

# Program Advisory Council Meeting

## Q1 2024

April 25, 2024



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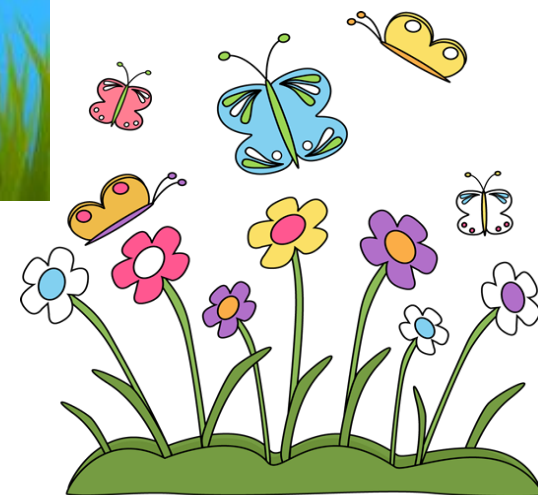


# Agenda

Introduction   Safety	4 minutes
Meeting Timeline   Market Update   Fun Fact!	5 minutes
EV Fleet Program Updates	10 minutes
EV Fast Charge Program Updates	8 minutes
EV Charge Schools Program Updates	8 minutes
EV Charge Parks Program Updates	4 minutes
Empower EV	5 minutes
VGI Forum	10 minutes
VGI Pilots	5 minutes
Pre-Owned EV Update	10 minutes
ICA Map Upgrades	10 minutes
Q & A	10 minutes
Conclusion	2 minutes

# SPRING DRIVING SAFETY

- Watch out for potholes. Winter creates them so look out for them in the Spring.
- Look out and be cautious for pedestrians out on the road walking or biking.
- Spring showers are still bound to happen so slow down when the roads are wet.
- Maintain proper tire air pressure.

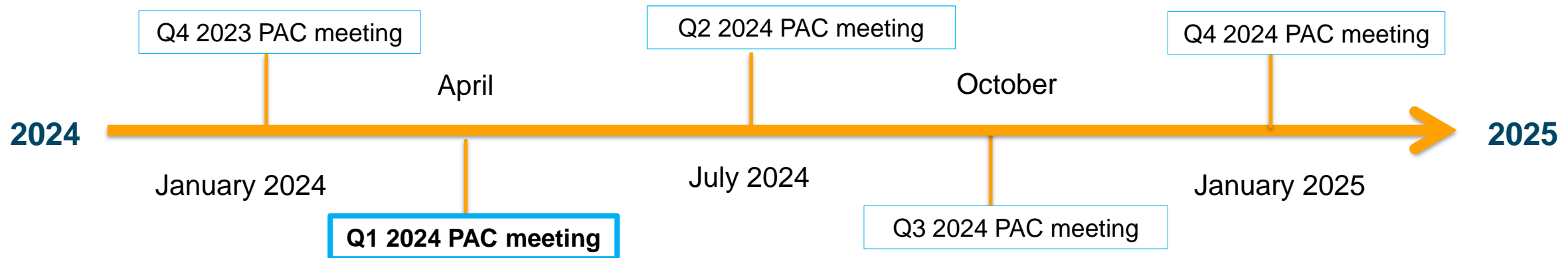




# Clean Energy Transportation Program Advisory Council Meetings

## Overview

- PG&E has expanded our efforts on transportation electrification (TE) with several filings, pilots and programs in progress
- CPUC has directed PG&E to consult a Program Advisory Council (PAC) in the development of key TE 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



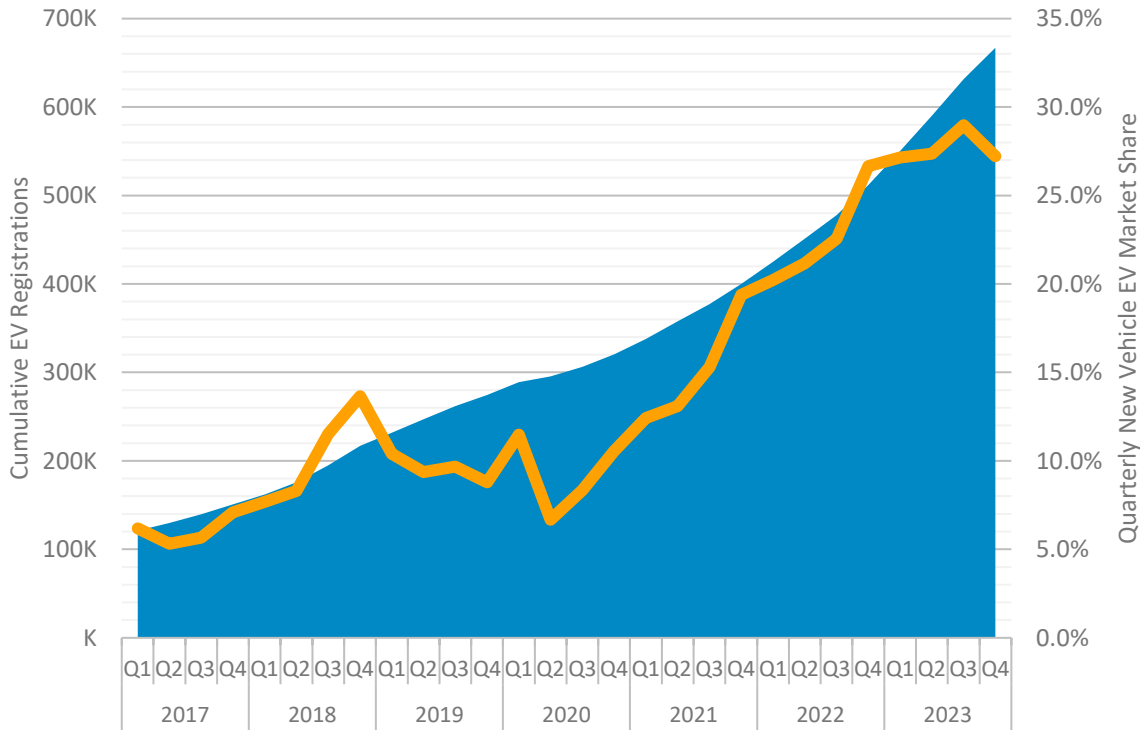


# EV Market Update

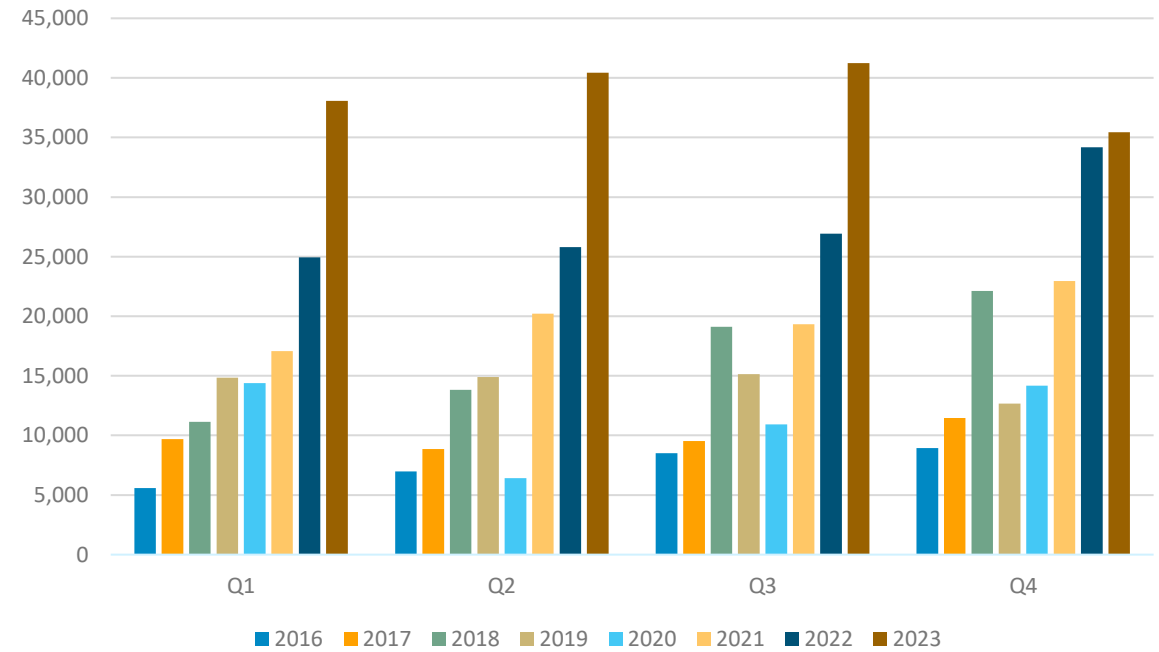
680,052

EVs registered in PG&E service territory through January 2024

### Cumulative New EV Registrations PG&E Service Territory

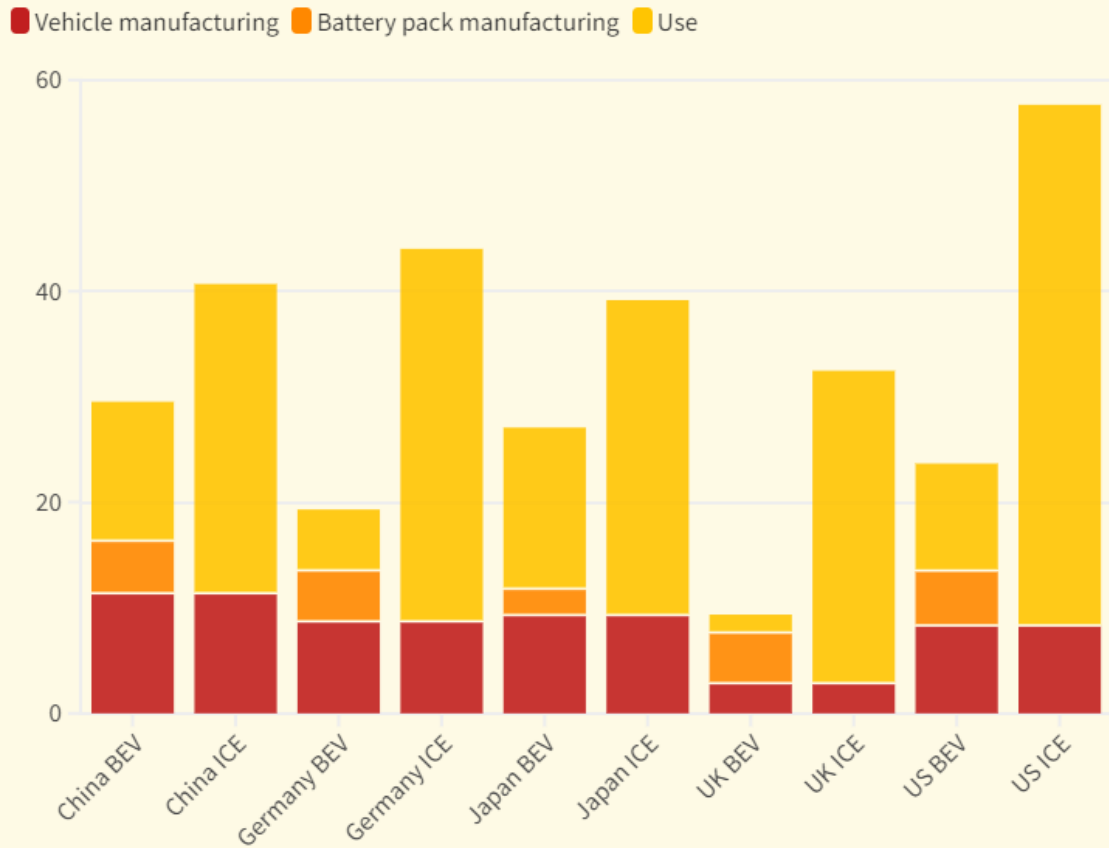


### New EV Registrations by Quarter



## Lifetime EV Emissions Lower than Gas Cars

**EVs are cleaner than gas-powered cars across the board**  
 Lifetime CO2 emissions for vehicles made in 2023, in metric tons



Source: BloombergNEF • Note: BEV = battery electric vehicle; ICE = internal combustion engine; Assumes 250,000 km driven

## PG&E Energy Mix Hits Milestone

### PG&E 2023 Energy Mix

- PG&E delivered 100% greenhouse gas-free electricity in 2023 to residential customers and businesses to whom we directly sell power.
- GHG calculation leverages California Energy Commission approved methodology.
- Delivered via renewables, hydroelectric, nuclear and renewable energy credits.

Source: PG&E Working to Reduce Bills in 2025-26, Deliver Climate-Resilient Energy at Lowest Cost

# Fun Fact Survey



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# SB 350 Standard Review Projects



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# EV Fleet



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# EV Fleet Program Update

## Status as of 3/31/2024

	Sites	MDHD EVs Committed
Applications	498	-
Viable Contracts <sup>1</sup>	257	5,221
Construction Complete	81	1,613
Activated	69	1,168

<sup>1</sup>Viable contracts are all contracts signed to date excluding cancelled and withdrawn

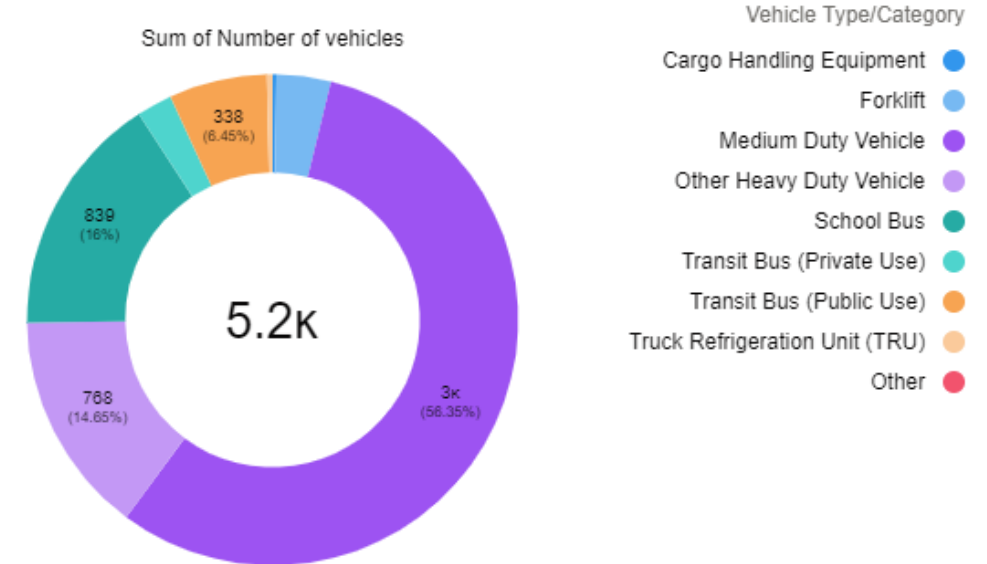
## Program Budget Overview

Spend-to-Date	Remaining Funds
\$54.9M	\$181.4M

## Lessons Learned/Best Practices

- Program is looking to engage more small projects
- Planned outreach to local governments/municipalities
  - CBO collaboration to market EV Fleet to Chambers of Commerce
  - Engagement with SMB team within PG&E

## Viable Contracts: Vehicle Type



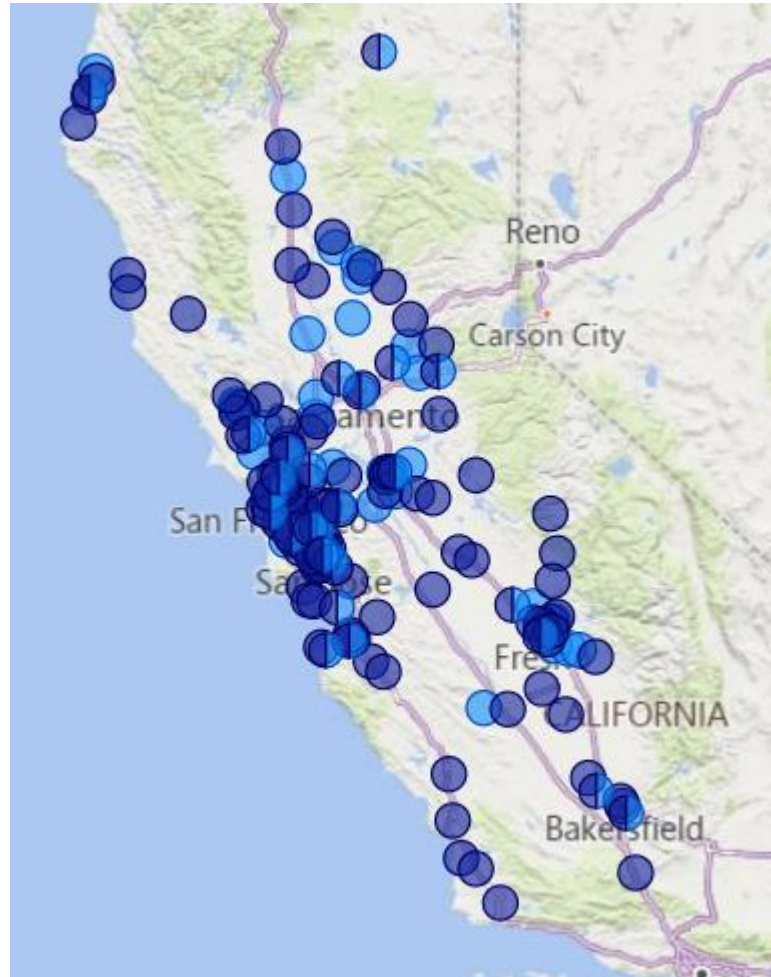
## Program Highlights

- 115 of the 257 signed contracts (45%) are in DACs
- Program is seeing a **good mix of vehicle types**; medium duty vehicles are now dominant type due to diverse applications, availability, operational compatibility
- Program has reached 80% of its vehicle target (6,500 vehicles), still behind on number of sites enrolled
- Tier 3 Advice Letter filed with CPUC to modify site goal – proposed range of 375 to 440 sites for program; currently suspended until May 2024

# Fleet Construction and Activation

Activated sites and sites in construction by zip code

- Status**
- Activated Site
  - Contract Signed





# Fleet EVSE Rebates Annual Review

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

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

Charger rebate levels continue to match or exceed current EVSE prices – no changes to rebate levels proposed at this time

E-mail Kati Pech ([Katherin.Pech@pge.com](mailto:Katherin.Pech@pge.com)) and Sarah Knight ([Sarah.Knight@pge.com](mailto:Sarah.Knight@pge.com)) if you have comments

Transit and School Bus Rebates \$37,350,000 DAC Rebates \$14,777,063
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# Fleet EVSE Rebate Survey



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# EV Fast Charge



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# EV Fast Charge Program Update

## Status as of 3/31/2024

	Sites	Ports
Applications	271	1,225
Contracted Sites	35	193
Constructed	26	132
Activated	21	84

Contracted site counts exclude cancelled projects

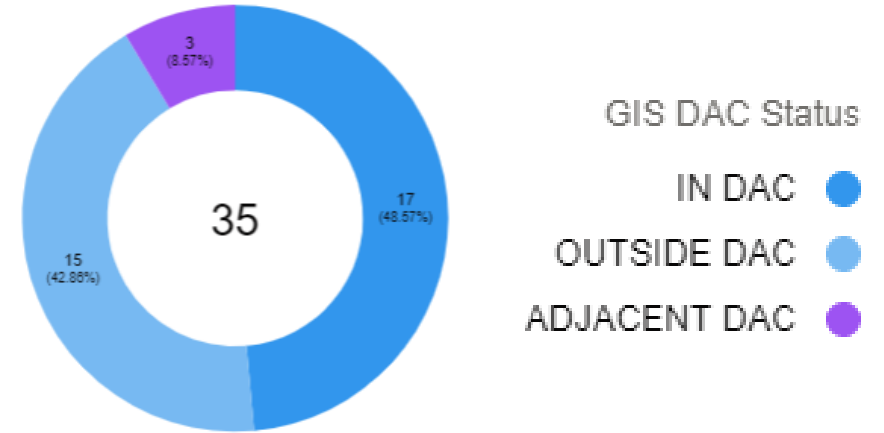
## Program Budget Overview

Spend-to-Date	Remaining Funds
\$16.0M	\$6.4M

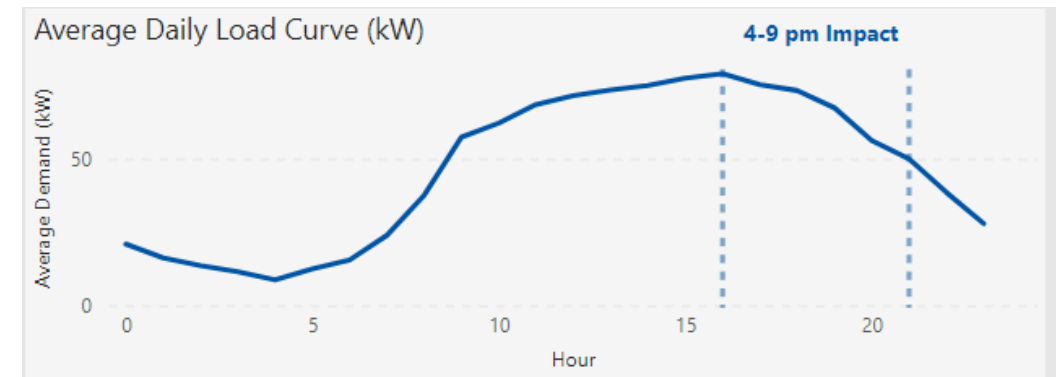
### Lessons Learned:

- Even with the benefits of the Fast Charge Program, ROI on Fast Charging appears to be low or negative for some.
- Initial trends show highway corridor charging is generally less utilized than urban locations

## DAC Targets: Signed Contracts



## Portfolio-wide Utilization Trends



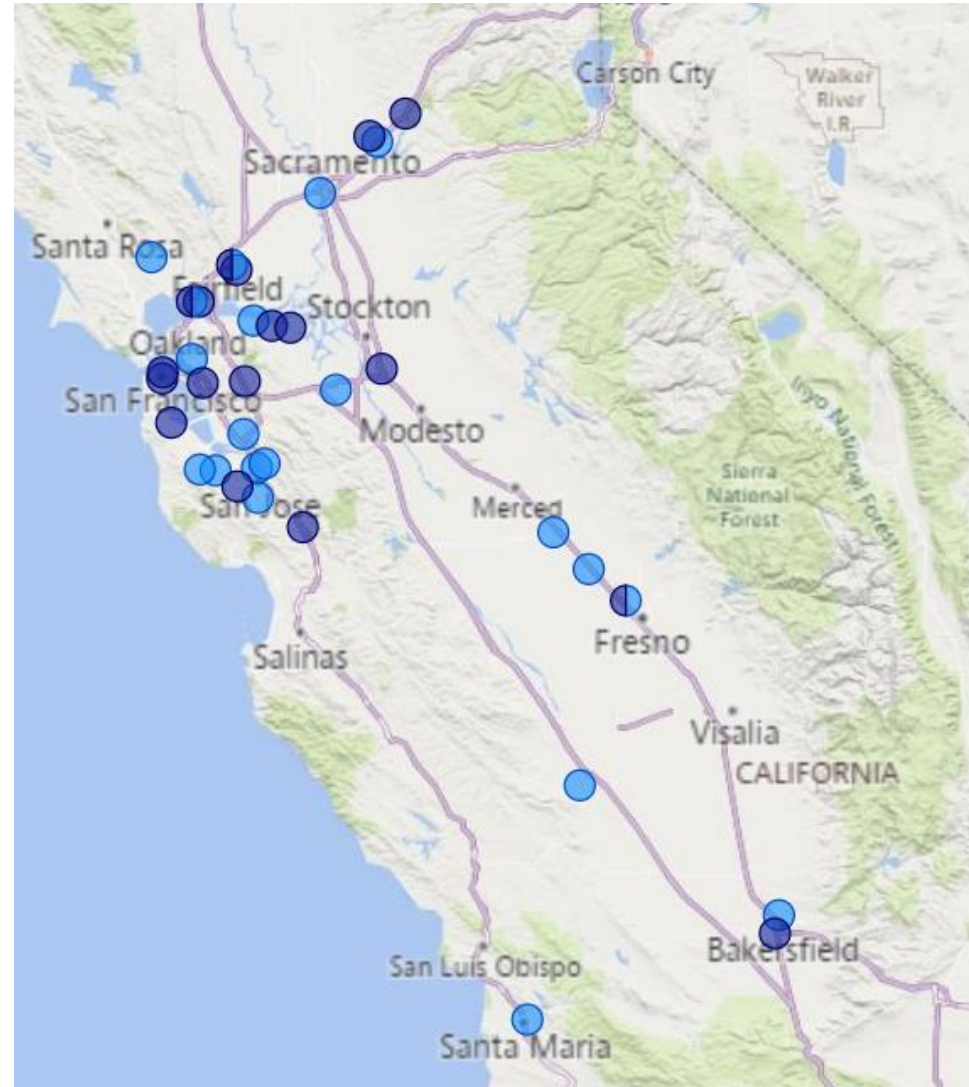
Source: SRP Evaluation Dashboard

# Fast Charge Sites Contracted and Activated

Activated sites and sites contracted by zip code

**Status**

- Activated Site
- Contract Signed





# AB1082 & AB1083 Standard Review Projects



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# EV Charge Schools & Parks Update



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## Status as of 3/31/2024

	Sites	Ports*
Applications	79	474
Contracted Sites	13	78
Constructed	11	66
Activated	11	66

\*Targeting 6 ports per site; Sites and port counts reflect cumulative totals

## Program Budget Overview

Spend-to-Date	Remaining Funds
\$4.17M	\$1.59M

## Lessons Learned/Best Practices

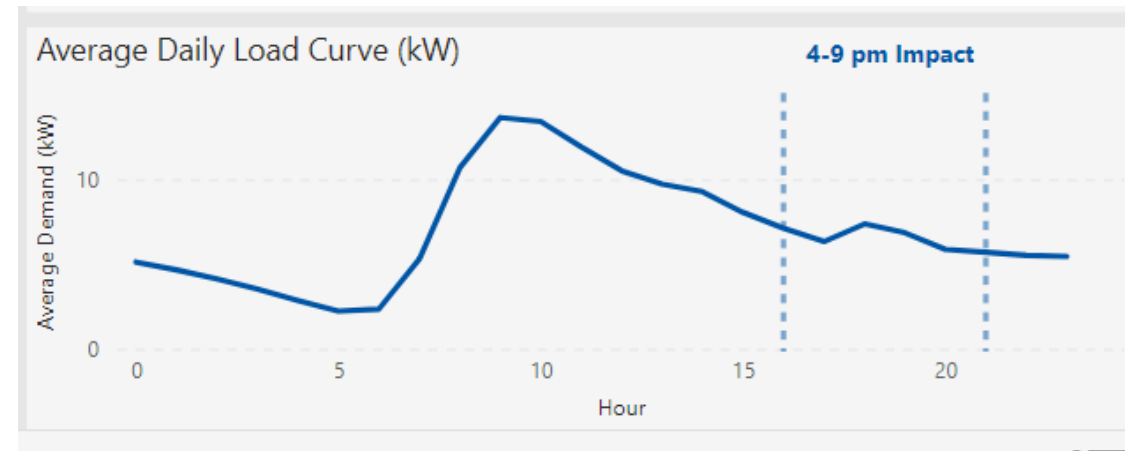
- Timing of construction with summer break is very important to most schools.
- Preliminary trends indicate different schools have very different levels of utilization, despite all having the same number and types of chargers installed.

## Program Updates

- No longer recruiting new sites
- Final two sites were contracted in early Q2
- EV Curriculum available online to every K-12 school in PG&E territory

[www.energizeschools.org/evcurriculum.html](http://www.energizeschools.org/evcurriculum.html)

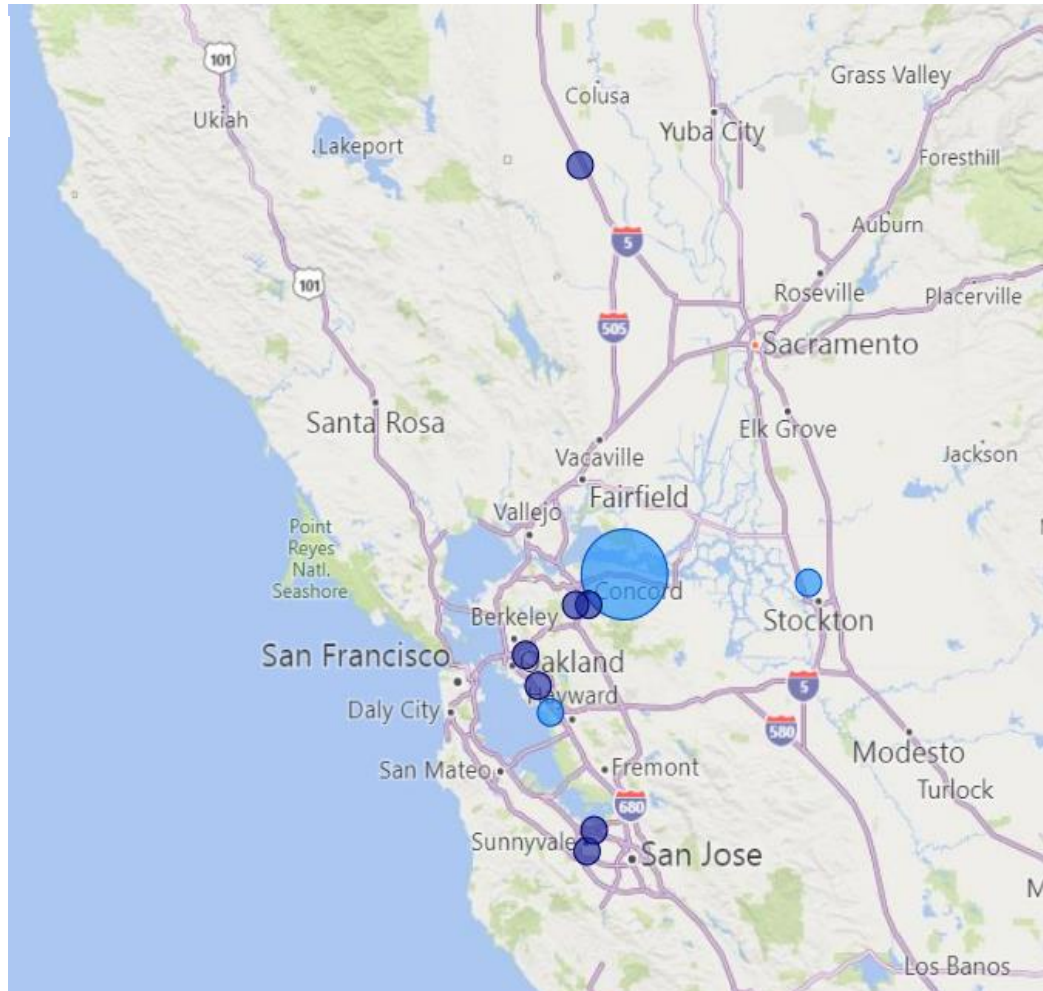
## Average Daily Load Curve



Source: SRP Evaluation Dashboard

## Sites with signed contracts\*

- DAC Status**
- IN DAC
  - OUTSIDE DAC



\* 3 DAC sites within same zip code

	In DAC	Outside DAC	Total
<b>Contracts</b>	6	7	<b>13</b>
<b>Ports</b>	36	42	<b>78</b>
<b>DAC Percentage</b>	46%	54%	<b>100%</b>



# EV Charge Parks Program Update

## Status as of 3/31/2024

	Sites	Ports*
Applications	0	0
Contracted Sites	0	0
Constructed	0	0
Activated	0	0

## Program Budget Overview

Spend-to-Date	Remaining Funds
\$487K	\$5.05M

## Lessons Learned/ Best Practices

- Current progress dependent on engagement from the Parks Department
- Turnover at Parks Department has impacted review timelines
- DAC definition makes it inherently difficult to qualify Parks and Beaches (25%)

## Program Update

- State Parks Legal Dept is engaging with PG&E Legal Department on negotiation of Master Services Agreement language
- PG&E team is researching EVSPs that qualify and would serve as "customer of record" for the program
- State Parks requested to replace dedicated State Parks fleet charging and off-grid charging with standard L2 and L2/DCFC visitor parking



Internal

# Additional Program Updates



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# Empower EV



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# Empower EV Program Overview

## Program Overview

- **Audience:** Income-eligible residential customers in single-family households
- **Incentive:** \$500 no-cost L2 charger, \$2,000 for service upgrades
- **Timeline:** 2023 - 2024

**\$4.13M** Program budget

**2,000** Estimated customers served with chargers

**800** Estimated customers served with SP upgrades

## Eligibility

- Residential Customers
- Current or potential EV owners
- 400% or below Federal Poverty Level (FPL)
- Home-owners or renters

## Administrative Details

- **Program Launch:** June 29<sup>th</sup>, 2023
- **Third-Party Implementer:** GRID Alternatives
- **Program Electrician:** Eagle Systems International (dba. Synergy Companies)
- **Program Website:** [pge.com/empower-ev](https://pge.com/empower-ev)
- **Phone:** 855-283-4638
- **Email:** [evs@gridalternatives.org](mailto:evs@gridalternatives.org)





# Empower EV Program Update

## Status as of 3/31/2024

	Total
Applications Submitted	3,337
Applications Approved	1,143
L2 Charger Rebates Redeemed	954
Panel Upgrades	0 <sup>1</sup>

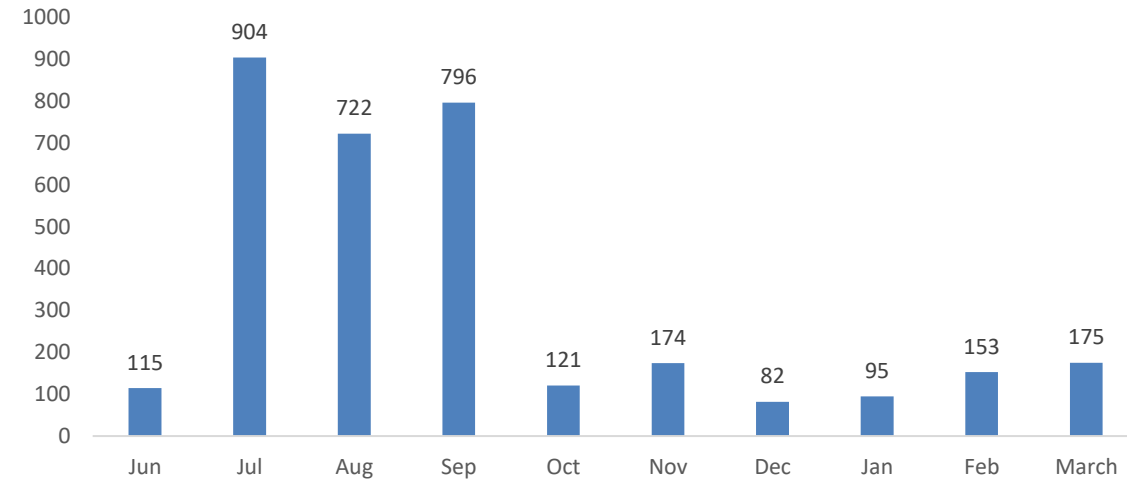
## Program Budget Overview

Spend-to-Date	Remaining Funds
\$1.8M	\$2.1M

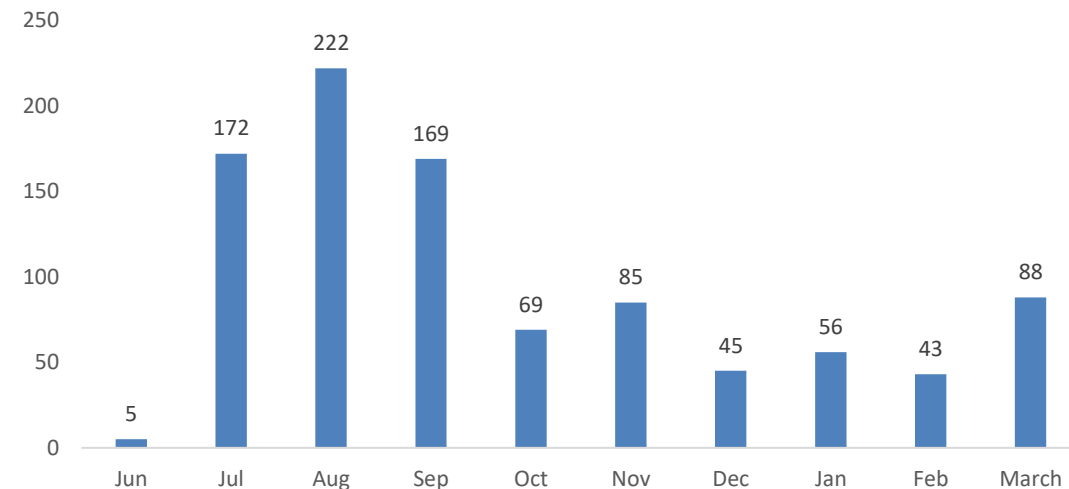
### Lessons Learned:

- Higher than anticipated out-of-pocket electrical costs impacting participation in service panel upgrade rebates
- Limited number of available EV incentive programs and higher prices have reduced adoption amongst LMI customers

## Applications:



## Charger Rebates:




1. First panel upgrade project has been scheduled

# VGI Forum



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- Inaugural VGI Forum took place March 22, 2024 at PG&E HQ
  - Annual VGI Forum directed under D. 22-11-040
  - Objective is to convene stakeholders to discuss VGI strategic focus areas
- Agenda
  - CPUC/CEC Overview of ongoing VGI Efforts
  - Flexible/Scaled Service Agreement using ALM
  - Emerging Issues on EV Interconnection/Energization
  - General VGI Priorities
- Takeaways/Key Themes
  - Focus of identifying near-term actions that ED can take (e.g. “quick-wins”)
  - Dynamic prices are coming. Will the EV ecosystem adopt and respond to dynamic prices?
  - EV related Interconnection. When is R21 needed, when is it not? Gaps in IX pathways (e.g. AC V2G)
  - IOUs are piloting Flexible/Scaled Service Agreement Use Case
    - Very early stages of piloting use case
    - Regulatory gaps to scaling Flexible/Scale Service Agreement
- Next Step:
  - Joint-IOU’s will file workshop report targeting 5/21/2024
  - Next VGI Forum anticipated Q4 2024



~150 registrants  
representing over 50  
stakeholder groups

# VGI Pilots



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# Vehicle-to-Home (V2H) Pre-Pilot Activities

Status as of 03/31/2024

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**PG&E has enabled 2 customers to use their electric vehicle as a resource for backup power through V2H technology.**



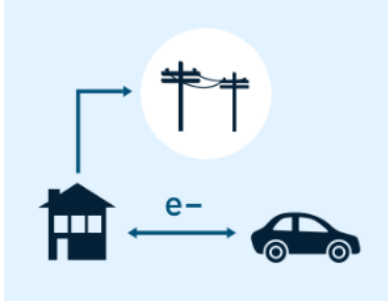
## Ford Motor Company Field Demo

PG&E collaboration with Ford to enable first-to-market F-150 Lightning EV and bidirectional charging system, which consists of the Ford Charge Station Pro and the Sunrun Home Integration System.

- **2023 Q3 – 2 Field Demonstration Installations completed in July**
- **2023 Q4 – Completed testing the V2H backup power functionality**
- **System monitoring will continue for 12 months**
- **2024 Q1 – Both customers have experienced outages since their installation and been able to power their homes successfully.**

# Vehicle to Everything (V2X) Pilot Programs

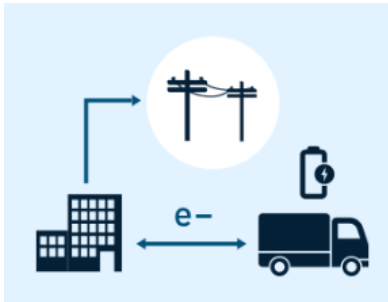
## Pilot #1: Residential



**Enrollment:** We have 2 customers fully enrolled!

**Eligible Equipment:** Ford F-150 Lightning MY 2022/2023 paired with the Ford 80 Amp Charge Station Pro and Sunrun Home Integration System

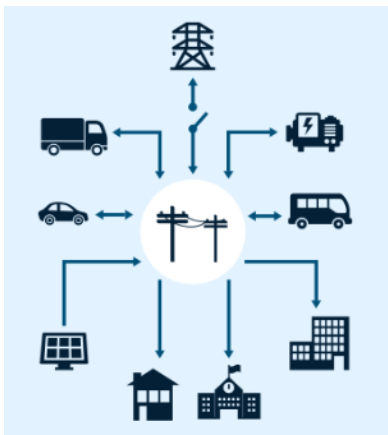
## Pilot #2: Commercial



**Enrollment:** Requires eligible equipment.

**Eligible Equipment:** We are actively working with manufacturers to get technologies added to the list.

## Pilot #3: microgrids



### Phase 1 – Testing Cohort / Redwood Coast Airport Microgrid:

- Contract with Schatz Energy Research Center - signed
- Project delays due to FAA funds which are necessary to complete the RCAM supporting infrastructure. Funds expected March 2024.
- Interconnection application - in progress
- New completion date estimated Q4 2024 (pending FAA funds)

**Phase 2 open enrollment updated to Q4 2024**

# Vehicle to Everything (V2X) Survey



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# Pre-Owned EV



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# Pre-Owned EV Program

## Program Overview

- **Audience:** Residential
- **Model:** Rebate for purchasing/leasing used EV
- **Incentive:** \$1,000 base, \$4,000 for income-qualified customers
- **Status:** Open to applications

**\$86M** Program Budget

**Feb '23** Launch Date

**Dec '24** Deadline to Apply\*

## Eligibility

- Active residential customer (SF or MFH)
- Vehicle purchased within 6 months
- Income-qualified: <80% of AMI

## Additional Information

- Income-qualified component: \$3,000 added for income-qualified applicants
  - Outreach from PG&E and implementer community-based organization networks critical
- Meant to fill a market gap – most incentive programs focus on new EVs
- PG&E, SCE and SDG&E operate the same program with one implementor, collectively providing used EV rebates to the majority of California.
- \*PG&E submitted a request to the CPUC in November 2023 to extend the program 2 more years and continue to accept applications until the end of 2026



# Pre-Owned EV Program

## Status as of 3/31/2024

	Total
Applications Submitted	7,312
Total Rebates Paid	4,275

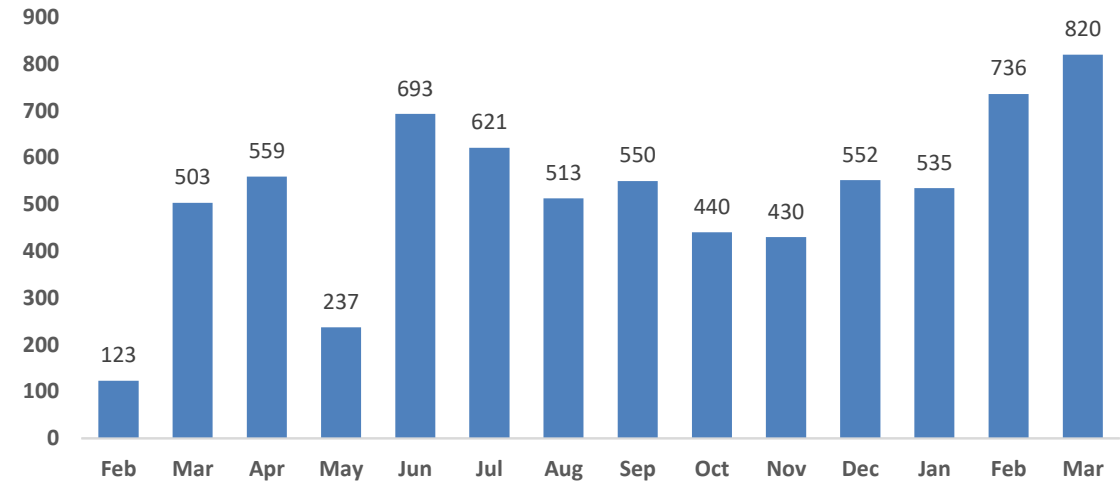
## Program Budget Overview

Spend-to-Date	Remaining Funds
\$12M	\$74M

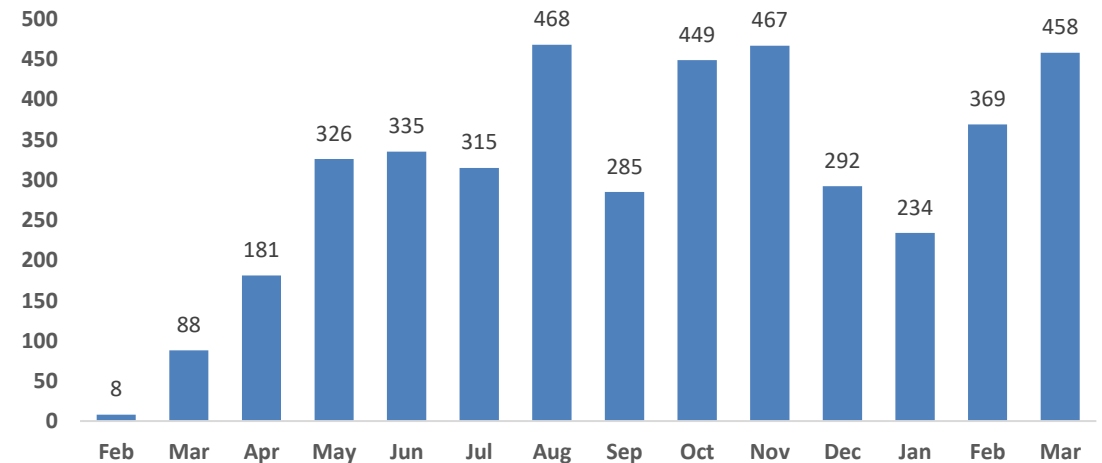
### Lessons Learned:

- CBO relationships are helping to hit equity goals (discussed in next slide)
- Initial data suggests that piloted digital campaign (e.g. targeted search engine optimization) increased applications in Q1 2024

## Applications:



## Total Rebates:





# Pre-Owned EV Program

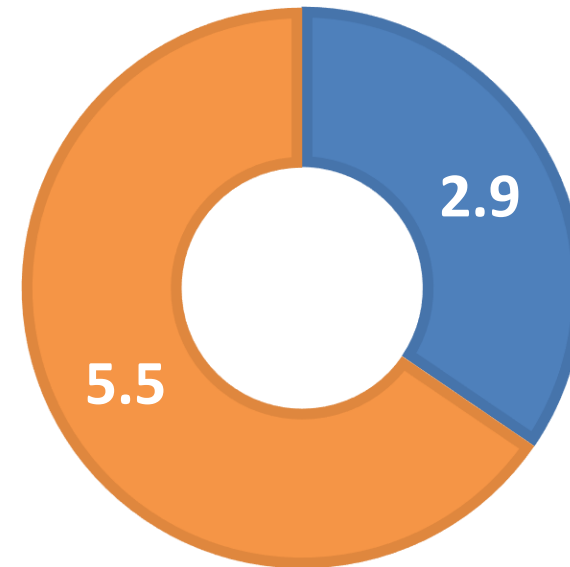
## How is PG&E helping Income-Qualified Customers?

- **Partnering with Community Based Organizations (CBO)**
  - o CBOs tactics include purchase guidance, events in local communities, online Q&A events, Ride and Drives, etc.
- **Marketing focused on income-qualified customers**
  - o Over 1.2 Million targeted emails have been sent to income-qualified customers to provide awareness of the rebates (sent semi-annually)
- **Offering a larger incentive: \$4,000 for income-qualified customers versus \$1,000 for non-income qualified customers**

Over **65%** of dollars spent on rebates for the Pre-Owned EV Rebate Program are going to income-qualified customers

REBATES PAID (\$M )

■ Standard 35%   ■ Rebate Plus 66%



# Program Interest Poll



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# ICA Updates – Potential Capacity



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# Integration Capacity Analysis Maps

**Integration Capacity Analysis (ICA) maps provide directional grid capacity information to host additional generation or load.**

- CPUC issued D. 17-09-026 to adopt the ICA methodology, in 2017, under the DRP Proceeding, R. 14-08-013.
- Currently, the ICA is primarily developed to address the following use cases:
  - Aiding DER developers in identifying interconnection locations where projects are less likely to trigger distribution upgrades.
  - Improve the Rule 21 interconnection process.

**Generation ICA methodology is not the same as Load ICA methodology, and historically, there were no defined use case for Load ICA.**

- ALJ Ruling of January 2021 began a stakeholder process for Load ICA refinements to help accelerate the State of California goals for electrification:
  - Collaboration between all parties resulted in an ALJ Ruling Ordering Refinements to Load ICA on September 9, 2021.

# ICA Map Upgrades

- Moving towards a future looking hosting capacity map
- On track for Q4, 2024 deployment

## Current State (ICA 1.0)

Historical Load: 576  
Hourly Profile

Network Topology  
(Distribution Circuit  
Model):  
"As Is"

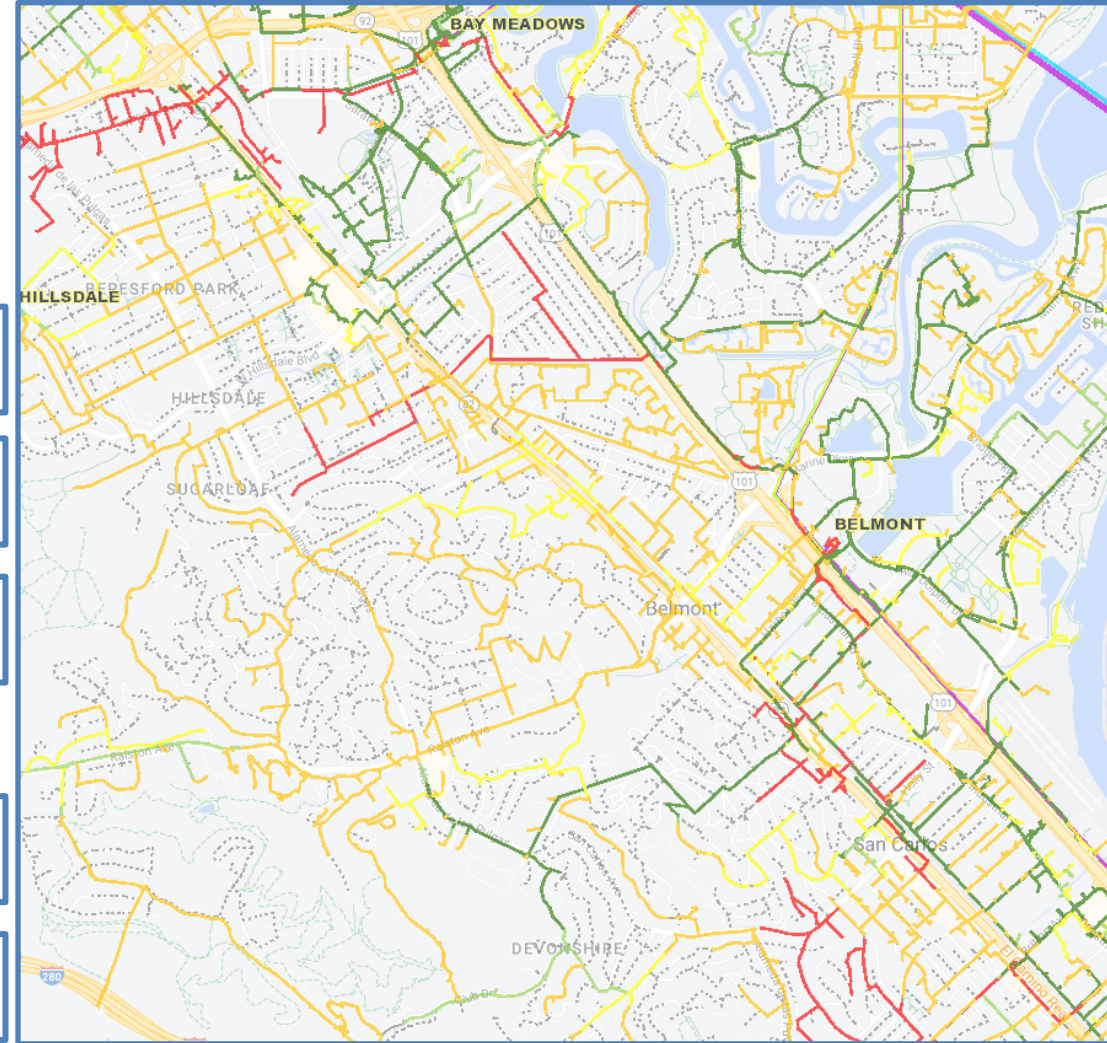
## Future State (ICA 2.0)

Future Load: 576  
Hourly Next Year Load  
Forecast

- Next Year DER Growth
- Next Year Load Forecast
- Future Approved Load Projects

Network Topology:  
"As Designed"

- Planned Capacity Projects
- Planned Network Reconfiguration





PG&E is providing a new tab, “Load Interconnection Capacity” with three “Expected Capacity” attribute indicators at the line section level:

- 1. No Expected Capacity** – This indicates the location has capacity constraints, which means the electric grid might not have the ability to serve additional load. Customer interconnection requests at this location will likely trigger grid upgrades, resulting in longer interconnection timelines.
- 2. Engineering Assessment Required** – This indicates there are planned projects or future added loads on the grid, which may impact our ability to serve additional load. An engineering review is required to assess the interconnection request and whether there is available capacity at this location.
- 3. Likely to Have Available Capacity** – This indicates there is likely capacity for additional load at this location. This is not a guarantee of available capacity, and every interconnection request is subject to engineering review.





# PAC Meeting 'Wish List' Surveys



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# Q & A



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# EV Charge Parks Site Update

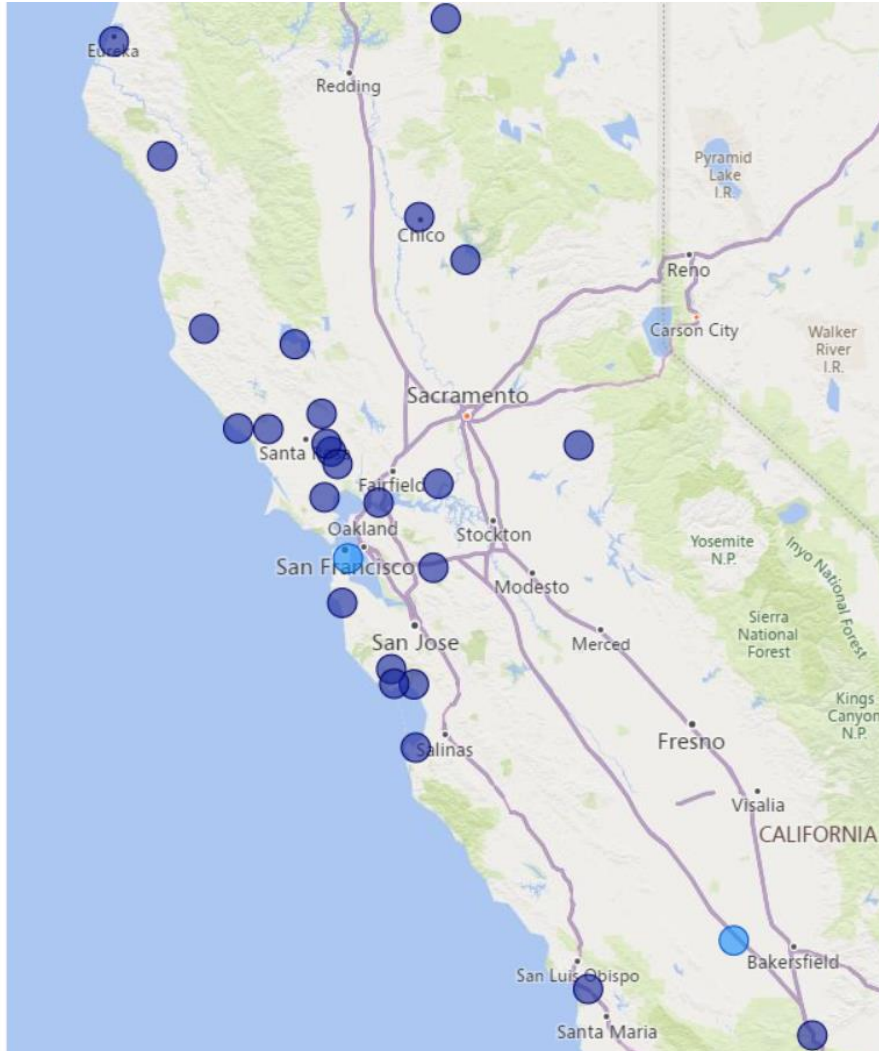
Contributor: Kevin

Updated: No

Contributor: Eileen

Updated: No

## 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 identified 55 State Parks and Beaches sites within PG&E's service area
- 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