



Discussion of Evaluation Year 2025: Report on SRPs and AB Pilots

September 25, 2026

Agenda



Introduction



Medium-Duty and Heavy-Duty Fleets



Public Charging



Appendix





Introduction

Project Snapshot

★ Current Report



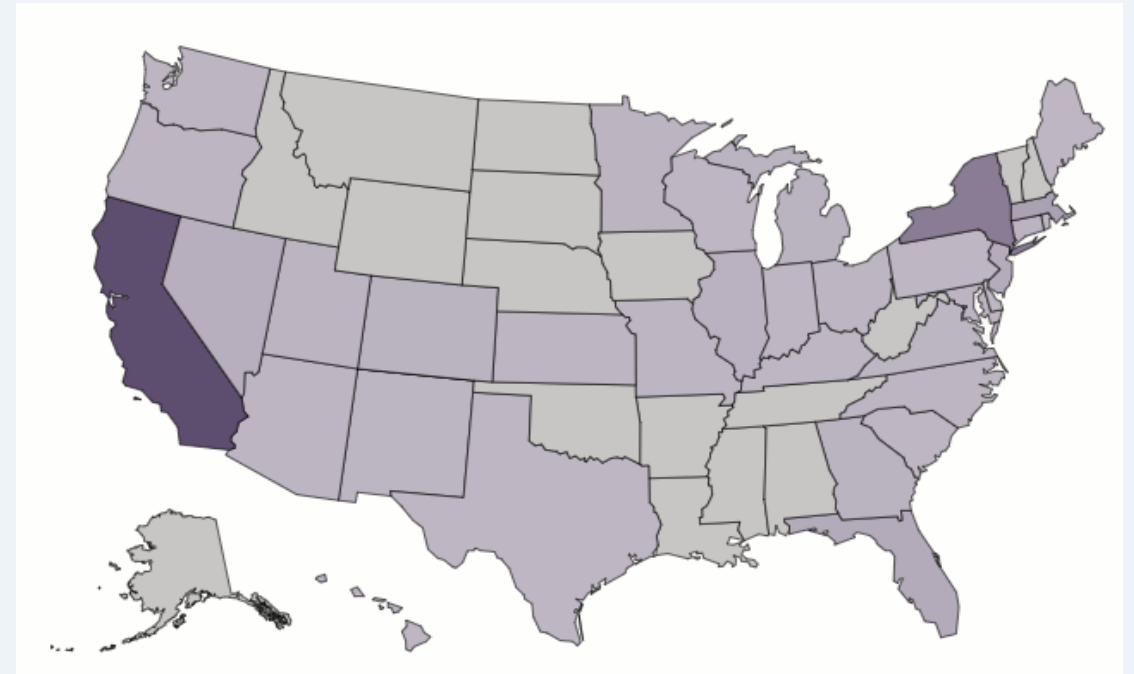
Programs and Budgets

The total Utility investment will be **\$765M over four to six years.**

	Program	Budget (\$Millions)
Liberty	<i>EV Bus Infrastructure Program*</i>	\$0.2
	Schools Pilot	\$3.9
	Parks Pilot	\$0.8
Pacific Gas & Electric (PG&E)	EV Fleet Program	\$236.3
	EV Fast Charge Program	\$22.4
	Schools Pilot	\$5.8
	Parks Pilot	\$5.5
Southern California Edison (SCE)	Charge Ready Transport Program	\$342.6
	Schools Pilot	\$9.9
	Parks Pilot	\$9.9
San Diego Gas & Electric (SDG&E)	Power Your Drive for Fleets Program	\$107.4
	<i>Vehicle-to-Grid Pilot*</i>	\$1.7
	Schools Pilot	\$9.9
	Parks Pilot	\$8.8
Total		\$765

* EY2023 was the final report for these programs/pilots.

Approved EV Make-Ready Filings (\$ Invested)



Source: Atlas Public Policy, EV Hub.
www.atlasevhub.com/materials/electric-utility-filings/

Evaluation Research Objectives

Our approach is built on speed so that we can continuously analyze data, update trends and findings, and provide rapid feedback that can lead to more effective programs.



Investigate whether the TE investments accelerated the TE market

Report on what is actually occurring in the market

Determine whether the TE investments maximized benefits and minimized costs

Help to understand how well the programs are being implemented

Integrate learnings from analysis of key market, program, and impact data into program activities

Synthesize learnings from the market, program, and impact data. Present findings in timely ways to help make the programs even more impactful, cost-efficient, and inclusive of all communities

Evaluation Team Roles

Several companies share responsibility for various tasks.

CADMUS

ITS UC DAVIS
INSTITUTE OF TRANSPORTATION STUDIES

- Surveys
- Program Performance
- ME&O
- Interviews
- Total Cost of Ownership
- Health Impacts
- Delphi Panels
- NTG
- Truck Choice Model
- LDV Regression Model

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Energy Sustainability Consulting

**National
Laboratory
of the Rockies**

ZM ASSOCIATES
Environmental
Consultants

- Site Visits
- Grid Impacts:
 - AMI Synthesis and Annualization
 - EVSP Analysis
 - Billing Data
- Deep Dives
- GHG, Criteria Pollutant
- Petroleum Displacement
- LDV Counterfactual
- MDHD Counterfactual

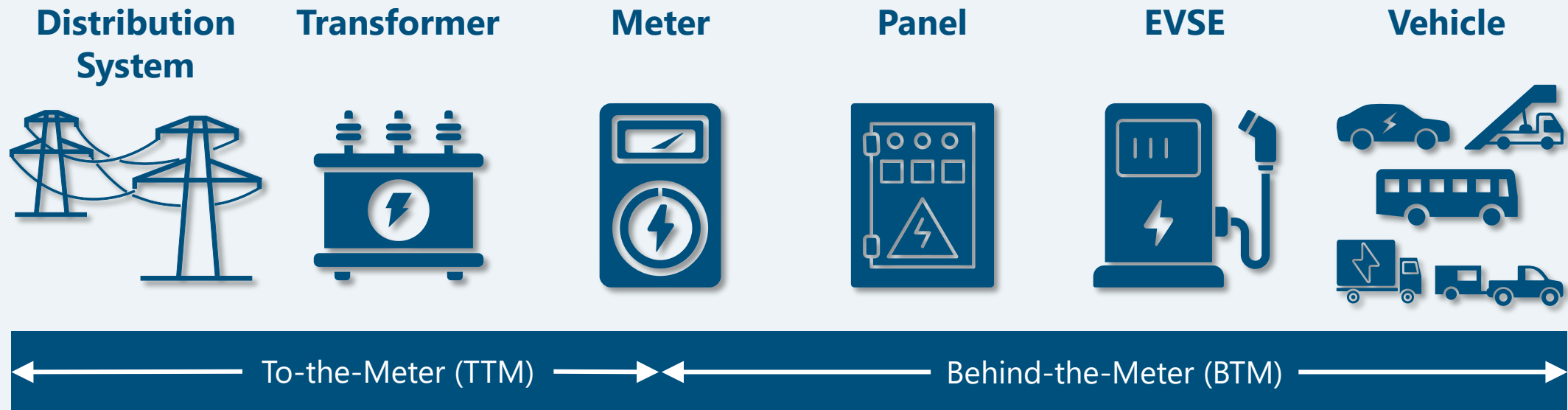
Program Activities

As of December 31, 2025, there were 474 projects that had completed construction PTD.

Program-Wide Totals	
Utility Construction Complete	
EY2025: 140	PTD: 474
↓	
Activated	
EY2025: 122	PTD: 436
↓	
Operational	
EY2025: 120	PTD: 425
↓	
Closeout	
EY2025: 130	PTD: 364

Activated Totals			
		EY2025	PTD
SCE	Charge Ready Transport	29	115
	Schools	8	30
	Parks	0	0
PG&E	EV Fleet	60	170
	Schools	3	15
	Parks	0	0
	EV Fast Charge	3	32
SDG&E	Power Your Drive for Fleets	12	37
	Schools	7	25
	Parks	0	11
Liberty	Schools	0	1
	Parks	0	0

Infrastructure



- 14 programs support both to-the-meter (TTM) and behind-the-meter (BTM) infrastructure upgrades
- Utilities pay 100% for TTM infrastructure costs and for some or all BTM costs
- Similar California programs are Rule 29, Rule 45, CALeVIP, and EnergIIZE

Unique Contributions



Large volume of **real-world data** in a clean, consistent format
~60% of MDHD ports in California are in dataset



Diversity of vehicle categories, fleet participants, tariffs, and more



Site cost, meter data, charger data, and billing data



Interactive dashboards of site performance (not public)

From Evidence to Action

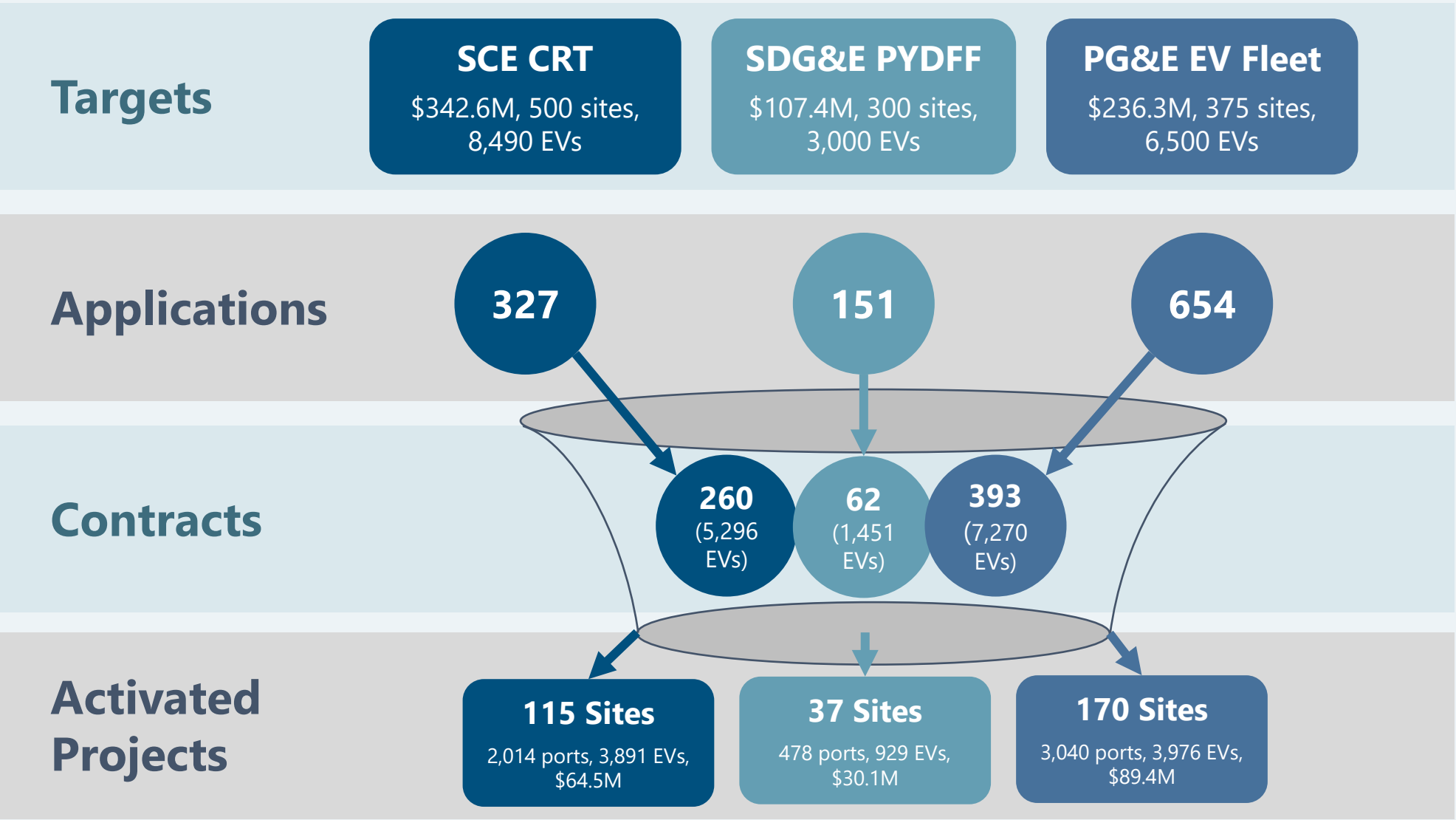




Medium-Duty and Heavy-Duty Fleets

MDHD | Progress Toward Program Targets

(as of December 31, 2025)



MDHD | 2025 Findings

Positive impacts in fifth year of evaluation: 2,790 MDHD EVs toward goal of 17,990.



Population of Activated Sites in EY2025 (#)

101



Ports Installed in Analyzed Sites (#)

1,905



Total EVs Supported (#)

2,790



Electric Energy Consumption (MWh)

22,396

The team derived the EVs supported value for MDHD programs from applicants' vehicle acquisition plans (VAP). This value represents the maximum number of vehicles expected to be supported by the charging infrastructure.



Petroleum Displacement (diesel gallons equivalent)

1,848,923



GHG Emission Reduction (metric ton [MT] GHG)

14,756

GHGs include carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O) multiplied by their respective Global Warming Potentials (GWP) as defined by the Intergovernmental Panel on Climate Change (IPCC) published fifth assessment (AR5; see the Methodology section for more details).

Local Emissions	Reduction (kg)
Oxides of Nitrogen (NO _x)	4,896
Particulate Matter (PM ₁₀)	94
Particulate Matter (PM _{2.5})	88
Reactive Organic Gases (ROG)	965
Carbon Monoxide (CO)	85,550



MDHD | Lessons Learned

Utility MDHD program sites continue to displace petroleum, reduce GHG and local emissions, and achieve health impacts.

Displaced Petroleum (million gallons)

Program-to-Date Results

14.9

10-Year Expected Results

63.1

Greenhouse Gas Emissions Reductions (MT)

Program-to-Date Results

122,353

10-Year Expected Results

549,399

Proportion of Health Benefits in DACs

SCE

31%

PG&E

18%

SDG&E

14%



Utility MDHD programs have achieved a reduction of nearly **15 million gallons of petroleum** to date

EY2025 Takeaways

Medium- and Heavy-Duty Vehicles have an increasing presence.

- National fleet operators and larger sites are coming online.

Medium-Duty Vehicles continue to be the most common across sectors.

- More than double the next highest market sector in EY2025.

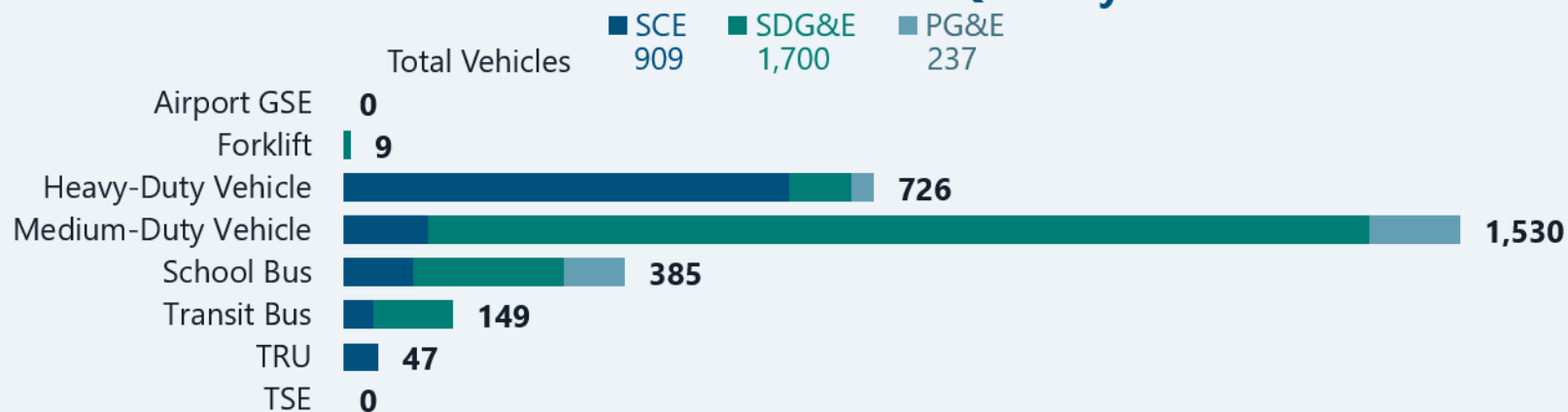
The **School Bus sector** continues to grow.

- This sector has the largest portion of vehicles in their VAPs delivered at the time of site visits, at 53%.

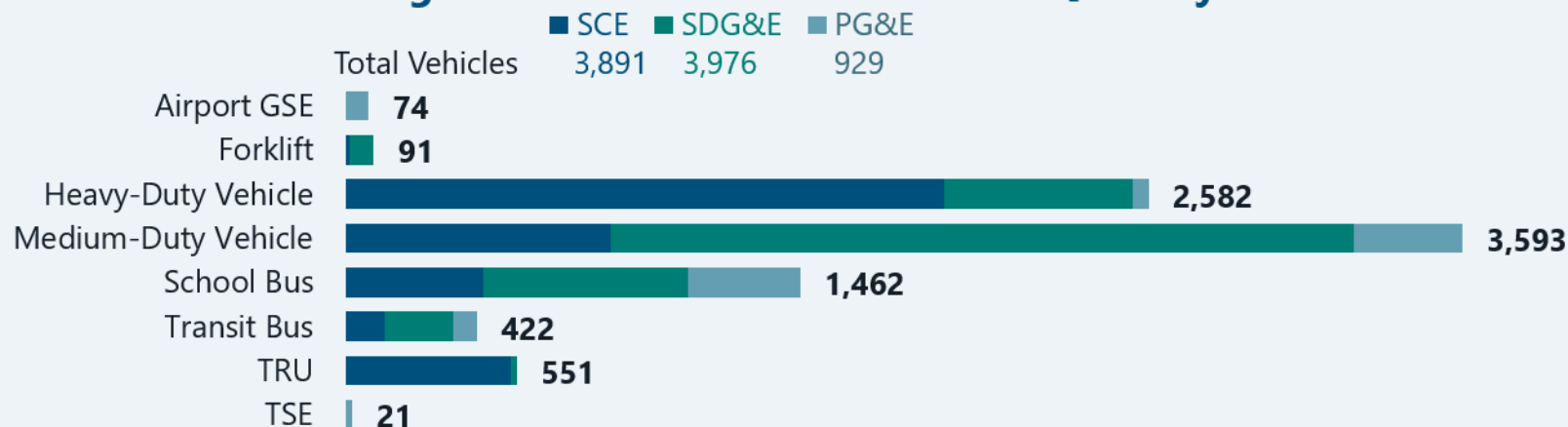
MDHD | Market Sector Mix

Market sector diversity continues

EY2025 Sites: VAP Vehicle Quantity



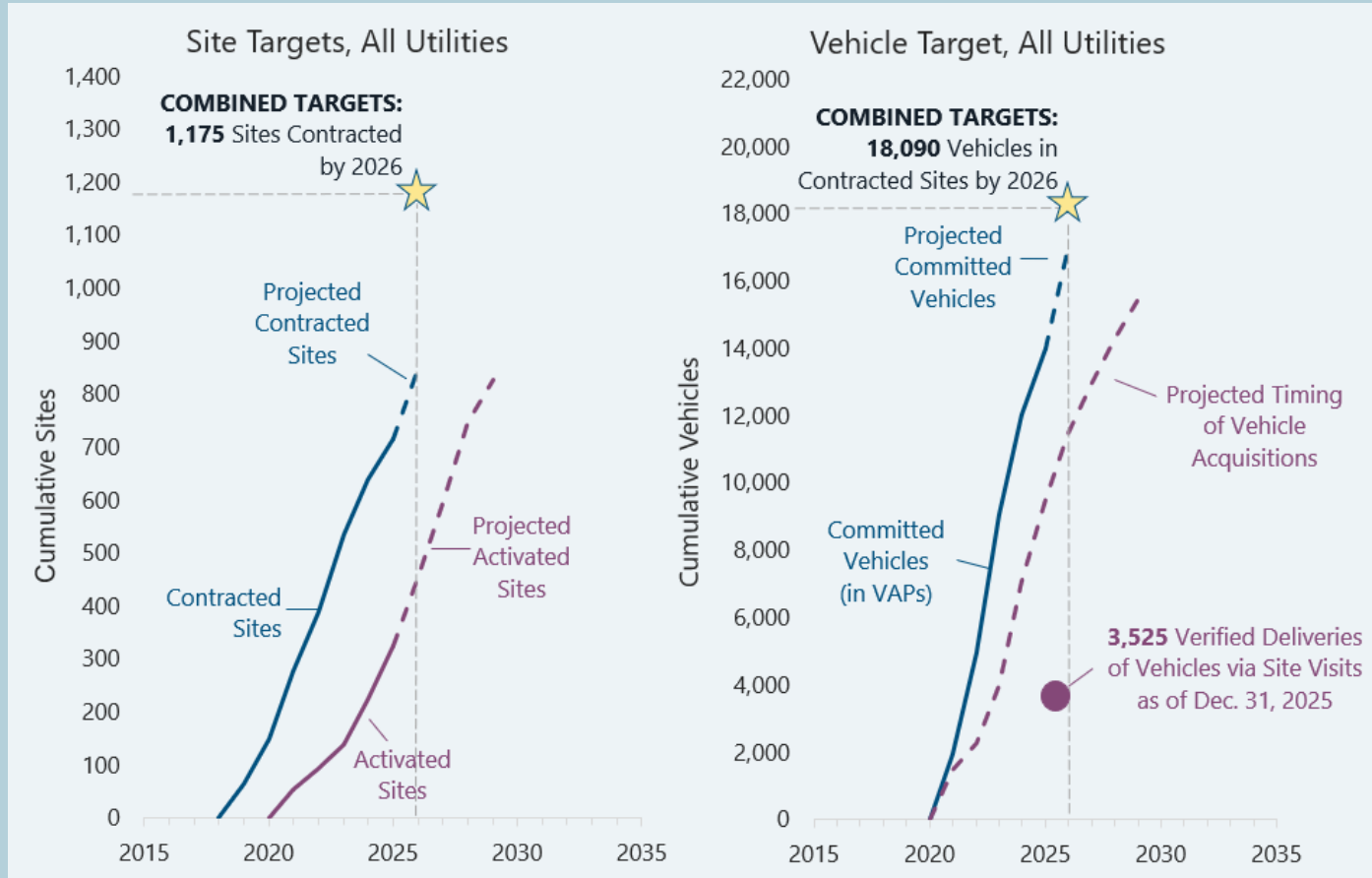
Program-to-Date Sites: VAP Vehicle Quantity





MDHD | Lessons Learned

MDHD programs are having a meaningful impact on EV adoption, and the number of vehicles supported may reach originating Decision expectations.



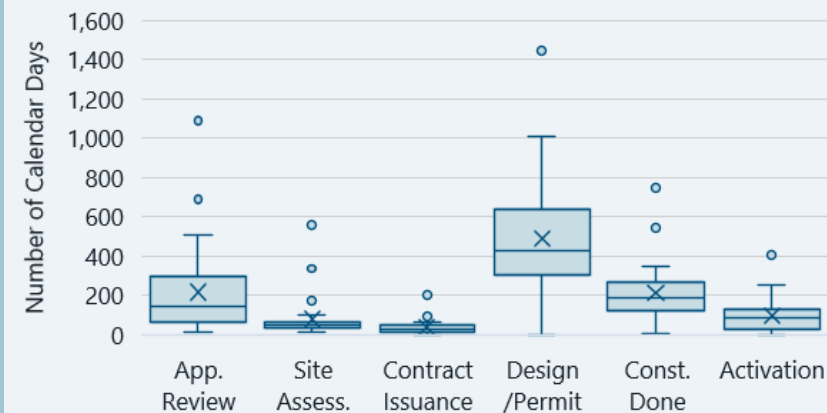
- **PG&E** is on pace to **exceed** both its site and vehicle goals.
- **SCE** is not expected to meet either its site or vehicle goals.
- **SDG&E** is not expected to meet either its site or vehicle goals.

MDHD | Site Timelines

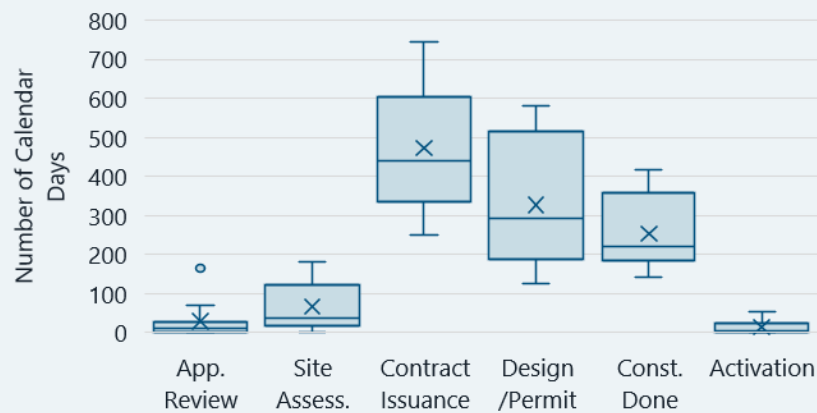
Calendar Days per Phase for EY2025 Activated Sites

- Timelines are generally longer than expected and vary widely by phase.
- Original Utility estimates ranged from 11 to 19 months while overall program **medians** are between **28 and 41 months**.
- Overall median calendar days have steadily increased in each of the last three years.
- The **median start-to-finish** for all 101 EY2025 activated sites was **1,014 days**.
- **Design and Permitting** is the **longest phase** for SCE and PG&E, while **Contract Issuance** is now the **longest phase** for SDG&E.

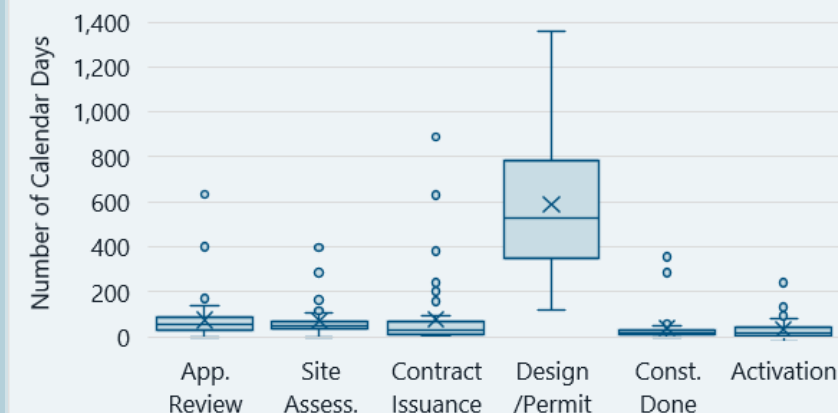
SCE Charge Ready Transport



SDG&E Power Your Drive For Fleet



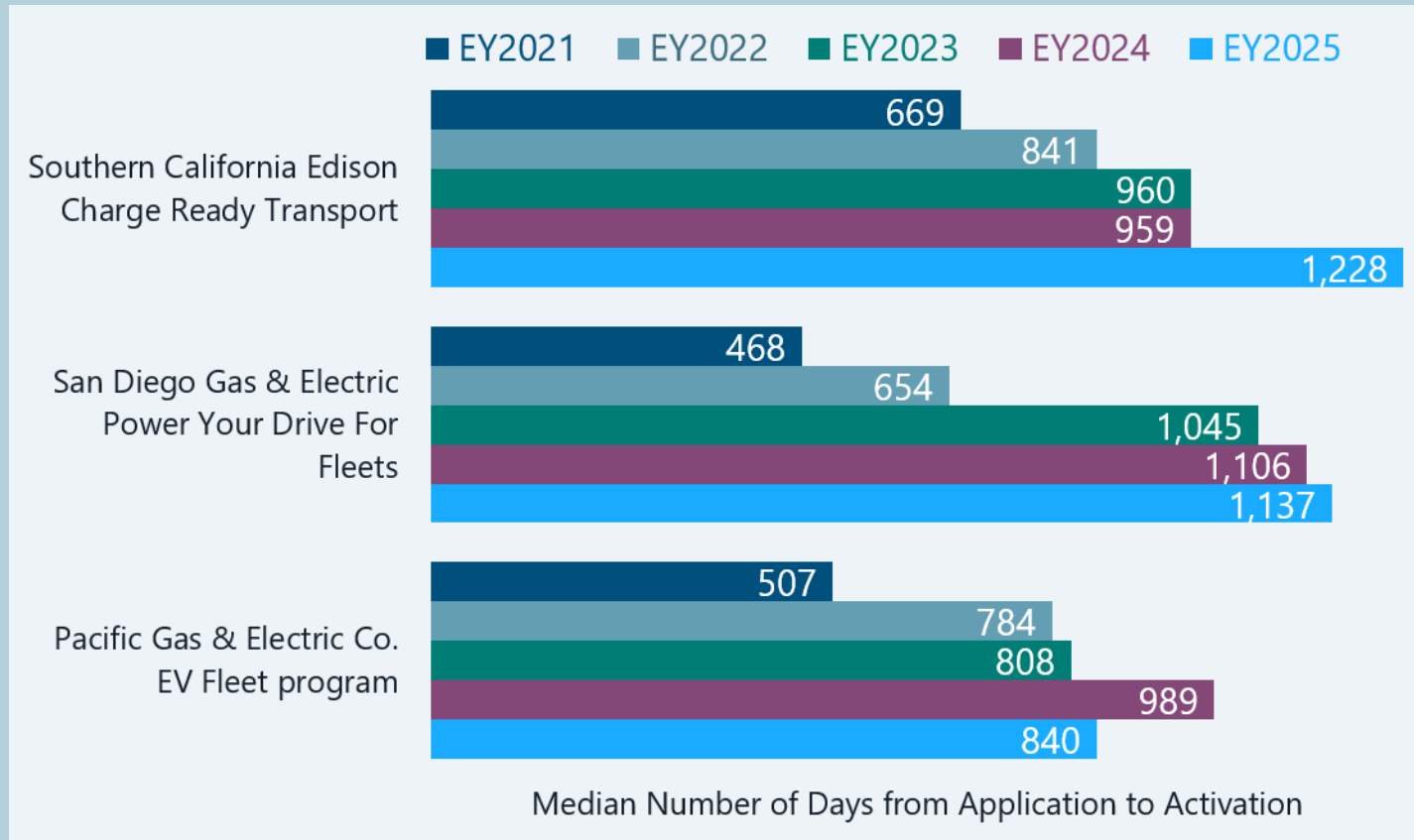
PG&E EV Fleet





MDHD | Lessons Learned

Overall activation timelines based on activation year continued to increase for SCE and SDG&E as large sites came online, while timelines for PG&E decreased with its shift to smaller sites.



Start-to-Finish Median Calendar Days (all MDHD Programs)

EY2021	600 days
EY2022	725 days
EY2023	862 days
EY2024	983 days
EY2025	1,014 days

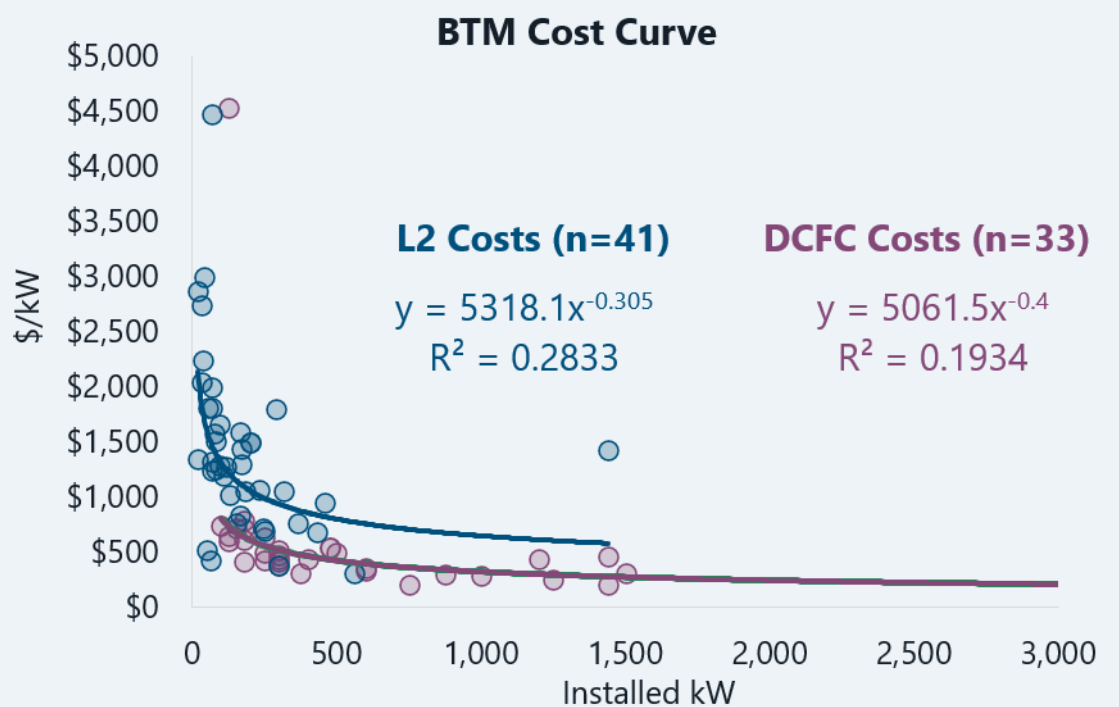
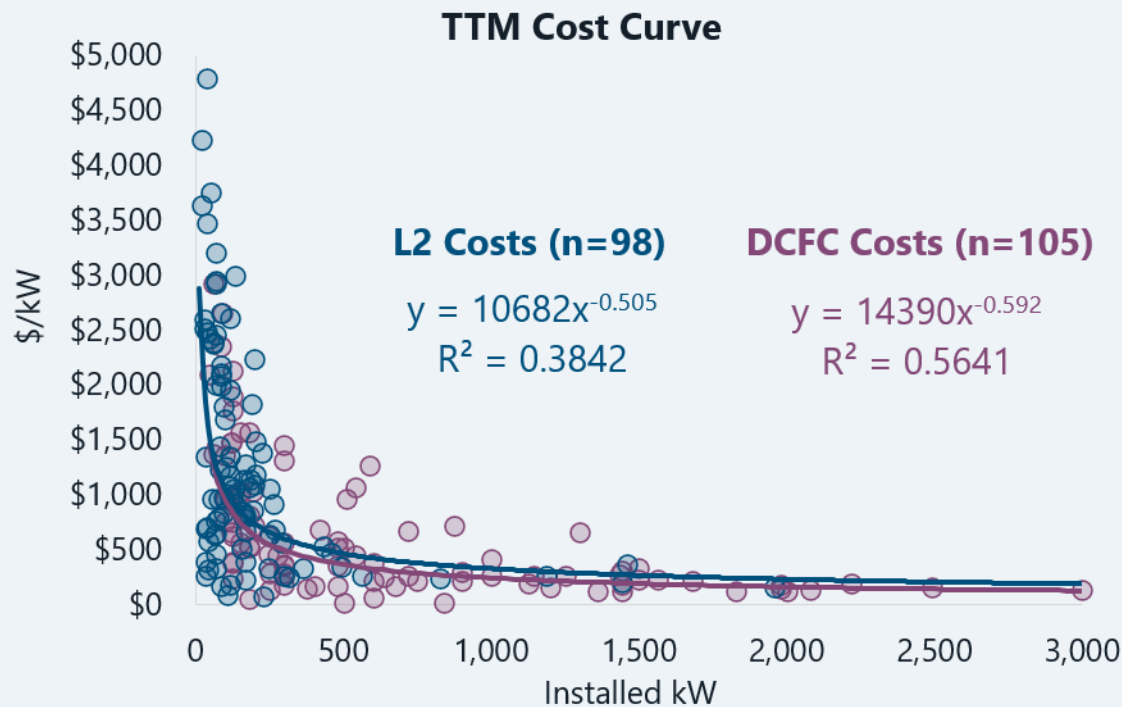
- EY2025 **shift to large MDHD sites** in SCE and SDG&E.
- These sites are **more complex** and **more time-intensive**, extending activation site timelines.

MDHD | TTM and BTM Costs

TTM and BTM Cost versus Installed Site Capacity

- **Cost** per installed kilowatt **declines** as the installed capacity increases.
- **Increasing installed capacity** leads to only **modest reductions** in the cost per installed kilowatt.

TTM and BTM Cost versus Installed Site Capacity for PTD Sites

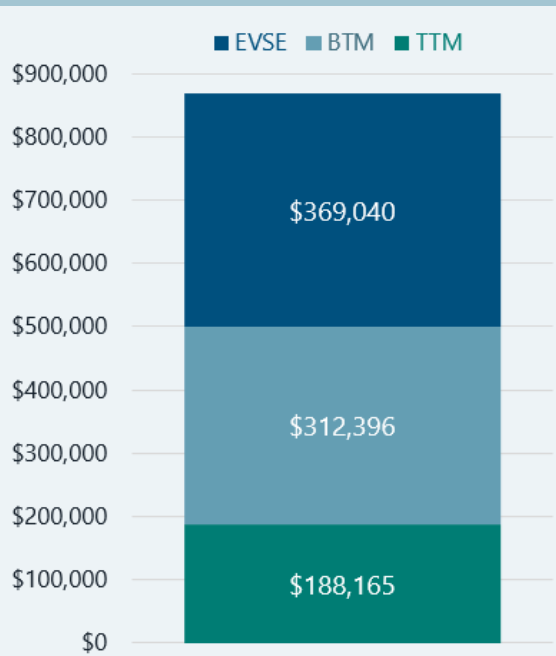


MDHD | Average Estimated All-In Costs

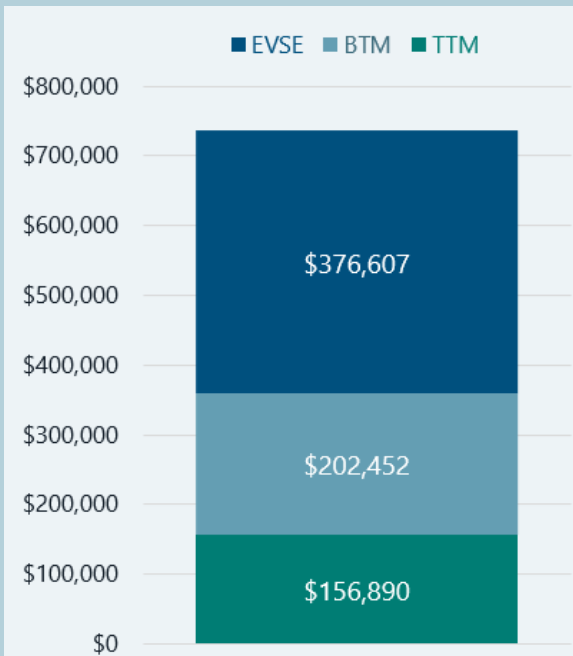
Utility Infrastructure, Ratepayer Funded, and Estimated All-In Costs per Site

For sites across all Utilities, **EVSE is the largest estimated cost**, followed by BTM then TTM.

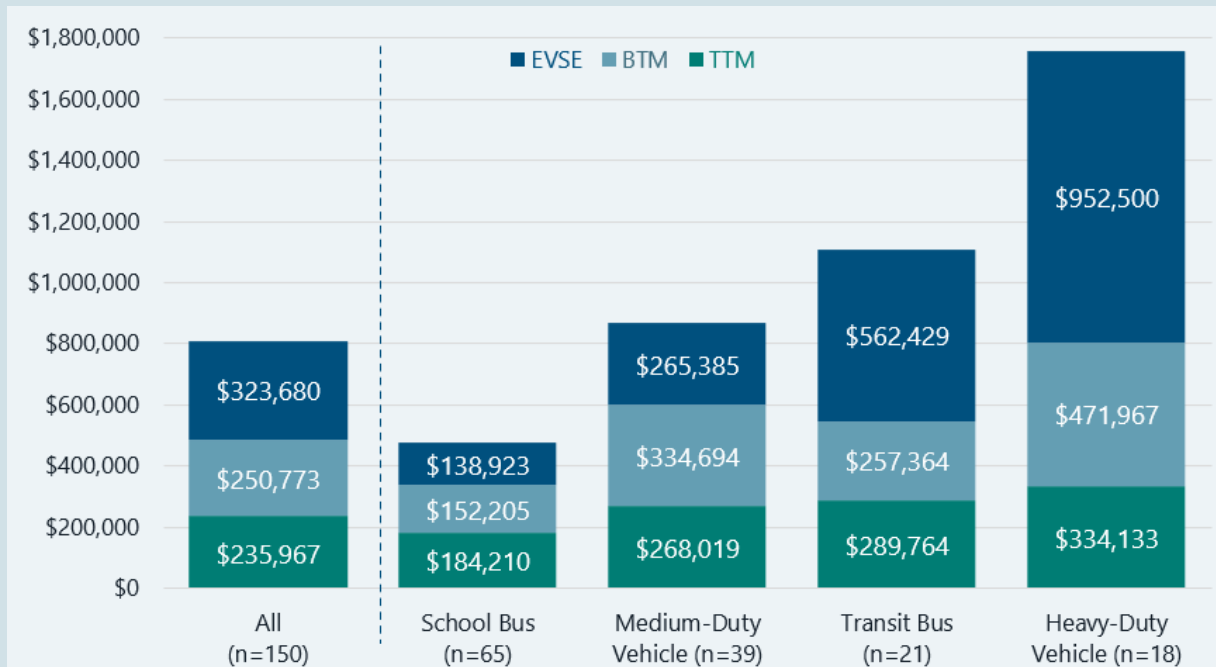
SCE Charge Ready Transport (75 sites)



SDG&E Power Your Drive For Fleet (28 sites)



PG&E EV Fleet (150 sites)

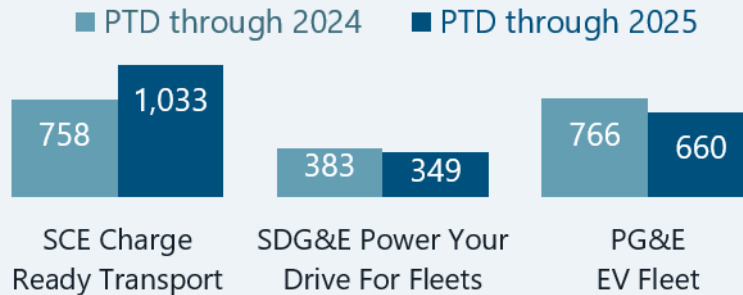




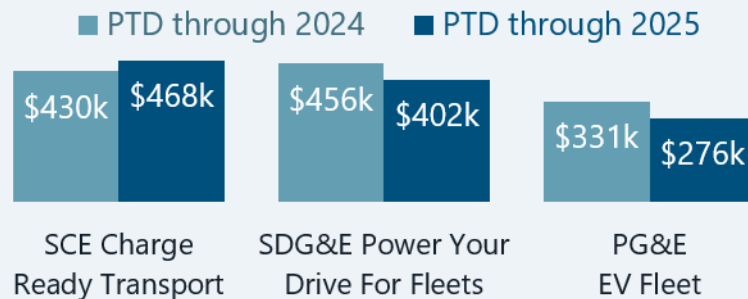
MDHD | Lessons Learned

The average site cost increased for SCE and SDG&E programs as larger sites came online, and decreased for PG&E, which showed a shift to smaller sites.

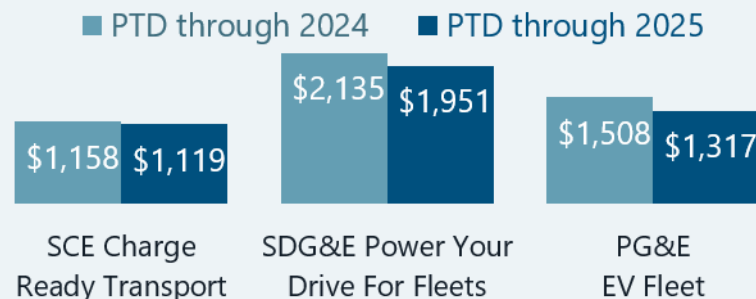
Average Installed Capacity (kW)



Average Cost per Site



Average Cost per Kilowatt



There is a strong relationship between installed capacity and cost per kilowatt, with **larger sites in general having a lower cost per kilowatt than smaller sites.**

Based on additional EY2025 analysis of **weighted average** cost compared to **simple average** cost:

When weighting by the installed capacity of sites, **the weighted average cost is higher** and the **weighted average cost per kilowatt is lower.**

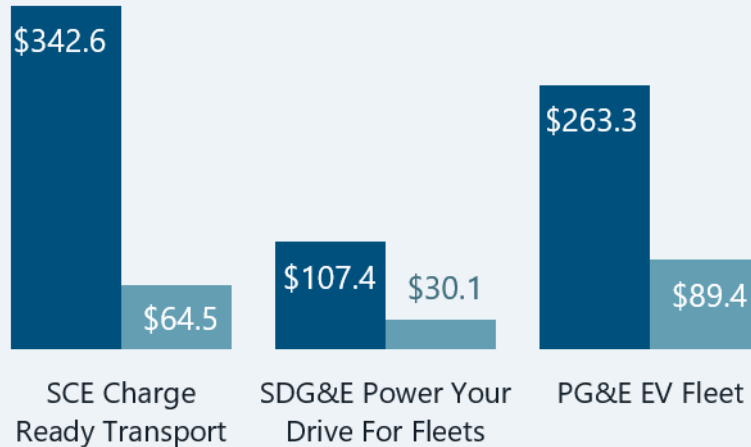


MDHD | Lessons Learned

Utility spending on closed-out sites remains low, but nearly all remaining program funds have been reserved for contracted sites. Disadvantaged community (DAC) spending remains on target, and program-wide vehicle and site targets may be met, but some individual Utility programs may fall short of goals.

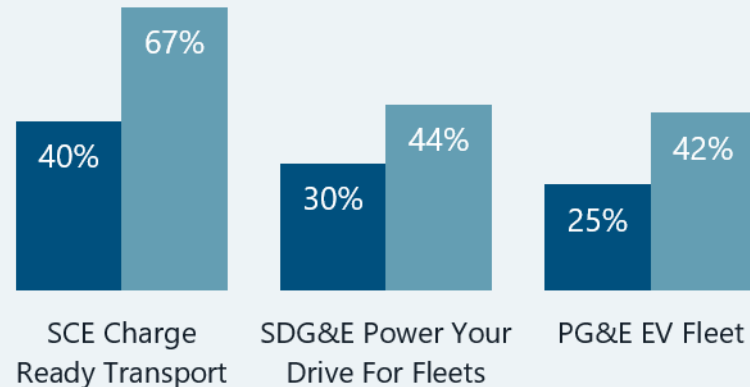
Total Spending (Millions)

■ Target ■ Program to Date



Percentage Spending in Disadvantaged Communities

■ Target ■ Program to Date



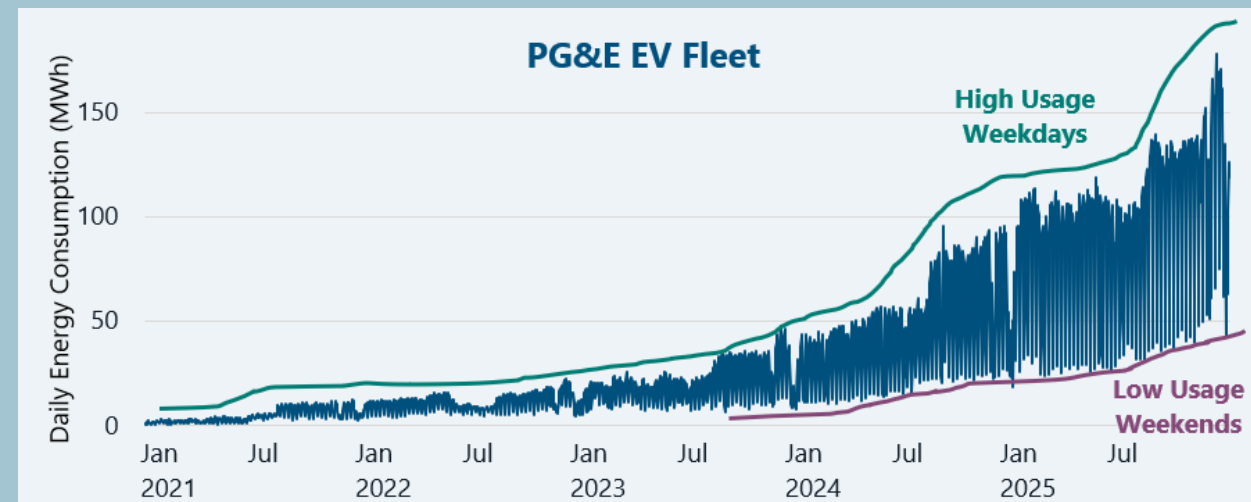
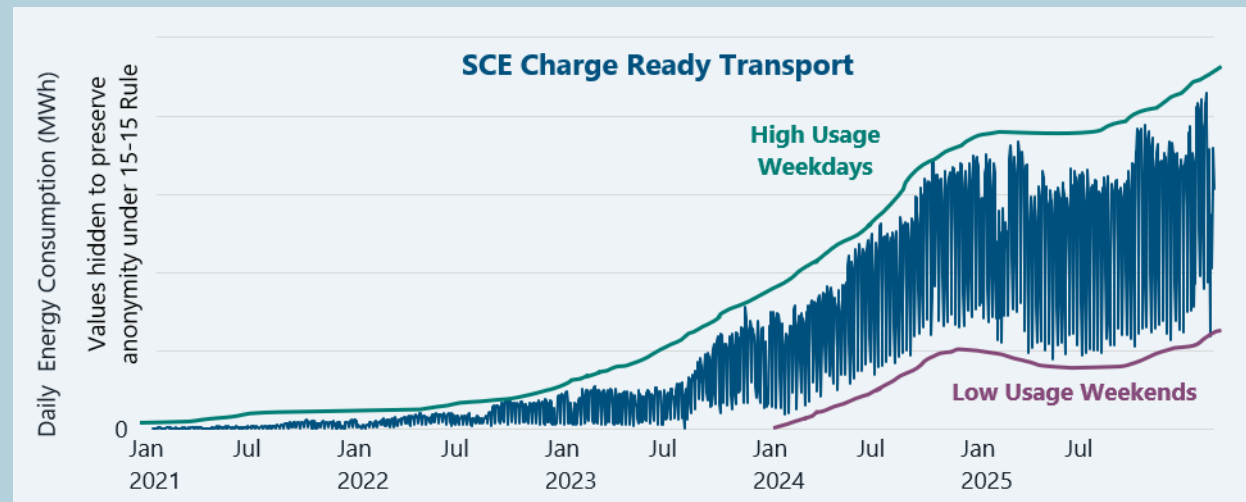
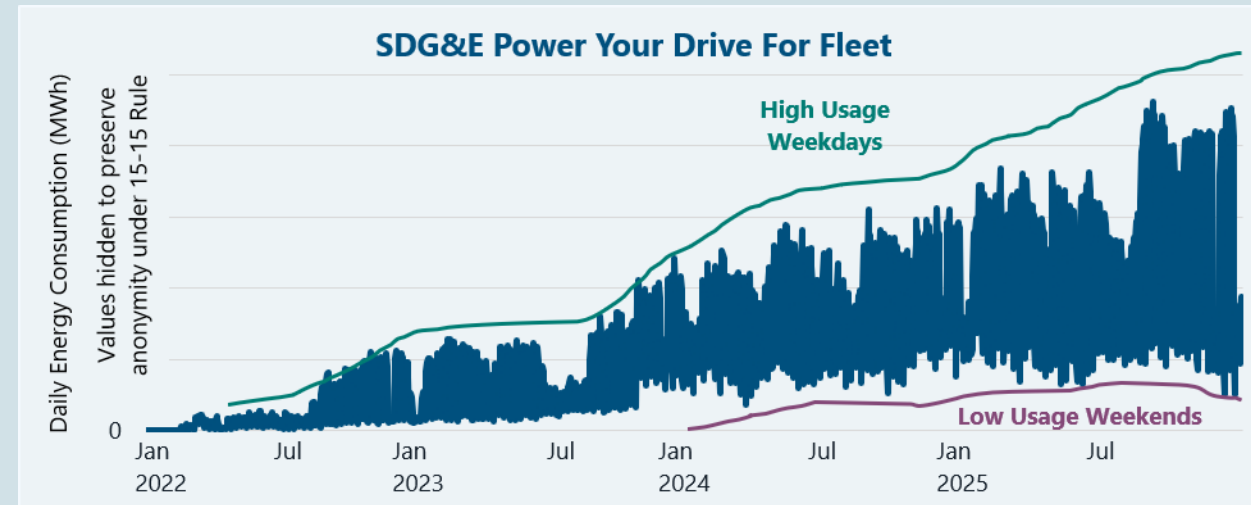
To date, Utilities have spent **~27% of the total budget** across MDHD programs on **financially closed-out sites**.



All Utilities are **exceeding** their **DAC goals** across MDHD programs.

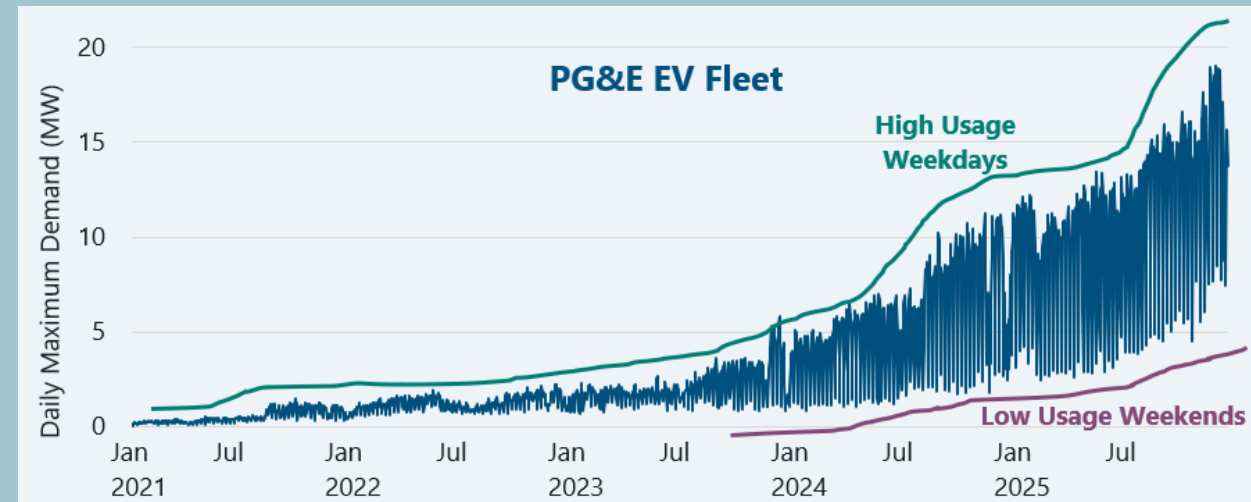
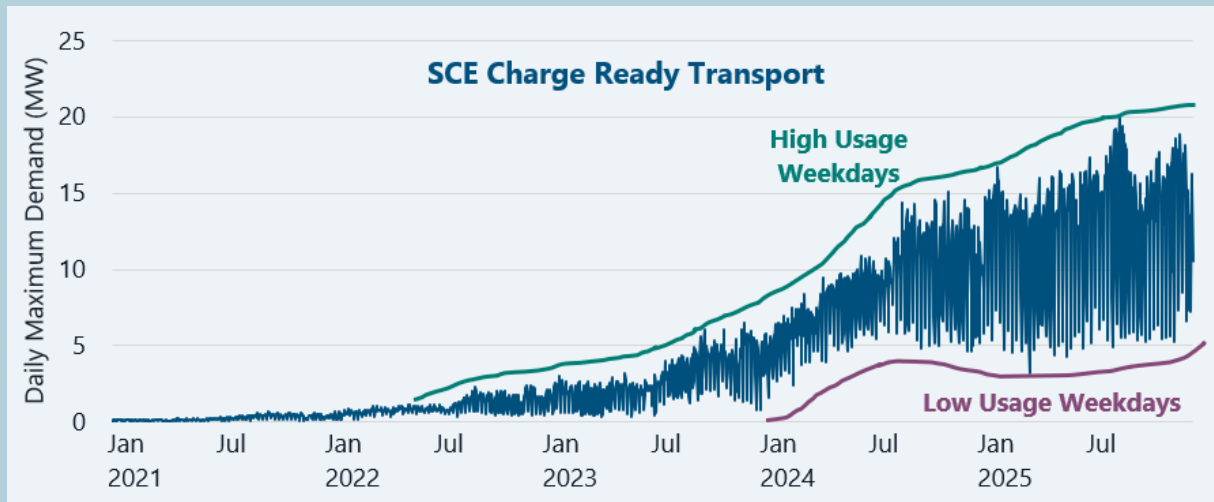
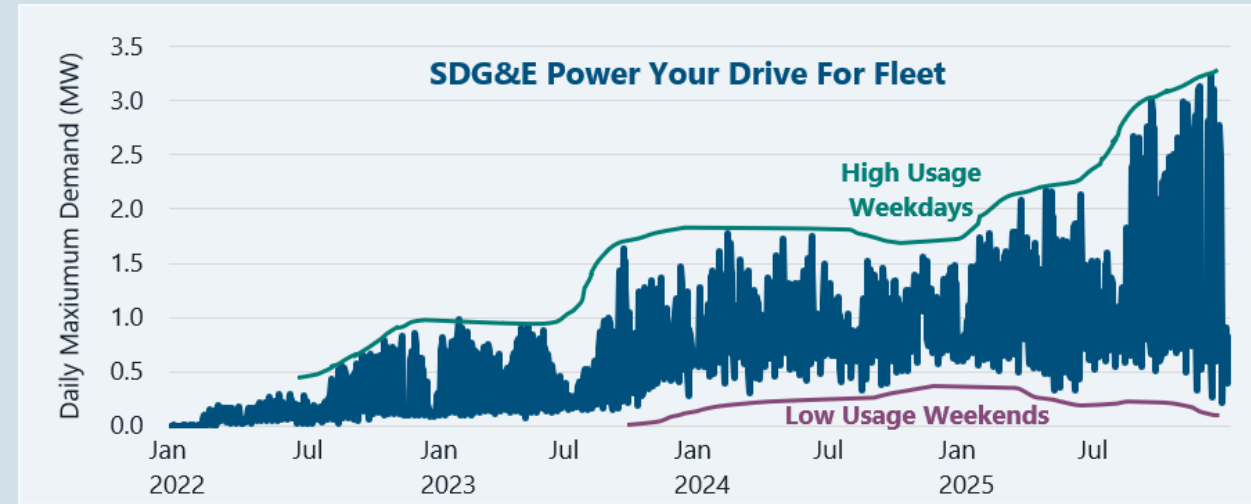
MDHD | Grid Impacts: Consumption

- Daily energy consumption across all sites continues to increase, with wide variations.
- Variations are often noted by weekdays and weekends.



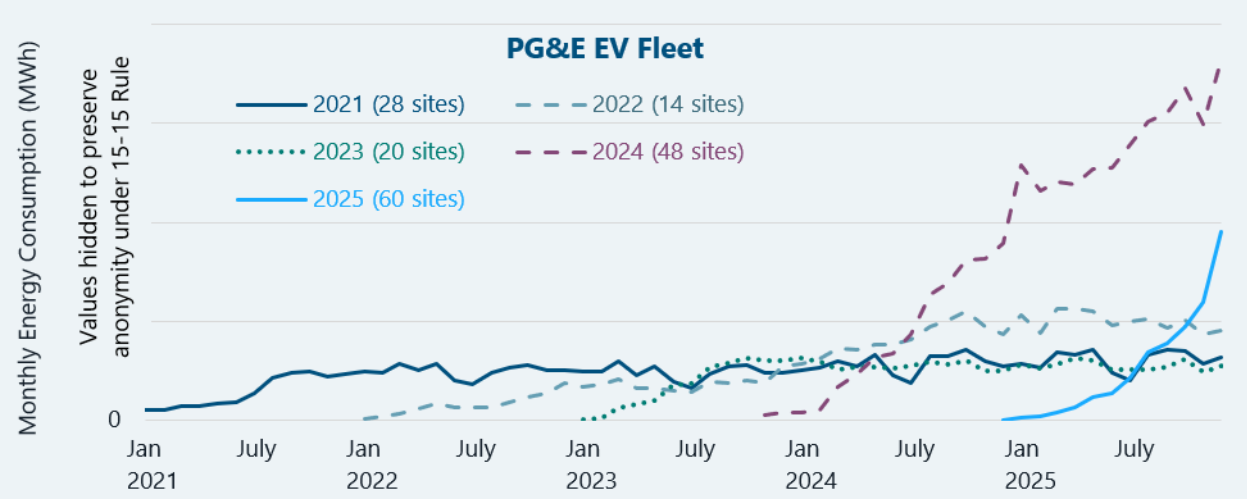
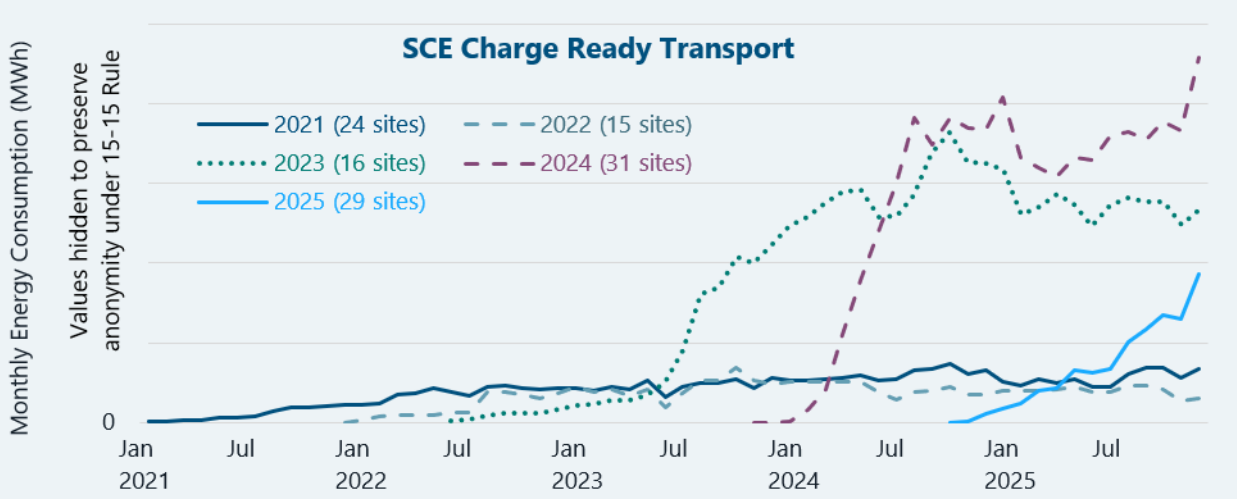
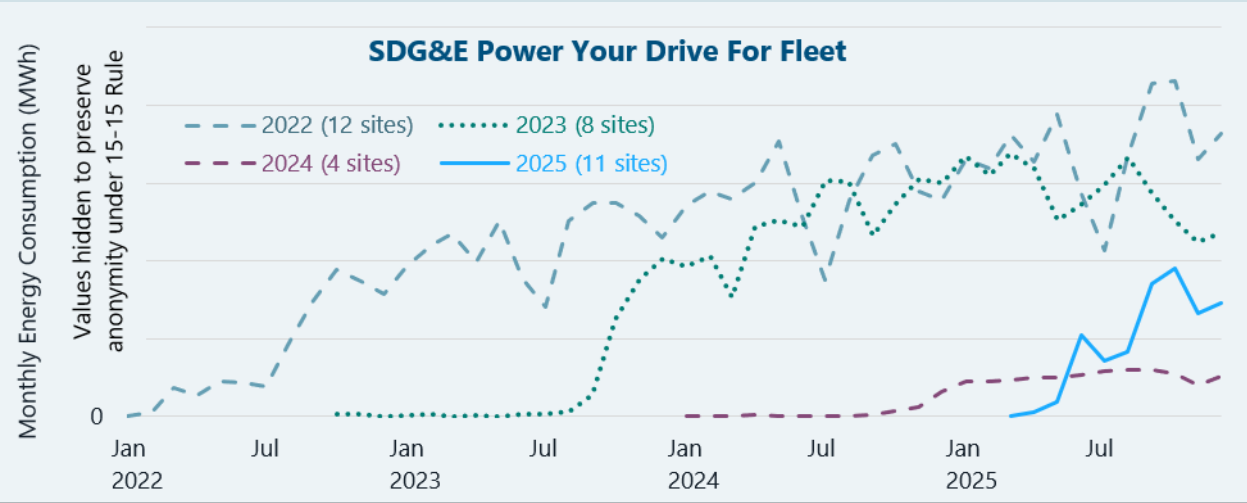
MDHD | Grid Impacts: Demand

- Daily demand continues to grow and to vary over time.
- This is due to new projects coming online versus older projects maturing their operations.



MDHD | Grid Impacts: Site Maturation

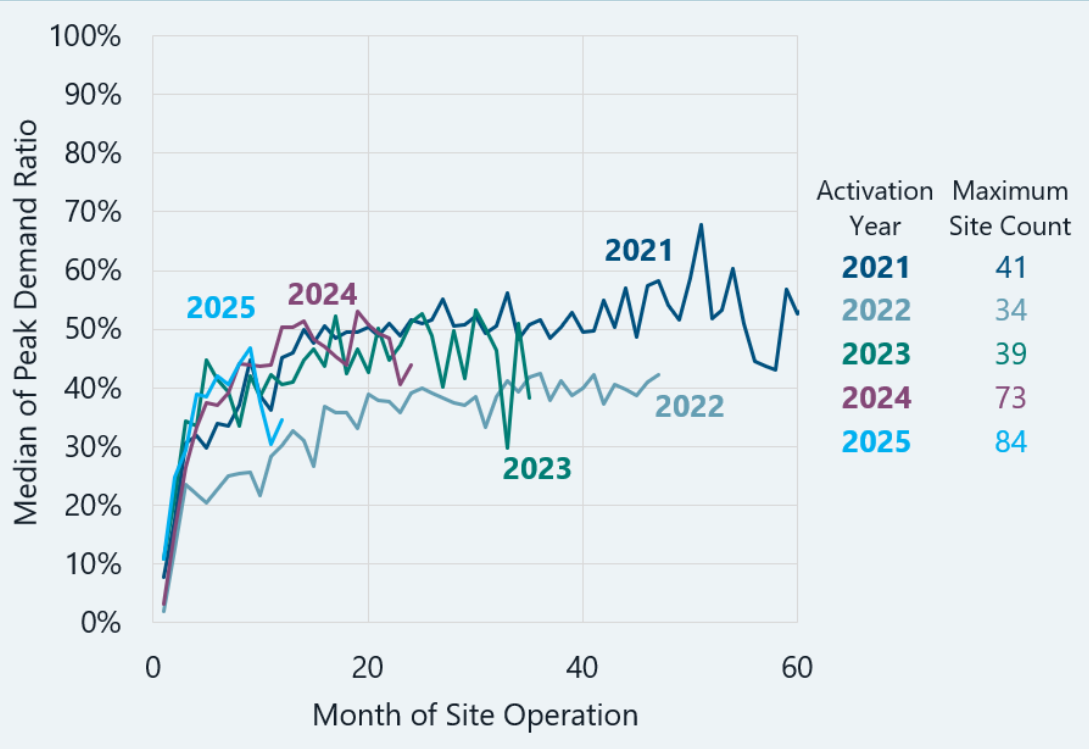
- Monthly consumption varies significantly by activation year.
- Variation across activation year may reflect the time needed to reach mature operations.
- Fleet composition shifted from primarily school buses in early years to heavy-duty trucks in later years.



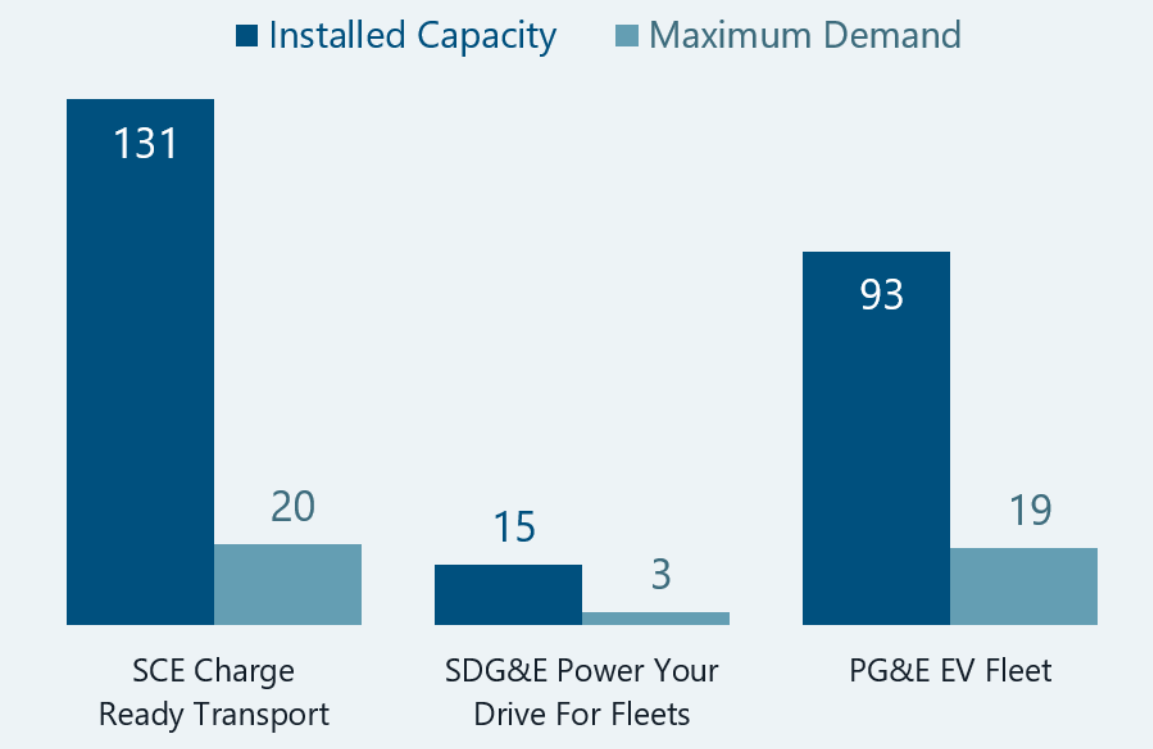
Grid Impacts: Capacity vs. Load

Installed charging capacity continues to be much larger than observed demand, whether based on instantaneous grid demand across all sites (right) or per site (left).

Monthly Peak Demand Ratios Over Time
at MDHD Program Sites - Year of Activation



Installed Capacity vs.
Maximum Demand (MW)

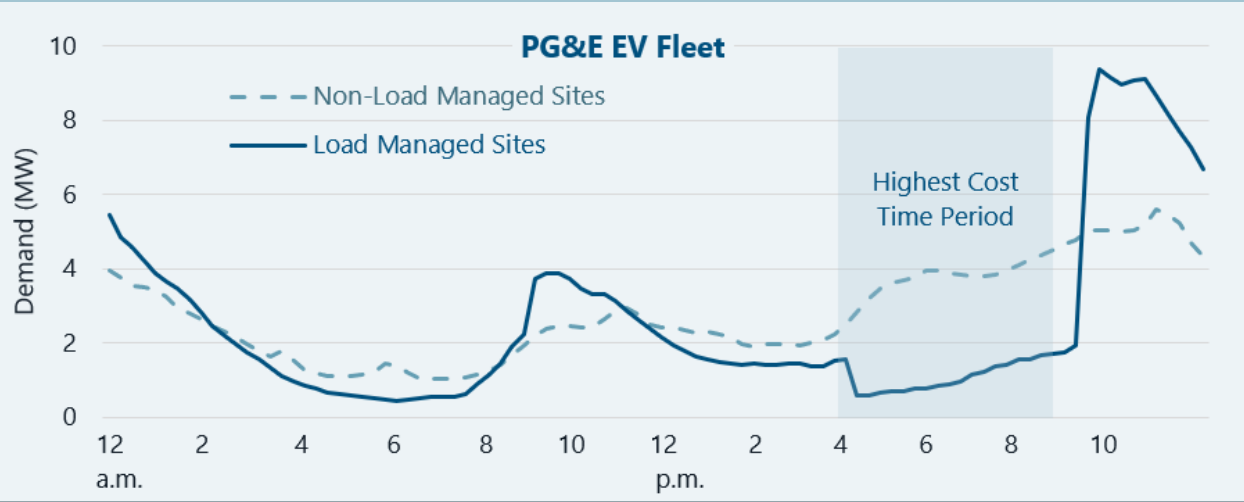
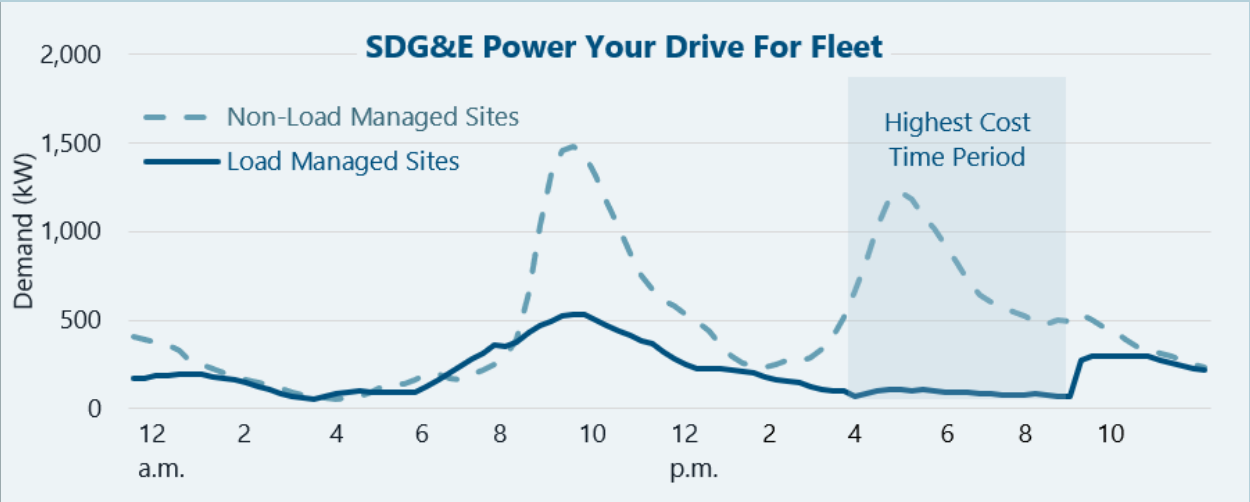
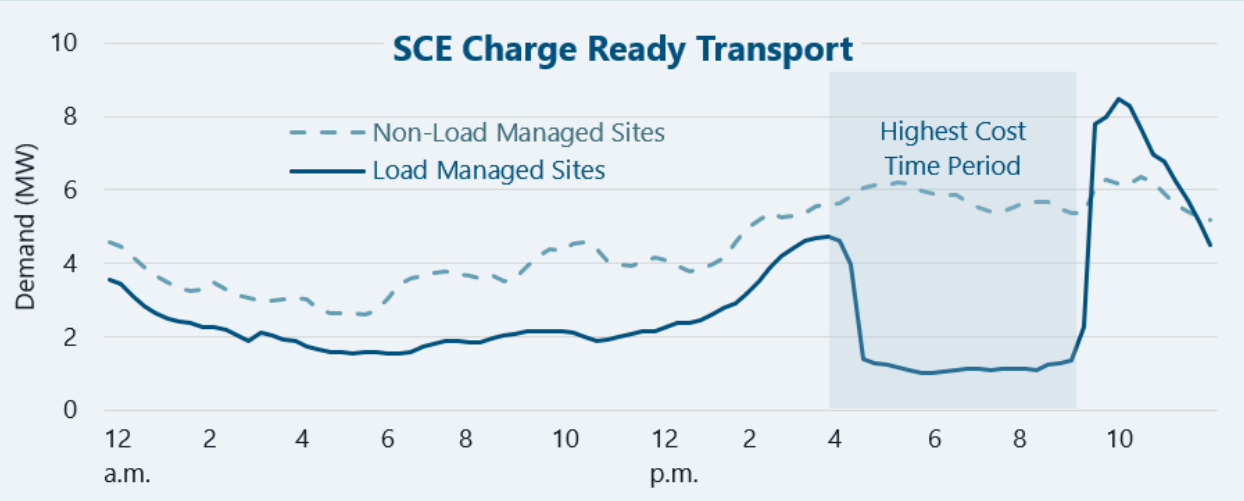


MDHD | Grid Impacts: Load Management

Steep increases in demand at 9 p.m. for SCE and PG&E reflect the 18% of fleets that are enabling load management to avoid the highest cost period of 4 p.m. to 9 p.m.



57 of 311 (18%) operational sites show **strong load management**



Note: Figures are showing Q4 2025 averages.

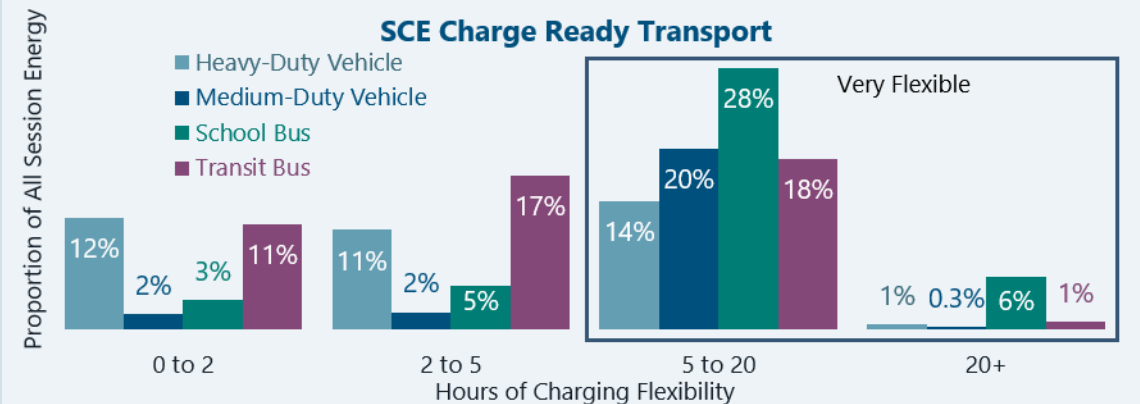
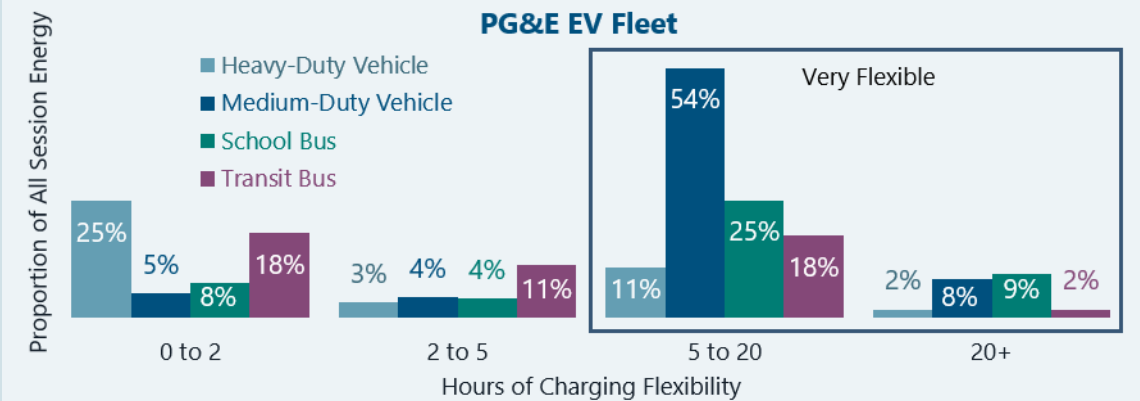
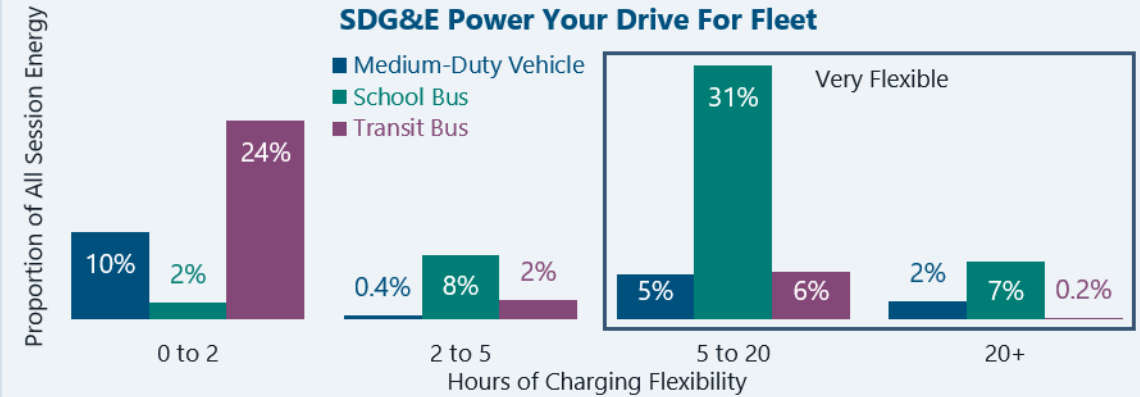


MDHD | Lessons Learned

Installed capacity and demand continue to grow, but less than 20% of fleets are implementing load management. Many fleets could entirely shift charging from on-peak to off-peak periods without impacting operations, representing millions of dollars in potential savings and significantly reduced peak demand.

Vehicle Battery Capacity and Daily Consumption

Market Sector	Total Battery Capacity, All Vehicles (MWh)	Maximum Total Daily Consumption, All Vehicles (MWh)	Average Daily Battery Usage
Heavy-Duty Vehicle	388	175	45%
Medium-Duty Vehicle	156	80	51%
School Bus	142	65	46%
Transit Bus	94	45	48%
Total	780	365	N/A



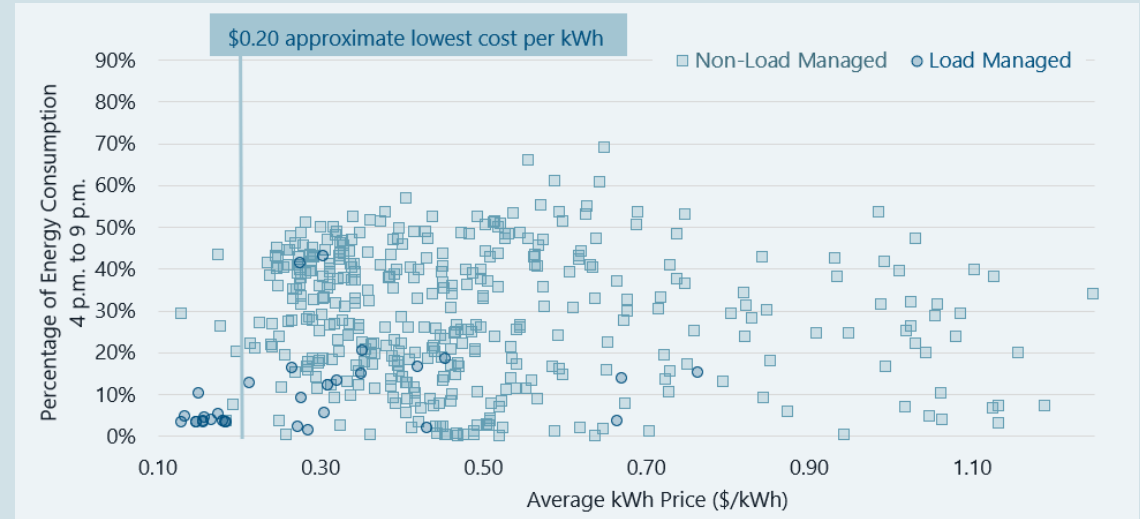
MDHD | Grid Impacts: Energy Costs

- Load managed sites regularly achieve the lowest average monthly cost of energy (around \$0.25/kWh).
- Other fleets' results are 2x to 5x more costly.

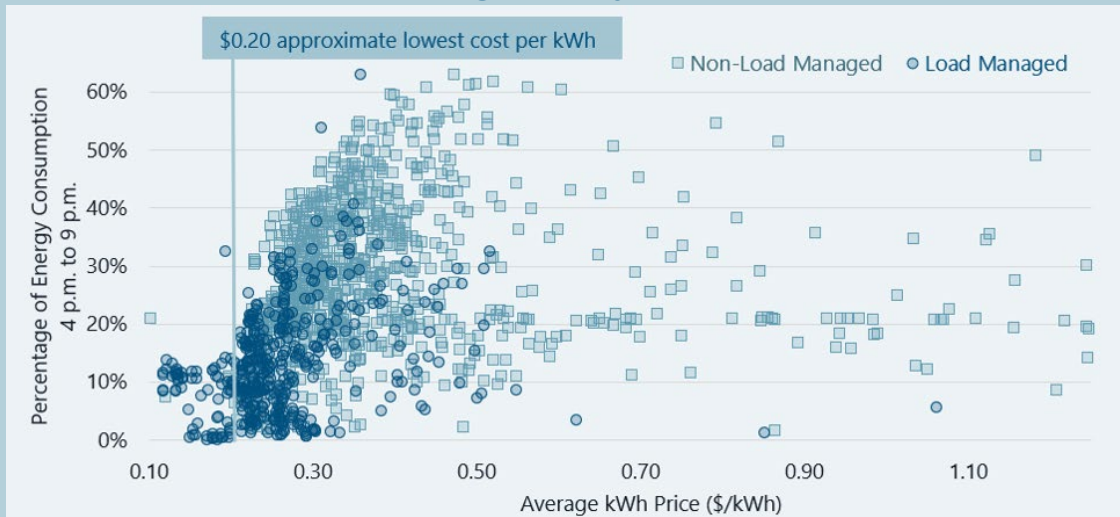
Legend



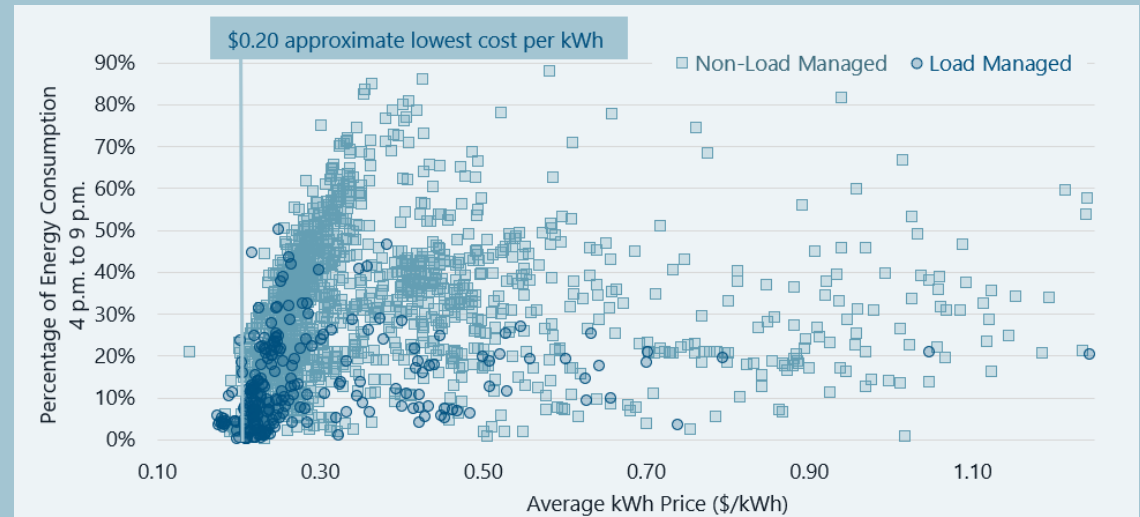
SDG&E Power Your Drive For Fleet



SCE Charge Ready Transport



PG&E EV Fleet

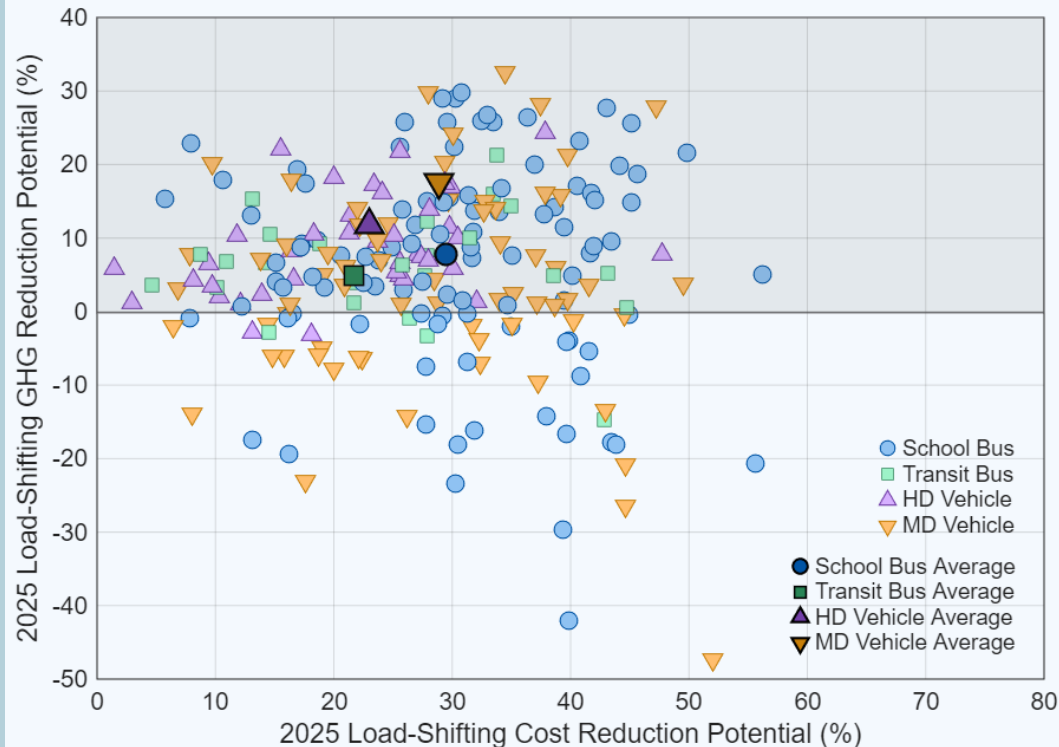


MDHD | Availability to Shift Energy: Improvements in Utility Bills

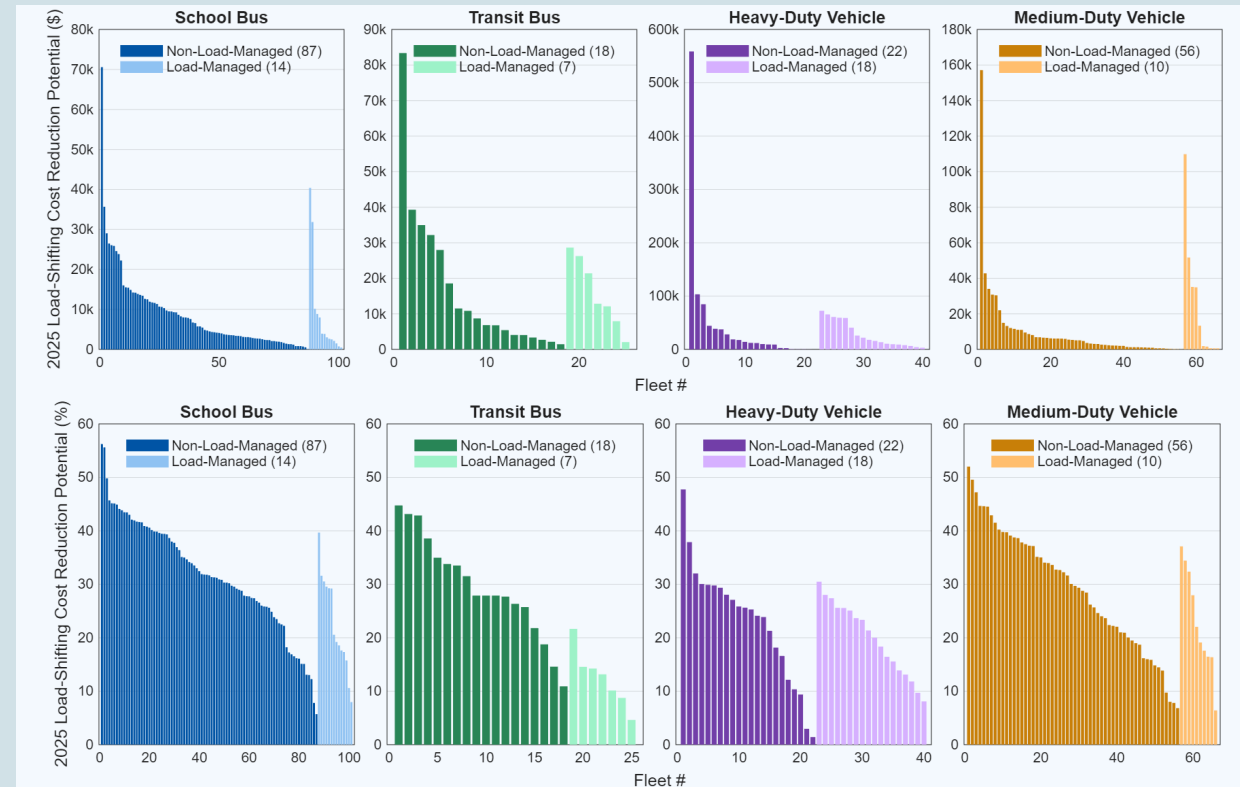
Many fleets' data shows an opportunity to reduce utility billing costs by 20% to 40% with emissions co-benefits. Decreases in emissions coincide with reductions in costs.

Results of Available Annual Improvements When Modeling for Utility Costs by Market Sector

Cost-minimization - All Sites



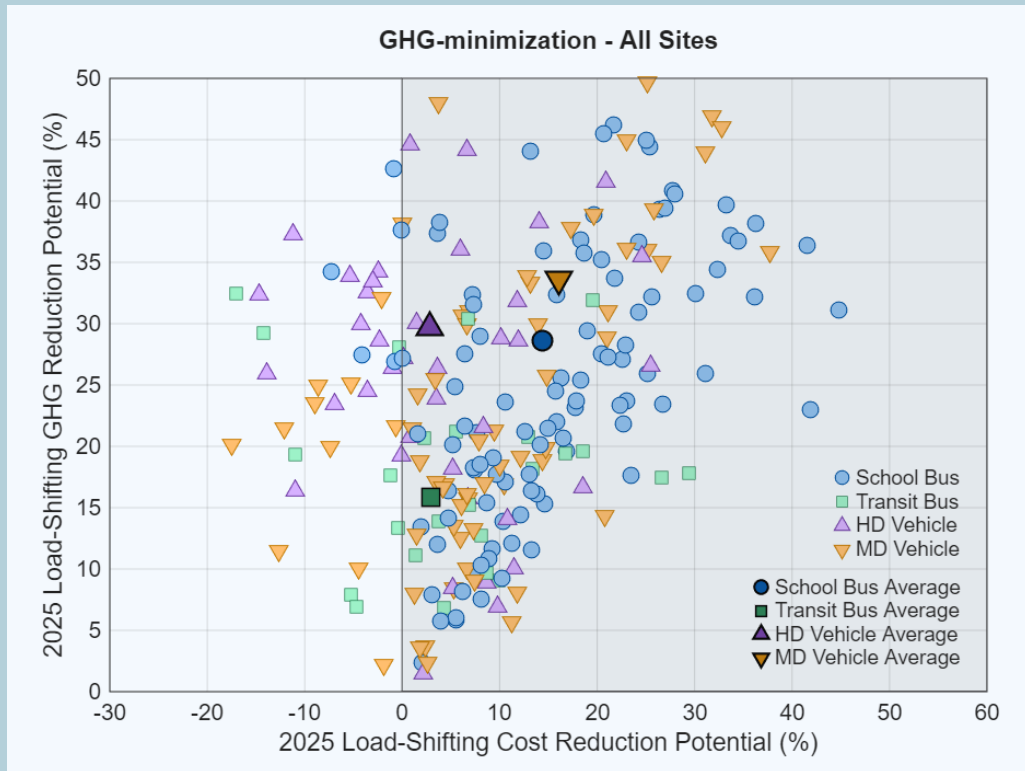
Available Annual Dollar and Proportional Utility Bill Savings Modeling



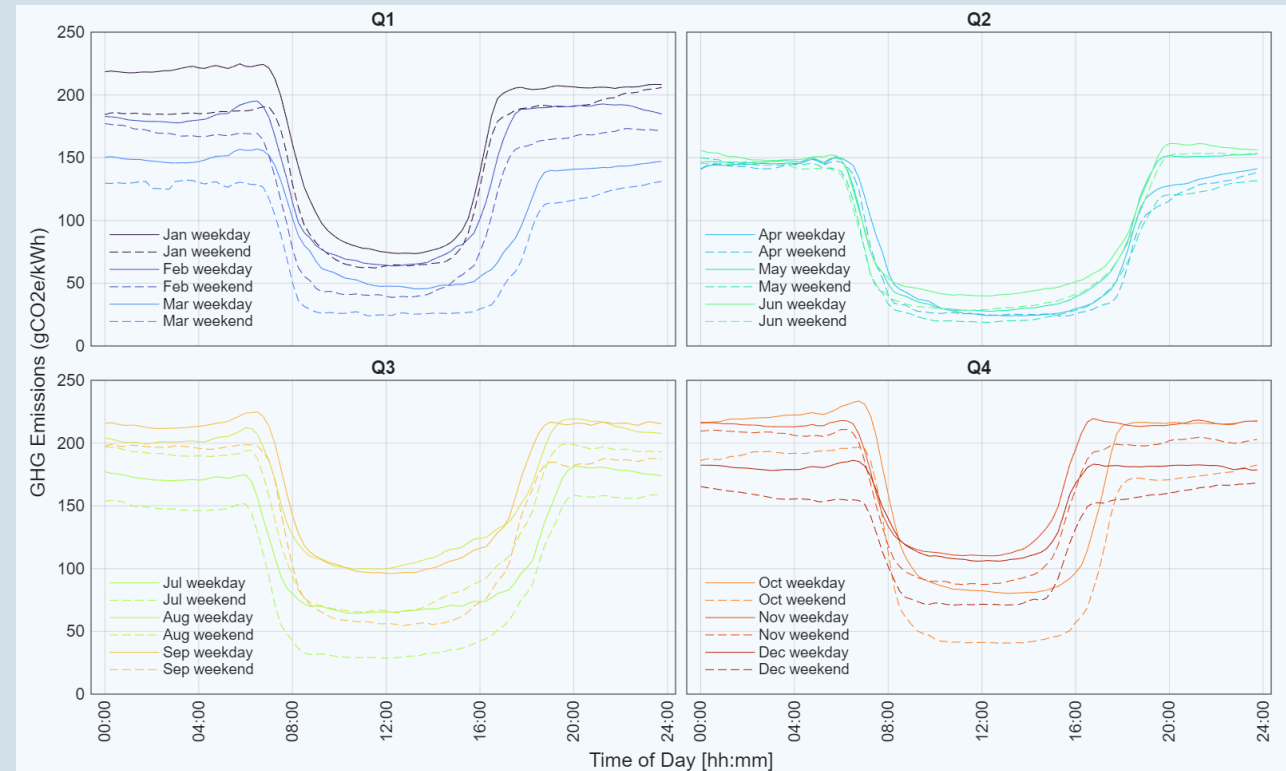
MDHD | Availability to Shift Energy: Improvements in GHG Emissions

In general, cost and emissions co-benefits are mutually achievable: decreases in emissions coincide with reductions in costs. Mid-day energy is often the cleanest and lowest cost.

Results of Available Annual Improvements When Modeling for GHG Emissions by Market Sector



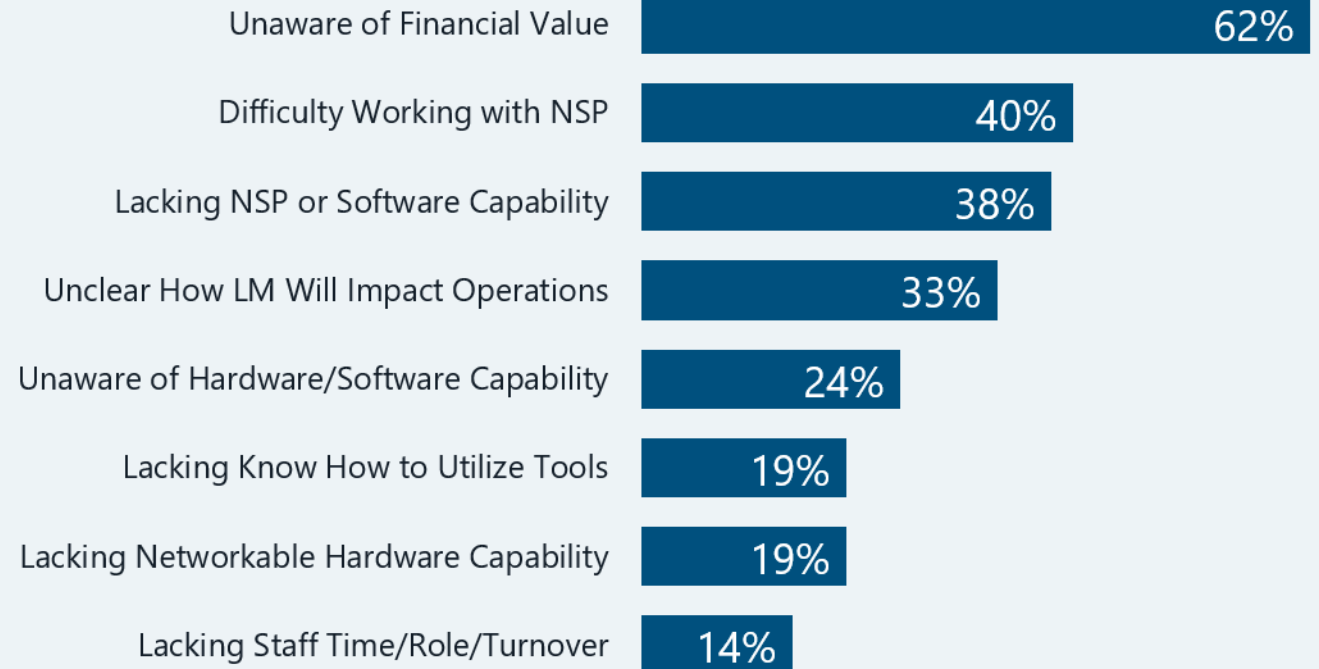
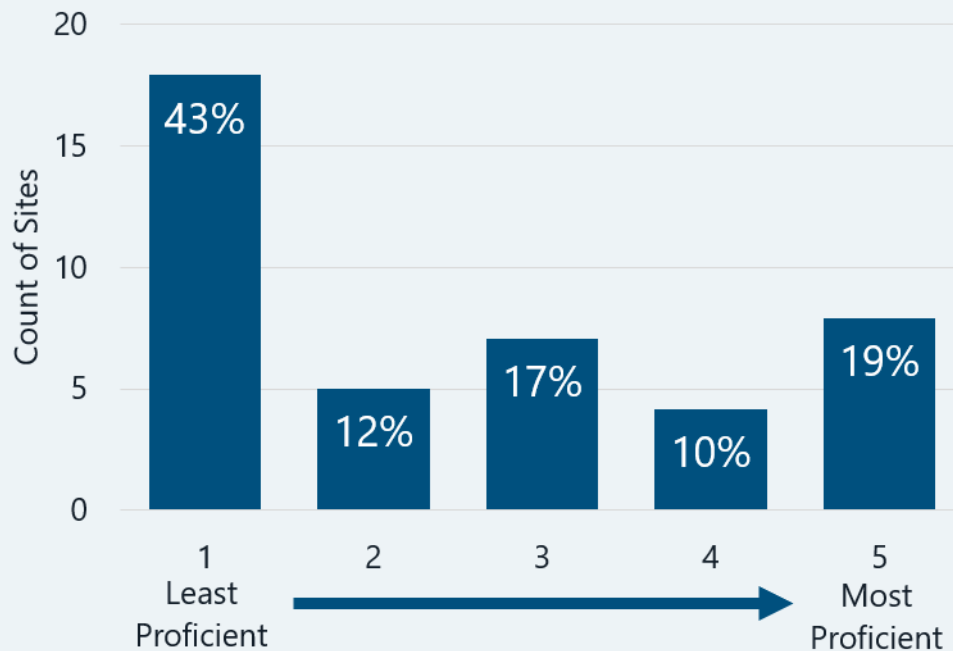
2025 Weekday and Weekend Average CAISO GHG Emissions by Month



Grid Impacts: Load Management Deep Dive

Nearly **75% of the 42 interviewed fleet staff** reported low awareness of trends around energy usage and electricity bills. The top three barriers most frequently identified were **lack of financial awareness, difficulty communicating with NSPs**, and **NSP lacking software capabilities**.

Self-Assessed Cost and Energy Awareness (n=42)



Grid Impacts: **Load Management**

Deep Dive

Interviewed fleets could save an estimated average of **35%** on lifetime utility bills through load management.



*Require NSPs to offer load management capabilities and to conduct proactive outreach to fleets. This will *increase awareness and the application of load management* practices and methods to avoid on-peak consumption and mitigate demand.*

Flipturn and BP Pulse are the only NSPs that do this exceptionally well (>60% of their customer sites showing strong load management).



Ensure that all EVSE are capable of load management and designed to avoid commercial obsolescence due to lack of network capabilities.



Have fleets review their energy trends and utility billing costs at least twice a year to ensure they understand the status and potential savings.



Public Charging

Public Charging | Program Overview - Actuals and Targets

Actual PTD				Program Targets			
8 ports	1 sites	Schools	Liberty	Schools	17 sites	56 L2 and 2 DCFC charging ports	
0 ports	0 sites	Parks and Beaches		Parks and Beaches	3 sites	5 dual-pedestal charging ports	
90 L2 ports	15 sites	Schools	PG&E	Schools	40% DAC	22 K-12 sites	4 or 6 L2 charging ports per location
0 ports	0 sites	Parks and Beaches		Parks and Beaches	25% DAC	15 sites	40 L2 and 3 DCFC charging ports
168 DCFCs	32 sites	EV Fast Charge		EV Fast Charge	25% DAC	30-40 sites	156-200 DCFC charging ports
250 L2 ports	30 sites	Schools	SCE	Schools	40% DAC	40 K-12 schools	250 L2 charging ports
0 ports	0 sites	Parks and Beaches		Parks and Beaches	25% DAC	21 state parks and beaches	120 L2, 10 DCFC, and 15 mobile charging ports
222 L2 and 7 DCFC ports	25 sites	Schools	SDG&E	Schools	40% DAC	30 schools	184 L2 and 12 DCFC ports
82 L2 and 8 DCFC ports	11 sites	Parks and Beaches		Parks and Beaches	50% DAC	74 charging ports at 12 state parks and beaches	66 charging ports at 10 city and county parks (100% DAC)

Public Charging | 2025 Findings



Population of Activated Sites in EY2025 (#)

21



Ports Installed in Analyzed Sites (#)

167



Electric Energy Consumption (MWh)

348



Petroleum Displacement (diesel gallons equivalent)

21,896



GHG Emission Reduction (metric ton [MT] GHG)

193

GHGs include carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O) multiplied by their respective Global Warming Potentials (GWP) as defined by the Intergovernmental Panel on Climate Change (IPCC) published fifth assessment (AR5; see the Methodology section for more details).

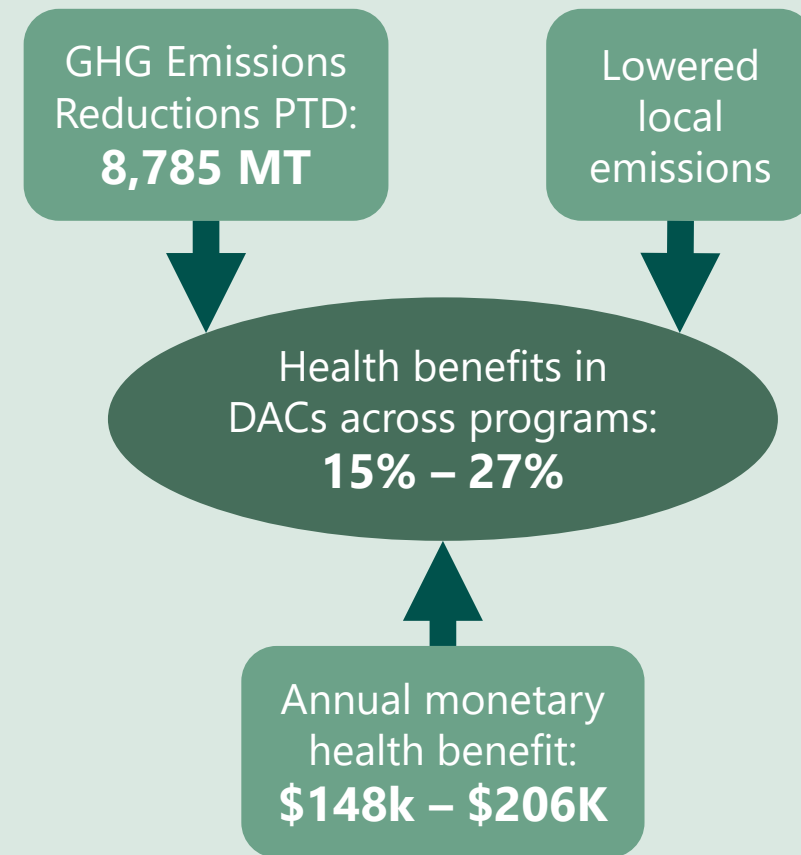
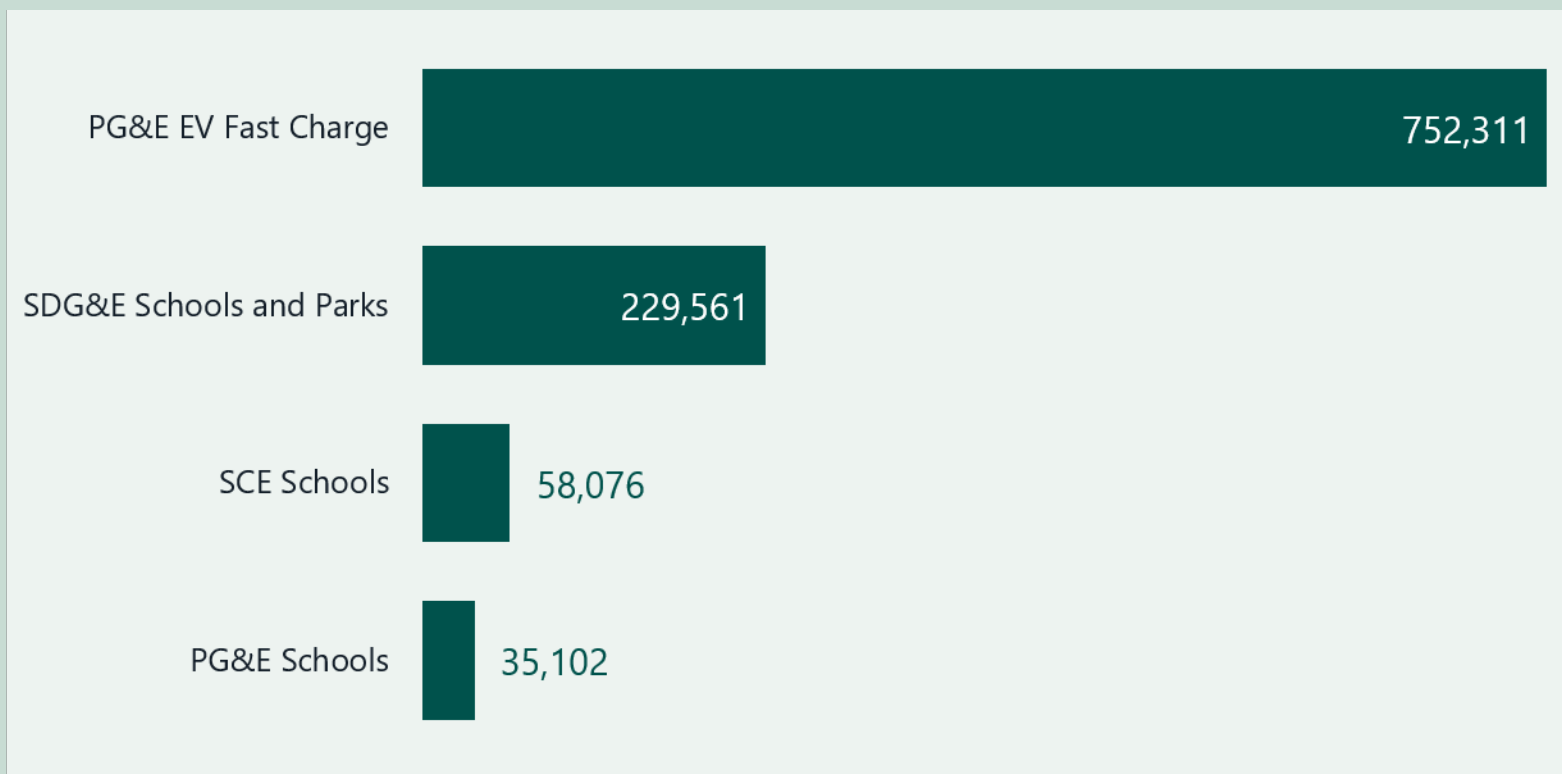
Local Emissions	Reduction (kg)
Particulate Matter (PM ₁₀)	1.07
Particulate Matter (PM _{2.5})	0.99
Reactive Organic Gases (ROG)	10.90
Carbon Monoxide (CO)	467



Public Charging | Lessons Learned

The Schools and Parks Pilots sites and the EV Fast Charge program sites continue to displace petroleum, reduce GHG and local emissions, and achieve health impacts overall and within DACs.

Pilot-to-Date Displaced Petroleum (gallons)

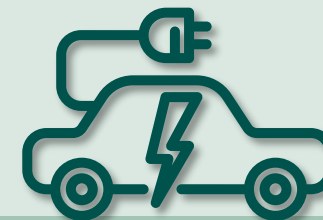
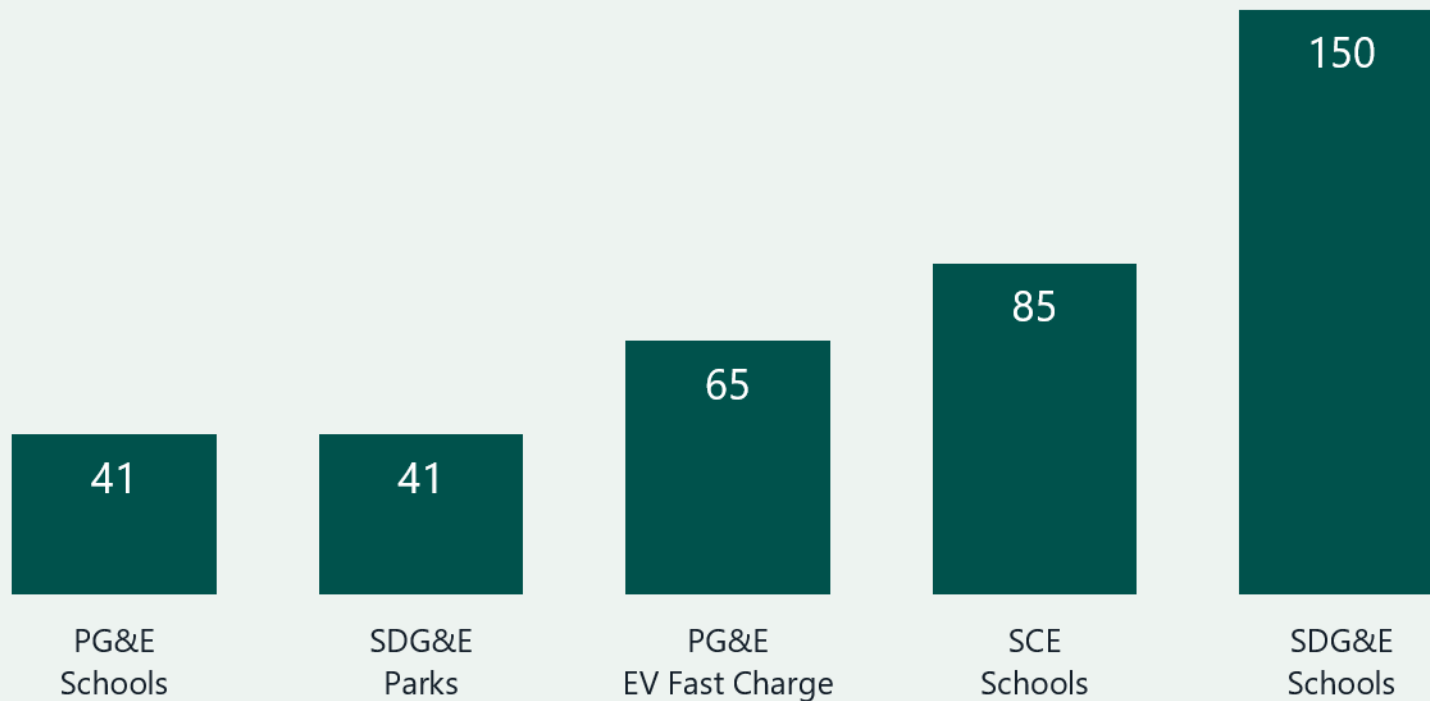




Public Charging | Lessons Learned

The Schools and Parks Pilots' sites and the EV Fast Charge program sites continue to promote regional EV adoption.

EV Adoption PTD

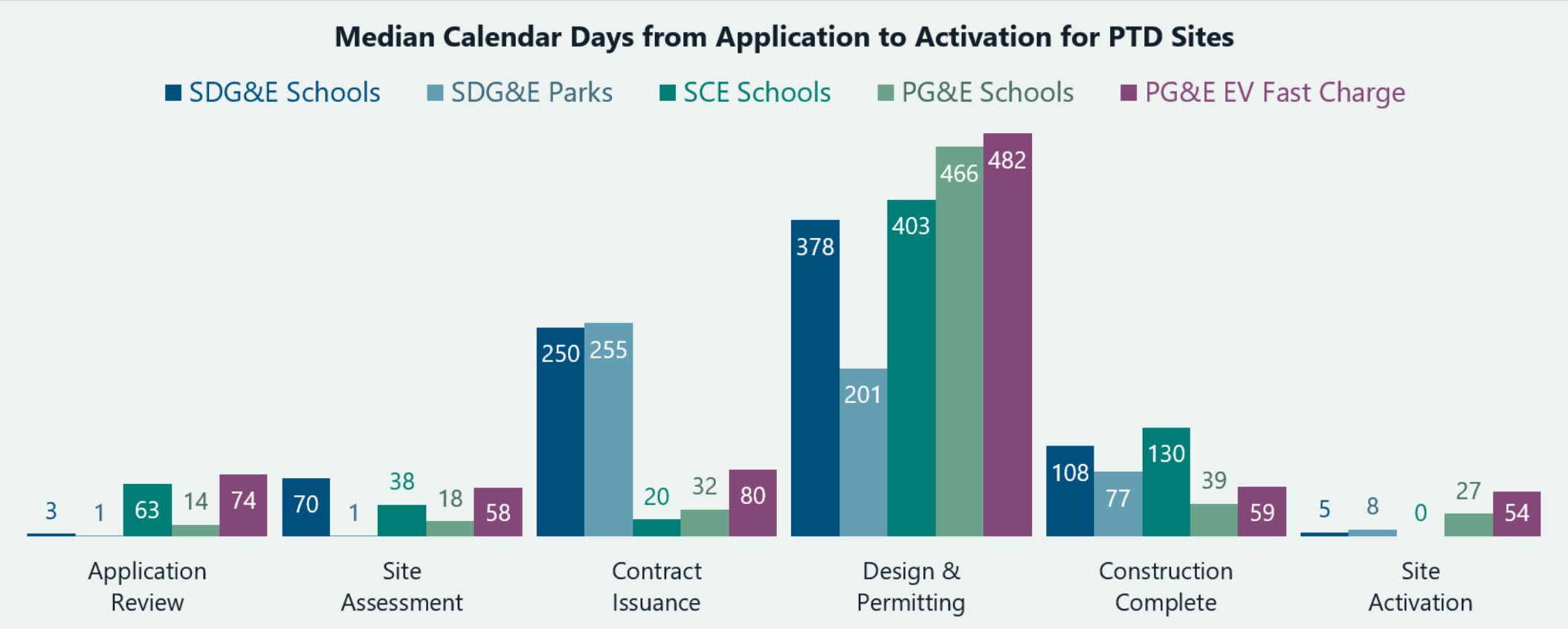


The pilots and program contribute to **electric vehicle adoption** in households neighboring the charging infrastructure.

To date the utility investments have had an economically meaningful impact on EV adoption, attributing to nearly **382 EVs** collectively based on the adoption model.

Public Charging | Site Timelines

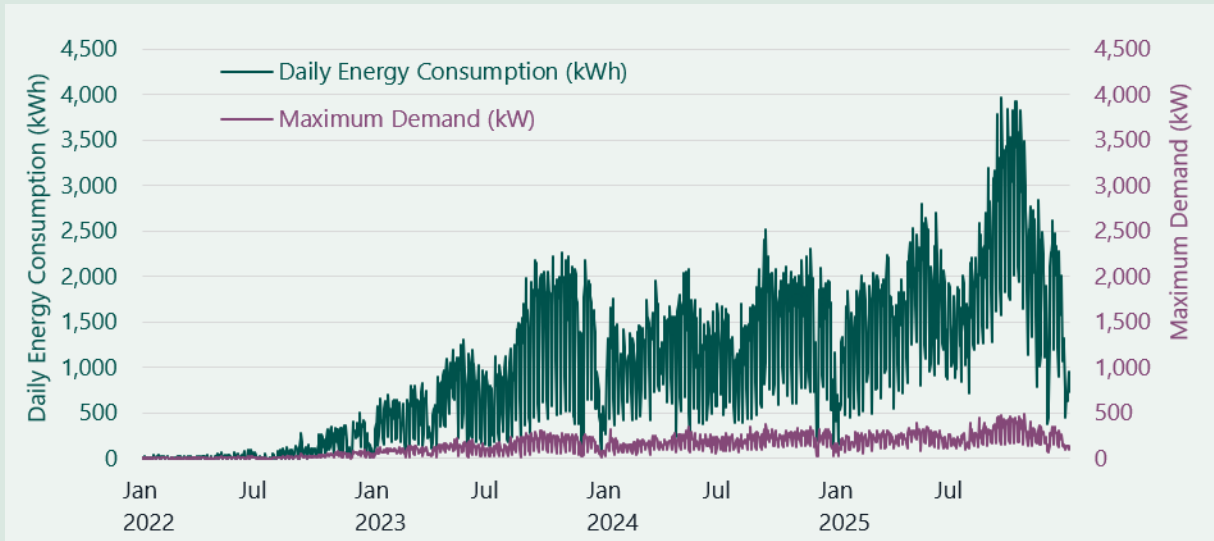
The phase with longest duration across all programs is Design & Permitting.



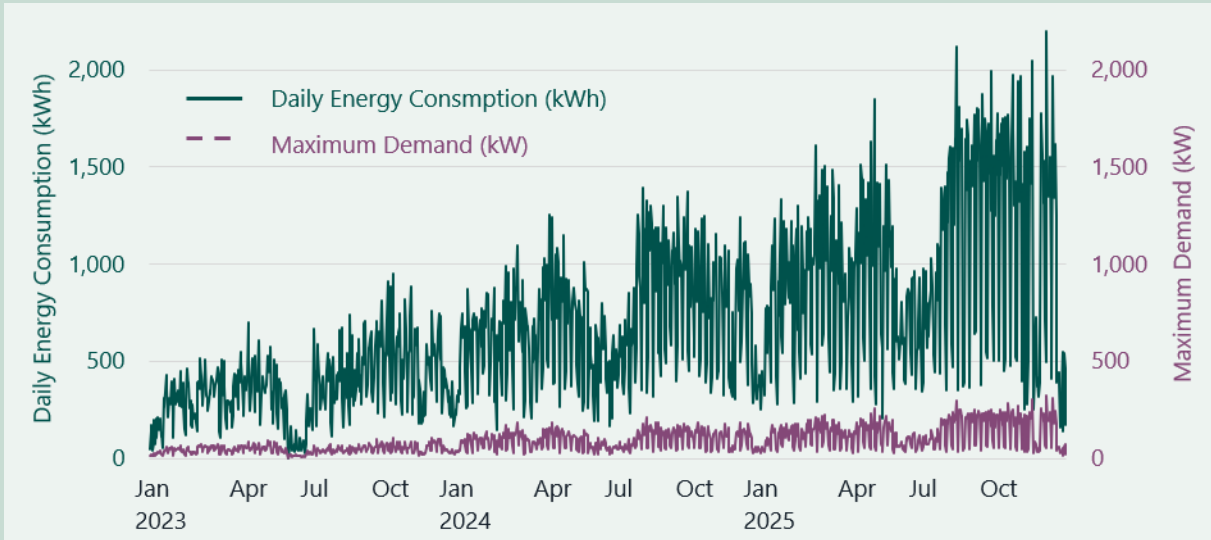
Public Charging | Consumption of Schools Pilot Sites

- This **School district charging** is typical of workplace; ramping up quickly as EV drivers arrive to work and tapering off thereafter to end the business day.
- A few individual school sites show significantly higher weekend and overnight charging compared to the average, **likely highlighting that local communities benefit** from these projects.
- **High utilization** days exemplify what the portfolios could become as they continue to mature.

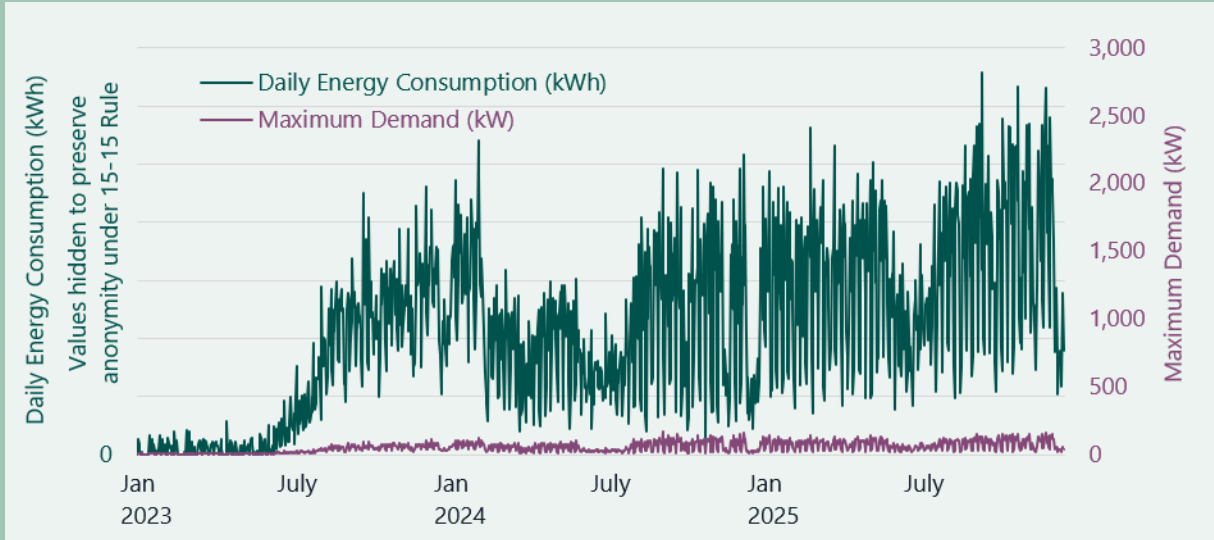
SDG&E Schools Pilot



SCE Schools Pilot



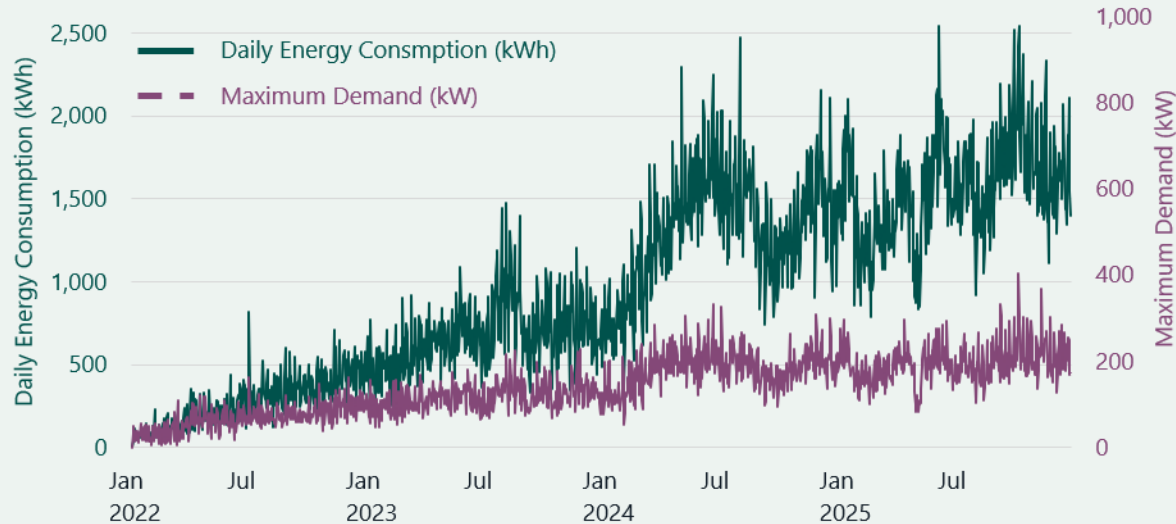
PG&E Schools Pilot



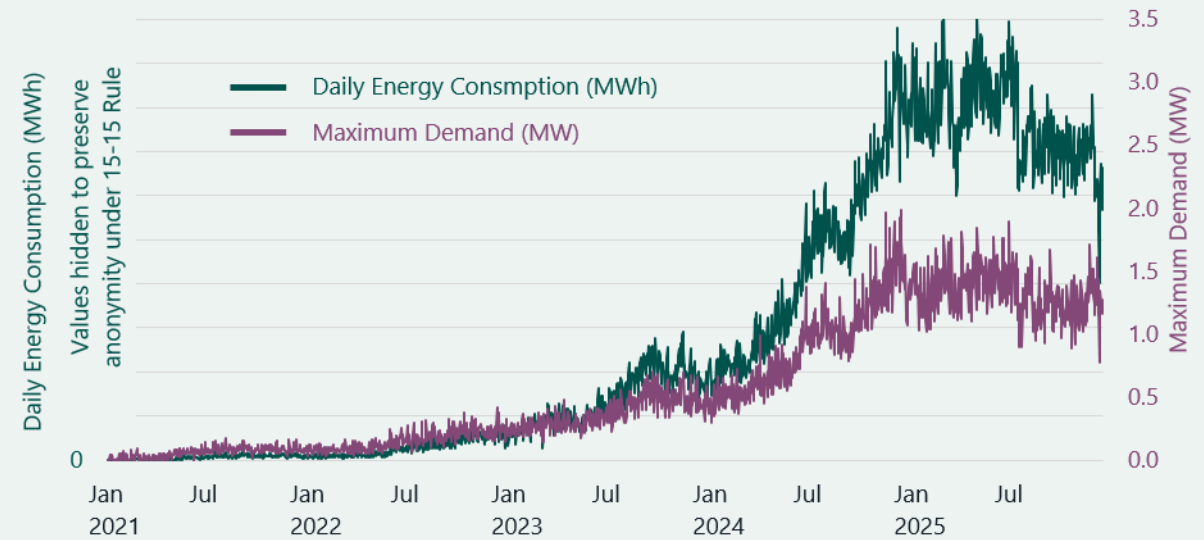
Public Charging | Consumption of Parks Pilot and EV Fast Charge Sites

- **Public oriented sites have higher demand and consumption on weekends** than on weekdays.
- Daily consumption and charging sessions continue to **peak in summer months at park sites**.

SDG&E Parks Pilot



PG&E EV Fast Charge



Public Charging | Site Maturation

- These figures illustrate the time it takes for different types of public charging locations to **mature into resources for EV drivers**.
- Each figure shows sites with both **higher and lower consumption** rates, with some approaching five years of operation.
- Years of data helps to **identify patterns** between sites and showcases what **benefits** are being generated.

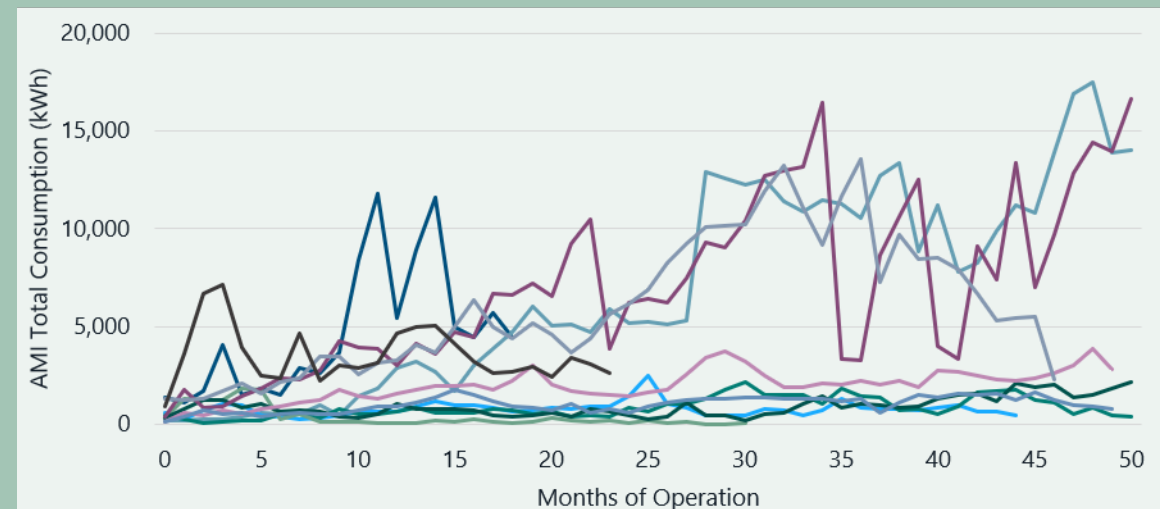
PG&E EV Fast Charge



SCE Schools Pilot



SDG&E Parks Pilot





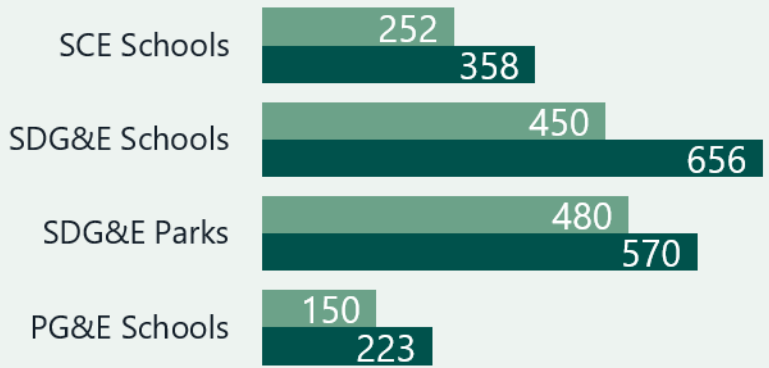
Public Charging | Lessons Learned

As new sites are activated in the Schools and Parks Pilots, total consumption is increasing.

	New Sites Activated	Charging Capacity Added in EY2025	Total Installed Charging Capacity
SCE Schools	8	550 kW	1,750 kW
SDG&E Schools	7	288 kW	1,790 kW
SDG&E Parks	0	--	1,016 kW
PG&E Schools	3	144 kW	633 kW

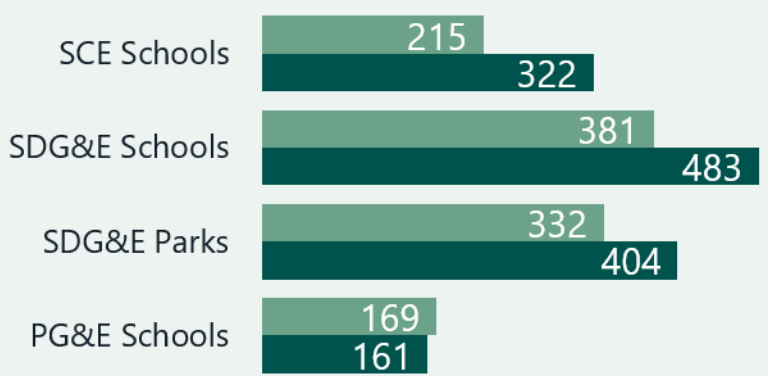
Overall Energy Consumption (MWh)

■ EY2024 ■ EY2025



Maximum Demand (kW)

■ EY2024 ■ EY2025



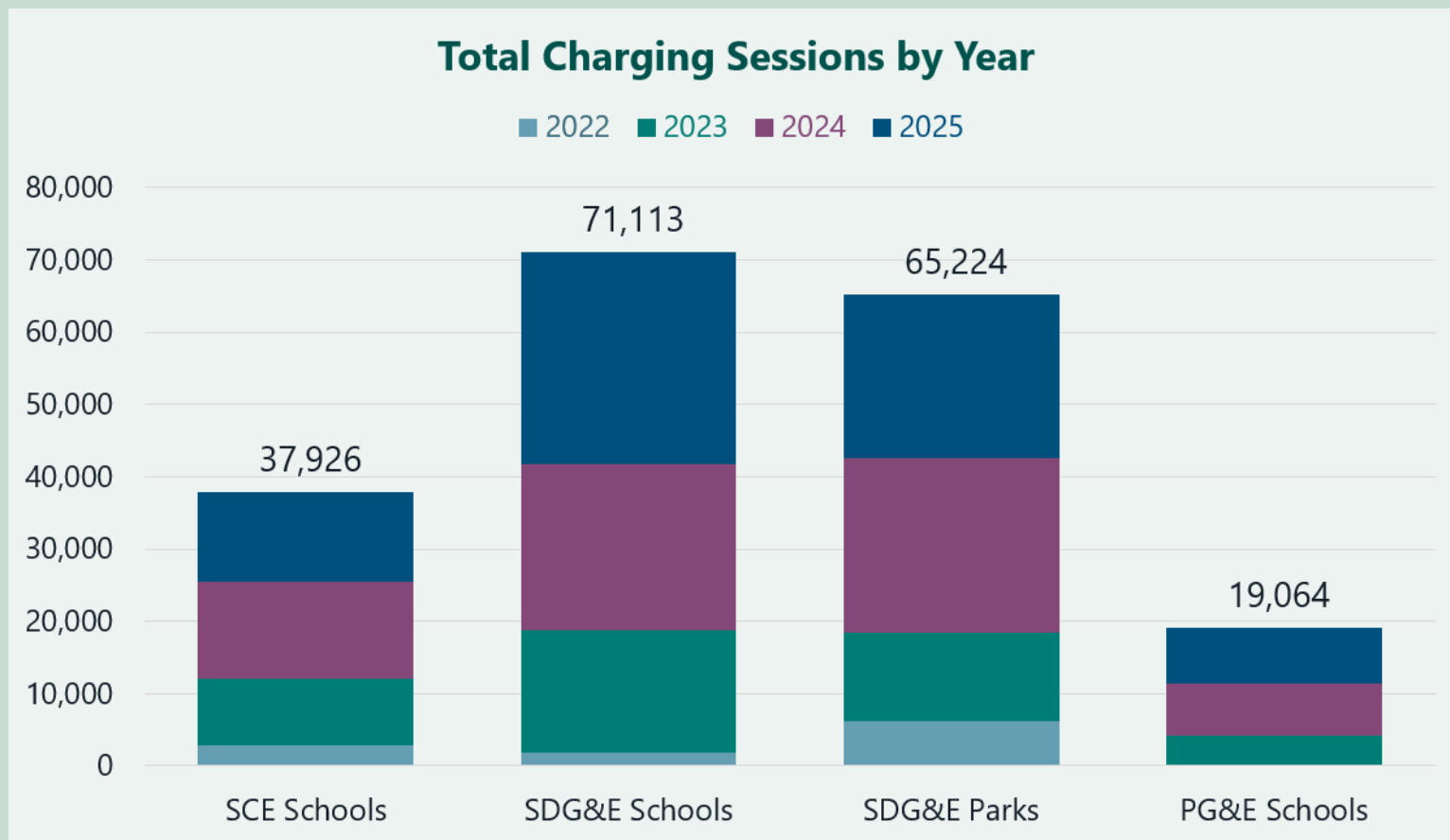
Sites' **demand** rarely approaches their full installed **charging capacity**.

Higher utilization sites often appear to provide **public access** to charging **outside of common business hours**, which helps to cover operational costs (such as network and warranty fees) and to lower the average cost of electricity.



Public Charging | Lessons Learned

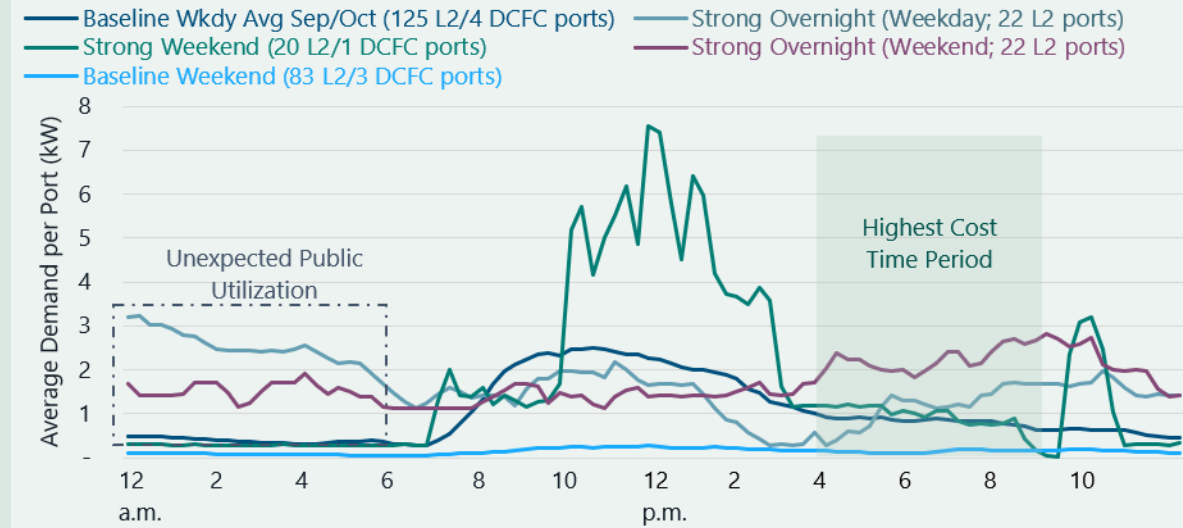
Utilization of Schools and Parks Pilot sites is increasing, and sites show additional charger utilization outside of expected charging hours, indicating use by local communities.



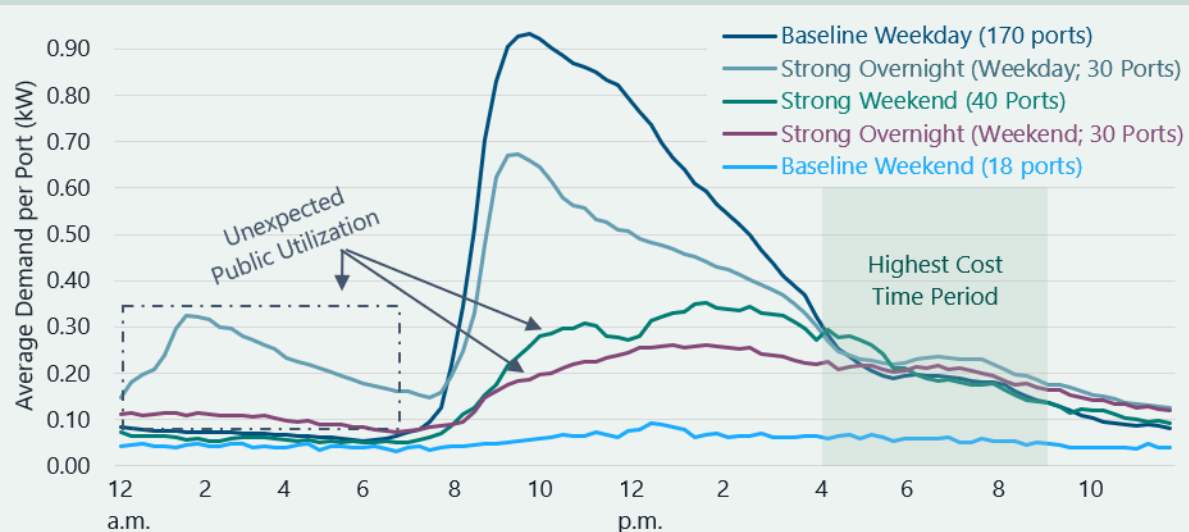
Public Charging | Charger Use of Schools Pilot Sites

- Across all Schools Pilots some sites show **utilization outside typical weekday business hours**.
- Indicating evening and weekend usage by **community members**, potentially from nearby multi-unit dwellings.

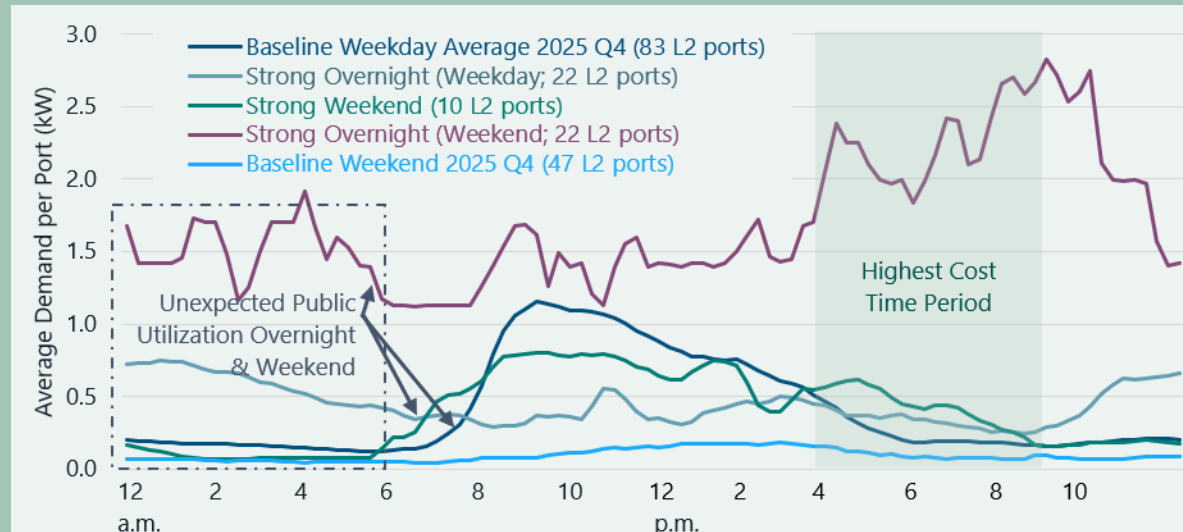
SDG&E Schools Pilot



SCE Schools Pilot



PG&E Schools Pilot

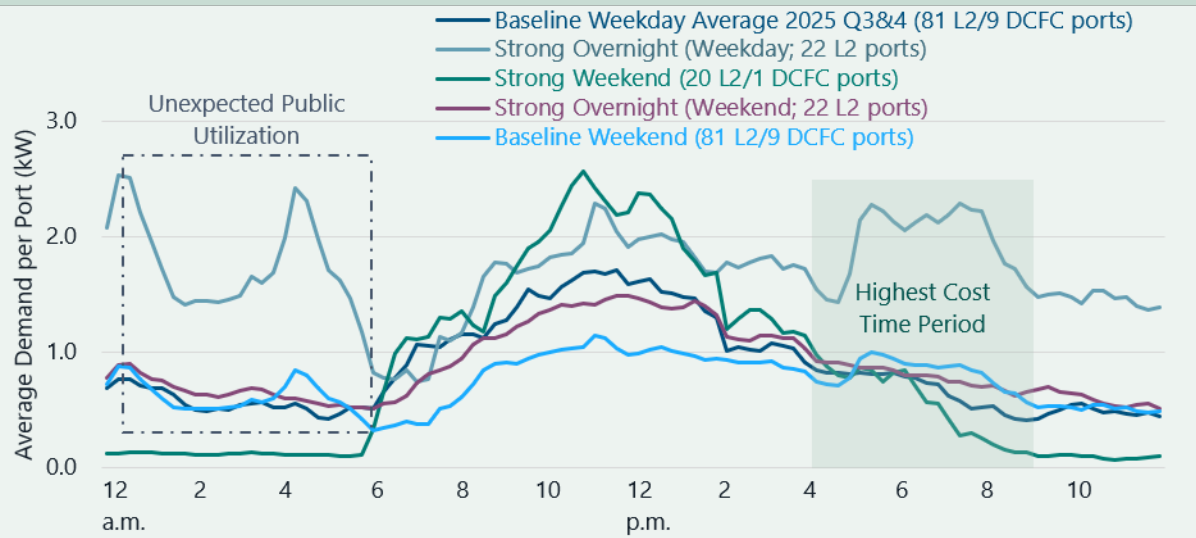


Public Charging | Charger Use of Parks Pilot and EV Fast Charge Sites

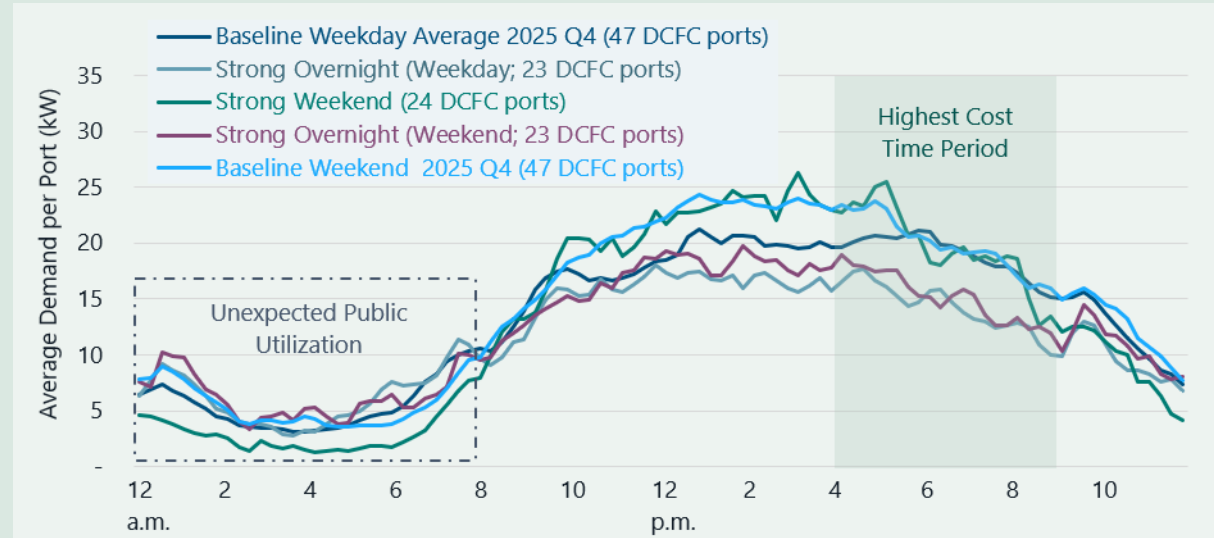
Higher utilization at select pilot sites is driven in part by increased weekend and overnight charging and may reflect EV driver response to retail TOU rates.

- Several Parks Pilot sites show **significant overnight usage** and a **high level of charging between 4 p.m. – 9 p.m.** (when energy costs are highest).
- Weekends show more utilization at EV Fast Charge sites, where **TOU pricing may help shift consumption to lower cost and emissions times** than currently shown.

SDG&E Parks



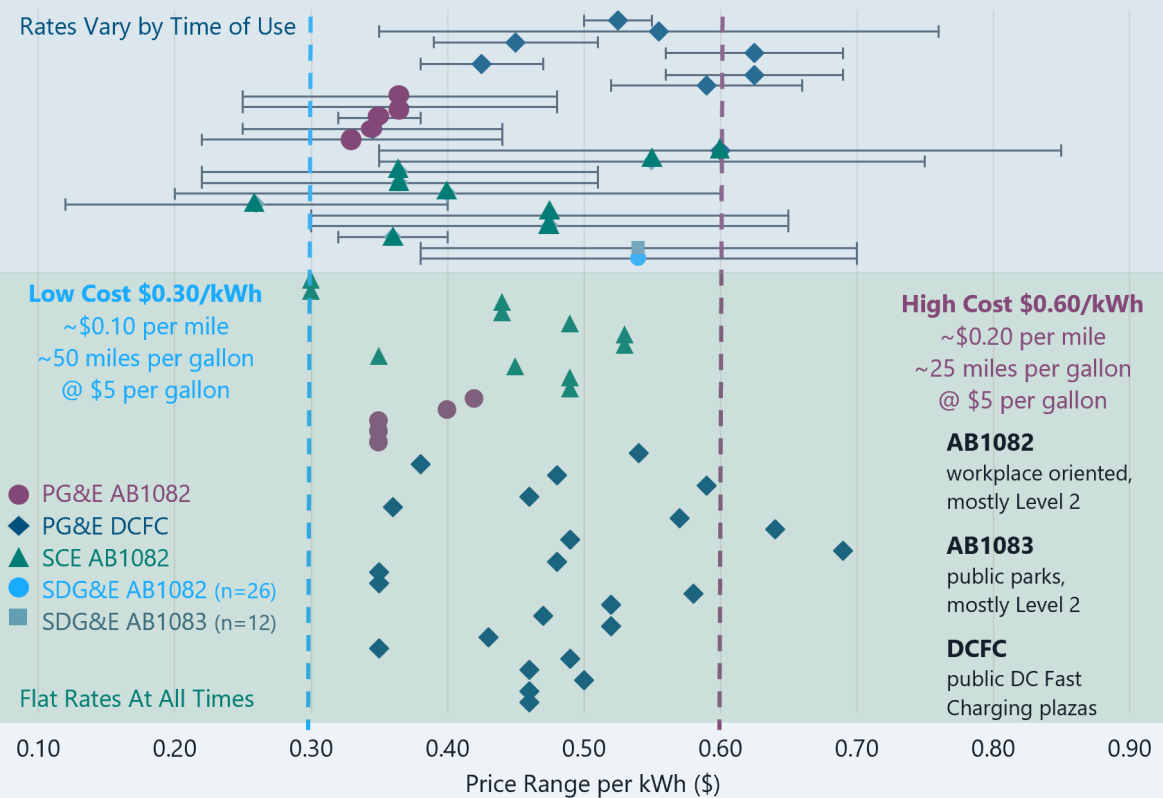
PG&E EV Fast Charge



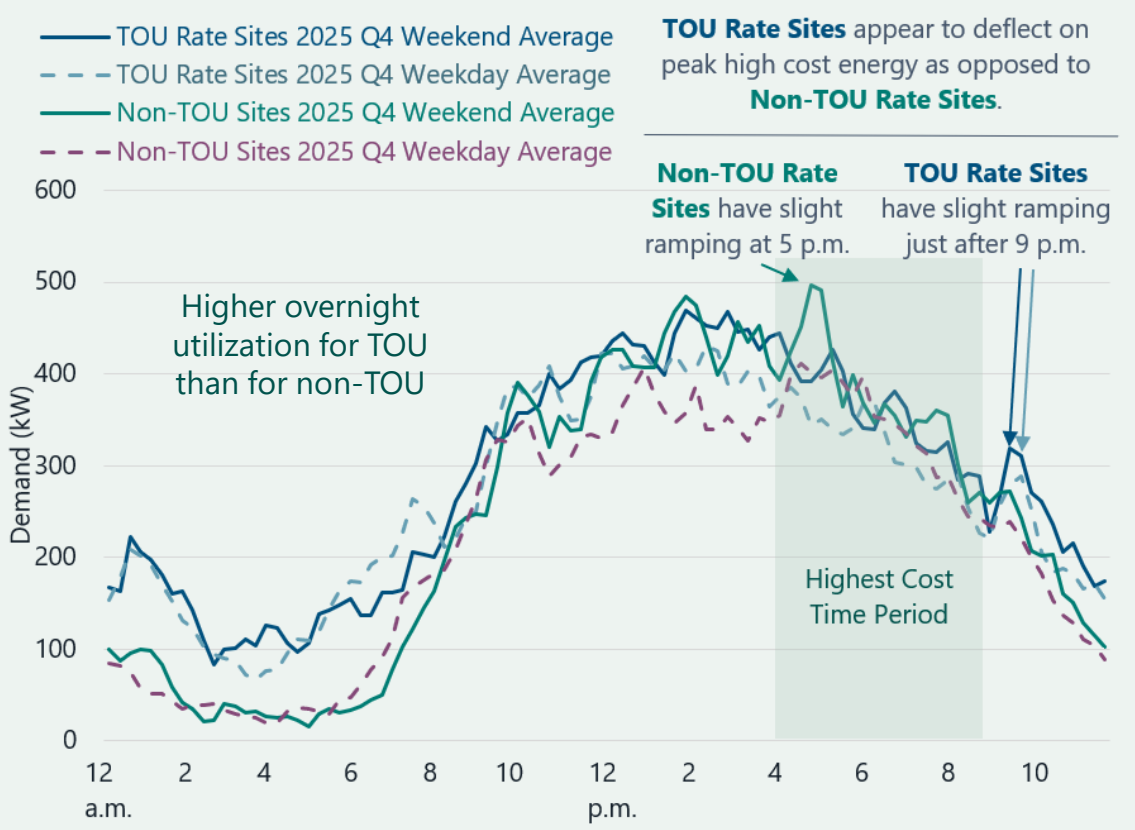
Public Charging | Public EV Retail Costs to Drivers

Passing on time-of-use rates to EV drivers appears to influence when they charge, leading to better vehicle-grid integration and delivering better costs, lower emissions, and higher utilization.

Public Charging Retail Time of Use vs. Flat Pricing Policy



PG&E EV Fast Charge





Public Charging | Lessons Learned

Many of the Schools and Parks Pilots and EV Fast Charge program sites have an opportunity to support grid integration by passing on TOU pricing to EV drivers.

- PG&E and SCE have customer-owned chargers with pricing set by customers. Only a portion of those sites bill EV drivers based on TOU rates.
- SDG&E owns and operates all sites and passes on TOU rates to EV drivers.

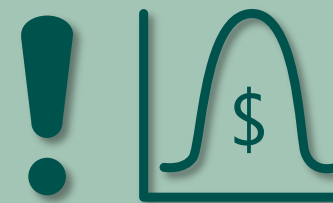
PG&E EV Fast Charge 23% (7 of 30)

PG&E Schools 40% (6 of 15)

SCE Schools 44% (11 of 25)

SDG&E Schools 100% (25 of 25)

SDG&E Parks 100% (11 of 11)

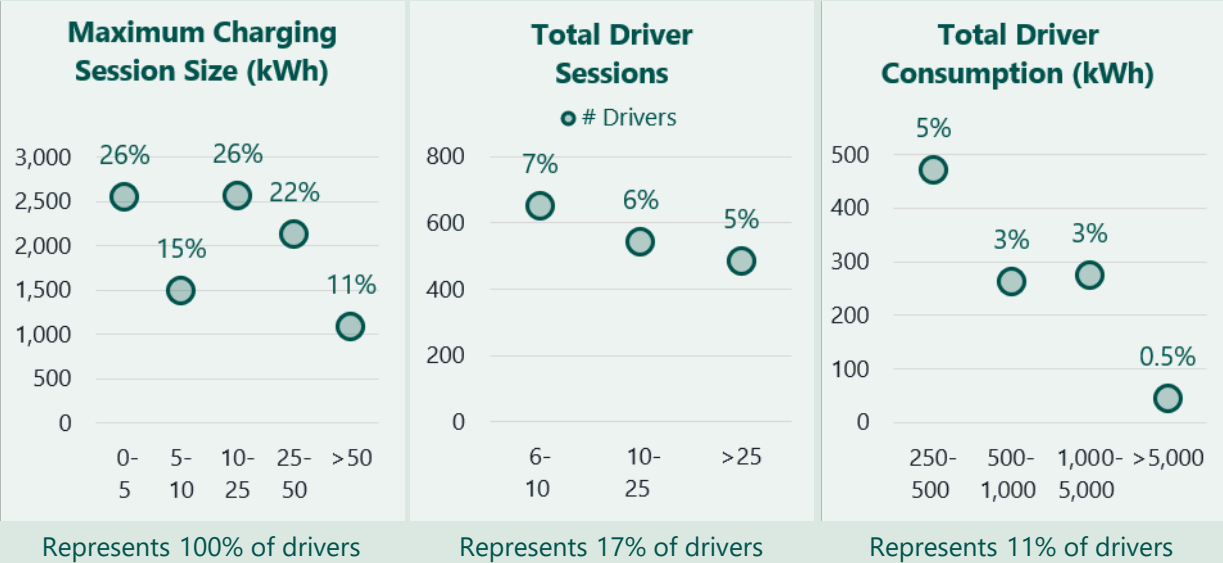


Providing TOU pricing structure may influence when EV Drivers charge, resulting in lower costs for them and site hosts.

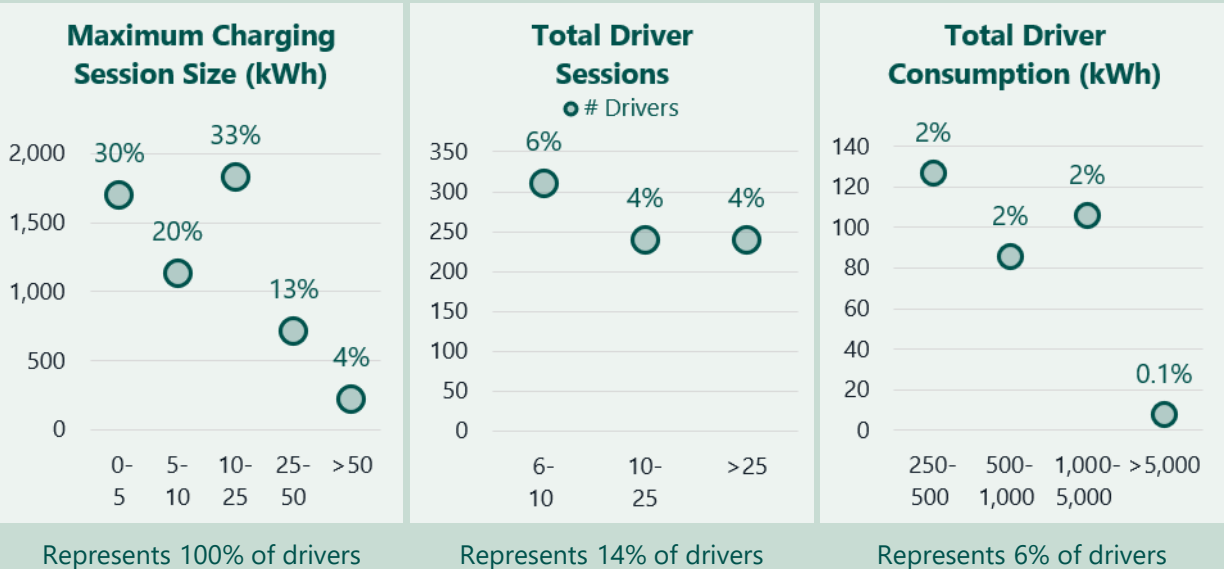
Public Charging | Driver Statistics

- **10% to 50%** of each portfolio's EV drivers using the public infrastructure have become **repeat customers**.
- DCFC charging sessions continue to grow.

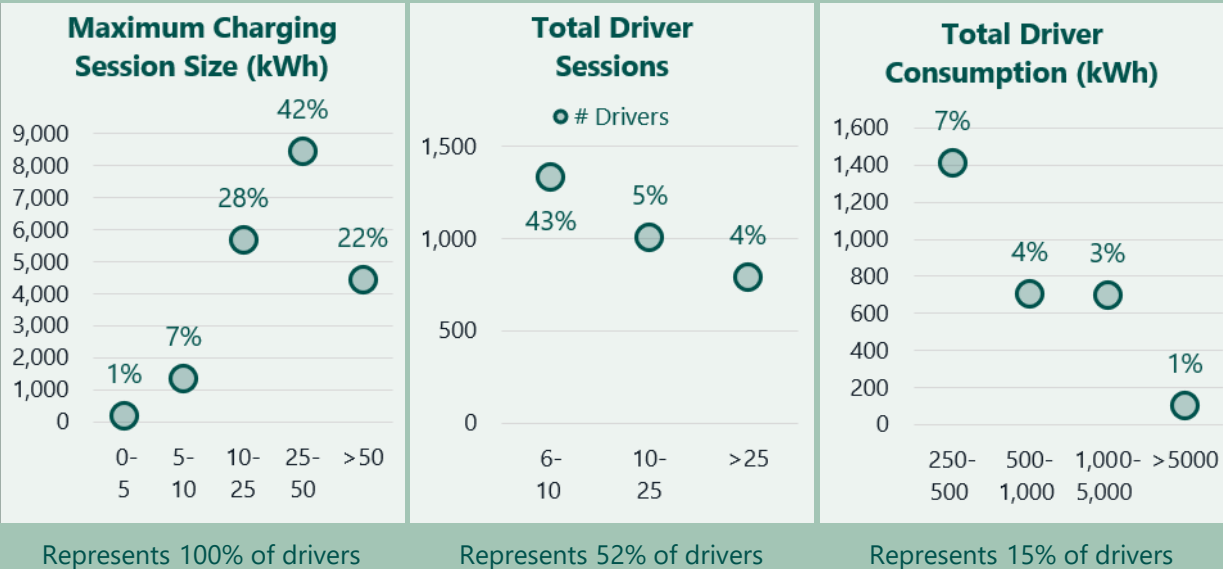
SDG&E Parks Pilot



SCE Schools Pilot



PG&E EV Fast Charge

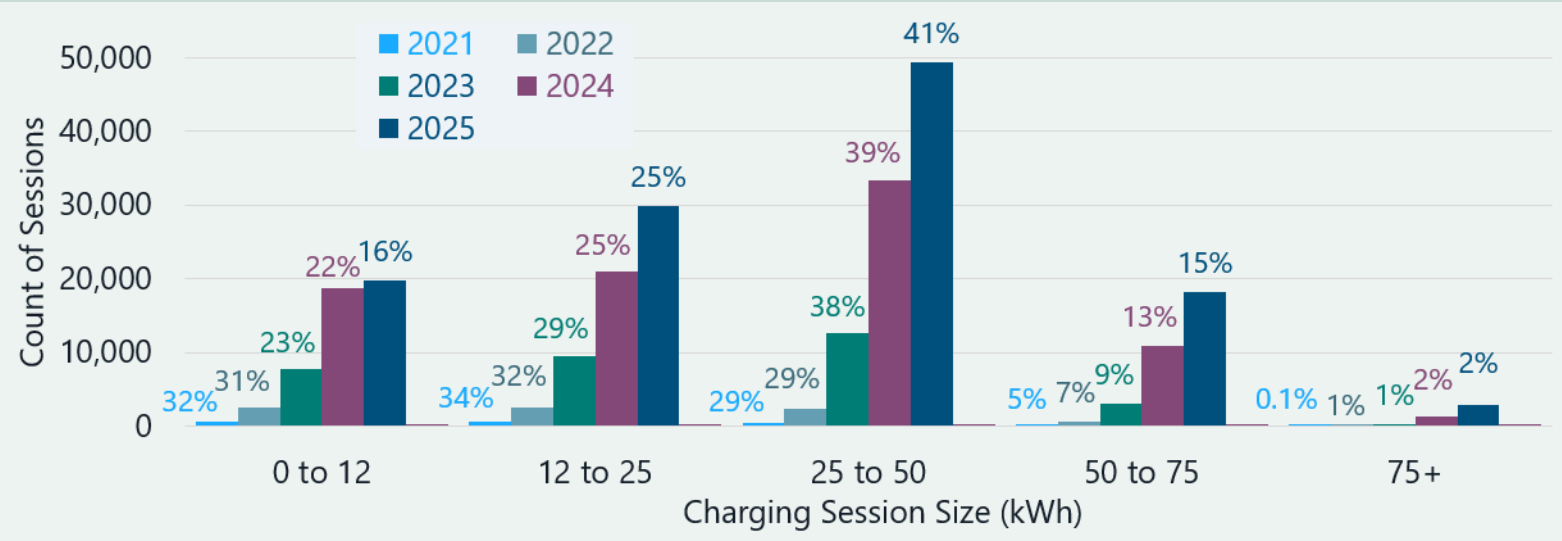
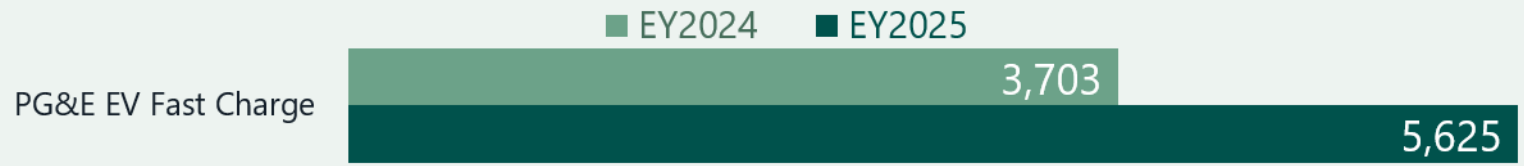




Public Charging | Lessons Learned

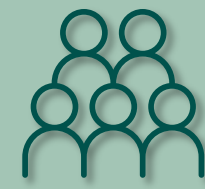
As new sites are activated in the PG&E EV Fast Charge program, total consumption and demand, delivered energy per charging session, and repeated use of chargers are all increasing, indicating that the program is meeting EV driver charging needs.

Overall Energy Consumption (MWh)



PG&E EV Fast Charge

EY2025 Sites Activated	3
EY2025 Installed Capacity	1,020 kW
PTD Installed Capacity	13,590 kW



50%

of drivers using EV Fast Charge program sites are repeat customers with **six or more charging sessions.**



Any Questions?



Thank You

**If you have any questions,
please reach out to:**

Michael.Colby@cadmusgroup.com

Geoffrey.Morrison@cadmusgroup.com

Ziga.Ivanic@clearesult.com



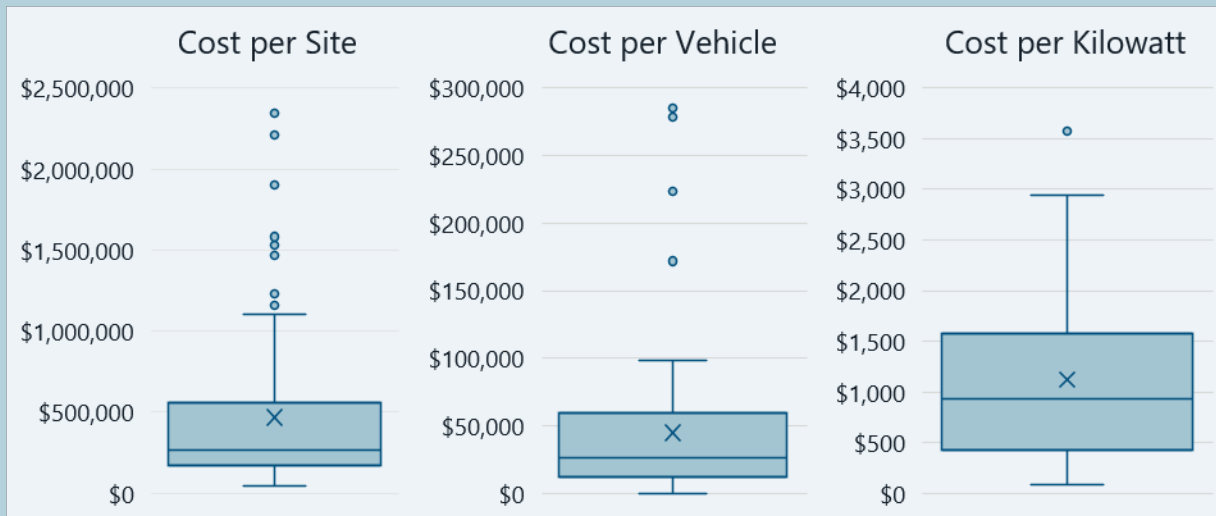
Appendix

MDHD | Utility Infrastructure Costs: SCE and SDG&E

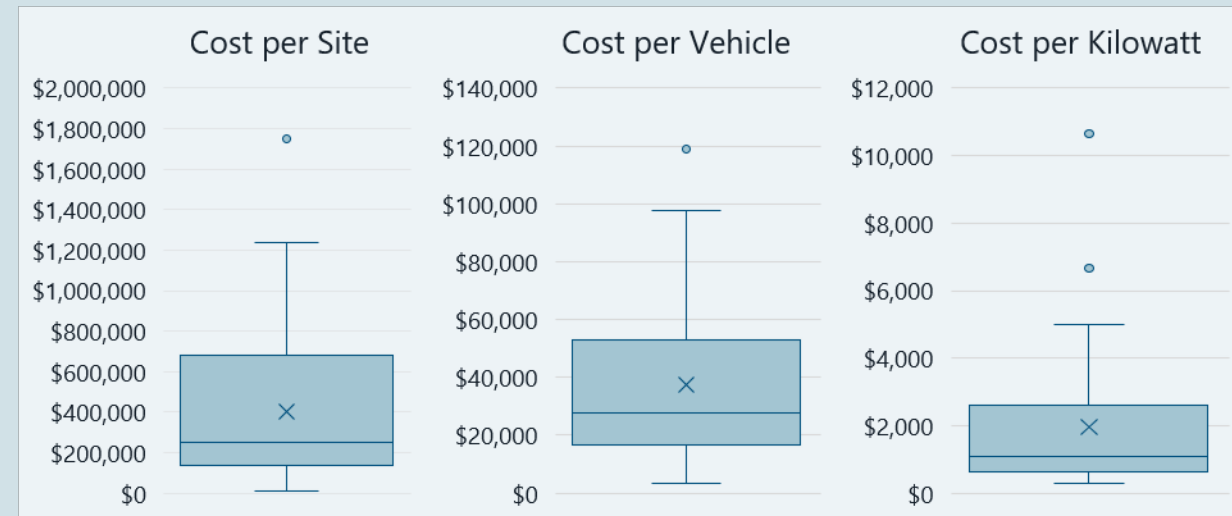
Utility Costs per Site, Vehicle, and Kilowatt for Closed-Out PTD Sites

- **Costs** include Utility-funded **TTM plus BTM** for financially closed-out sites.
- 81% of SCE CRT sites and 68% of SDG&E PYDFF sites have Utility-owned BTM.
- **Larger sites** have **lower costs** per vehicle and per kilowatt than smaller sites, although the scale effect is relatively modest.
- There is a mix of L2 and DCFC across market sectors.

SCE Charge Ready Transport (75 sites)



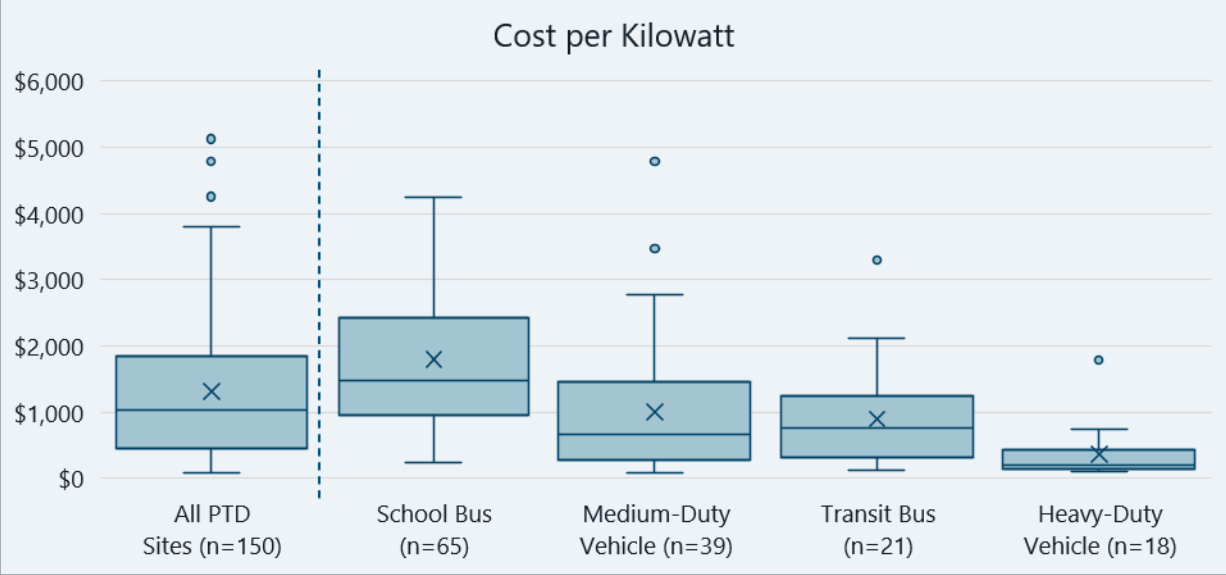
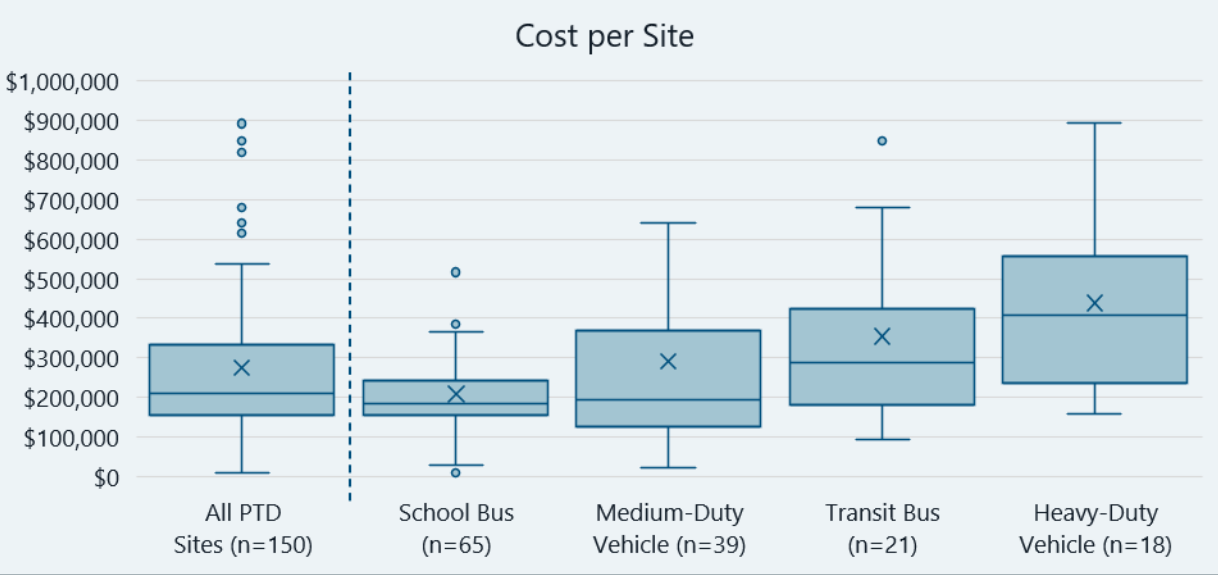
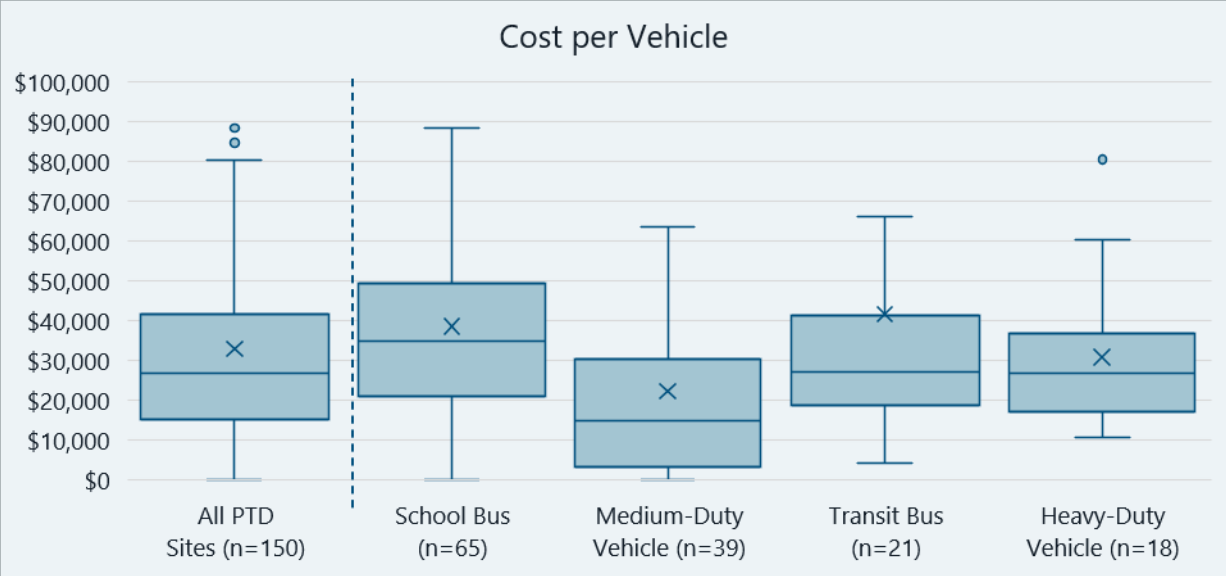
SDG&E Power Your Drive For Fleet (28 sites)



MDHD | Utility Infrastructure Costs: PG&E EV Fleet (150 sites)

Utility Costs per Site, Vehicle, and Kilowatt for Closed-Out PTD Sites

- **4%** of PG&E EV Fleet sites have utility-owned BTM.
- School bus sites cost **less per site** than non-school bus sites but cost **more per vehicle** and **per kilowatt**.



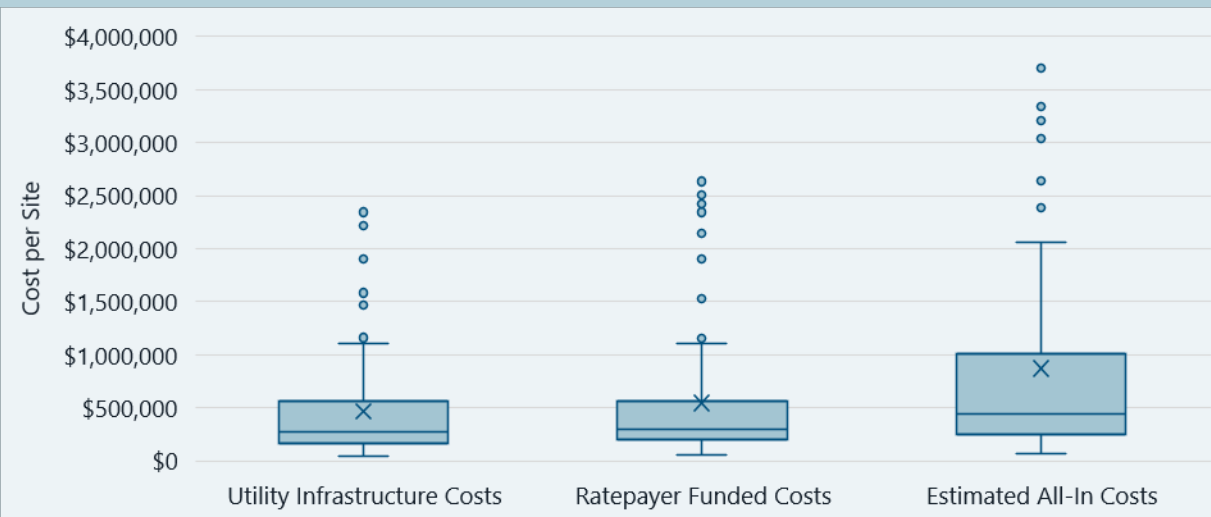
MDHD | Costs Per Site: SCE and SDG&E

Utility Infrastructure, Ratepayer Funded, and Estimated All-In Costs per Site

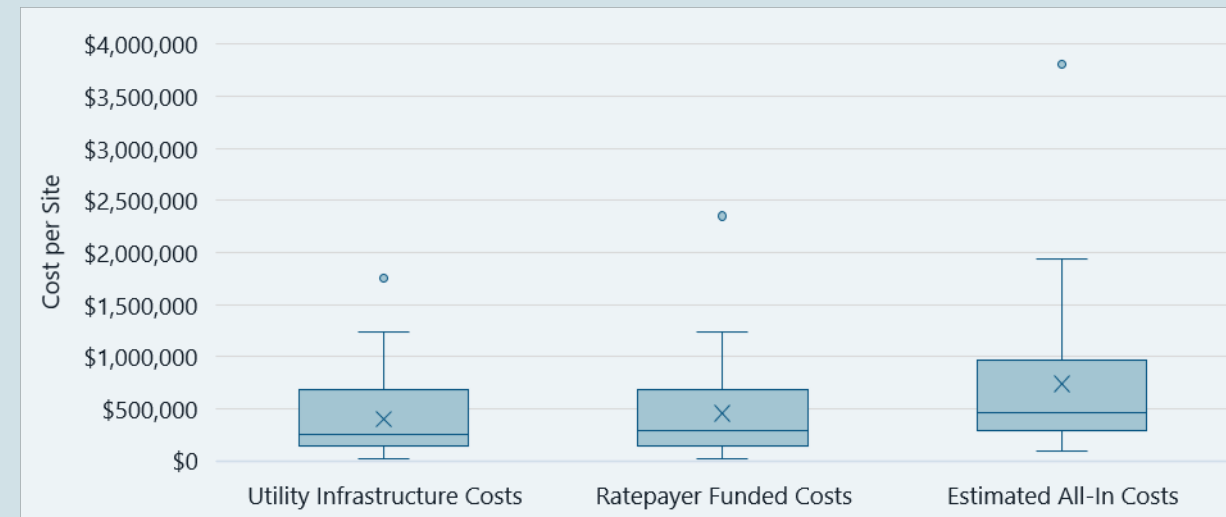
Distribution of site-level costs for all sites:

- **Utility Infrastructure Costs.** Actual site costs paid by the Utility for TTM and BTM infrastructure/rebates, including capital and labor costs.
- **Ratepayer-Funded Costs.** Actual site costs paid for by the Utility for TTM, BTM (or BTM incentive if infrastructure is customer owned), and EVSE rebates.
- **Estimated All-in Costs.** Estimated costs of installing the site borne by the Utility and the customer including capital and labor costs. The value is calculated by summing TTM, BTM, and EVSE costs.

SCE Charge Ready Transport (75 sites)

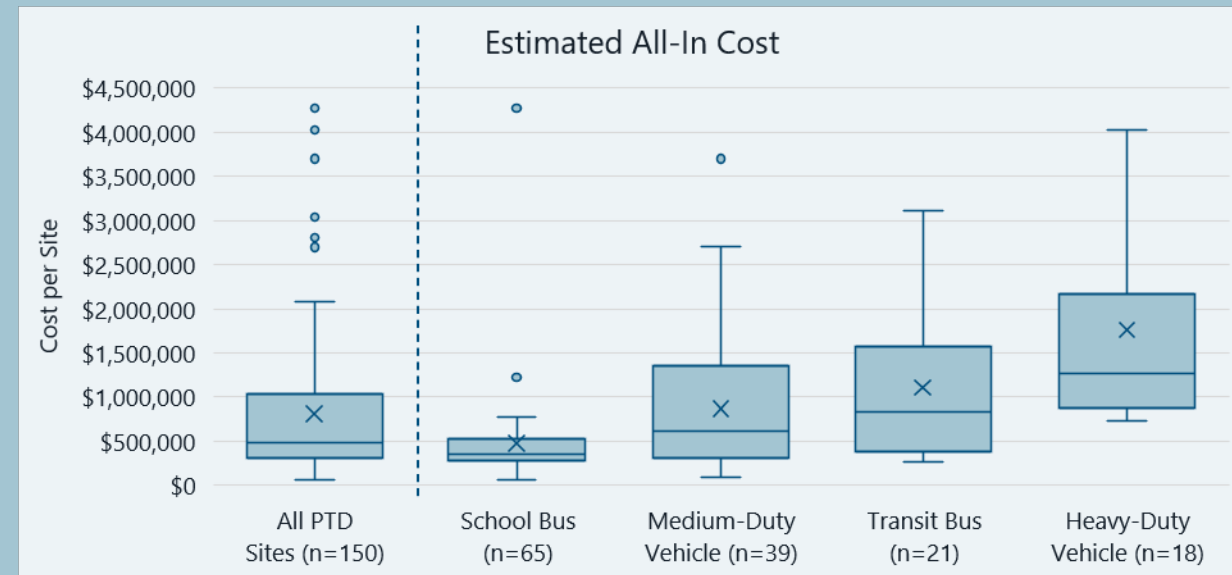
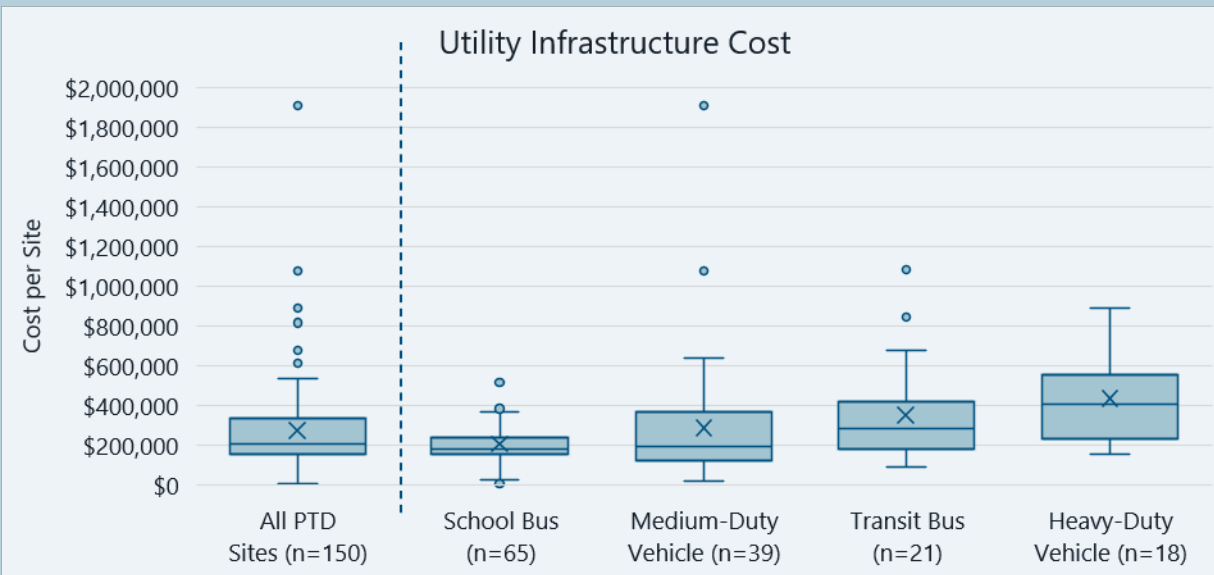
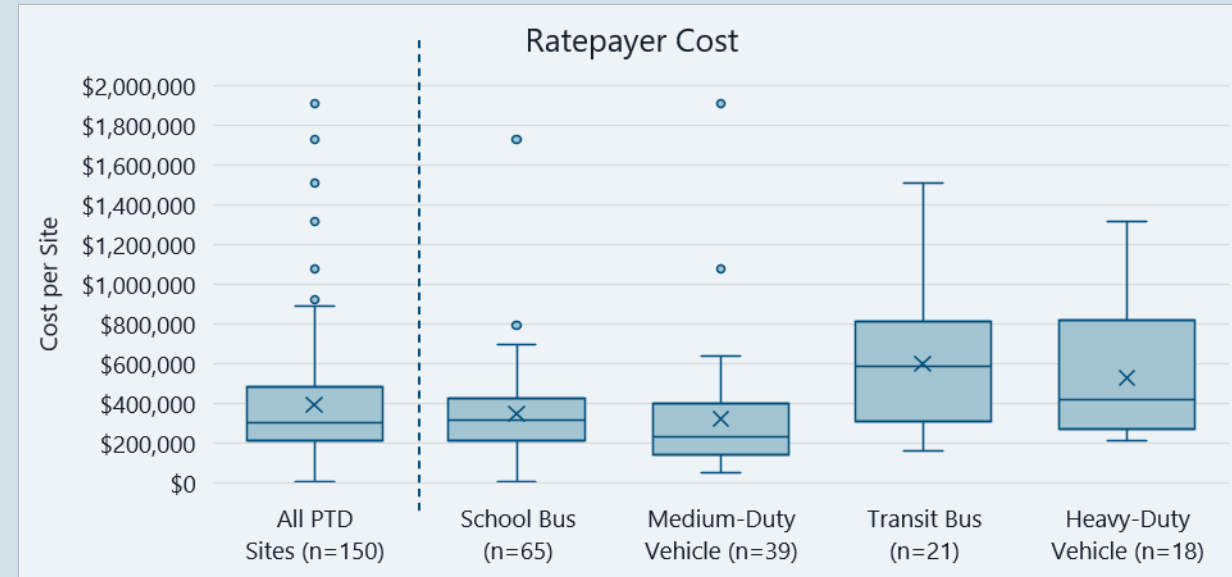


SDG&E Power Your Drive For Fleet (28 sites)



MDHD | Costs Per Site: PG&E EV Fleet (150 sites)

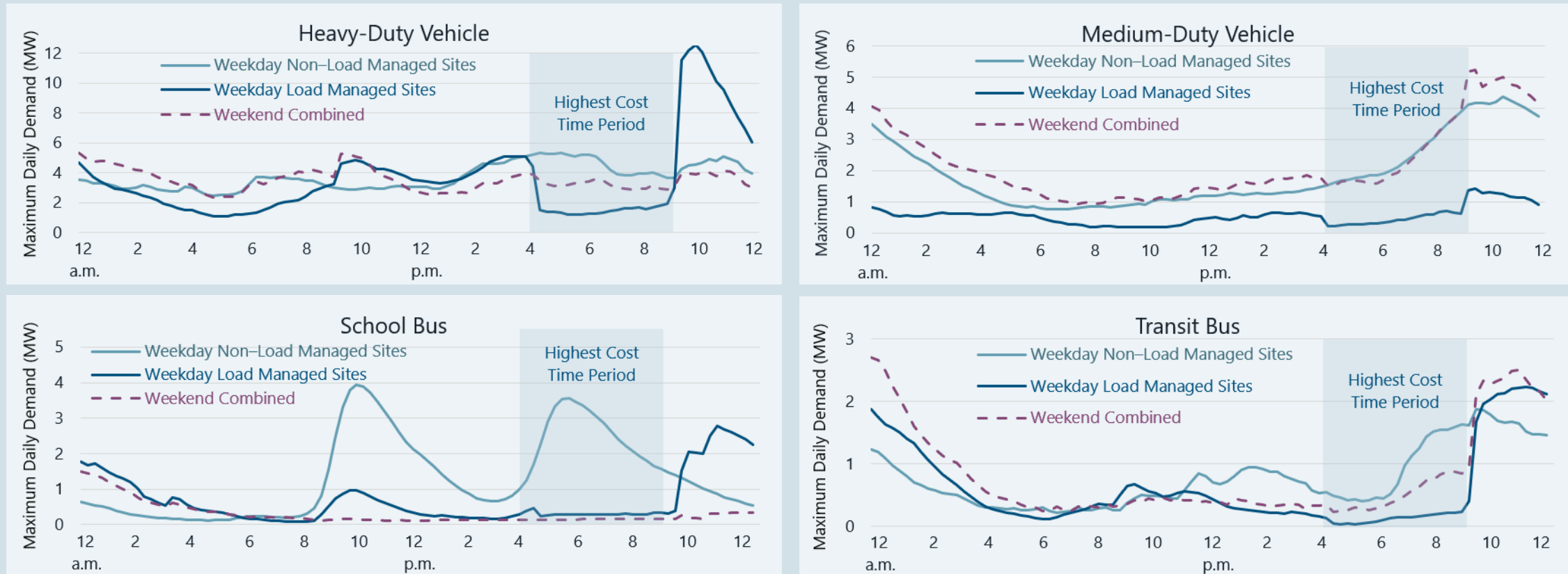
Utility Infrastructure, Ratepayer Funded,
and Estimated All-In Costs per Site



MDHD | Grid Impacts: Daily Load Curves by Market Sector

The heavy-duty vehicle market sector shows the most prominent use of load management, while school bus sector has the largest potential for improvement.

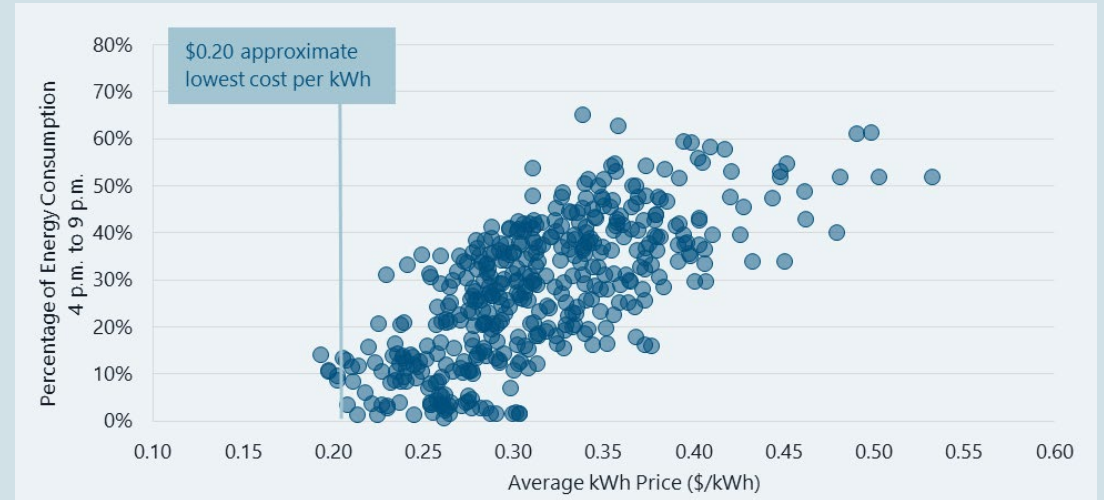
Weekend and Weekday Average Daily Load Curves



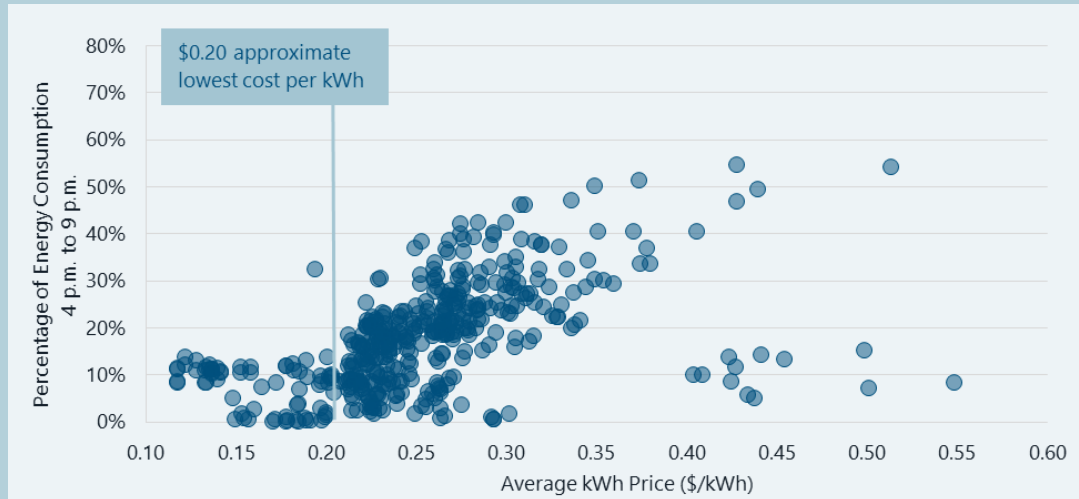
Grid Impacts: SCE Charge Ready Transport Billing

There is an opportunity for users to reduce cost by using load management.

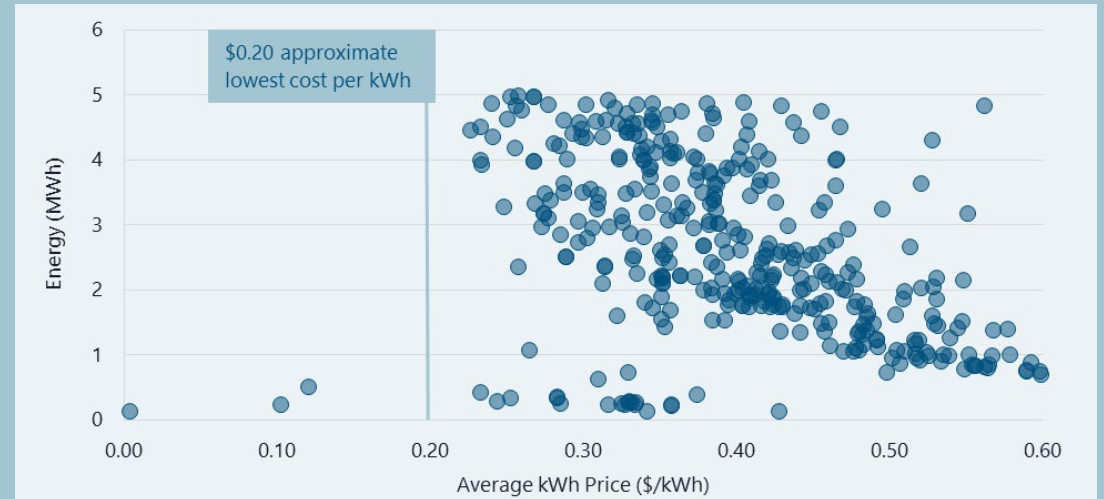
Medium-Consumption Billing Months (5 MWh to 20 MWh)



High-Consumption Billing Months (>20 MWh)



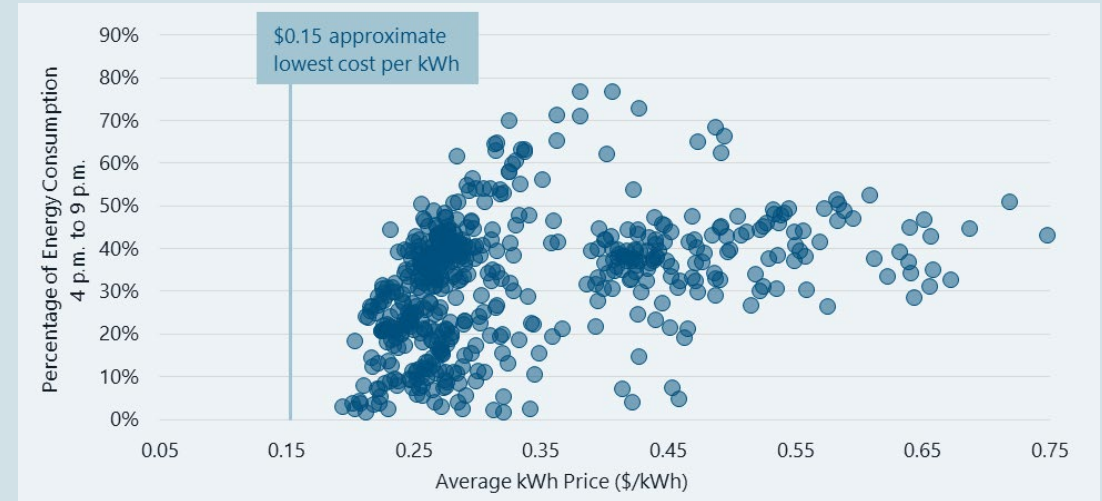
Low Consumption Billing Months (<5 MWh)



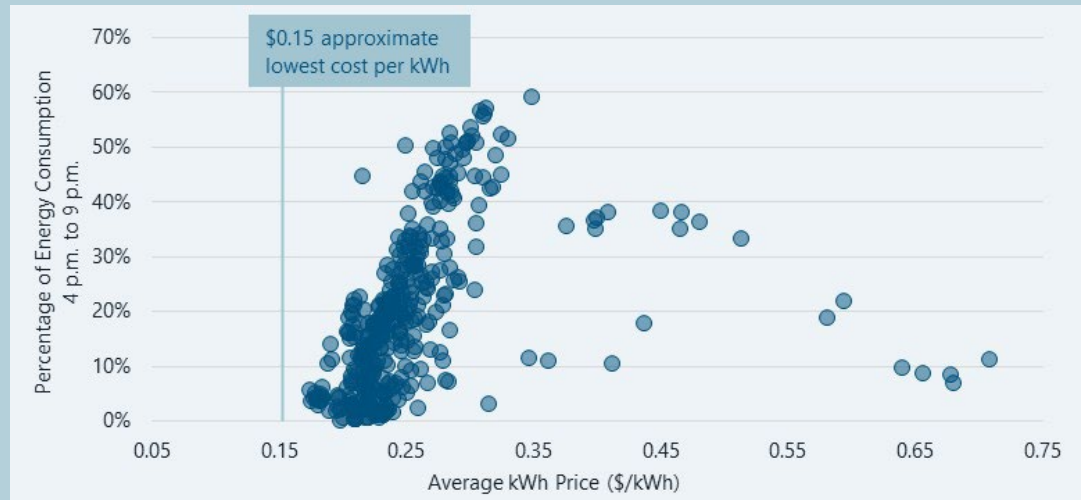
Grid Impacts: PG&E EV Fleet Billing

Sites with the lowest monthly energy consumption often have less opportunity for the lowest costs but can still decrease their bills by using TOU periods.

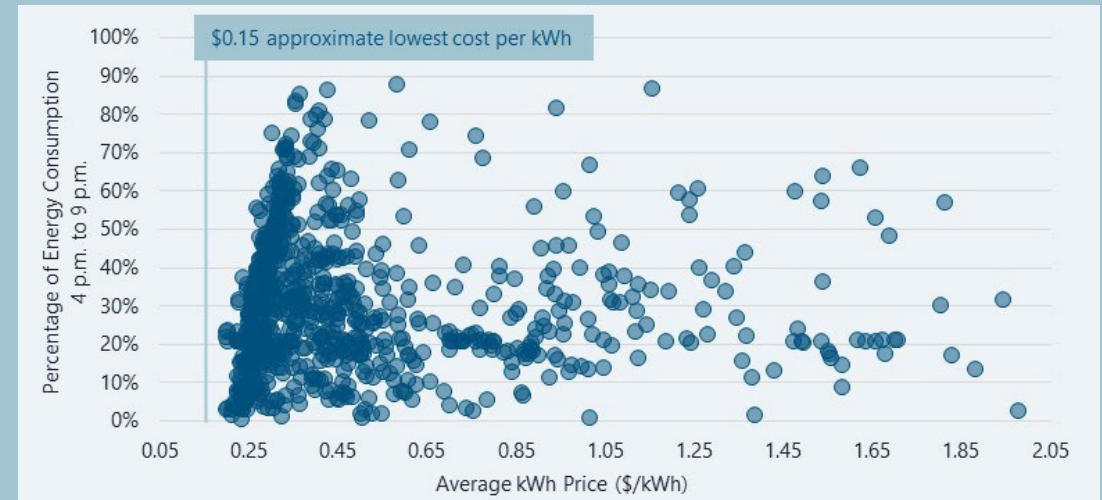
Medium-Consumption Billing Months (5 MWh to 20 MWh)



High-Consumption Billing Months (>20 MWh)



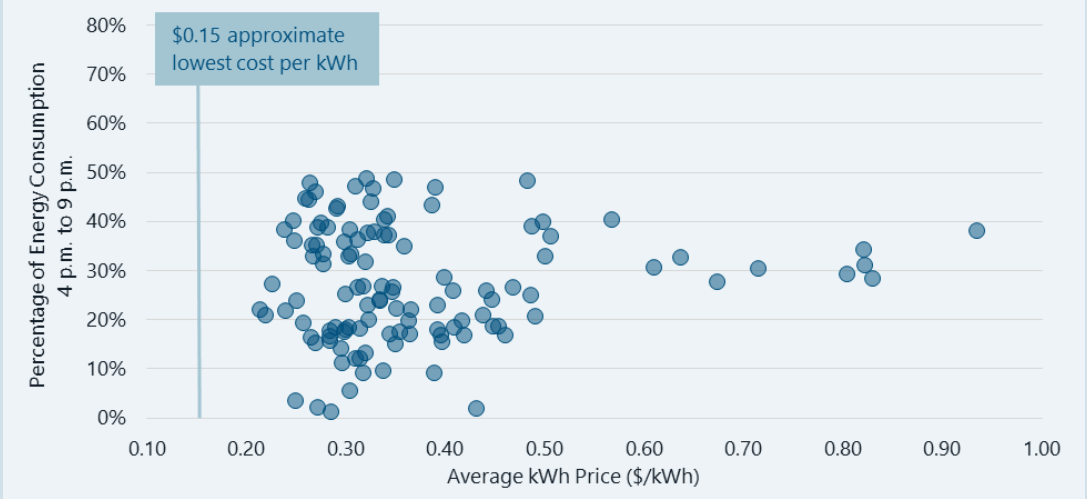
Low Consumption Billing Months (<5 MWh)



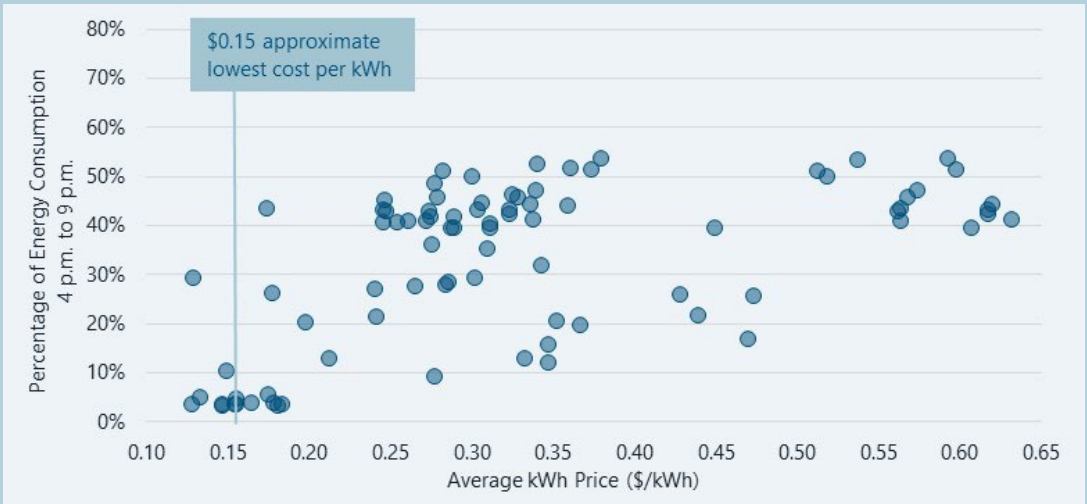
Grid Impacts: SDG&E Power Your Drive For Fleet Billing

SDG&E bills demand using increments of 10 kW or 25 kW and includes overage fees.

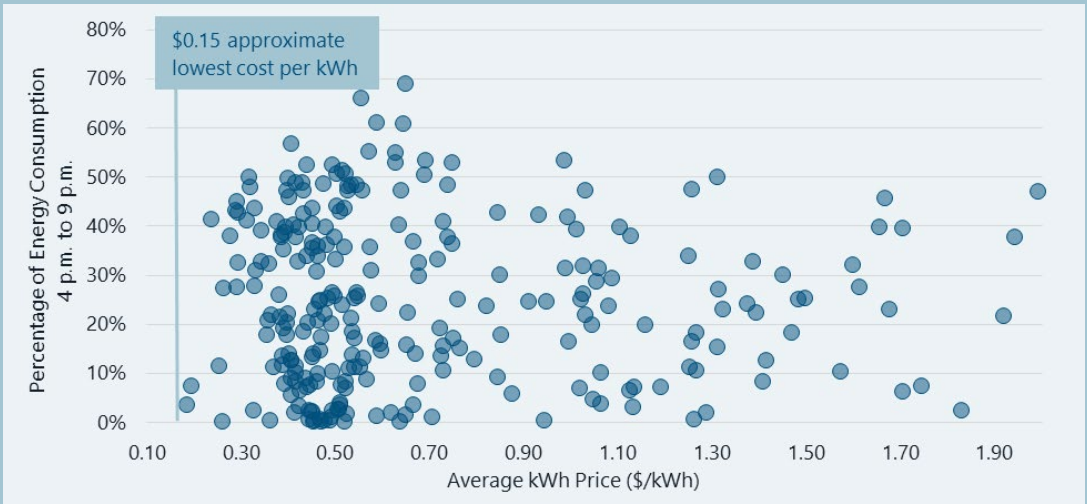
Medium-Consumption Billing Months (5 MWh to 15 MWh)



High-Consumption Billing Months (>15 MWh)



Low Consumption Billing Months (<5 MWh)

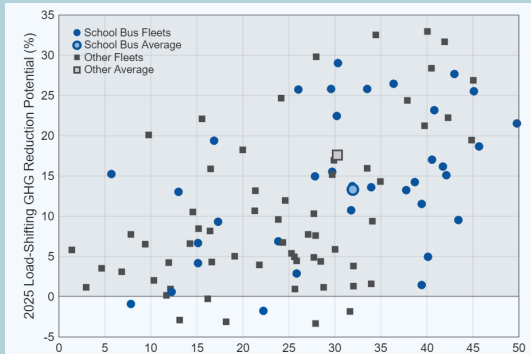


MDHD | Load Management Benefits: Utility Bills & GHG Emissions

Cost and emissions benefits can often be mutually attained

**SCE Charge
Ready Transport**

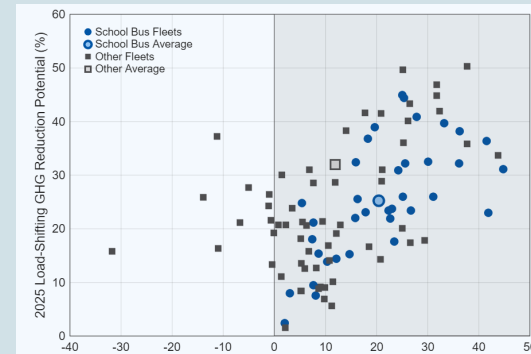
**Cost-Minimization
(X Axis +)**



**Cost Minimization
Reduction Potential**

30%

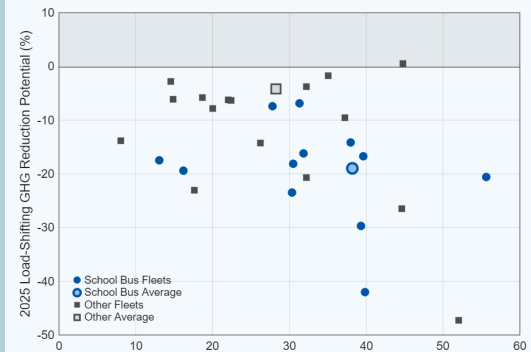
**GHG-Minimization
(Y Axis +)**



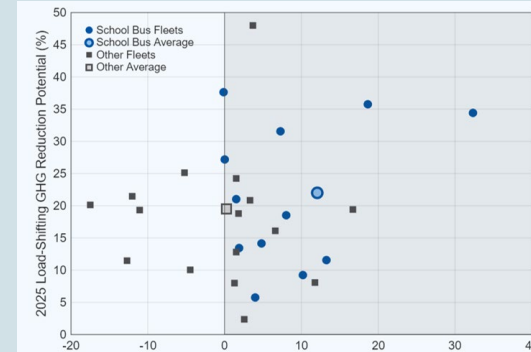
**GHG Minimization
Reduction Potential**

30%

**SDG&E Power Your
Drive For Fleets**

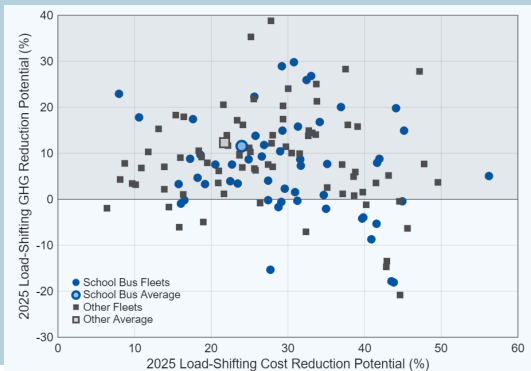


33%

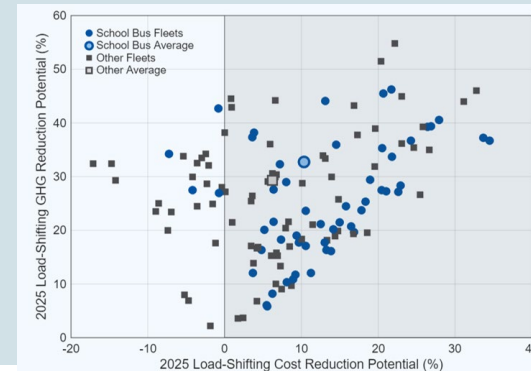


21%

**PG&E
EV Fleet**



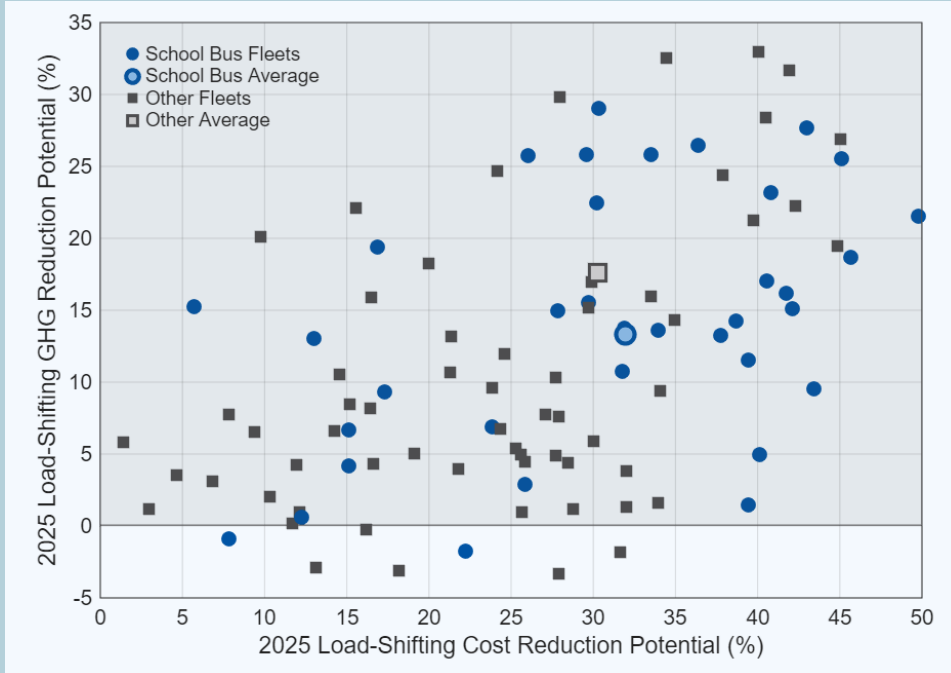
22%



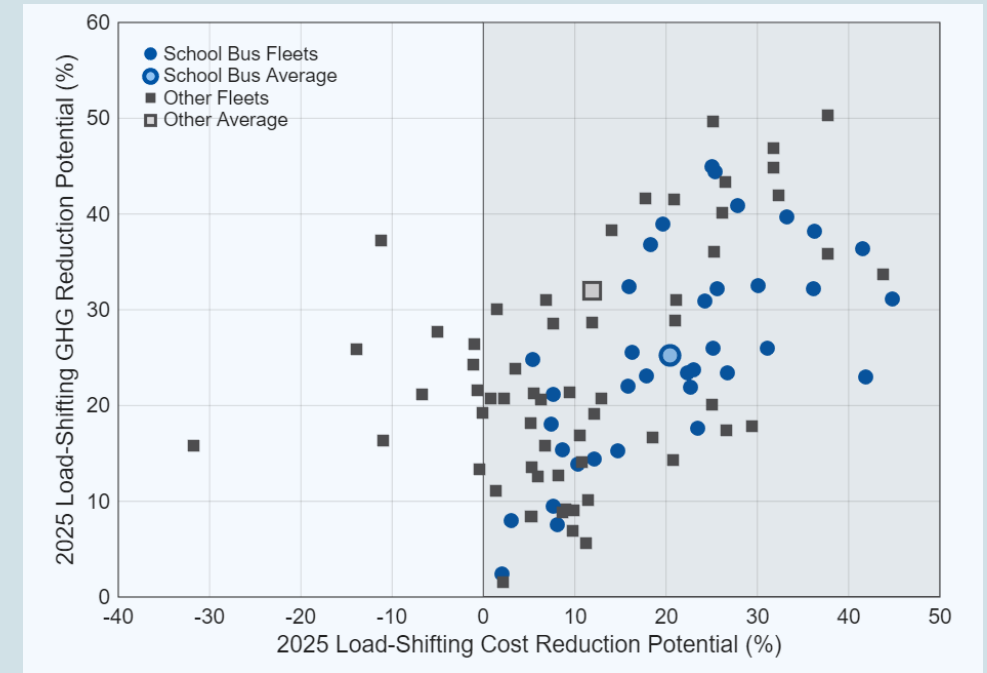
30%

Potential Improvements in Utility Bills & GHG Emissions from Optimal Load Management: SCE Charge Ready Transport

Cost-Minimization

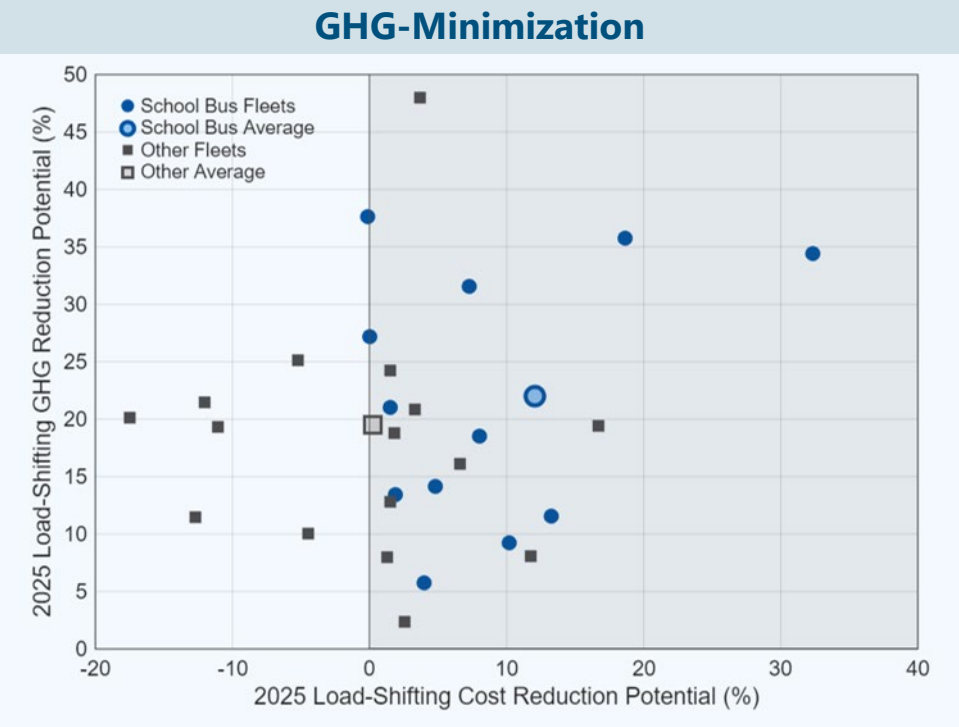
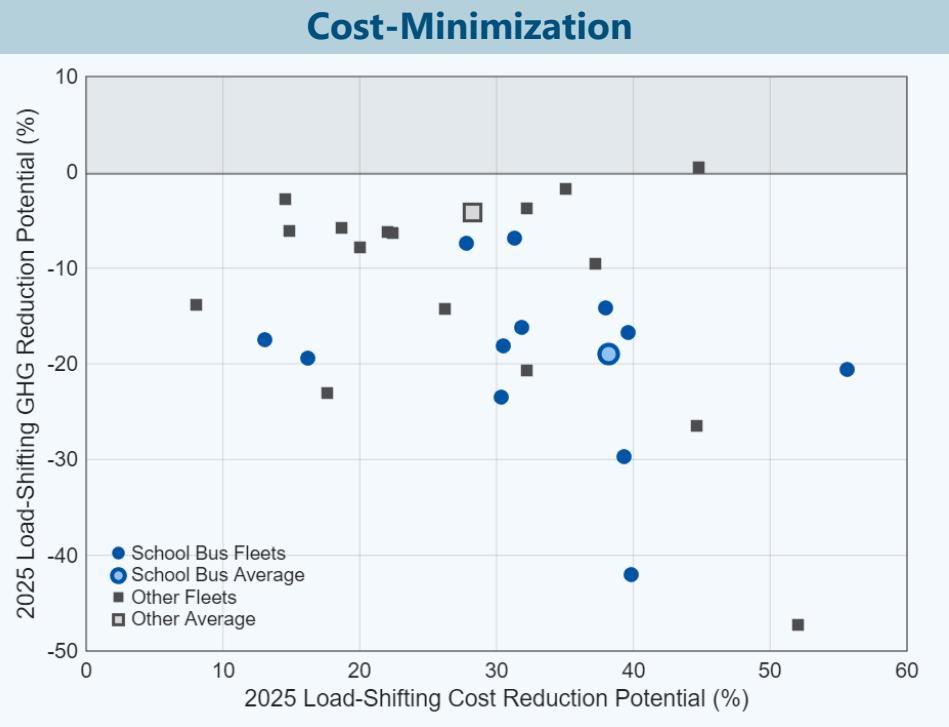


GHG-Minimization



	School Bus Fleets	All Other Fleets	All Fleets Combined
Cost Reduction Potential (%)	20.4%	11.9%	12.9%
GHG Reduction Potential (%)	25.2%	32.0%	31.3%

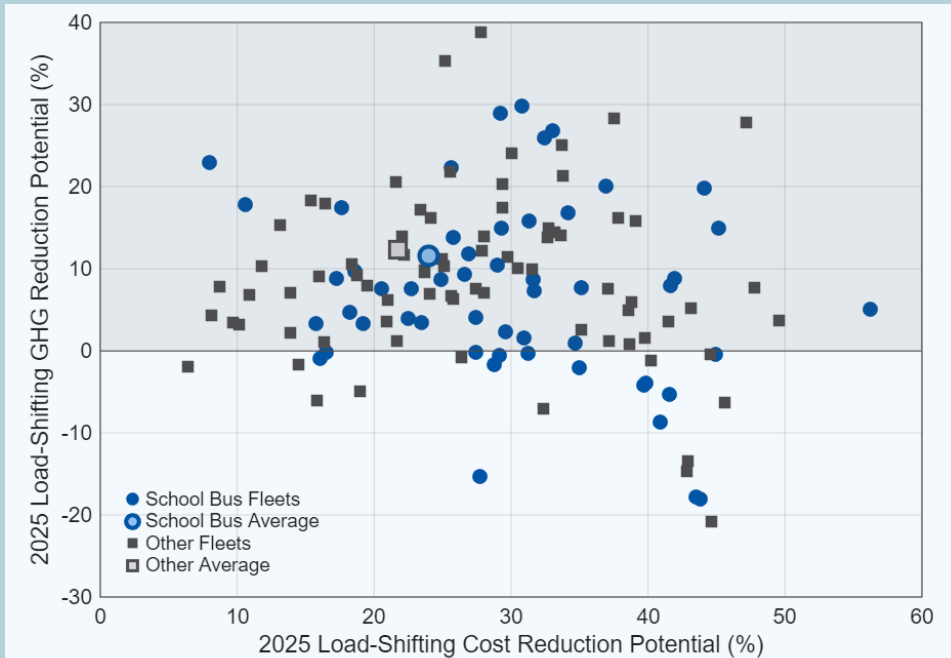
Potential Improvements in Utility Bills & GHG Emissions from Optimal Load Management: SDG&E Power Your Drive For Fleet



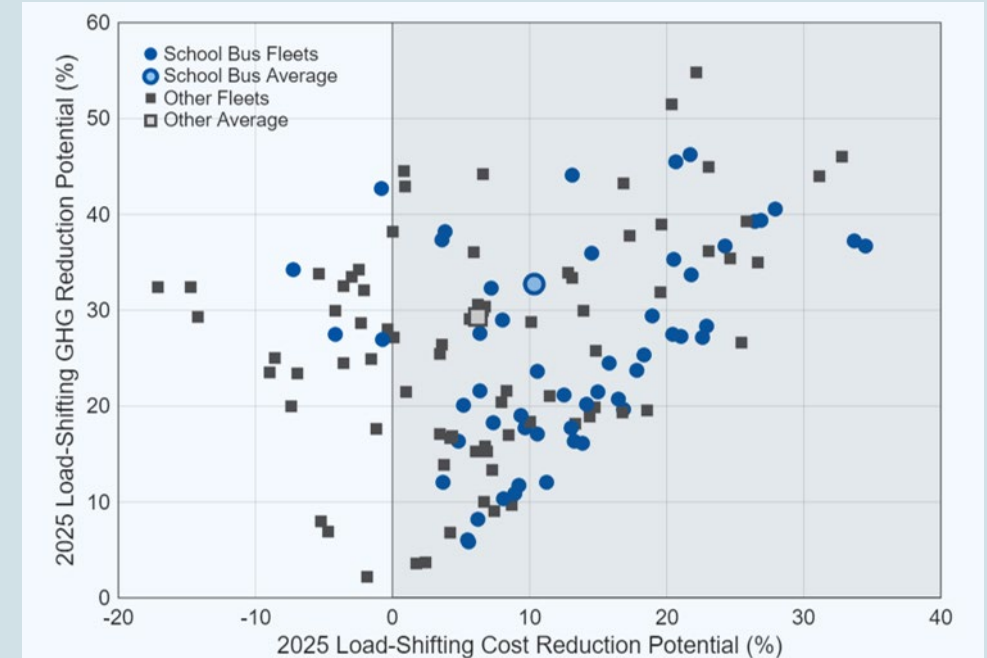
	School Bus Fleets	All Other Fleets	All Fleets Combined
Cost Reduction Potential (%)	12.1%	0.3%	6.4%
GHG Reduction Potential (%)	22.0%	19.5%	20.6%

Potential Improvements in Utility Bills & GHG Emissions from Optimal Load Management: PG&E EV Fleet

Cost-Minimization



GHG-Minimization

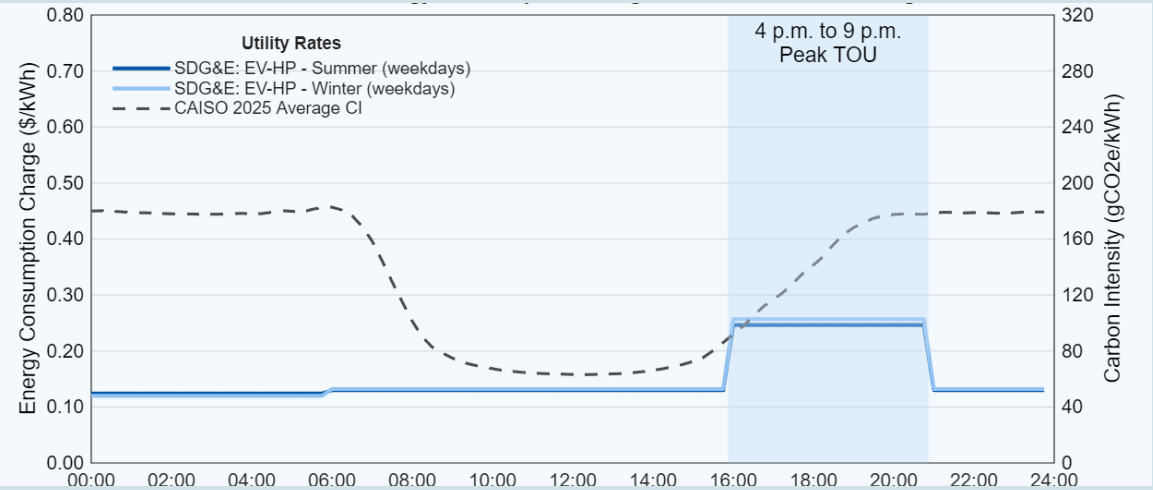


	School Bus Fleets	All Other Fleets	All Fleets Combined
Cost Reduction Potential (%)	10.3%	6.2%	7.0%
GHG Reduction Potential (%)	32.8%	29.3%	29.9%

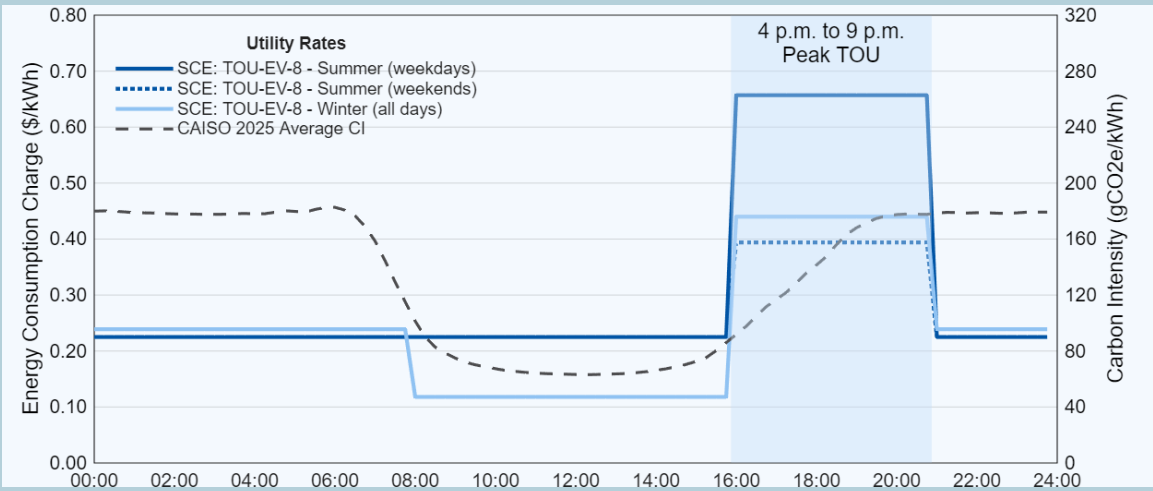
MDHD NLR Optimization

In many cases, lower-cost TOU periods correlate with lower carbon intensity of the grid.

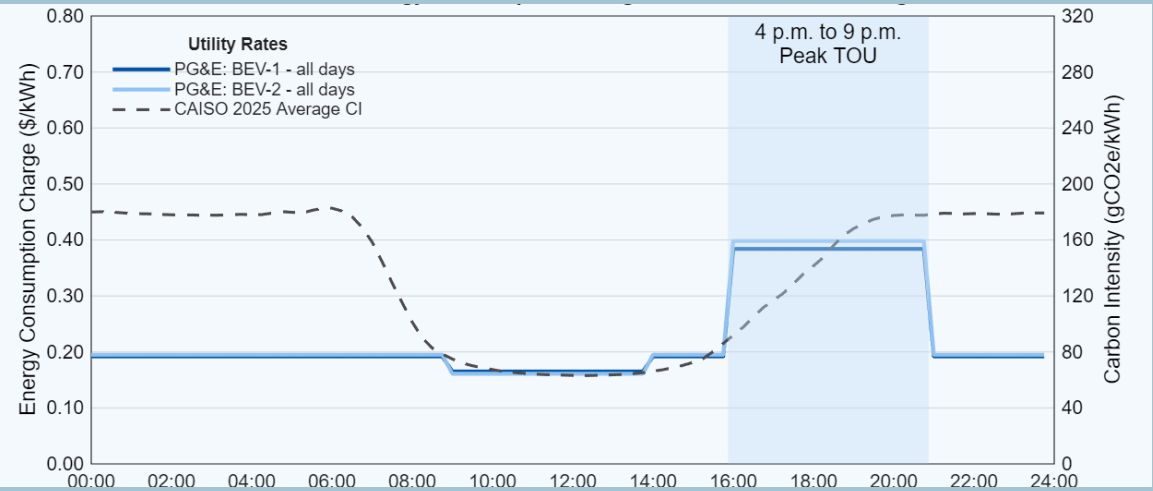
SDG&E Power Your Drive For Fleet



SCE Charge Ready Transport



PG&E EV Fleet



EY2025 MDHD Recommendations (slide 1 of 2)



Recommendation

Have the Utilities **share estimated spending** for projects not yet financially closed out, both to better understand program performance and to indicate the availability of program funds for future applicants. Greater transparency and timeliness of actual spending data promotes public trust in the Utility programs and potentially allows for a more engaged set of stakeholders within California and elsewhere.



Recommendation

Continue to provide **monetary incentives**—including BTM incentives, EVSE rebates, and favorable Utility rates—to continue customer adoption. In 2030, a BTM incentive that covers 100% of BTM equipment and installation costs will result in over 100% higher EV adoption in some MDHD market sectors.



Recommendation

Ensure that **VAPs are fulfilled** to improve program performance with respect to energy consumption, petroleum displacement, emissions reductions, and health impacts. Have PG&E undertake a similar process to that of SCE and SDG&E in proactively tracking activated sites' progress toward fulfilling their VAPs subsequent to site visits.

EY2025 MDHD Recommendations (slide 2 of 2)



Recommendation

Consider requiring NSPs to proactively provide support to customers to **initiate load management**. Also consider designing programs that enable customers to switch NSPs due to underperformance without creating a financial burden to the customer (such as through regular reimbursement of NSPs based on performance metrics).



Recommendation

Consider offering **annual follow-up technical assistance** to site staff and fleet managers, providing them with charging data and direct access to monthly electricity bills. Fleet managers who understand the financial impacts of TOU rates may reduce operational costs by using load management.



Recommendation

Consider mandating that all new EVSE technology in the approved product list be capable of **basic load management services**, such as rules-based charging. Also consider requiring all NSPs to offer load management capabilities so fleet operators can implement more cost-effective charging behavior.

EY2025 Public Charging Recommendations

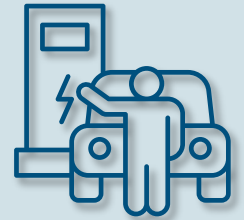
Recommendation

Encourage all site hosts to **pass TOU pricing on to EV drivers**. Consider offering TOU pricing to EV drivers wherever it is within the Utilities' control.



Recommendation

Encourage all Schools Pilot sites to consider **allowing EVSE to be used during non-school hours** by members of the local community, where appropriate. Enabling use outside of typical workplace charging schedules can increase charger utilization and support local EV adoption.



Public Charging | 2025 Findings by Pilot/Program Type



Population of Activated Sites in EY2025 (#)

Schools Pilot	18
Parks Pilot	0
EV Fast Charge	3



Ports Installed in Analyzed Sites (#)

Schools Pilot	151
Parks Pilot	0
EV Fast Charge	16



Electric Energy Consumption (MWh)

Schools Pilot	257
Parks Pilot	0
EV Fast Charge	91



Petroleum Displacement (diesel gallons equivalent)

Schools Pilot	16,172
Parks Pilot	0
EV Fast Charge	5,724



GHG Emission Reduction (metric ton [MT] GHG)

Schools Pilot	146
Parks Pilot	0
EV Fast Charge	47

GHGs include carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O) multiplied by their respective Global Warming Potentials (GWP) as defined by the Intergovernmental Panel on Climate Change (IPCC) published fifth assessment (AR5; see the Methodology section for more details).

Local Emissions (kg)	Schools Pilot	Parks Pilot	EV Fast Charge
Particulate Matter (PM ₁₀)	0.79	0	0.28
Particulate Matter (PM _{2.5})	0.73	0	0.26
Reactive Organic Gases (ROG)	8.04	0	2.86
Carbon Monoxide (CO)	345	0	122