59	168
20:00-21:59	298
*6 Circuits (0.7% of population) with summer weekday peak hours between 22:00 and 10:59 are not included.	

Load Factor	Count
(H) High = >46.0%	443
(L) Low = <45.99%	417
(Average Hourly kWh / Peak kW)	

Solar Penetration	Count
(H) High = >4.0%	426
(L) Low = <3.99%	434
(Solar Capacity / Circuit Capacity)	

Note: circuit profile will remain unchanged throughout the 3-year sign-up period.

VGI Pilot - Circuit Sampling Distribution									
As of 2/28/2018		Circuit Peaking Hours							
		Hours 11 thru 14 ¹		Hours 15 thru 17		Hours 18 thru 19		Hours 20 thru 21	
Circuit Type	Solar Penetration	High Load Factor	Low Load Factor	High Load Factor	Low Load Factor	High Load Factor	Low Load Factor	High Load Factor	Low Load Factor
Residential Dominant	High Solar Penetration	1	2	3	4	5	6	7	8
		0	0	0	1	1	33	21	101
	-	-	-	-	-	6	6	17	
	9	10	11	12	13	14	15	16	
Low Solar Penetration	0	2	0	2	1	5	10	18	
	-	-	-	-	-	2	4	4	
Res. and C&I Mixed	High Solar Penetration	17	18	19	20	21	22	23	24
		7	2	21	22	30	61	41	62
	2	-	4	6	5	8	5	12	
	25	26	27	28	29	30	31	32	
Low Solar Penetration	45	19	56	14	18	13	38	2	
	10	4	3	14	3	2	1	7	
Commercial & Industrial Dominant	High Solar Penetration	33	34	35	36	37	38	39	40
		9	6	8	3	0	1	2	0
	1	-	2	1	-	-	-	-	
	41	42	43	44	45	46	47	48	
Low Solar Penetration	57	56	44	14	3	2	3	0	
	12	2	11	1	10	2	1	-	

Distribution Cell #	¹ 6 Circuits (0.7% of sample set) with SWD_Pk_Hr between 22:00 and 10:59 are not included in this record count	Ratio of Represented Circuits to Full Population	
SDG&E Circuit Count		Circuits with Contracted Sites	Circuits with In-Service Sites
		Equally Represented	Under Represented

Appendix F: Supplemental Data Collection Objectives, Requirements and Power Your Drive Assessment

Data collection and 2016 Power Your Drive assessment criteria used by the VGI Program Advisory Council to determine the need for any programmatic change are identified in the Research Plan (Data Collection and Analysis) described in SDG&E's prepared direct testimony Ex. SDG&E-06 (Martin) p. JCM-35 line 9 – p. 37 line 13, and will be supplemented as described below pursuant to the modifications to SDG&E's Power Your Drive Proposal as a result of D.16-01-045. Data collection identified in this testimony specifically relate to measuring Power Your Drive performance and cost-effectiveness. With the addition of the rate-to-host option, there is a need for additional data collection in order to compare and contrast the performance of the two rate options (i.e., rate-to-driver and rate-to-host). To accomplish this, the data collection in the Research Plan will include, but will not be limited to:

- Customer (EV drivers and site Hosts) enrollment by site and rate pricing plan (i.e., rate-to-driver and rate-to-host)
- Under the rate-to-host, load management plans and pricing or fees, including those measures taken that encourage the facilitation of the integration of renewable energy
- Estimates of fuel cost savings through the use of the Power Your Drive Facility, under both the rate-to-driver and rate-to-hose pricing plans
- Power Your Drive Facility utilization rates
- Deployment of Power Your Drive Facilities within or adjacent to a disadvantaged community, including EV car-sharing deployment

There is also a need for data collection adequate to provide a description of Power Your Drive's status and activities, and an assessment of the 2016 Power Your drive's progress consistent with the Guiding Principles in the Interim Progress Report. To accomplish this, additional data collection will include, without limitation, data related to:

- Status of program implementation to date
- Comparing the installations of non-utility EVSE to VGI EVSE
- Surveys of customer and driver decisions to adopt PEVs
- Rate of achievement of supplier diversity and workforce objectives

The VGI PAC will have the flexibility to determine if additional Power Your Drive related measurement and evaluation objectives are of interest and will help to inform Commission policy. The VGI PAC will then articulate the purpose behind these objectives, specify these additional data collection requirements, and determine how they will be funded and resourced.

Appendix G: Research Plan – Data Collection and Analysis²⁵

The Research Plan described below provides a link between the hypothesized assumptions described in section I and results illustrated in section IV. The realized Power Your Drive results will be available upon completion of Power Your Drive. As customer EV charging data and cost information becomes available through Power Your Drive deployment and operation, observed results will replace hypothesized assumptions used above in order to more rigorously evaluate the cost-effectiveness of SDG&E's completed Power Your Drive. Data collection will begin the first year of the pilot (2015), load impact analysis and reporting will begin after two years of implementation (2017), and a cost-effectiveness analysis 18 months after the final Power Your Drive facility is installed 2019.

SDG&E will perform a cost-effectiveness analysis 18 months after the last Power Your Drive facility is installed and operational, using the data gathered during Power Your Drive. SDG&E will report the results of the analysis to the Commission and interested parties. This time frame allows six months for SDG&E to analyze at least one year's data for each Power Your Drive facility. The following data collection and analysis is planned for Power Your Drive:

- Actual Power Your Drive installation costs (total and average per site);
- Actual Power Your Drive operating costs (over the fleet of Power Your Drive facilities);
- Charging load profiles (from the Power Your Drive facility metered data for multi-families and workplace locations, in aggregate and by circuit);
- Estimated percentage of EV purchases related to Power Your Drive (gathered through surveys of EV customers using the Power Your Drive facilities);
- Estimated Power Your Drive-related increases in ZEV miles traveled per EV (gathered through surveys of EV customers using the Power Your Drive facilities);
- EV customer input on the Power Your Drive mobile and web applications, the hourly rate and overall convenience and ease of use of the Power Your Drive facility (gathered through surveys of EV customers using the Power Your Drive facilities);
- kWh usage by price, over time (gathered through the SDG&E Power Your Drive billing data);
- Where available, EV related kWh usage at home will be reviewed with kWh usage at workplace Power Your Drive facilities (gathered through the SDG&E Power Your Drive billing data); and
- Where possible, determine whether EV-TOU or EV-TOU2 adoption has increased as a result of Power your Drive.

SDG&E intends to conduct measurement and evaluation studies on Power Your Drive. If, after two years of implementation, the extent to which the Power Your Drive produces load impacts, load impact studies will be conducted according the Load Impact Protocols that were adopted in D.08-04-051. These protocols provided rules that specified required output data that must be included in all measurement and evaluation reports. For example, these protocols require that every load impact measurement and evaluation report include hourly ex-post load impact results for each event day for the entire program, as well as on average per customer. In addition, each load impact report is required to contain a 10-year hourly forecast of expected future load impacts for 24 different temperature scenarios. D.08-04-051 further required that every demand response activity be evaluated every year and that the load impact reports be filed with the CPUC on April 1st of each year. The decision specified that the load impact protocols applied to all demand response activities, which includes both demand response programs and dynamic rates.

²⁵ See, Decision, Attachment 2, Appendix B, p. 15, “Supplemental Data Collection Objectives, Requirements and Power Your Drive Assessment Criteria” supplemental to the Research Plan (Data Collection and Analysis) as described in SDG&E’s prepared direct testimony Ex. SDG&E-6 (Martin) p. JCM-35 line 9 – p. 37 line 13.

Electric Vehicle Charging Survey

We are working with San Diego Gas & Electric® to explore the possibility of installing electric vehicle charging stations as part of their Power Your Drive program. We would like your input on current and future plans for driving and charging plug-in electric vehicles so we can establish an orderly and responsive approach to charging on the property.

Plug-in electric vehicles include all-electric cars with a range of up to 250 miles, and have no gasoline. Plug-in hybrids have an electric range up to 60 miles, before switching to gasoline and going an additional 300 miles.

Please submit completed this 3-minute survey as soon as possible.

Thank you for supporting our efforts to meet the current and future electric vehicle needs of our community. For more information about available electric cars, incentives and charging, visit www.sdge.com/EV or www.driveclean.ca.gov/pev.

* Required



1. Property or Business Name? *

Property name as listed in email.

Your answer

2. Site ID #? *

Site ID # as listed in email.

Your answer _____

3. Do you currently own a plug-in electric vehicle? *

- Yes, please answer question 4.
- No, please skip to question 5.

4. If yes to question 3, please specify vehicle year, make and model.

Your answer _____

5. If our property provided plug-in electric vehicle (PEV) charging, how likely are you to purchase or lease a plug-in car within the next one to three years? *

- | | | | | | | |
|------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-------------|
| | 1 | 2 | 3 | 4 | 5 | |
| Not Likely | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Very Likely |

6. What type of PEV would you most likely lease or purchase? *

- All-electric (e.g., Nissan Leaf, Ford Focus EV, Fiat 500e, Chevy Spark, BMW i3, etc.)
- Plug-in Hybrid Electric Vehicle (cars with both a battery and gasoline, e.g. Chevy Volt, Prius Plug-in, C-Max Energi, etc.)
- Don't know

7. Approximately how many miles do you drive one-way between home and work? *

- Less than 10 miles
- 10-25
- 26-50
- More than 50 miles

Thank you for participating in this survey!

SUBMIT