

**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") THIRD SEMI-ANNUAL REPORT OF
SAN DIEGO GAS & ELECTRIC COMPANY (U902-E)**

E. Gregory Barnes
SAN DIEGO GAS & ELECTRIC COMPANY
8330 Century Park Court
San Diego, California 92123
Telephone: (858) 654-1583
Facsimile: (619) 699-5027
Email: gbarnes@semprautilities.com

September 19, 2017

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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") Third Semi-Annual

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.

Report. This report, Attachment A hereto, is also posted on SDG&E's website as indicated in the Notice of Availability filed concurrently herewith.

Respectfully submitted

/s/ John Sowers

John Sowers

Senior Vice President, Asset Management

SAN DIEGO GAS & ELECTRIC COMPANY

8330 Century Park Court

San Diego, California 92123

Telephone: (858) 650-6101

September 19, 2017

ATTACHMENT A

SDG&E SEMI-ANNUAL REPORT

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)
SEPTEMBER 18, 2017



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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 3,500 EV charging stations at 350 apartments, condominiums and places of work.

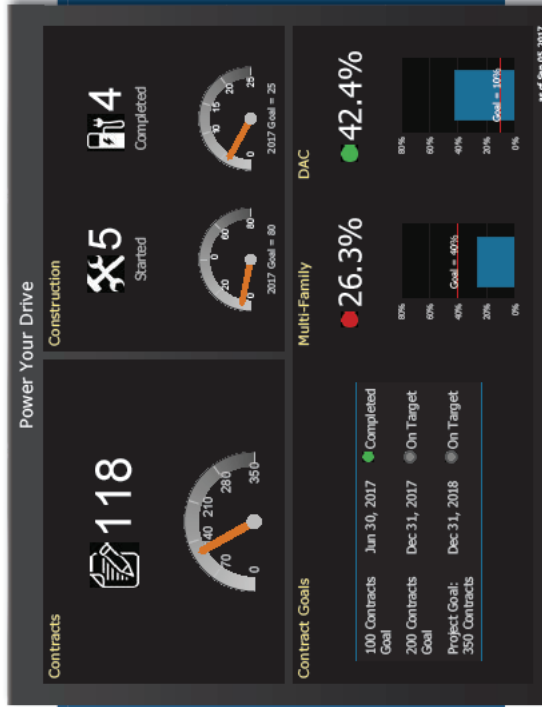
Under the terms of Power Your Drive, SDG&E maintains ownership of the infrastructure to simplify the experience for customers installing chargers and to ensure the reliability of the charging network. Customers that participate in the program are assessed a nominal one-time participation payment unless 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 the first half of 2017 with a strong finish. Customer interest has grown exponentially, with customers 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. Fortunately, overcoming these challenges early in the rollout of the program has created a robust billing platform.

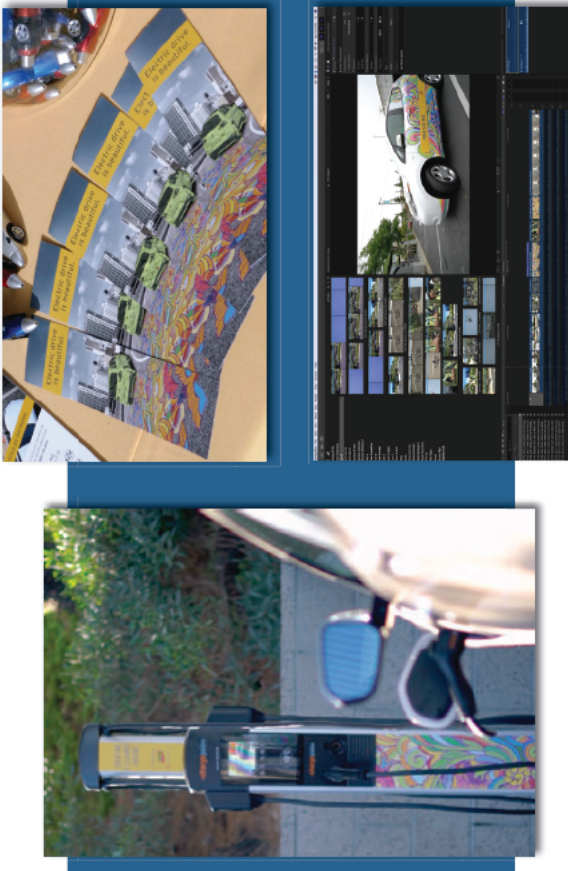


To date, SDG&E has contracted 118 sites, totaling more than 1,350 charge ports. A total of 661 customers have indicated interest in participating in Power Your Drive. Of the 661 customers who have indicated interest, 35% are within disadvantaged communities, 37% are in multifamily communities, and 63% are workplaces. During the first half of the year, SDG&E continued its focus on customer outreach while developing and implementing a planning and engineering process, and soliciting and awarding construction contracts. The following report details the program progression, including how challenges were overcome.

118
Contracted Sites

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. Integrated Education & Outreach Effort

SDG&E has a long history of customer and community education and outreach on a variety of energy topics, issues and programs. Electric transportation education and outreach topics, per the Guiding Principles of D.11-07-029 (issued July 25, 2011) have been included in such efforts, including EV time-of-use rates, metering options, safety, reliability, electric vehicle supply equipment installation, and the benefits of electric transportation. Power Your Drive information and opportunities have been added to the already robust mix of transportation electrification topics.

B. Community Partnerships

SDG&E partners with many community organizations to help get the word out about Power Your Drive and demonstrate the benefits of clean cars in all neighborhoods and how that translates to the need for charging. As part of the company's Clean Transportation Grant Program, SDG&E funding for more than 80 organizations with clean air-focused programs will top \$1.7 million in shareholder funds. Some of these partnerships include:

- **American Lung Association**
SDG&E and the American Lung Association (ALA) in San Diego continue to team up to advocate for clean air and healthy lungs. The ALA attends employee health fairs for a variety of businesses, talking about their Plug Into Clean Air program, and the health benefits of driving electric. A recent ALA report cited San Diego as having the 7th worst ozone in the U.S., a staggering fact that can be partially attributed to vehicle emissions.

- **Circulate San Diego**
SDG&E teamed up with Circulate San Diego to host a series of community gatherings to discuss transportation innovations. The Future of Transportation series provided regional transportation planners as well as EV, bicycle and ride share advocates with the opportunity to share their insights in an intimate forum.

- **I Love A Clean San Diego**
Local environmental organization I Love A Clean San Diego (ILACSD) ties the zero emission benefits of driving electric to the slowing of ocean acidification. Through classroom education presentations to youth in middle and high school, ILACSD shares with youth tangible ways they can decrease their carbon footprint, including driving electric. ILACSD educators drive an electric car to each school and give kids a chance to see how it works.

- **The New Children's Museum**
The New Children's Museum is a place that inspires creativity through a variety of interactive exhibits for kids. Their outdoor area, The Garden Project, was recently spruced up to create a clean air garden, complete with an art installation modeling an electric car, made from repurposed electrical cords. Now kids can explore inside the car, put their hands on the steering wheel, and learn about the clean air benefits of plants and EVs.



The Power Your Drive team proactively leverages the efforts of internal groups to increase the return on investment for their marketing, education and outreach efforts.

- **EV Ride and Drives**
SDG&E continues to work with local dealerships, workplaces and community organizations to host EV ride-and-drives featuring Power Your Drive and to continue a dealership education and outreach program to educate EV sales people. SDG&E partnered for the fifth year with Plug in America, Center for Sustainable Energy and Cleantech San Diego to bring the National Drive Electric Week: Electric Vehicle Day to the San Diego region. The event attracted more than 1,800 attendees test driving 30 EV models and talking to numerous charging companies and nonprofits.

- **Clean Air Champions**
On September 6, 2017, SDG&E announced a new giving initiative to provide instant rebates to K-12 teachers and first responders (police, fire, Sheriff's deputies, lifeguards, and emergency medical technicians) for the purchase or lease of a new EV. Under the Champions for Clean Air: SDG&E EV Rebate Program, those professionals who live and work in San Diego and southern Orange County communities served by SDG&E are eligible for a \$1,000 EV rebate.

For this new EV rebate program, SDG&E is investing \$500,000 of its own shareholder money (not customer funds) to provide rebates over the next three years. This year, SDG&E plans to make 300 rebates available to eligible applicants. The incentives are on top of state and federal incentives, which can total another \$10,000.

C. Employee Involvement

In 2015, SDG&E launched its "Race to 500" with the goal of having 500 employees driving electric cars by 2020. As of September 6, 2017, SDG&E has 381 employees driving EVs, and has installed more than 240 grid-integrated EV charging stations at 20 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.

D. Community Outreach Events

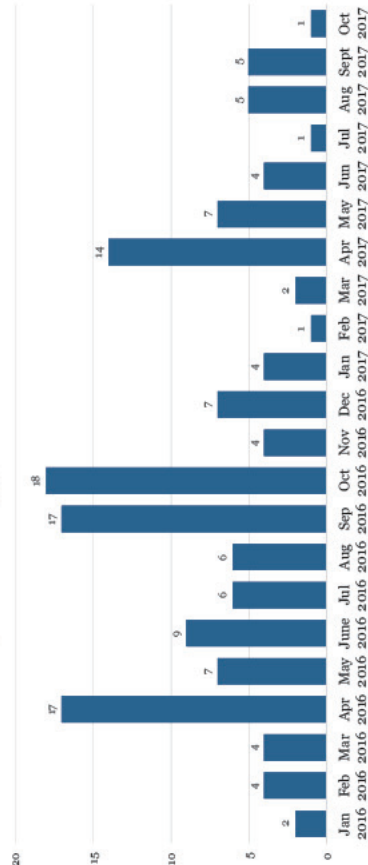
SDG&E has hosted, participated in, and facilitated a variety of outreach events since the inception of Power Your Drive with over 100 events in 2016, 40 events to date in 2017, and additional events in 2017 in planning. SDG&E's partnership with local community organizations and business brings both awareness and education of Power Your Drive by also highlighting environmental and community benefits of clean energy use.



Through education and outreach, SDG&E works within the community to bring Power Your Drive to the forefront through the variety of event types:

- » Auto Shows
- » Town Halls
- » Conferences
- » Earth Day and Fairs
- » Customer Appreciation Events
- » Ride and Drives
- » EV Dealer Training
- » EV Partnership Summits
- » EV 101 Lunch and Learns
- » Cars & Coffee with EV clubs

2016-2017 Customer Engagement Event Schedule and Count



5th Annual Electric Vehicle Day, San Diego

SDG&E hosted the fifth Electric Vehicle Day event September 9, 2017 at Qualcomm Stadium, with attendance topping 1800 people; the largest event turnout to date. The event included vendor exhibitors, 1400 EV test drives, speakers, and participating dealers. The event was held in partnership with the Center for Sustainable Energy and Cleantech San Diego. In hosting and facilitating this popular event, SDG&E helps customers make their transitions to EVs while fostering excitement and driving energy around the local EV movement. The event is educational, and some of the exhibitors included the EV Association of San Diego, Electric Car Insider Magazine, Uber Technologies and more.

The event had many hands-on opportunities, two test drive tracks that featured 30 different models, and car manufacturers such as BMW, Chevy, Tesla and Kia. Booths walked customers through the entire EV purchasing and charging process, from available incentives to charging and long term cost savings.

**Customer Appreciation Breakfast
August 11, 2017**

As a part of the outreach to existing and potential customers, SDG&E hosted a Customer Appreciation Breakfast at the first completed Power Your Drive site located at San Diego's IBEW (International Brotherhood of Electrical Workers) 569 office. This partnership event with SDG&E was held as a thank you to existing customers and to engage one on one with potential customers to facilitate concerns and to move customers forward in the program process. The event also included the Power Your Drive Booth, customer engagement, speakers, and showcased installed charging stations and completed parking stalls.

Climate Action Plan Partnerships

Municipalities look to the utility to help them meet their Climate Action Plan goals and reduce greenhouse gas emissions. SDG&E's Clean Transportation department partnered with their Energy Efficiency, Customer Programs, Advanced Technologies, Account Executives and Regional Public Affairs teams to provide municipalities with a comprehensive package of solutions to help meet these goals. With many municipalities looking to electrify their fleets, Power Your Drive has quickly become a cost effective way for cities to meet their climate goals.



IV. Regulatory Requirements & Key Implementation Activities

A. Electric 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 (EYSP) who will be authorized to provide the Power Your Drive EV service 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, collect the EV charging usage data, and the ability to send the data to SDG&E for billing processing.

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

3rd Vendor Starts Solutions Acceptance Testing: June 2017

Anticipated Approval of 2nd Vendor as Power Your Drive Vendor: October 2017

Solution Acceptance Testing Challenges

The ability of vendors to navigate the demands of Solutions Acceptance Testing (SAT) has been challenging. Only one vendor—ChargePoint—has passed all aspects of SAT so far after over 4 months of testing.

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 EYSP Solution: Apps, Portals, Enrollment, Price, and Consumption using mix of mocked up and real data in Test Environment
End-to-End	Test of EYSP and SDG&E system processes successively using real data in Test Environment
End-to-End (Alpha Test)	Test of EYSP and SDG&E system processes successively using real data
Production Validation	Test of EYSP and SDG&E system processes at Customer Site using real drivers and live data

Although ChargePoint is the only vendor to pass SAT to date, a second vendor has progressed to the final stage of testing. This second vendor is demonstrating system performance and is projected to receive final approval as a Power Your Drive vendor by the end of October 2017. As a result of the program's requirement to maintain an open RFP, SDG&E and a third vendor 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 in order 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. Construction Contractor Request for Proposal Schedule

The effective deployment of site installations for Power Your Drive depends in large part on the capability and expertise of the contractors that will install the EV charging equipment. Due to the length of the RFP process as discussed further in this section and the volume of sites needed to be completed, SDG&E proceeded with awarding the first 5 sites in construction to a qualified contractor through an existing master service agreement with SDG&E. The contractor meets the requirements laid out by the Decision (e.g., Attachment 2, Appendix C, ¶ 5, p.47) including the C-10 contractor's license as well as being signatory to IBEW. The existing contract allowed program construction to kick-start at the first sites, which included Beta sites for the vendor equipment and software systems.

As construction proceeded to completion at the first set of sites, SDG&E prepared and issued a RFP to obtain qualified contractors and competitive pricing for the remaining site installations. The RFP also ensures that the program sites are constructed in the most skillful and professional manner in accordance with SDG&E's construction standards. SDG&E has included the same requirements in the RFP as the first sites that dictate that the contractor must hold a valid C-10 contractor's license and be signatory to the IBEW per the Decision.



<i>RFP Issued:</i> June 5, 2017
<i>Pre-Bid Conference:</i> June 9, 2017
<i>Deadline for RFP Related Questions:</i> June 23, 2017
<i>RFP Closed:</i> June 23, 2017
<i>Bid Evaluation Commenced:</i> June 23, 2017
<i>Anticipated 1st Bid Package Release:</i> September 2017

Similar to the RFP for vendors, all contractor proposals were evaluated and ranked based on experience, technical expertise, safety records, and project portfolio of each contractor. The bid evaluation and ranking process provides an objective way for SDG&E to choose the best qualified contractors for the program that also meet the requirements laid out in the Decision. The first bid package to bid is expected to be released in September.

C. 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.








Step 1: Customer Interest List

The potential customer learns about the program through a number of different marketing initiatives, including community outreach events, presentations given by SDG&E's Clean Transportation department, SDG&E account executives, direct marketing to customers, referrals from sites already participating within the program, or additional initiatives as detailed within Section III of this report.

Customers that express interest in participating in Power Your Drive are directed to sign up on the online Interest List at www.sdge.com/poweryourdrive. The program team receives the customer's information to a centralized email inbox at ev@sdge.com, and he or she is then notified that their information was received and will be contacted by SDG&E or an SDG&E representative for a 20 minute call to identify the customer's charging needs and to verify the customer's fit for the program.








Marketing Initiatives

				
Community outreach events	Presentations given by SDG&E's Clean Transportation department	SDG&E account executives	Direct marketing to customers	Referrals by other multifamilies & workplaces that have joined the Interest List

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 with the customer to ensure 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)	Potential locations for installations	If installation of ADA parking stalls will be required	If possible, identify existing ADA parking stall locations
			
Approximate distance from transformer to installations	For parking structures, determine feasibility of aboveground conduit installation	Proposed equipment locations	ADA path of travel from parking stalls to building

Step 3: Follow Up Call and Application

Following the customer joining the online Interest List and the desktop review, the customer is contacted with a personalized email welcoming them to the beginning stages of the program process and to schedule the follow up phone call.

For completion of the online application, the customer is directed to the Power Your Drive website. The online survey as shown in Appendix D is distributed to the customer to be administered to their employees or residents to determine how many existing EVs are on site and the future projection of EV purchase for each potential site.

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

Step 4: Site Visit

Upon completion and receipt of the online application and EV survey, a site walk is performed to develop the preliminary engineering design and cost estimate.

Each site walk is conducted by SDG&E or a SDG&E representative with Power Your Drive, the customer and member(s) of the design engineering team. During the site walk, SDG&E collaborates with the customer to determine the location, type, and number of charging stations, location of the new meter pedestal, location of the new transformer if needed, and answers any customer questions related to the proposed site improvements or Power Your Drive.

Site Walk Clarifications

		
Location	Type	Number of charging stations
		
Location of new meter pedestal	Location of new transformer if needed	

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.

Preliminary Design and Cost Estimate Process

			
Cost estimate completed by design engineer	Cost estimate review	Preliminary design is sent to the site host	Design review and approval by site host

V. Engineering, Permitting, & Construction

Customer Approval Process



Customer Approval



Drone Data Acquisitions



Final Engineering



Permitting

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

Following customer approval of preliminary designs, the project site is flown by a drone to acquire high definition aerial imagery in addition to a full three-dimensional model of the site used to prepare final engineering plans by the design engineers.

Final Engineering

Once each preliminary design is approved by the owner, direction is provided to the design engineer to proceed with preparing final engineering plans to be submitted for agency permitting and issued for construction. Design teams are required to submit progress sets of plans for review at the 60% and 100% design milestones as defined by SDG&E. Documents included in each submittal package are as follows:

- » 60% design submittal – Civil and electrical engineering plans, structural engineering plans for equipment installations inside parking structures
- » 100% design submittal – Civil and electrical engineering plans, structural plans if required, and materials to be procured for each site

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

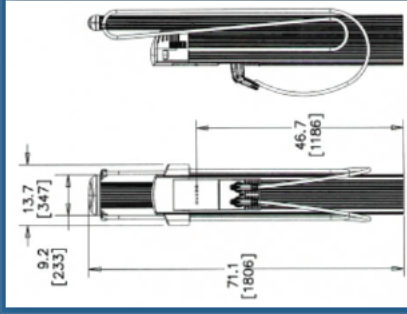
Agency Permitting

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.



Procurement

Procurement of the materials for each site and the selection of the construction contractor is conducted in conjunction with design and permitting. Major electrical equipment items have long lead times. To accommodate fabrication and shipping, it requires that equipment needs are identified for each site and an order submitted before plans are finalized and permitted. Ordered supplies and inventory are continually monitored to ensure the necessary special order materials are in supply for planned and approved construction sites.



Construction

Construction commences once all design, permitting, and procurement requirements have been satisfied. Construction activities are closely coordinated between the contractor, SDG&E, the customer, and the relevant inspecting authorities. The contractor is responsible for all of the activities required to install project equipment including transformers, meter pedestals, charging stations, and all of the supporting appearances including foundations, conduit and cable. The contractor also completes all site upgrades including the installation of project signage, striping, and work required to comply with the Americans with Disabilities Act construction standards. The construction step is considered complete when all construction activities are completed, the inspecting authorities have provided final project approval and the new charging stations are energized and ready for use.



Commissioning

Commissioning is the final stage before a site is turned over to the customer for use. SDG&E project management and IT collaborate to test the charging station system to ensure that both the hardware and the software function as designed and are able to communicate accurate usage data to the program IT infrastructure that supports the billing system, the smartphone applications, and the project enrollment website. Once proper function is validated, the site is determined to be complete.

VI. Reporting Requirements

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

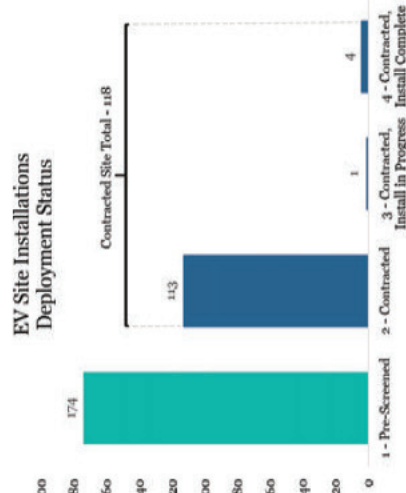
This reports the number of customers who have expressed interest in participating in the program, reported by site type: multifamily or workplace, and whether located within a disadvantaged community as defined and approved in AL 2876-E. As of August 24, 2017, 661 customers have indicated interest in participating in Power Your Drive, 35.1% of which are located in disadvantaged communities. Of the total customers on the Interest List, 36.76% are multifamily sites and 63.24% are at workplace locations.



B. Installations

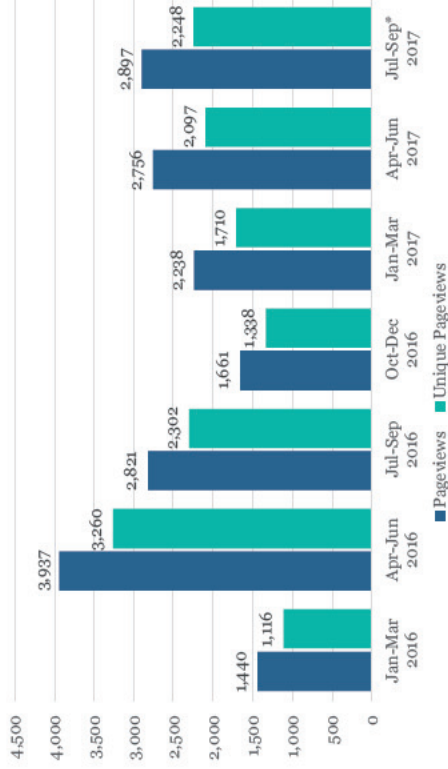
This metric describes the number of potential sites that are in progress toward facility deployment. The sites represented have advanced beyond initial customer interest and are in various stages of the program.

As of August 24, 2017, 292 sites have progressed to various stages beyond initial interest. Of the total sites in progress 174 sites have been pre-screened by SDG&E, 118 sites have been contracted, 1 site is in the process of installation, and 4 sites have been completed. The status of the sites in deployment is illustrated in the EV Site Installations Deployment Status chart.



C. Power Your Drive Website Views

Power Your Drive Web Traffic 2016-2017



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.

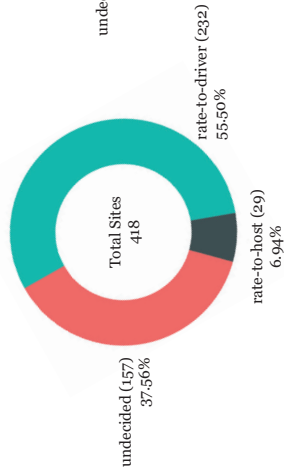


D. Billing Option Preferences

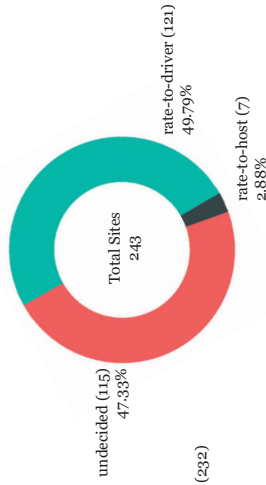
This metric reports the billing option selected by the customer, broken down by workplace, multifamily, and disadvantaged communities. Refer to the charts on the next two pages. There are two billing options available within Power Your Drive: rate-to-driver, where the EV driver participant receives the (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 as 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 contracted 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.

Workplace

Overall Sites Workplace Billing Preference

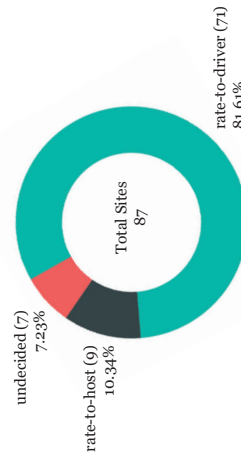


Overall Sites Multifamily Billing Preference

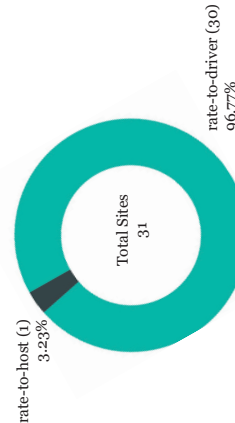


Workplace

Contracted Workplace Billing Preference



Contracted Multifamily Billing Preference



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 between indicates that customers that are initially undecided choose the rate-to-driver option at a significantly higher rate than the rate-to-host option.



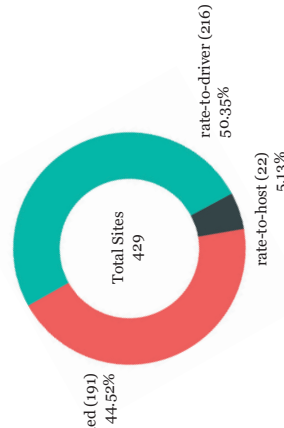
Workplace

Overall Sites DAC Billing Preference



DAC

Overall Sites Non-DAC Billing Preference

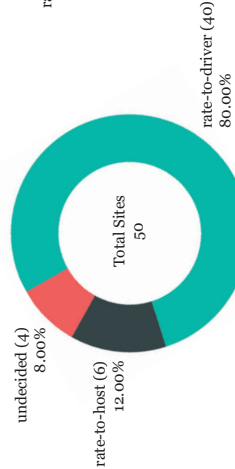


Non-DAC

Workplace

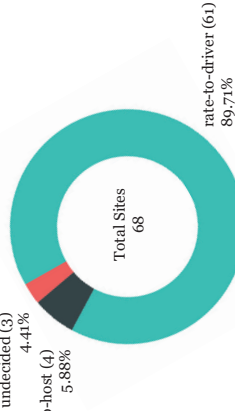
DAC

Contracted DAC Billing Preference



Non-DAC

Contracted Non-DAC Billing Preference



E. Rate-to-Host Load Management Plans

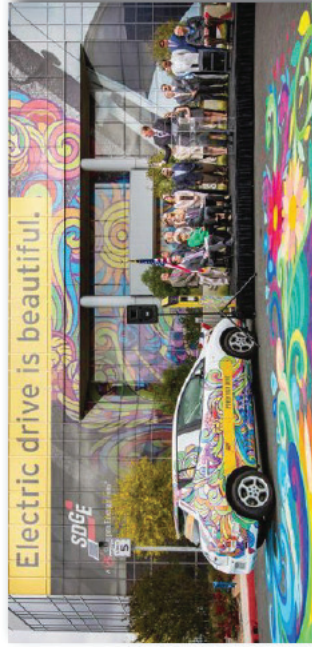
Conditions for customer eligibility for the rate-to-host option requires the customer to submit a load management plan. This section reports the various load management (and execution) plans, proposed and approved for Power Your Drive. Results will be reported to summarize the effectiveness of the various load management plans (e.g., tactics utilized to avoid or reduce EV charging during system and circuit on-peak periods). As of August 31, 2017, load management plans have been submitted for 3 sites to satisfy eligibility requirements for the rate-to-host option. All 3 sites are located in disadvantaged communities. All 3 sites are workplace sites.

All sites have submitted plans that make use of the power management capabilities provided with the charging stations. Two 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 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, multifamily and disadvantaged community locations measured for total program and by average per Power Your Drive facility.

Construction has been completed and charging stations have been fully deployed for use at 4 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 as of August 3rd. A total of 37 EV drivers are currently enrolled in the program. Usage volume for the reporting period comprised 556 unique charging sessions and 4,748 kWh sold. Facility utilization summarized by quartile is located 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 August 31, 2017, Power Your Drive has spent \$2,430,000 since the previous amount of \$2,231,000 reported as of February 28, 2017. The total program spend to date is \$4,661,000. The increasing rate of spend is in line with the expectations of the resources and the level of effort required as a part of the ongoing program activities to support site acquisition, engineering design, construction, long lead equipment, billing system development, vendor qualifying and customer support.

Power Your Drive is a good fit for multifamily facilities with the following characteristics:

- » Parking spaces dedicated to visitors and extra parking.
- » Home Owners Association owns available parking or commons areas they would like to dedicate to Power Your Drive charging facilities
- » Where mandatory valet parking scenarios exist

I. 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). Although Power Your Drive is in the early stage of implementation, SDG&E has found that due to budget and funding constraints, some customer segments (e.g., schools and school districts) are unable to make the participation payment, which was approved with modifications by the CPUC on December 16, 2016 to exempt only customers located with disadvantaged communities.

Attracting and qualifying multifamily facilities continue to be challenging. Some of the reasons for this are due to a number of factors including, lack of available parking, concerns associated with losing an additional parking space to comply with ADA rules for the van accessible space, as well as needed parking scenarios to name a few.

The Power Your Drive website now includes a program application designed to streamline the customer qualifying process. This online application has “click-through” capability and includes program terms and requirements that are critical to implementation.

Observable Trends



Sites falling off after joining interest list, completing application, and during customer approval process after seeing preliminary design



Sites determined to not be feasible based on desktop review, site walk, loading/fusing, preliminary design and cost estimate



Customer approval lead times for multifamilies, workplaces, and public facilities (schools, City owned property, police stations)



Parking structure above average technical requirements



Charging stations per site, differences between multifamilies and workplaces



Frequently asked questions from interested customers

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 becomes available through the program deployment and operations, observed results will replace hypothesized assumptions used in order to evaluate the cost-effectiveness of the program.

B. Surveys

Surveys of drivers are planned as part of SDG&E's Research Plan. There are a number of factors that these surveys will measure. For example, as identified in the Research Plan (Data Collection and Analysis):

- » 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); and
- » EV customer input on the vendor mobile and web applications, the hourly rate and overall convenience and ease of use of the facility (gathered through surveys of EV customers using the Power Your Drive facilities).

C. Disadvantaged Communities

This section will report the number of Power Your Drive facilities installed within disadvantaged communities, including EV car-sharing deployment. These will be reported by those in workplace and multifamily settings, as described and reported in Section III. Currently 35% of customers that have expressed an interest in participating are allocated in disadvantaged communities.

D. Programmatic Changes

The following programmatic changes have been implemented by SDG&E following the submittal of the previous Semi-Annual Report on March 15, 2017:

Implementation of the site screening criteria has been revised to provide an initial site evaluation prior to the customer completing the online application, ensuring that the installation of charger ports at each site is feasible and sites fall within the scope parameters of Power Your Drive.

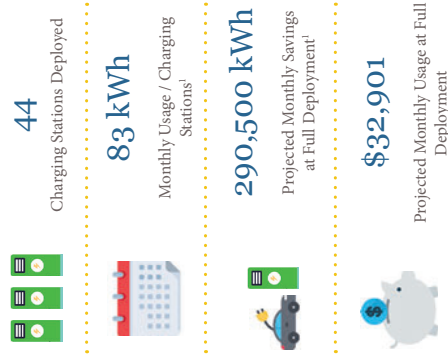
To complete the overall number of site installations and charging set forth in the Decision in addition to having between 40% and 60% of all site installations and charging stations be multifamilies, SDG&E initiated a new marketing strategy to ensure these goals are met during the life cycle of Power Your Drive.

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. EV driver behavior is reflected in the estimated fuel cost savings both in the total usage and the average rate which is based on the times of day EV drivers choose to charge their vehicles. 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 total estimated savings reflects the fact that usage data has recently become available with the completion of the first 4 project sites. The data shows a higher than anticipated total savings for the rate-to-host billing option relative to the rate-to-driver billing option due to the uneven representation of rate-to-host sites in the completed sites.

A projection for the estimated total monthly and yearly fuel cost savings at program completion is included based on current average usage per charging station from the most recent month for the current installations and extrapolating to final installation of 3,500 charging stations.



2017



¹Based on previous months' usage
²Calculations based on estimated fuel cost savings calculation

Estimated Fuel Cost Savings: rate-to-host

Actual Usage Average Rate	4,631 kWh x \$2,2784 / kWh
Total Cost	\$12,889
Gasoline Equivalent ¹ Average Price ²	619 gallons x \$3.0750 / gallon
Total Cost	\$1,904
Estimated Savings	\$615

Estimated Fuel Cost Savings: rate-to-driver

Actual Usage Average Rate	117 kWh x \$1,638 / kWh
Total Cost	\$19
Gasoline Equivalent ¹ Average Price ²	16 gallons x \$3.0750 / gallon
Total Cost	\$48
Estimated Savings	\$29

¹ Gasoline equivalent = $\frac{\text{Range (kWh)} \times \text{Energy Efficiency (kWh/mile)}}{\text{Average light duty vehicle Fuel Efficiency (miles/gallon)}}$

²Average price per gallon data from US Energy Information Administration Weekly Retail Gasoline and Diesel Prices; average of monthly retail prices for the previous 6 months for regular gasoline in the Los Angeles Metropolitan area.

³Energy efficiency 3.03 miles/kWh. Data from US Environmental Protection Agency "Model Year 2017 Fuel Economy Guide." Average of combined city/highway energy efficiency for All-Electric Vehicles.

⁴Average light duty vehicle fuel efficiency 22 miles/gallon. Data from US Department of Transportation Bureau of Transportation Statistics Table 4-23: Average Fuel Efficiency of U.S. Light Duty Vehicles. Average U.S. light duty vehicle fuel efficiency (mpg) for calendar year 2017.

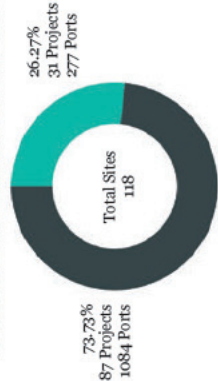
F. Power Your Drive Data Trends

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

Total Contracted Sites

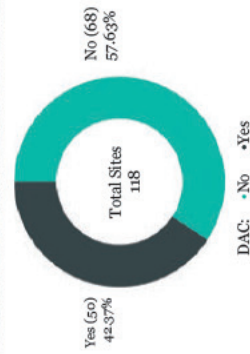
To date a total of 118 customer applications have been submitted with a total of 87 workplaces and 31 multifamily sites with 41% of applicants located in disadvantaged communities as shown below:

Contracted Sites Distribution by Segment



Site Distribution: • Multifamily • Workplace

Contracted Sites Disadvantaged Communities

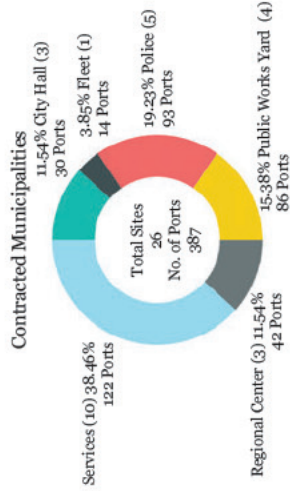
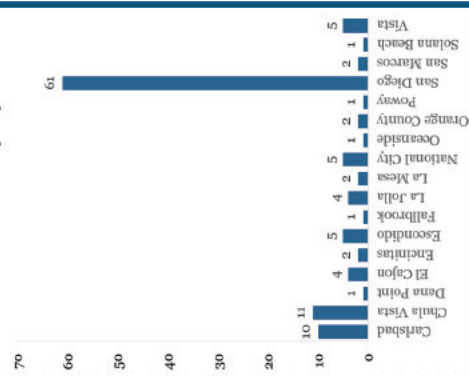


DAC: • No • Yes

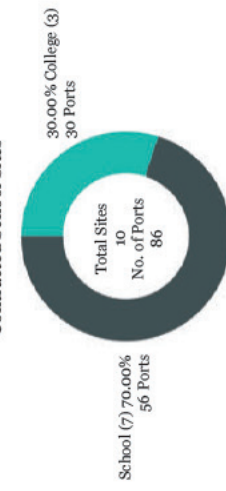
Contracted Sites By City

As shown in the below chart, the majority of project sites are within the City of San Diego, with the remaining sites located across 16 other municipalities, all requiring individual construction permits based on the requirements of each city.

Contracted Sites by City



Contracted School Sites



Number of Charging Ports

As shown to the left an average of 12 charger ports will be installed across all projects with an average number of charger ports to be installed at multifamily sites is 10 ports and 13 ports at workplaces.

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 5 or fewer charging ports. Estimated pricing that is in line with the overall average price per charging port is noticeable for sites that have between 6 and 20 charging ports. Below average estimated cost per charging port is noticeable for sites with 21 or more charging ports.

Parking Structure vs. Open Lots

A total of 15 applications have been submitted to install charging ports in parking structures with preliminary designs and cost estimates completed for 13 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.



VIII. Power Your Drive 2.0

As SDG&E proceeds with Power Your Drive, several opportunities have been identified to engage a larger customer base for future SDG&E clean transportation projects as discussed in this section based on current customer engagement.

Sites With Lower EV Vehicle Demand

Through the customer screening process a number of customers have indicated interest in the program, followed by requesting a lower number of EV charging stations than is typical for the program (10 or more charger stations). As fewer charging stations per site would result in higher construction costs and fewer site installations for the program as a whole, these locations are currently reviewed on a case by case for inclusion in the program. Where possible, it is recommended that sites not included in the program due to the number of requested EV chargers be revisited for inclusion in future transportation electrification projects.

New Construction

New construction sites have been identified as being an ideal fit for participation in Power Your Drive. Developers of new construction sites have been highly receptive to incorporating the deployment of EV charging infrastructure into their sites. This partnership provides cost advantages, as underground conduit to proposed charger station locations is installed concurrently with other site improvements during construction and ADA requirements can be met without being constrained by existing site conditions that could potentially preclude deployment of installations. Ongoing partnerships with local construction developers will continue to be an important component of future clean transportation programs that will provide for a higher overall cost threshold per site and maximize the number of sites included in future programs.

Public Facilities Outside Current Scope

Public facilities have been identified as potential sites for installations that fall outside the scope of Power Your Drive. In effort to make EVs more accessible to customers it is recommended that future programs allow sites to be located where there are options for both private and public charging, such as city halls.

Public Facility Participation Payment Constraints

As discussed in the observable trends section of the previous semi-annual report, public facilities, such as school districts, face funding and budgetary constraints that do not allow agencies to complete the participation payment for Power Your Drive. Where proposed project sites are located outside of disadvantaged communities and the participation payment cannot be waived, deployment of installations at these sites is unable to be completed.

To address these challenges a future program can be implemented with the ability to waive the participation payment for public facilities that have indicated interest to install charger stations as needed.



IX. Summary & Conclusion

Power Your Drive has made significant progress in the last six months. Four projects sites are completed, with bills being generated utilizing the grid-integrated hourly program rate, the first of its kind for a utility EV charging program. The first vendor completed all required Solutions Acceptance Testing, information security and meter testing, allowing the program to continue to start construction at more sites with eager EV drivers. Multiple union construction contractors have been selected to complete program construction, bringing increased diversity and competition to the program. The site screening process is more refined, allowing customers to know earlier on in the process if their site is a fit for the program. Education, outreach and marketing continues strongly, with added effort to bring multifamily sites into the program, and provide great customer service for program drivers and customers. Power Your Drive is on track to finish out the year strongly with continued vendor testing, site construction and site contracting.

SDG&E is in regular consultation with Energy Division staff and has met with its Program Advisory Council four times since the Commission approved the Decision. SDG&E appreciates the in-put 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 Collection⁶⁶ 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 multifamilies 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 the 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 30 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 geographical 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.

¹⁹ Decision, OP 3.k, p. 183 and Attachment 2, ¶ 23, p. 11.

⁶⁶ Decision, pp. 398 – 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.

⁶⁷ 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	MUD	Update
1) Interest in siting EV site installations at MUDs and workplaces <i>[Interest List: number of host sites by]</i>	178 65 251 167	
2) Number of EV site installations that were approved, or that are in the pipeline for deployment	Pre-screened by SDG&E Contract & Easements Executed ⁿ Installations in-progress	108 Contracts / 14 Easements
3) Site selection criteria used in selecting the sites that will host the EV site installations <i>[within MUD, WP & DAC segments]^a</i>	• 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; and • Existing/available Americans with Disabilities Act (ADA) accessible parking	1
4) Number of EV site installations and EV charging stations that SDG&E has deployed under the approved alternate VGI program terms <i>["deployed" means fully]</i>	4	
5) Rate <i>[billing]</i> option that the site hosts have chosen ^b <i>[number of hosts by option, number of drivers]</i>	Overall List of Sites Contracted Sites	Rate-to-Driver 353 Rate-to-Host 36 Undecided 272 Rate-to-Driver 101 Rate-to-Host 10 Undecided 7
6) How the Rate-to-Host option <i>[local management plan]</i> is being implemented by the site hosts <i>[Number of host sites per local management plan type; categories of local management plan types will expand as they are reviewed and approved]</i>	Powering Down/off Host Pricing Facility Mgmt Other	3 0 0 0

Quartile	Volume	kWh Sold
25%	1 Driver / 23 Sessions	117
50%	12 Drivers / 251 Sessions	1580
75%	24 Drivers / 122 Sessions	1315
100%	24 Drivers / 160 Sessions	1736
Super Off-Peak [00:00-05:00]	114 kWh / \$ 1468 / \$ 1524 / \$ 1629	
Off Peak Morning [05:00-12:00]	3247 kWh / \$ 1178 / \$ 2111 / \$ 6493	
On-Peak [12:00-18:00]	1321 kWh / \$ 1304 / \$ 4952 / \$ 1 8938	
Off-Peak Evening [18:00-24:00]	66 kWh / \$ 1464 / \$ 3110 / \$1 4900	
Single Event Prices (system or circuit)	Will be provided upon implementation of peaking event data	
Double Event Prices (system and circuit)	Will be provided upon implementation of peaking event data	
Spend Since February 28, 2017	\$2,430,000	
Spend to Date (August 31, 2017)	\$4,661,000	
Discussion of observable trends or correlations between the number of EV site installations deployed compared to EV charging use and growth in the number of EVs	Discussion of observable trends included in the body of the report	

Decision, Attachment 2, Appendix B – Combined with the Quarterly Report for the Semi-annual Report (served to R43-11-007 and A.14-01-014 service lists)		
A) Estimates of fuel cost savings through the use of the VGI Facility, under both the VGI Rate-to-EV Driver and VGI Rate-to-Host pricing plans	VGI Rate-to-Host \$615	
B) Deployment of VGI Facilities [number of] within Disadvantaged Communities (DAC), including EV car-sharing deployment	VGI Rate-to-Driver \$29	DAC – Workplace 3 DAC – MnD 0
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 the scope of the VGI pilot program, which is not responsible for or funded to track the installation of charging stations by others outside of the VGI pilot program. 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	Will be provided when known.	
G) Description of any programmatic changes implemented by SDG&E prior to the date of the report	Will be provided after proposed changes are vetted with the PAC.	



Appendix C: Program Advisory Council Company/Organizational Representation

Advanced Energy Economy	(SANDAG)
AeroVironment, Inc.	Shell
Black & Veatch	Siemens Digital Grid
California Apartment Association	Southern California Edison
California Energy Commission	Strategy Integration, LLC & The Energy Collaborative
California Governor's Office of Business and Economic Development	The Utility Reform Network (TURN)
California PEV Collaborative	Utility Consumers' Action Network (UCAN)
Center for Sustainable Energy	Vote Solar
ChargePoint	
City of Chula Vista	
Clean Fuel Connection	
Collins Group, Inc.	
CPUC Energy Division	
CPUC Office of Ratepayer Advocates (ORA)	
Environmental Defense Fund	
Electric Power Research Institute (EPRI)	
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.	
Proferra	
Recargo	
RWE	
San Diego Unified School District	
San Diego Green Building Council	
San Diego Association of Governments	

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.

Appendix D: Customer Screening Tool

01 - Customer Screening
in list Card Templates (Use to Create New Project Sites)

Single EVCS Double EVCS DFSS.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

0%

- 20 Minute Call Scheduled
- 20 Minute Call Completed
- Customer Survey and Application Sent
- Add an item...

Application Phase

0%

- Customer Survey Received
- Desktop Review
- Preliminary Estimate
- Application Received
- Schedule Field Review
- Add an item...

Field Review Phase

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...

Delete...

Delete...

Delete...

Appendix D: Interest List

Power Your Drive

Property/Business Name *

Property/Business Address

Street *

City *

State *

Zip Code *

Ongoing Requests

Delete...

0%

- Customer Site Drawings (Parking Garage Only)
- Add an item...

Delete...

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...

Delete...

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...

Delete...

Appendix D: Customer Application

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.

As of 8/24/2017		VGI Pilot - Circuit Sampling Distribution																	
		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	High Load Factor	Low Load Factor	High Load Factor	Low Load Factor						
Residential	High Solar Penetration	0	0	0	0	0	0	1	1	0	0	3	3	15	8	21	8	101	14
	Low Solar Penetration	0	0	2	0	0	0	2	0	0	0	0	5	1	10	4	10	4	18
Mixed Res. and C&I	High Solar Penetration	7	1	2	0	21	22	30	30	61	61	29	30	5	33	4	41	53	62
	Low Solar Penetration	45	19	15	5	56	14	18	13	13	13	7	0	26	4	38	4	2	10
Commercial & Industrial	High Solar Penetration	9	1	5	1	2	0	1	3	0	0	0	0	0	2	0	2	0	0
	Low Solar Penetration	57	5	33	5	44	30	8	4	0	5	0	3	2	1	0	3	0	0
Distribution C&I		38	5	33	5	30	8	4	0	5	0	3	2	1	0	0	0	0	0
SDG&E Circuit Count																			
Intermittent Sites																			
Approved Sites																			

¹ If Circuit (0-5% of sample set) with PWD_RL_10 between 22:00 and 00:00 are not included in this record count

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-6 (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:

- 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.

- 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-host 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:

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 eighteen 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 multifamilies 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 the 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 to 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.

Appendix H: Online EV Survey

Electric Vehicle Charging Survey

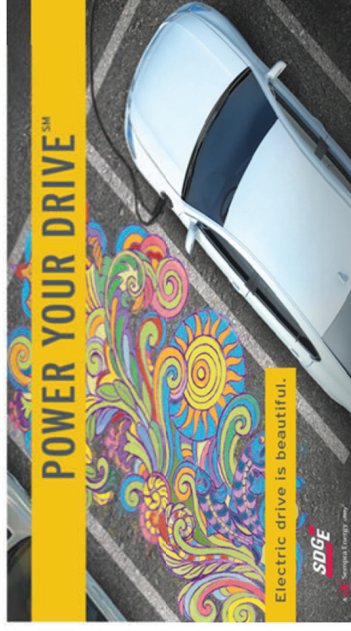
We are working with San Diego Gas & Electric® to explore the possibility of installing electric vehicle charging stations as part of their Power Your Drive program. We would like your input on current and future plans for driving and charging plug-in electric vehicles so we can establish an orderly and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