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**EverCharge Comments on Assembly Bill 2127 Electric Vehicle
Charging Infrastructure Second Assessment Staff Draft Report**

Additional submitted attachment is included below.



September 19, 2023

California Energy Commission
Docket No. 19-AB-2127
715 P Street
Sacramento, California 95814

Dear Commissioners and Staff:

Thank you for the opportunity to comment on the Commission's Assembly Bill 2127 Electric Vehicle Charging Infrastructure Assessment.

EverCharge is a vertically integrated electric vehicle (EV) charging hardware and software provider for fleets, workplaces, and multi-family residential communities. Founded in 2013 and headquartered in Palo Alto, we manufacture charging devices locally in Hayward, CA. Our business specializes in offering Level 2 (L2) charging to meet the needs of customers in high-density private settings. EverCharge's proprietary automated load management system (ALMS), SmartPower, is integrated directly into our charging stations. This technology dynamically allocates available power in real time based on the needs of each vehicle on a site, enabling our customers to serve more vehicles within the site's existing power capacity while avoiding the costs and delays of utility upgrades.

We strongly urge you to reevaluate the assumptions regarding future reductions in home-based charging that inform the primary EVI-Pro 3 scenario in the draft AB 2127 assessment. We are concerned with the primary scenario's projection that multifamily charging needs will be 4% lower in 2030 compared to the finding of the prior AB 2127 assessment, and with the accompanying assumption that DC fast charging (DCFC) needs will be 7% higher than previously projected. While DCFC is important when traveling outside local or routine areas where home charging is not available, the Commission acknowledges that home charging is the preferred option for the vast majority of EV drivers who are able to access it, due to its convenience and cost effectiveness.

Although there are complexities involved in providing charging to multi-unit dwelling (MUD) residents, L2 charging solutions leveraging ALMS are well-tailored to those constraints and are widely available to MUD property owners. The CEC should not dismiss the unmet charging needs in MUD settings or shrink from the challenge of providing policy and funding interventions to ensure these residents are able to access charging at home. As noted in the staff analysis on p. 70 of the assessment ("Supporting Routine Charging"), a future in which EV drivers rely primarily on L2 home and workplace charging will have the best outcomes for convenience, equity, cost-effectiveness, and managing loads on the grid. In contrast, the primary scenario – as well as the extreme, misguided "gas station model" scenario – suggest shifting investment to higher-cost, less-convenient DCFC charging, while sacrificing opportunity for load management and increasing the need for costly expansions to grid capacity. It would be a mistake to revise the state's projections and investment policies in favor of a DCFC-reliant model.

1. L2 charging at workplaces and multi-family and single-family homes will continue to be drivers' preferred option for the vast majority of charging activity, even as EV adoption grows to broader populations and EVs with higher-powered charging capabilities become available.

The U.S. Department of Energy estimates that approximately [80%](#) of EV charging happens at an individual's home or place of work. While automakers continue to offer EVs with increasingly long ranges and compatibility with higher charging speeds, this is not likely to translate into substantially higher demand for DCFC. The transition from gas-powered vehicles to EVs presents a unique opportunity to move away from the inconvenience of having to go out of the way to fuel one's vehicle. The behavior of EV owners indicates a clear and intuitive preference for the convenience of charging at home, where vehicles already sit idle for long periods as part of drivers' daily routines. There is no reason to believe this preference will shift as EV adoption grows. The Commission's projections of reduced home charging demand rely on research showing that the future EV drivers will live in a more varied array of housing types with less direct control over their parking arrangements. However, this research provides no evidence suggesting that drivers living in MUDs will have a reduced desire to use home-based L2 charging. Indeed, the cost and time savings offered by L2 charging may be of even greater value to lower-income drivers with less flexible work schedules.

While people wealthy enough to own their own homes can typically install a home charging station with relative ease to capitalize on the benefits of home charging, individuals living in MUDs do face greater barriers in doing so. An estimated [31%](#) of Americans reside in MUDs – and they are just as deserving of convenient home-based charging as single-family homeowners. Expanding home-based charging access for MUD residents is critically important to provide equitable charging access to these communities, and with technologies like ALMS, it is highly achievable – especially with continued incentive funding from the CEC and utilities, and ongoing improvements to building code requirements for MUD EV infrastructure readiness. The Commission should continue to focus on home L2 charging access for all housing types.

2. The Commission's data on private L2 charging assets is incomplete, providing a poor basis for gauging current and future reliance on L2 charging. The state must improve the quality and comprehensiveness of its data on L2 charging before making changes to its projections of L2 charging demand.

According to the draft assessment, the Commission's EVI-Pro 3 model is calibrated using data on L2 charger prevalence from the Commission's Counting Chargers program, a voluntary survey of charging providers. However, the staff analysis acknowledges that this data is far from a complete picture of L2 charging assets in the state. The dataset has several deficiencies:

- It does not include data from all L2 charging providers.
- It covers only "shared private chargers," excluding dedicated private chargers such as those assigned to specific parking spaces in condominium or apartment buildings, which represent a large share of current L2 MUD charging assets.

- It does not include an estimation of L2 chargers at single family homes, which provide the vast majority of charging for current EV owners in the state.

Given the inadequacy of the Counting Chargers data, the Commission should not rely on it exclusively to inform its understanding of current L2 charging assets, nor to make impactful policy decisions about L2 charging priority. Moving forward, the Commission should invest in a variety of methods to improve the quality and comprehensiveness of its understanding of L2 charging adoption. This effort should include measures such as: 1) providing improved mechanisms for L2 charging providers to confidentially share data on their charging stations with the Commission, without publicly revealing competitively sensitive company-specific data, 2) collecting survey data on charging behavior and preferences from a representative sample of Californians residing in all housing types, 3) improving the sophistication of the Commission's L2 charging modeling tools, leveraging survey findings, industry data, and third-party research to develop a more comprehensive picture of L2 charging installations and usage.

3. Home and work-based L2 charging is not only the most popular form of charging - it is also the most cost-effective. And L2 charging with ALMS will enable widespread charging access with the least grid impact, limiting the need for investments in grid capacity compared to the primary and "gas station" scenarios.

The total cost comparison between home and work-based L2 vs. DCFC charging stations bolsters the case for relying on L2 as the backbone of California's charging strategy. L2 not only has a lower initial capital expenditure, the long-term operational and maintenance costs associated with L2 stations are lower. L2 stations have a simpler design with fewer intricate components than their DC counterparts, reducing mechanical failures and associated repair costs. L2 usage costs are also lower for drivers, leveraging long dwell times to shift charging times in response to energy rates.

The cost-effectiveness of L2 charging also extends to its impacts on the grid, particularly when combined with ALMS technology. ALMS enable the management of charging loads, maximizing the number of EVs that can be charged on a site within existing power capacity. By avoiding the cost and delays inherent in utility upgrades, ALMS enable new charging stations to be energized more quickly and economically than new DCFC sites. However, ALMS are only feasibly deployed in long-dwell time L2 installations. It is therefore troubling that CEC's primary scenario and the "gas station model" would reduce the number of home and work-based L2 stations.

Prioritization of L2 charging will also limit the need for grid capacity investments to support transportation electrification at public expense. According to the load curves in Appendix E of the assessment, the primary and "gas station model" scenarios would lead to higher peak charging loads than the "higher home access" scenario.

In conclusion, we believe the evidence clearly points to the benefits of a charging system that continues to rely primarily on long-dwell time L2 charging in home and workplace settings as EV

adoption grows. This approach will be preferred by drivers, and can be achieved more rapidly and more cost-effectively than a DCFC-reliant model, while limiting grid impacts. We urge the Commission to focus on policies and investments that will expand that preferred experience to as many EV owners as possible, across all housing types, rather than disinvesting in charging for MUD settings.

Thank you for taking these comments into consideration as you complete the final version of the Commission's assessment.

Sincerely,

A handwritten signature in black ink, appearing to read 'EW', with a long horizontal flourish extending to the right.

Emily Warren
Head of Public Policy