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PCE Comments on 2024 ZIP, CA EV Charging Programs Need to Focus on Lower-Cost and Scalable Solutions Like Level 1 Charging

Additional submitted attachment is included below.



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California Energy Commission
Docket Office
715 P Street
Sacramento, CA 95814-5512

Submitted online at

<https://efiling.energy.ca.gov/EComment/EComment.aspx?docketnumber=24-TRAN-03>

Re: Peninsula Clean Energy Comments on 2024 Zero-Emission Vehicle Infrastructure Plan, California EV Charging Programs Urgently Need to Focus on Lower-Cost and Scalable Solutions Like Level 1 Charging

Peninsula Clean Energy (PCE), the not-for-profit Community Choice Aggregation (CCA) program for San Mateo County and the city of Los Banos, appreciates the opportunity to provide comments to the California Energy Commission (CEC) staff regarding the 2024 Zero-Emission Vehicle Infrastructure Plan (ZIP).

The CEC should refocus a greater share of EV charging funding at multi-family housing (MFH) to rapidly scale. An example of a rapidly scalable and affordable EV charging solution is Level 1 EV charging at assigned parking spaces. Additionally, “(prioritizing) Level 2 deployments serving multifamily households¹” will overbuild infrastructure, by providing greater power capacity than what is needed for daily recharging and increase inequities in early access to EV charging by delivering fewer EV charging ports than what is otherwise possible at multifamily properties. For instance, statewide costs to meet CEC targets at multi-family housing with Level 2 charging would cost \$7.2 billion,² however actual driver need can be met with Level 1 charging, which could be deployed for less than \$1.5 billion³. At the \$7.2 billion cost to install 577,000 Level 2 chargers at multi-family housing, nearly 2.8 million smart Level 1 chargers can be installed instead, providing nearly 5X greater access to charging for multi-family residents than Level 2.

¹ 2024 Zero Emissions Infrastructure Plan, page 36

² This figure is comprised of the roughly 577,000 EV chargers needed at multi-family housing, per CEC AB 2127 analysis at the current average cost of \$12,500 per Level 2 charger in the CALeVIP program.

³ This figure is comprised of the roughly 577,000 EV chargers needed at multi-family housing, per CEC AB 2127 analysis at the current average costs of \$2,500 per smart Level 1 outlet installed in PCE's EV Ready program.

PCE's evidence-based EV charging philosophy is based on "right-sizing" charging equipment for actual daily EV driver needs to reduce costs and enable more EV charging to be installed within limited budgets, rather than overbuilding EV charging infrastructure for extraordinary daily charging needs. This means that more charging access can occur at a lower cost per charging port, all while limiting or completely avoiding electrical service capacity upgrades. PCE's self-funded EV Ready Program⁴ has led to the installation of over 1,300 EV chargers in the community we serve, two-thirds of which have been installed at multi-family properties such as apartments and condominiums.

The ZIP Should Not Prioritize Only Level 2 Deployments Serving Multifamily Households

Level 1 charging is a rapidly scalable and low-cost solution for multi-family residents, meeting daily EV charging needs at a fraction of the price of other EV charging types. PCE research,⁵ as well as others,⁶ have shown that a Level 1 charge, providing about 60 miles of recharge overnight at 1.9 kW, meets the daily needs of over 90% of EV drivers. Recent coverage⁷ of this approach has highlighted the key advantages of accelerating charging access for apartment residents, even in power-constrained properties, at low installation costs to property owners. Level 1 has the added benefit of "automatic" load shaping. Because the load shape is "low and slow" the load is spread out mostly in non-peak hours. This contrasts to Level 2, which often is entirely in the peak or may have a "dumb shift" creating a new peak with other chargers at midnight, at the start of off-peak hours. Dynamic controls for Level 2 in turn suffer from very high cost and very low enrollment rates which result in far less shift than Level 1 brings without the complexity, expense or limited yield.

PCE encourages CEC staff to investigate strategies utilized by other EV charging programs in California that have demonstrated potential to install greater number of EV charging at lower costs, including at multi-family housing. The CALeVIP program has installed 1,500 chargers at multi-family properties across the entire state⁸. In contrast, PCE's EV Ready Program has installed over 800 chargers at multi-family properties over the same amount of time, including over 300 Level 1 outlets, just in San Mateo County, which represents 2% of the statewide population. If this ratio of chargers to population were applied at a statewide level, it would equal 40,000 chargers installed at multi-family housing, 25+ times more than what CALeVIP has installed.

⁴ <https://www.peninsulacleanenergy.com/ev-ready/>

⁵ <https://www.peninsulacleanenergy.com/wp-content/uploads/2021/09/Determining-the-Appropriate-Level-of-Power-Sharing-for-EV-Charging-in-Multifamily-Properties.pdf>

⁶ <https://insideevs.com/news/709425/recurrent-ev-driving-distance-america/>

⁷ <https://www.canarymedia.com/articles/ev-charging/access-to-slow-ev-chargers-could-speed-up-ev-adoption-among-renters>

⁸ <https://calevip.org/rebate-statistics>

A ZIP that prioritizes only Level 2 deployments in multifamily households will not effectively reach this critical segment of Californians. Instead, the ZIP should allow for more EV charging types that have demonstrated scaling potential at lower costs, such as Level 1 charging at assigned parking spaces.

EV Charging at Multi-Family Housing Can Scale Through the Use of Level 1 Chargers

Deploying EV charging at scale at multi-family housing is a necessary component for an equitable transition to EVs for all Californians. PCE agrees with the ZIP in that the “state will have a long-term role in deploying charging ports at multifamily housing,”⁹ so it is critical that the state orient funding for highly scalable and cost-effective solutions such as Level 1 charging.

Providing EV charging where multi-family residents live is critical to encouraging EV adoption among this segment of Californians. Unfortunately, multi-family residents have been drastically underserved by existing CEC programs, in part because of program requirements. The CALeVIP program, a major light-duty EV charging program funded by the CEC, has produced only 1,500 EV chargers at multi-family properties across the entire state over the past 4 years at a cost of over \$8 million in incentives funding.¹⁰ A major factor in this underperformance at multi-family properties is that the CALeVIP program incentives are only available for multi-family projects that (a) install Level 2 charging equipment, and (b) only install the chargers in shared parking spaces. These prescriptive requirements force site hosts to install EV charging at much higher power levels than what is actually needed. In addition, the shared charging requirement triggers the need for new ADA upgrades, often leading to reduced parking count to accommodate access aisles, etc., creating another barrier to participation for property owners and one which is often a deal breaker. As a result, the CALeVIP program hasn’t yielded the charging at multi-unit dwellings that is needed and possible.

CEC Program Requirements Often Lead to Overspending for EV Charging

CEC programs often require host properties to install overpowered and unnecessarily high-cost EV charging, leading to overly inflated project costs and unnecessary pressure on the electrical grid. As mentioned previously, the CALeVIP program requires that EV charging at multi-family housing only be shared Level 2 chargers, which have an average cost of about \$12,500 each¹¹, and power output of approximately 7 kW. At this power level, vehicles will typically be fully charged in 2 hours and then be idle for 8 to 10 hours overnight (and drivers will not swap vehicles in the middle of the night). Extrapolating to the state goals will require an investment of over \$7 billion.

⁹ 2024 Zero Emissions Infrastructure Plan, page 37

¹⁰ <https://calevip.org/rebate-statistics>

¹¹ <https://www.energy.ca.gov/programs-and-topics/programs/clean-transportation-program/california-electric-vehicle/calevip-0>

By contrast, PCE's EV Ready Program has an average install cost of about \$2,500 per outlet when installing Level 1 smart outlets for EV charging at multi-family housing, supplying 60+ miles of charge overnight, well over typical driving needs as previously detailed. This allows for nearly **5X more charging to be installed at the same price as one charger in the CALeVIP program.**

To achieve the 1 million EV charging target, CEC programs need to emphasize lower cost and rapidly scalable EV charging solutions, particularly for multi-family properties. CEC programs also should utilize more flexible solutions that encourage properties to right size their EV charging infrastructure. Adopting this change would help CEC program dollars go further support California's ambitious EV charging goals and promote affordability.

California Is Not on Track to Meet EV Charging Targets

California has made tremendous progress in growing the EV charging landscape to where it is today, in part due to the efforts of various CEC programs. Yet it is critical to recognize now that the strategies used to achieve current levels of EV charging are insufficient to ensure the state achieve the 1.1 million EV chargers needed by 2030. Per the CEC's AB 2127 analysis¹², California has only installed 10% of the charging needed by 2030, equal to about 150,000 chargers out of the state target of 1.1 million chargers that need to be installed in the next 5 years. To achieve this target would require the installation of about 200,000 EV chargers each year until 2030, more than all the EV chargers currently installed in California. Missing this crucial EV charging target threatens an inclusive and equitable transition to zero-emissions vehicles, does not meet the infrastructure needs to support the Governor's Executive Order to eliminate new gas vehicle purchases by 2035,¹³ and fails to reduce emissions to meaningfully mitigate catastrophic climate change. Major changes in how the state incentivizes EV charging are needed now to significantly accelerate the deployment of this critical infrastructure at scale and within budget constraints.

The next 5 years are critical if California is to reach the 1.1M EV chargers needed. Given this urgent need, the ZIP should shift focus to encourage more lower cost and rapidly scalable solutions, such as allowing for Level 1 charging at assigned parking spaces in multi-family housing properties, and generally, more right-sized approaches that avoid unnecessarily cost escalation through overly prescriptive program requirements.

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¹² <https://efiling.energy.ca.gov/GetDocument.aspx?tn=256726&DocumentContentId=92542>, slides 15-16

¹³ <https://www.gov.ca.gov/wp-content/uploads/2020/09/9.23.20-EO-N-79-20-Climate.pdf>