Program Advisory Council Meeting
Q1 2022

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Agenda

Safety / Introductions	10 Minutes
Rule 29 Tariff	10 Minutes
EVC2 Update	5 Minutes
MFH & Small Business Direct Install Pilot Program	5 Minutes
VGI Pilots Update	15 Minutes
Schools and Parks Programs Updates	10 Minutes
EV Fast Charge Program Updates	10 Minutes
EV Fleet Program Update	10 Minutes
Questions	15 Minutes

Safety

Let's do it:

Focus on a object across the room, or **20 feet away**, for **10-20 seconds**.

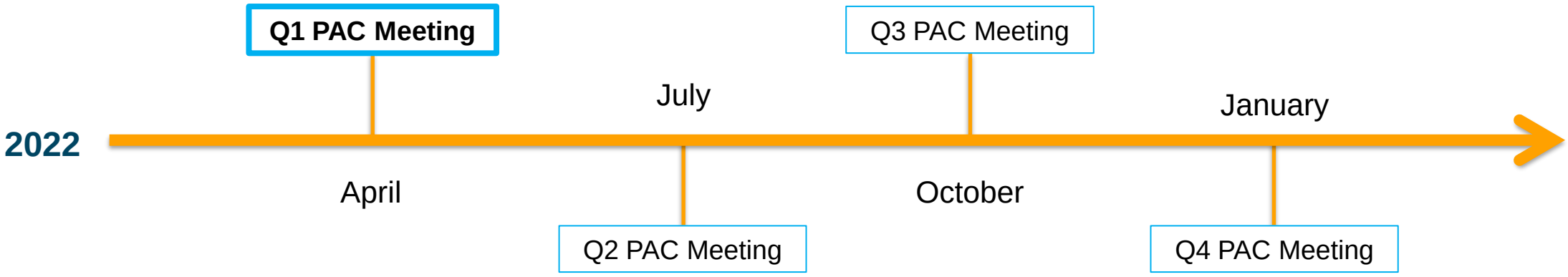
Supports: Prolonged focus on fixed objects in front of you including computer monitors, equipment, and mobile devices

Purpose: Relax eye muscles used to view objects that are close to you

Clean Transportation Program Advisory Council

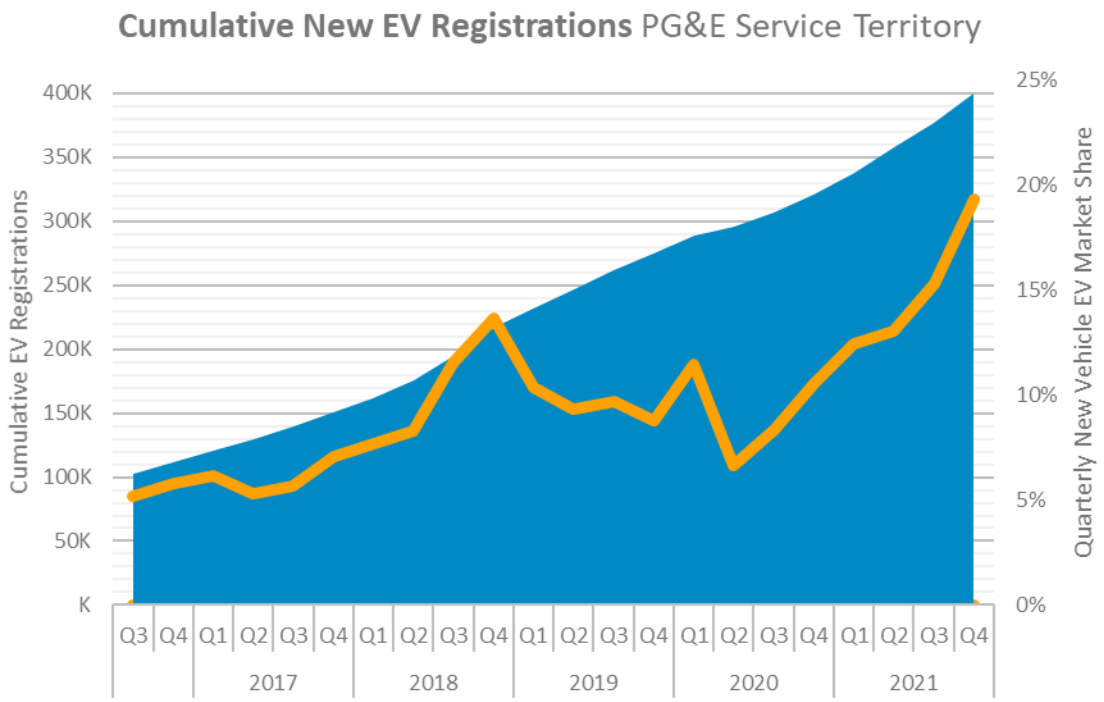
Overview

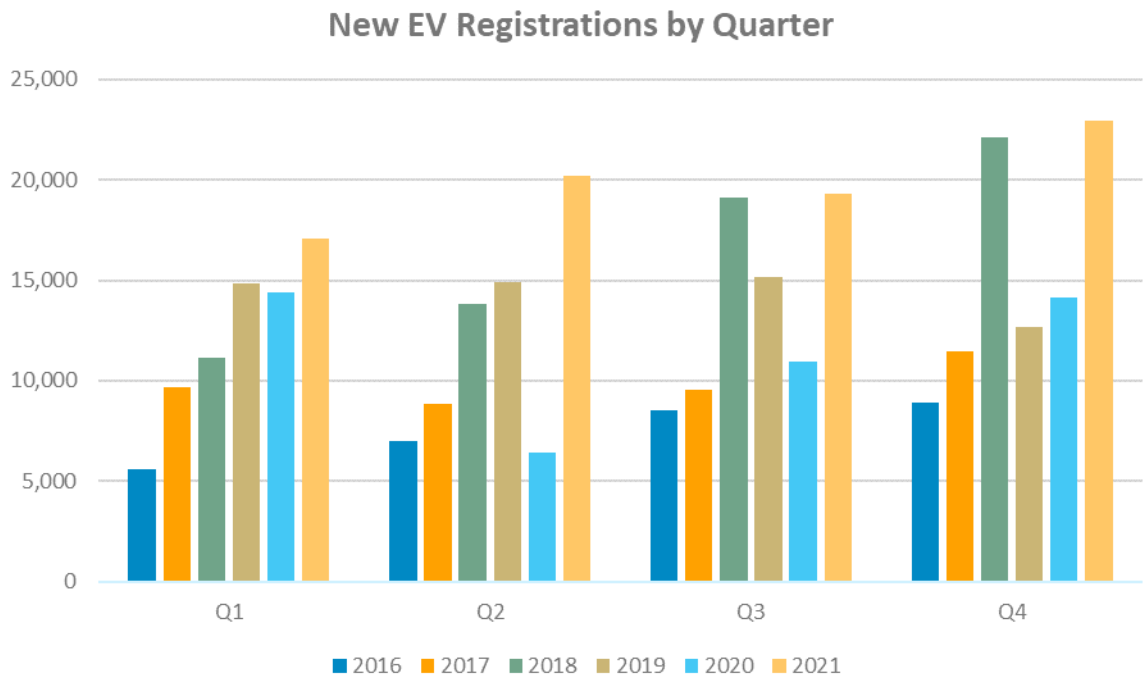
- PG&E has expanded our efforts on transportation electrification, with a number of filings, pilots and programs in progress
- CPUC has directed PG&E to consult a Program Advisory Council in the development of these pilots and programs to gain feedback from industry stakeholders
- This platform will serve to gather insight and feedback on PG&E's proposals and ongoing programs



EV Market Update

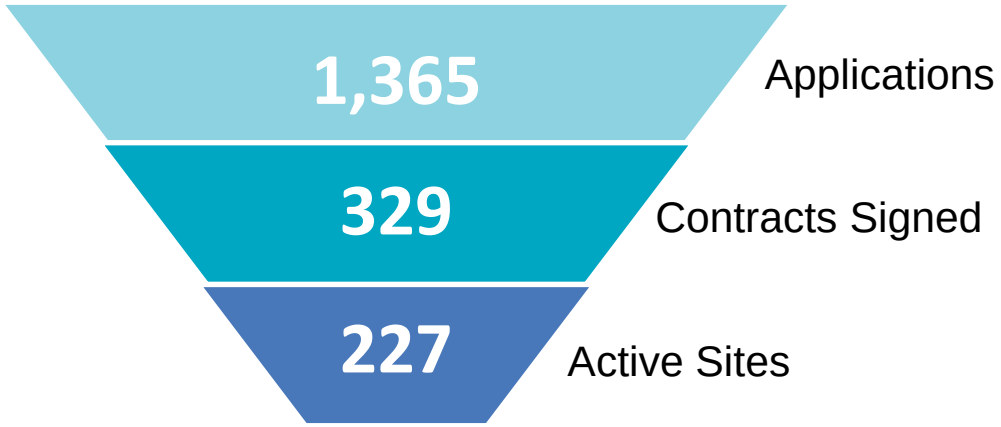
409,008 **EVs registered** in PG&E service territory, through Jan. of 2022

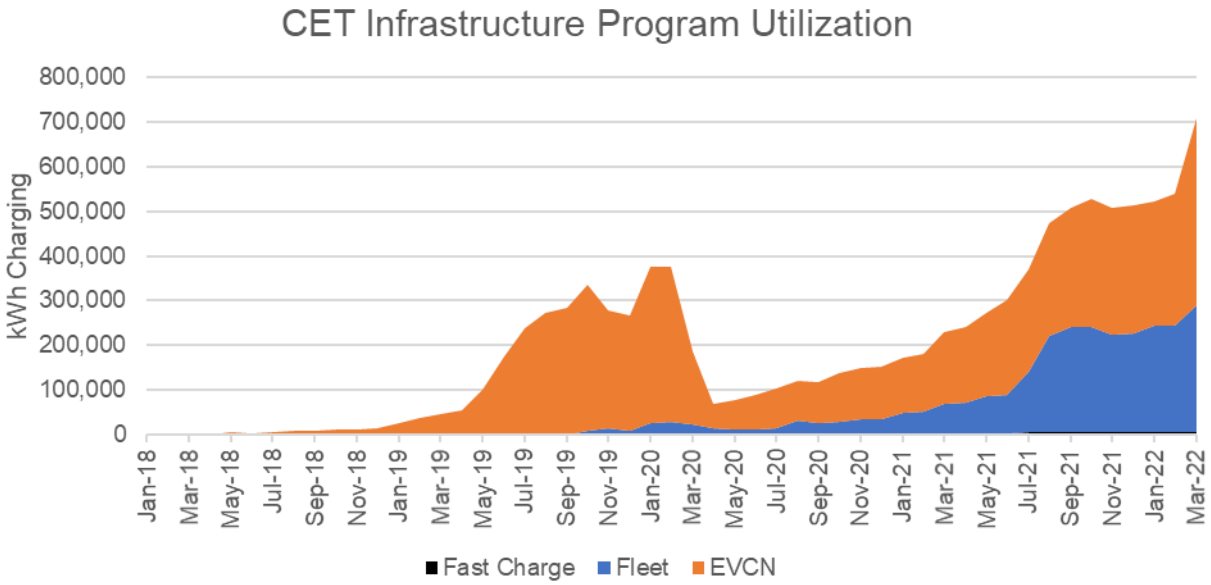


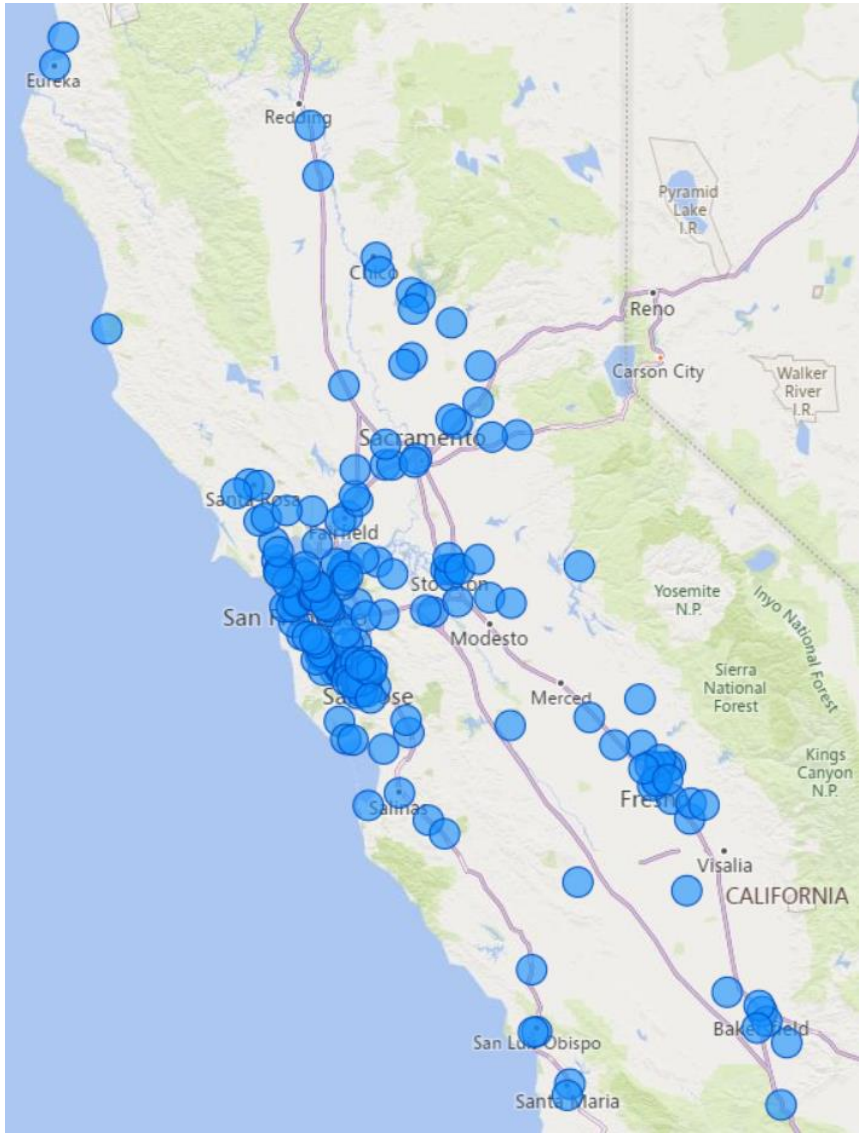


Source: EPRI, Based on external registration data through Jan. 2022

Impact of PG&E TE Infrastructure Programs







Rule 29 Tariff Overview

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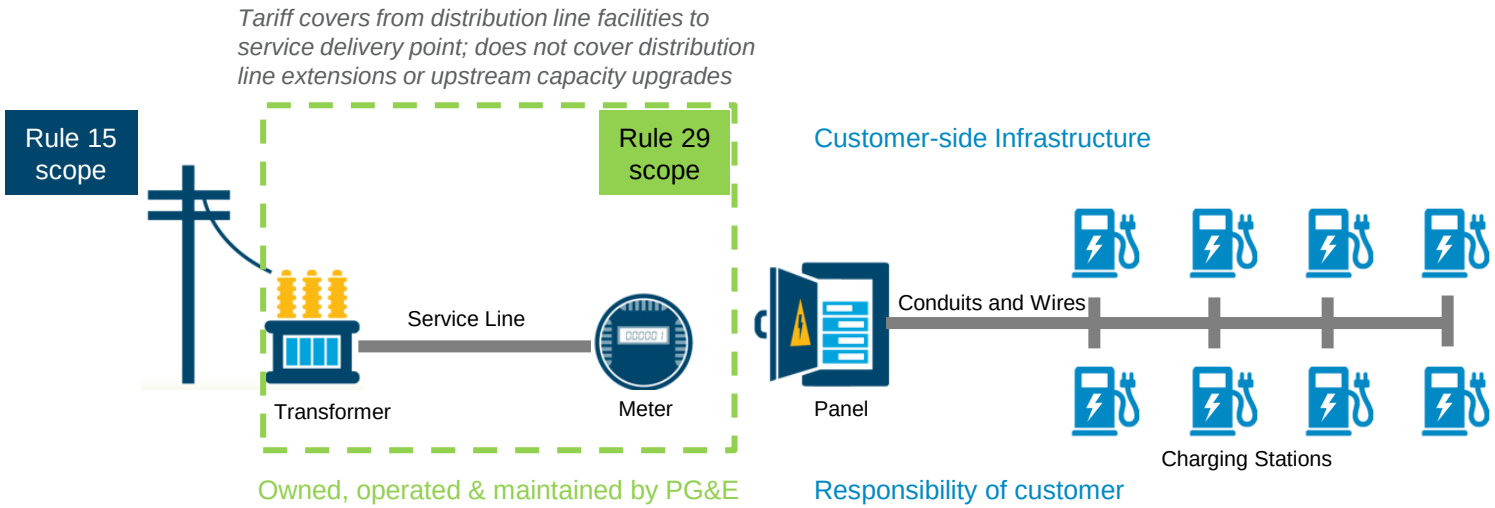
Rule 29 Tariff Design



APPLICABILITY AND REQUIREMENTS

- Customer must activate the Charging Stations within 30 business days after service point energization or on a timeline mutually agreed upon by the Utility and the Customer.
- Customer must notify PG&E when the EV Charging Stations are operational.
- Applicant must agree to maintain and operate the Charging Stations for 5 years and remedy any maintenance issue within 90 days.
- Incidental load is allowable, consistent with BEV rate.
- Customer must show proof of commitment to purchase and install EVSEs in the agreed upon quantity.
- Rule 29 is not applicable for Distribution Line Extensions. Distribution Line Extensions required by the Customer to receive service under this Rule shall be installed pursuant to and in accordance with Rule 15.
    - This Rule does not establish a customer allowance for Rule 15 and does not determine eligibility for an allowance under Rule 15.
    - If an Applicant requires Rule 15 work to receive service under Rule 29, then an allowance shall be calculated pursuant to Rule 15 requirements.
- CPUC may make modifications to Rule 29 that would go into effect as early as 2027.

Tariff is an optional replacement to Rule 16 for EV Service Extensions

	Rule 16 – Service Extensions	Rule 29 – EV Infrastructure
Project Applicability	• Electric service extensions	• Separately metered EVSEs only • Single-family homes excluded
Contract length	• 10 years	• 5 years
Cost to Utility	Utility pays for utility facilities up to the rule 16 allowance • Planning, designing, engineering • Conductors and, where necessary, support poles • Service transformers • Utility-owned metering equipment • Maintenance of service facilities installed under the provisions of this rule	• Planning, designing, engineering • Materials • Trenching and excavation • Permitting, land rights check, and easements • Civil work • Maintenance of EV Infrastructure facilities installed under the provisions of this rule
Cost to Customer	• Trenching and excavation • Substructures and conduits • Protective structures • Permitting, and necessary land rights and easements • Riser material • Overhead to underground conversions • Facility relocations and rearrangements • Environmental studies and remediation • Cost of utility-assigned work that exceeds the Rule 16 allowance, less any rule 16 discounts or refunds • All equipment on customer side of meter	• Environmental studies and issue mitigation • Facility relocations and rearrangements, unless determined by utility to be necessary • Overhead to underground conversions, unless required or otherwise the most cost-effective design • All equipment on customer-side of meter

Rule 29 Tariff and Rule 16 with Rule 15

	Rule 16 – Service Extensions	Rule 29 – EV Infrastructure
Rule 15 Cost	Yes	Yes
Pre-Construction Meeting	Yes	Yes
Engineering Advance	Yes	Yes
Contracts (projects with Rule 15)	Combined contract for Rule 15 and Rule 16	Separate contracts for Rule 15 and Rule 29
Inspection	Yes	No
Utility cost cap	Customer allowance	Shortest or most practical and available route
Customer design & install option?	Yes	No
Load Management requirement?	No	PG&E must offer and discuss with each applicant available IOU and third-party load management solutions
Rate requirement?	No	Applicants default to Business EV rate but can choose a different TOU rate

EVC2 Update

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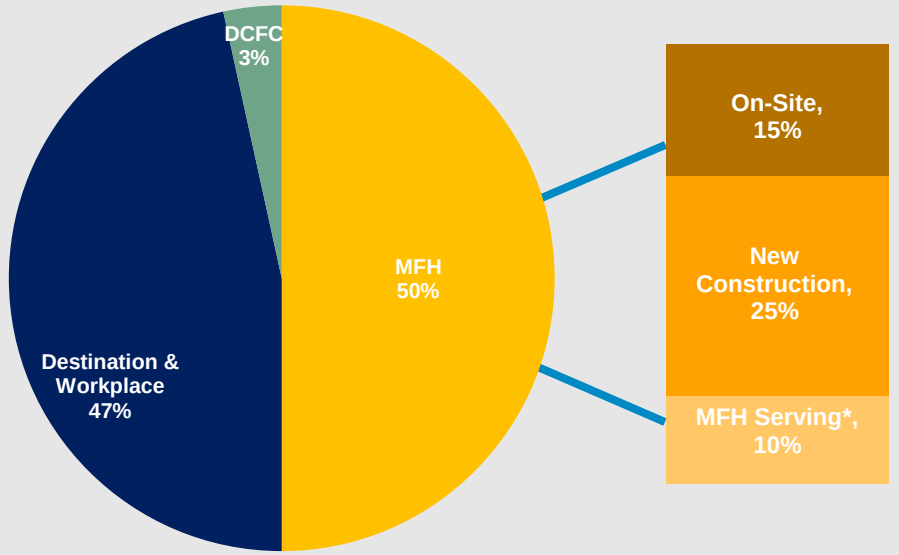
EV Charge 2 Proceeding Update

- PG&E has proposed a **five-year, $276M program extension** to support installation of approximately **16,000 charging ports**
- Emphasis is on multi-location support of multi-family housing (MFH) residents
- Program design is built on lessons learned from EVCN, including significant unmet need

	EVC 2 (BTM only[1])
Implementation	**2023 – ME&O 2024-2028 – Install ports 2029 – Post-energization ME&O**
Investment	**$276M**
Make-ready & EVSE owned by PG&E	**At most 50%[2]**
AB 841 Prioritized Communities (AB841 PCs)	**At least 50%[2]**
PG&E-built ports	**10,900 L2 1,100 DCFC**
New construction rebates	**4,000 L2**
Locations	**MFH, Workplace, Public**

Proposed Customer Segments, by Number of Ports



*Includes public destination L2 and DCFC (50+ kW) sited near MFHs.

Next Steps:

Report on status conference by PG&E filed April 29, 2022
Evidentiary hearings July 19-21, 2022 (tentative)
Opening briefs Date TBD
Reply briefs Date TBD
Proposed decision October 2022
Commission decision Q4 2022

1. To-the-meter (TTM) work associated with EVC 2 infrastructure deployment will be completed under Rule 29: EV Infrastructure Rule, as per AB 841.
2. As required by D. 21-07-028.

Multi-Family Housing and Small Business Direct Install Pilot Program

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MFH and Small Business Direct Install Pilot Program

Multi-Family Housing and Small Business Direct Install Pilot Program	
Customer Segment	Multi-Family Housing Units and Small Businesses
Program Design	Install Level 1 and Level 2 chargers at Multi-Family Housing Units and Small Businesses • Majority of sites will be located in equity communities, serving equity customers
Program Budget	~$25 million LCFS Funded
Program Timeframe	2022-2024
Implementation Structure	Third-Party Implementation Third-Party is responsible for customer acquisition and infrastructure installation

VGI Pilots Update

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VGI Pilots Update

What is Vehicle-Grid Integration (VGI)?

Electric vehicle-grid integration means any method of altering the **time**, **charging level**, or **location** at which electric vehicles*, or off-road electric equipment **charge** or **discharge**, in a manner that optimizes interaction with the electrical grid and provides net benefits to ratepayers.

What are the benefits?

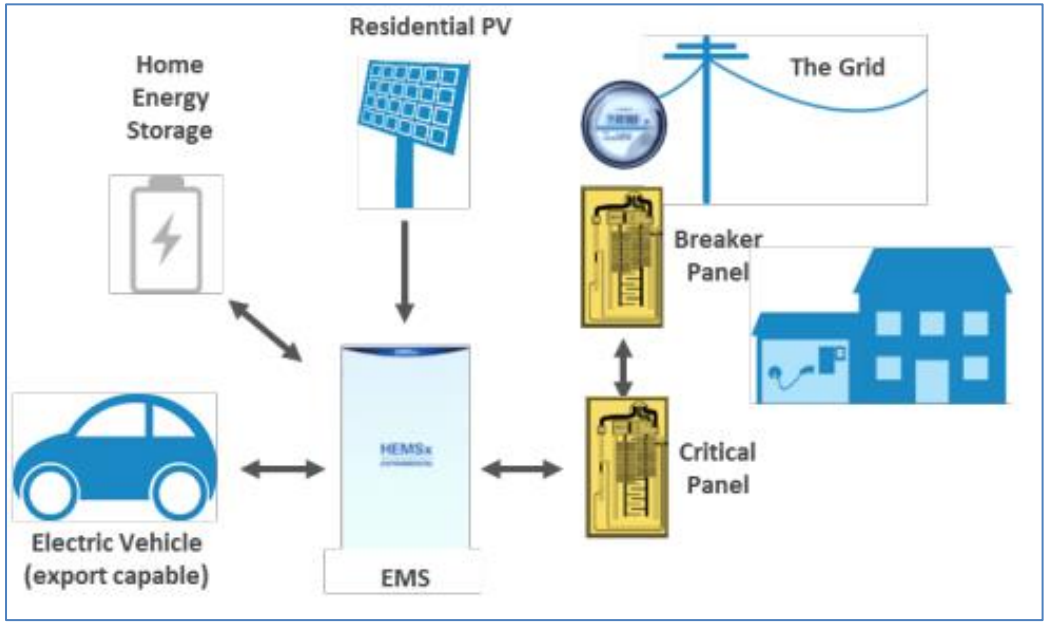
A. Increasing electrical grid asset utilization and operational flexibility.
B. Avoiding otherwise necessary distribution infrastructure upgrades and supporting resiliency.
C. Integrating renewable energy resources.
D. Reducing the cost of electricity supply.
E. Offering reliability services consistent with the resource adequacy requirements established by Section 380 or the Independent System Operator tariff.

*light-, medium-, and heavy-duty or off-road electric vehicles

VGI Pilots Regulatory Background

Regulatory Background

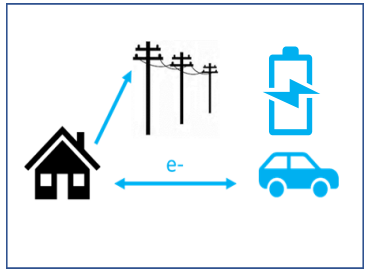
- Senate Bill 676, October 2019
  - Aims to accelerate “cost-effective” VGI solutions by 2030
- CPUC’s VGI decision (D.)20-12-029, Dec. 2020
  - Established new VGI definition
  - Authorized IOUs to submit VGI pilots
- PG&E’s VGI Pilots Advice Letter 6259-E, July 2021
- CPUC’s Draft Resolution, E-5192, March 2022



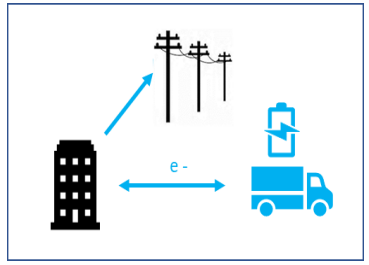
VGI Pilots Details

Objective: PG&E's VGI pilots will help determine cost-effective V2X solutions and pathways to scale deployment.
Timeline: 2022 Q3 – 2025 Q3

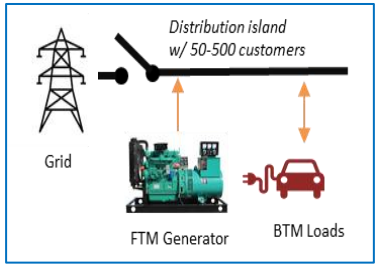
V2X - Residential



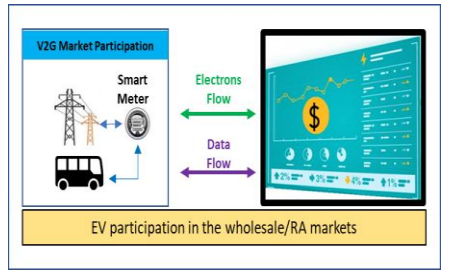
V2X - Commercial



V2M - Microgrid



V2G – Market Simulation

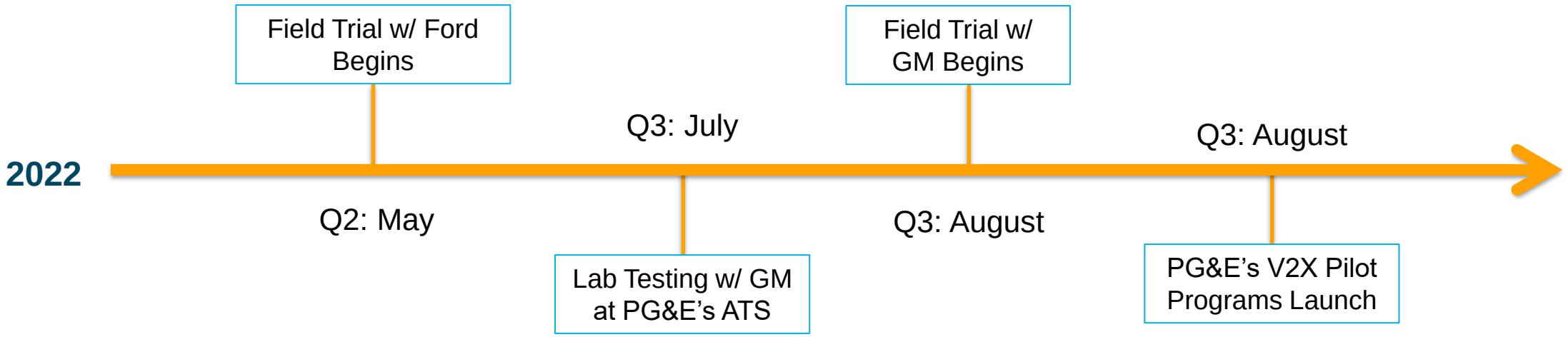


	V2X – Residential	V2X – Commercial	V2M – Microgrid	V2G – Market Simulation
Objectives	Give residential customers access to V2X technology, determine pathways to scale and enable the following services: - V2H Backup power - V2H Bill management - V2H Real-time energy - V2H System renewable energy integration	Give commercial customers access to V2X technology, determine pathways to scale and enable the following services: - V2H Backup power - V2H Bill management - V2H Real-time energy - V2H Distribution upgrade deferral	Enable BTM-sited vehicles to charge/discharge in a PSPS-formed microgrid to support community resiliency.	Determine pathways for heavy-duty EV market participation providing ancillary services. It gives School Districts access to V2X technology for E-Buses, creates new revenue streams for customers and grid support services.
# of Pilot Participants	1,000	200	Hundreds	Tens
Total Budget	$7.5 million	$2.7 million	$1.5 million	$2.3 million

VGI Pilots Objectives and Timeline

Objectives of PG&E V2X Initiatives

- **General Motors Partnership:** Lab demonstration to enable V2H backup power for GM vehicles and small-scale field trial to ease future customer adoption, and evaluate customer experience
- **Ford Motor Company Partnership:** Small-scale field trial to improve internal processes for future adoption of bidirectional vehicles, and evaluate customer experience
- **PG&E's V2X Pilot Programs:** Large-scale program to accelerate the adoption of bidirectional technologies through incentives and study of cost-effectiveness



*Note: Dates are subject to change

SB 350
Standard Review Projects

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EV Charge Schools & Parks Update

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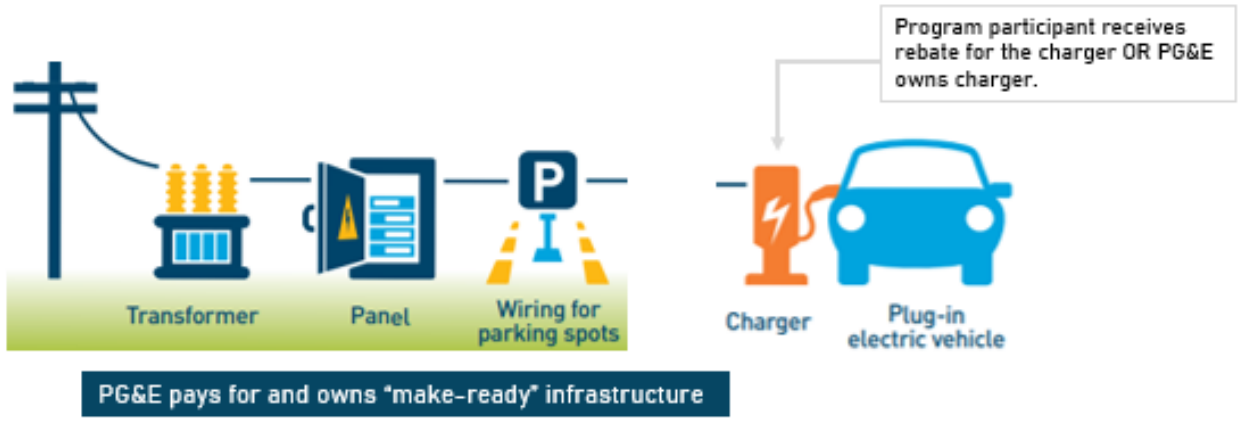
EV Charge Schools Pilot Program Overview

- In support of AB 1082, EV Charge Schools will install **L2 charging infrastructure for passenger vehicles** at school facilities and educational institutions in support of CA's electrification goals.

Program Summary

Offering: Make-ready infrastructure for L2 charging infrastructure for passenger vehicles at schools.
Amount: Rebates up to $11,500 (L2 single)/up to $15,500 (L2 dual) for schools program or utility sponsored
Model: Utility owned make-ready + customer or PG&E owned EVSE
Budget: $5.76M from 2021 - 2023
Scope: up to 22 schools, range of 88-132 L2 ports
Equity: 40% of school project sites



EV Charge Schools Program Update

Status as of 3/31/22

	Sites	Ports*
Applications	61	366
Contracted Sites	9	54
Pre-Construction	4	24
Constructed	0	0
Activated	0	0

Program Updates

- Break ground on first site in Q2/Q3'22
- EV Curriculum received
  - Develop marketing + outreach plan in Q2'22
  - Curriculum deployment in Q3'22
  - Every K-12 School in PG&E Territory will have access to curriculum & teacher training (> 1000 schools)

Program Budget Overview

Spend-to-Date	Remaining Funds
$778k	$4.98M

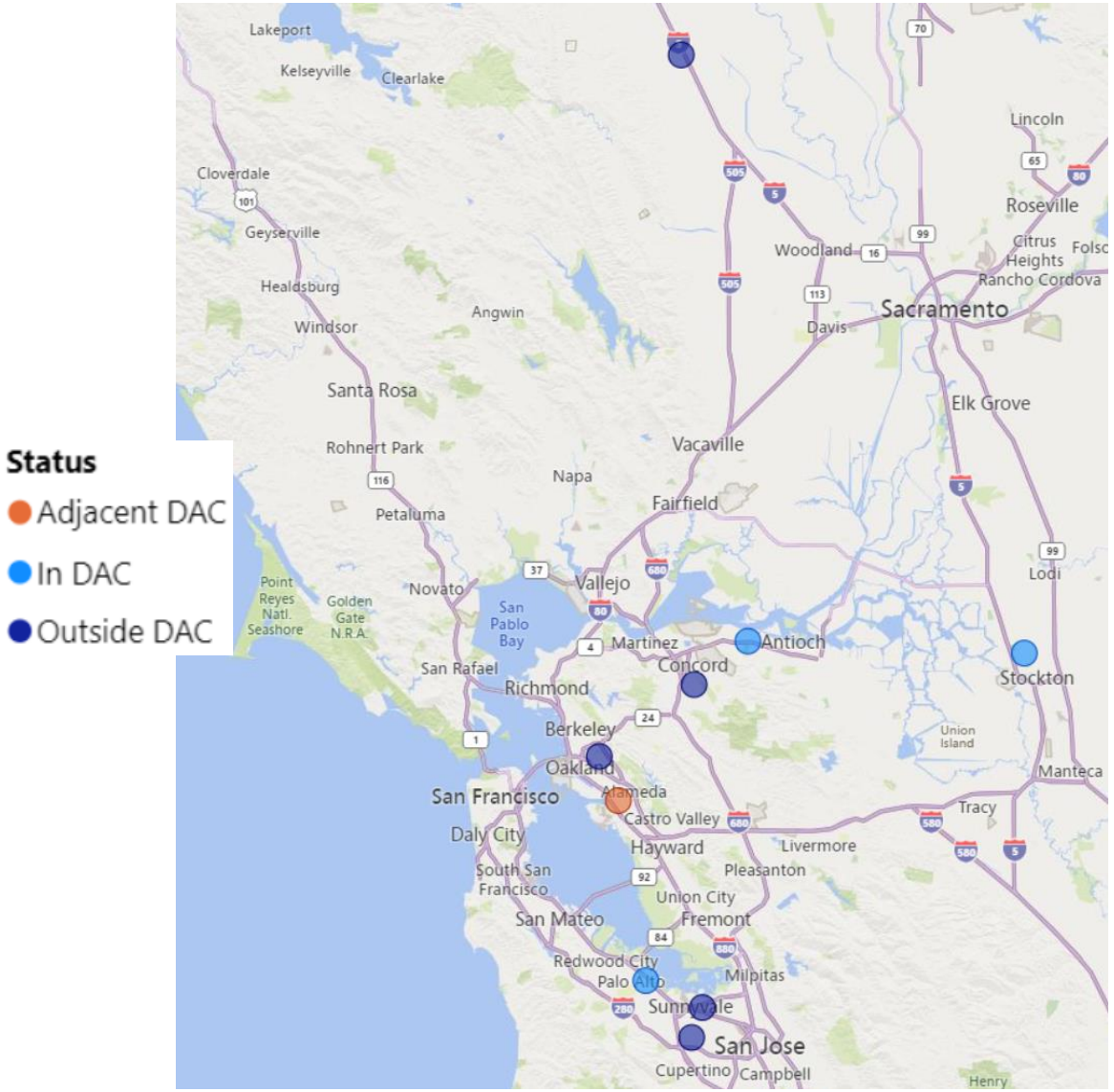
Lessons Learned/Best Practices

- **Building trusted relationships is key to program success**
  - Internal + external stakeholders
  - If possible, establish more than one champion

*Targeting 6 ports per site

EV Charge Schools Contract + Site Update

Sites with signed contracts



	DACs	DAC Adjacent	Non DACs	Total
Contracts	3	1	5	**9**
Ports	18	6	30	**54**

- 1 additional contract received since Q4'21 PAC update
- Good geographic dispersion
- Trending to achieve 40% DAC target
- Hard to reach communities are in program

EV Charge Parks Program Update

Status as of 3/31/22

	Sites	Ports*
Applications	0	0
Contracted Sites	0	0
Pre-Construction	0	0
Constructed	0	0
Activated	0	0

Program Update

- Preliminary site assessment list (34 State Parks) under review with Parks
- Working on streamlined master agreement

Program Budget Overview

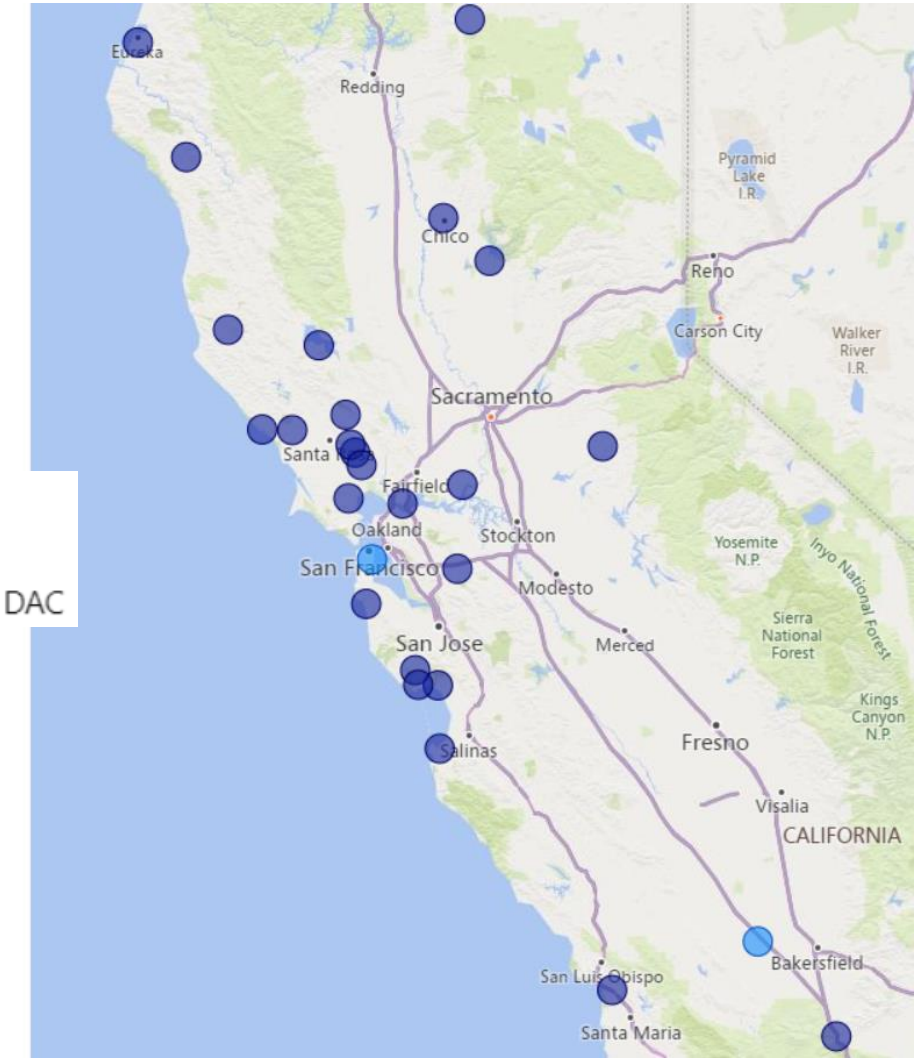
Spend-to-Date	Remaining Funds
$347K	$5.19M

Lessons Learned/ Best Practices

- **Building trusted relationships is key to program success**
  - Internal + external stakeholders
  - If possible, establish more than one champion

EV Charge Parks Site Update

Sites identified by PG&E



Program Scope

	Scope	Time	Budget	Sites	DAC	Rebates
Parks Program	15 parks/beaches 40 L2 ports 3 DCFC	2 years	$5.54M	State parks/beaches (fleet and public)	25% of sites	PG&E Sponsorship

Additional Program Components

- Awareness raising: Signage and PR efforts for parks/beaches
- Exploring opportunities to deploy chargers in Tribal Communities

- PG&E analysis identified 34 potentially eligible State Parks and Beaches sites for EV Charge Parks Program
- Some dots represent more than 1 Park due to overlapping zip codes

EV Fast Charge

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EV Fast Charge Program Update

Status as of 3/31/2022

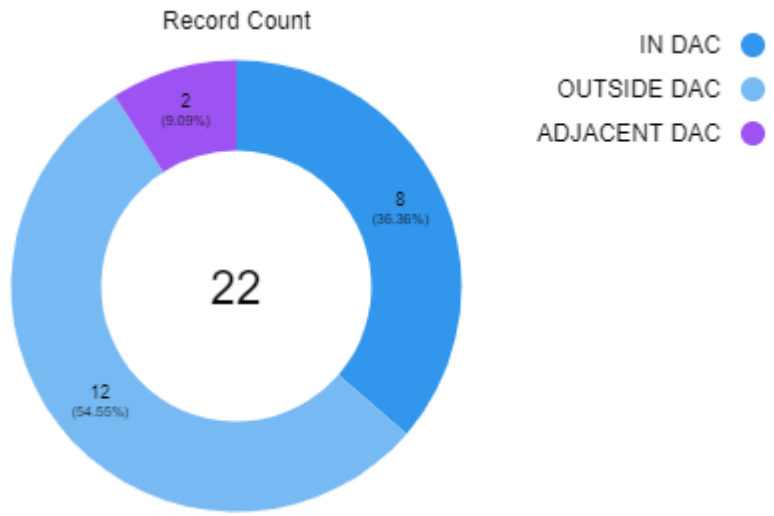
	Sites	Ports
Applications	256	1154
Contracted Sites	22	116
Final Design	14	66
Constructed	5	20
Activated	4	16

Program Budget Overview

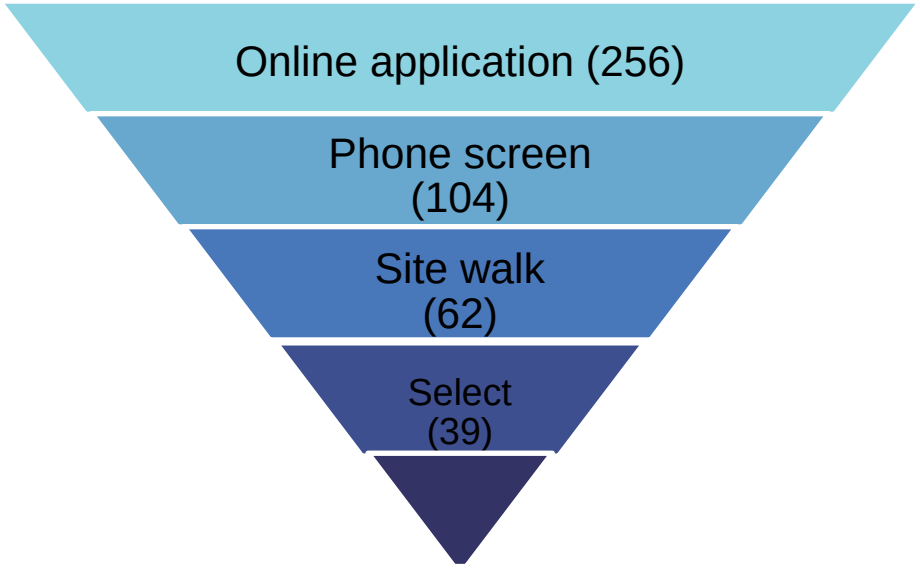
Spend-to-Date	Remaining Funds
$5.3M	$17.1M

Lesson Learned: Despite thorough screening of customers in advance of offering contracts, it may benefit the Program to require a deposit or formal commitment in advance of conducting site walks to preserve program funds.

DAC Targets

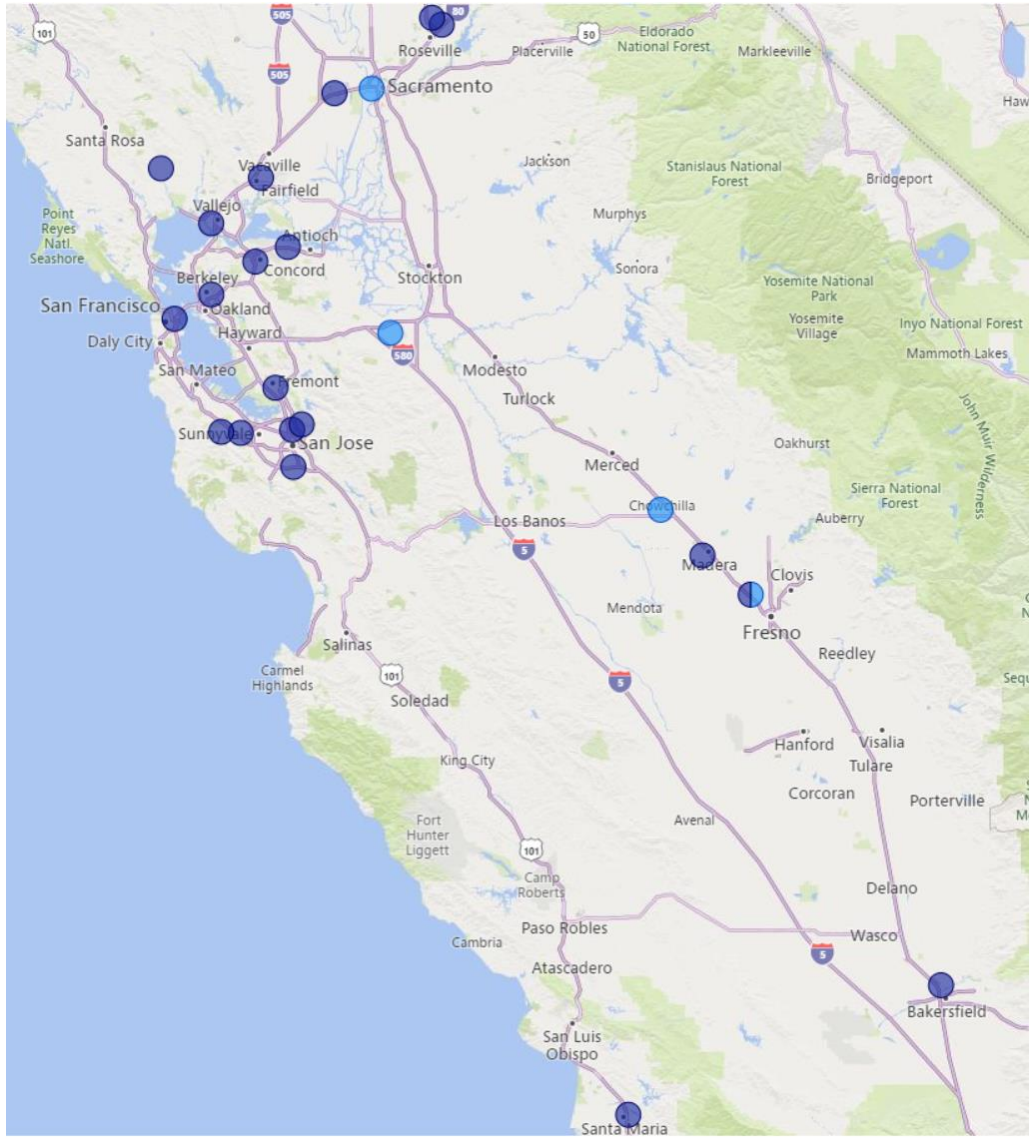


Site Evaluation Progress Gates



Fast Charge Construction and Activation

Activated sites and sites in construction by zip code



EV Fleet

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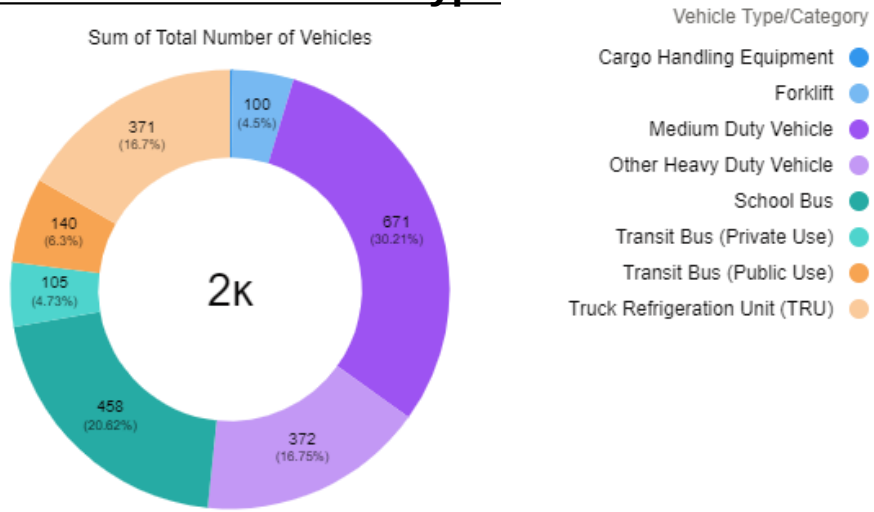
EV Fleet Program Update

Status as of 3/31/2022

	Sites	EVs
Applications	232	-
Viable Contracts[1]	106	1,963
Final Design	72	925
Construction Complete	34	370
Activated	30	328

Viable Contracts: Vehicle Type



Program Highlights

- The program **exceeded 100 contracts signed** in Q1
- 41 of the 106 signed contracts **(38%) are in DACs**
- Program is seeing a **good mix of vehicle types**
- Program budget = $236.3M; **Spend-to-date = $28.0M**
- **T3 Advice Letter** was filed on April 1st, 2022
  - Extend program through 2026
  - Remove program site goal
  - Explicit support for MDHD public charging sites

Lesson Learned:

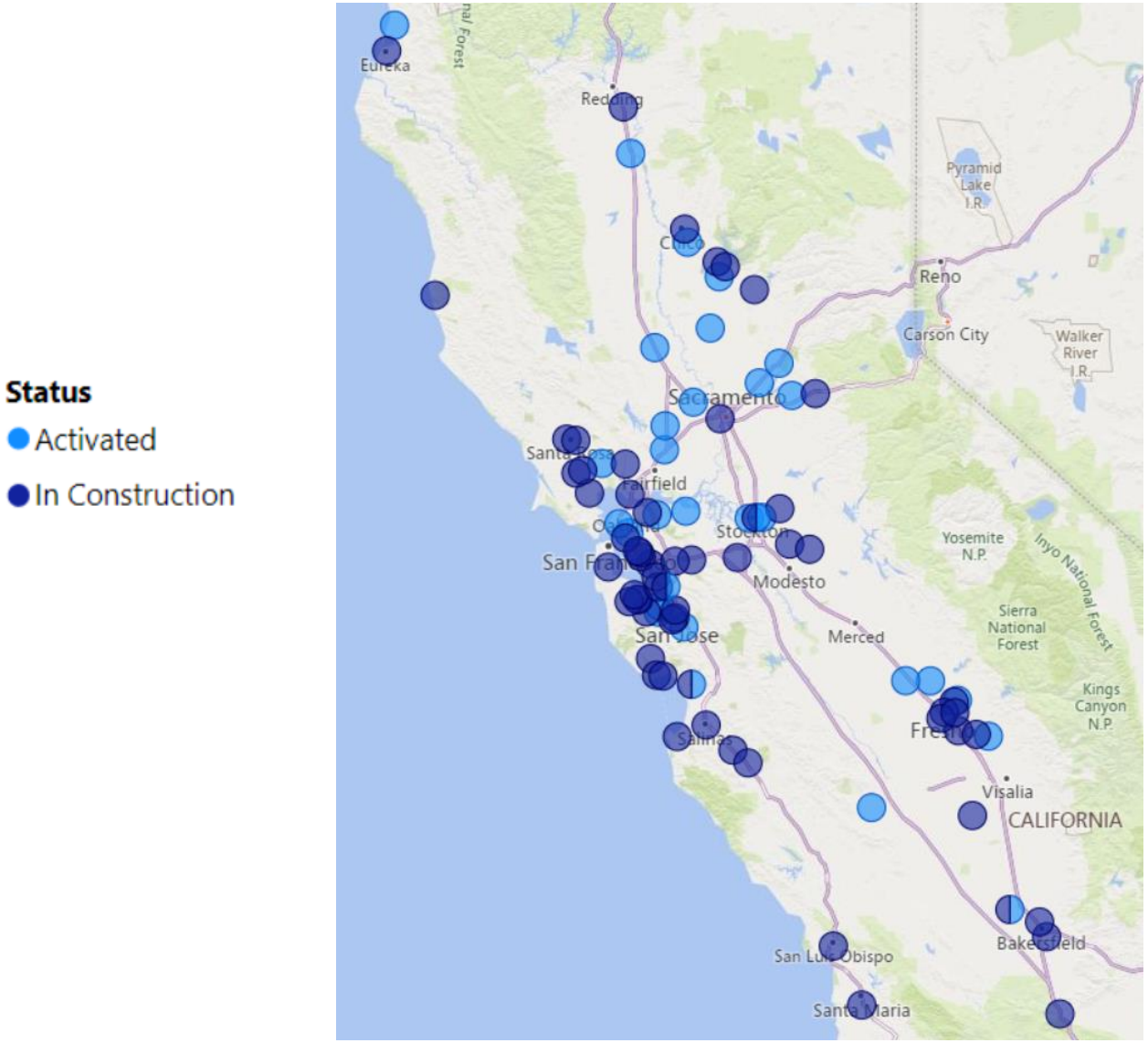
We have repeatedly seen that site hosts struggle to construct their own BTM

- Takes a long time to run RFPs and gain approvals, especially for schools and transit agencies
- Bridge funding is a challenge
- Global supply chain disruptions are impacting availability of switchgears

[1]*Viable contracts are all contracts signed to-date excluding cancelled and withdrawn.*

Fleet Construction and Activation

Activated sites and sites in construction by zip code



Fleet EVSE Rebates Annual Review

Power output	EVSE Rebate for eligible customers*	Share of committed EVSEs
Up to 50 kW	50% of the cost of EV charger, up to $15,000	70%
50.1 kW – 149.9 kW	50% of the cost of EV charger, up to $25,000	16%
150 kW and above	50% of the cost of EV charger, up to $42,000	13%

*Eligible customers include schools, transit agencies, and non-Fortune 1000 companies located in DACs

- So far have only paid out rebates to 20 sites, none have hit the rebate cap, no need for adjustment
- Developing a strategy for determining rebates for power cabinets
  - All IOUs currently consider to be a single EVSE unit, so only eligible for up to $42k
  - Example configuration of 20 dispensers x 75kW each = 1.5MW total output
  - Current structure favors standalone chargers over power cabinets -> do not want to bias the market
  - Could establish new rebate tranche or allow power cabinet dispensers to be counted the same as unitary EVSEs

Transit and School Bus Rebates $37,350,000
DAC Rebates $14,777,063

Questions

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