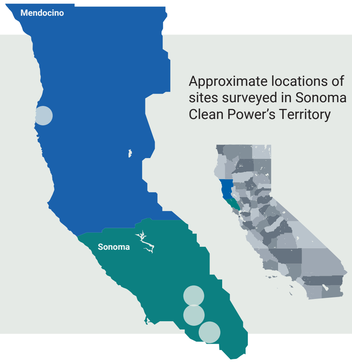
Workplace Charging: Bridging the Equity Gap in EV Access

A recent Sonoma Clean Power (SCP) Transportation Needs Assessment reveals that the lack of home charging access for EV intenders—residents considering an EV but without immediate plans to get one—is a major barrier to EV adoption. EV intenders have significantly less access to home charging compared to current and soon-to-be EV owners. Without comparable charging access, intenders are unlikely to switch to electric vehicles, slowing overall adoption. SCP's Workplace Charging Research Project aims to bridge this gap for EV intenders without home charging access.

SCP contracted with AESC and EVA Green Power to provide technical expertise and 10 EVSE site assessments with the goal of identifying up to four promising workplace locations for the eventual installation of 80 total level 2 (L2) charger ports.



Approximate locations of sites surveyed in Sonoma Clean Power's Territory

Site assessments assessed three cost scenarios:

1. Number of EV charging connectors requested by the customer.
2. Optimal number of EV charging connectors to take advantage of incentives and existing electrical service.
3. Maximizing EV charging connectors and available incentives to prepare for future needs.

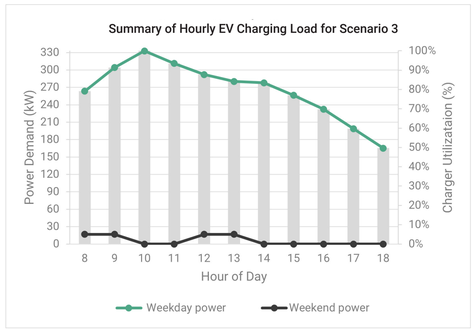
Site Assessment Case Study

Site Details

- **Building use:** Production Facility
- **Building Size:** ~78,000 ft^2
- **Hours of Operation:** 7:30–5:30, M–F
- **Current number of EV Chargers:** 10
- **Building occupancy:** appx 100 employees
- **Location:** Census-designated low-income or disadvantaged community
- **Facility offers free charging to employees**

	Customer Requested	Optimal Number	Future Proofed
Number of Chargers	+ 10 chargers; 20 total	+ 26 chargers; 36 total	+ 40 chargers; 50 total
Estimated Increase in kWh Usage / Electric Cost at 25% Usage*	+70,600 kWh/ +$19,600	+127,000 kWh/ +$35,200	+176,400 kWh/ +$48,900
Total Project Cost Before SCP Rebate and Tax Credit	$120,600	$254,033	$340,948
Potential SCP Rebate (1, below)	-$50,000	-$100,000	-$100,000
30% Federal Tax Credit (2, below)	-$23,268	-$48,041	-$73,121
Total Project Cost After SCP Rebate and Tax Credit	$47,332	$105,991	$167,828
Approximate Cost per Charger	$12,060	$12,702	$17,047
Approximate Cost per Charger After SCP Rebate and Tax Credit	$4,733	$5,300	$8,391

* based on the customer's current PG&E rate schedule.



The EV charging load is dependent on charger utilization and is expected to vary hourly throughout the day. The chart shows the expected new EV charger load if all 50 EV charging connectors are used per a typical workplace charging profile.

Potential Funding Mechanisms for Project

1. Sonoma Clean Power may offer a rebate of $5,000 per new charging-connector (for up to 20 connectors) which could reduce the EV charging total cost by $100,000.
2. A 30% federal tax credit on the cost of equipment and installation is available for EV charging connectors installed in census-designated low-income/disadvantaged communities or non-urban communities.

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Other Key Findings of SCP Transportation Needs Assessment

There is a strong reliance on cars due to limited alternatives like biking or public transit. This issue hits lower-income families hardest, with most struggling to afford a car. Short trips under five miles, ideal for sustainable travel, continue to be made by cars due to inadequate infrastructure.

While EV owners have many characteristics of early adopters, **residents who are considering the purchase of an EV have higher shares of Hispanic representation and the majority are women.** EV intenders are also the largest group of any vehicle intention category.

Find the SCP Transportation Needs Assessment report at: sonomacleanpower.org/strategic-action-plan

Key Barriers to Workpace EVSE Adoption

Electric service limitations for smaller customers meant some workplaces did not have electrical capacity for EVSE equipment installation.

Meeting ADA parking requirements had the greatest influence on cost, complexity and time of EVSE planning and installation. Proximity to the electrical panel and length of trench are a large part of installation costs.

Implementation costs surprised owners, even considering potential SCP rebates, and are beyond most organization's improvement budgets.

Benefits of Workplace Charging

Provides EVSE Access: Workplace charging provides EV charging access to a diverse population.

Economies of Scale: Mid-size workplace charging projects benefit from a lower cost per charger based on rebate caps.

Mitigates Duck Curve: Helps mitigate midday overgeneration—the duck curve.

GHG Benefits: Promotes utilization of electricity during the greenest time of the grid increasing the GHG benefits of EVs.

Lowers Energy Burden: Offsets expensive evening charging at home, lowering energy burden.

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