January 12, 2024

Chair Randolph and Members of the Board
California Air Resources Board
1001 I St.
Sacramento, CA 95814

**Re: Advanced Clean Cars II Amendments**

Dear Chair Randolph, Members of the Board, and Staff,

Thank you for the opportunity to comment on the November 15, 2023, workshop on Advanced Clean Cars II (ACC II) Amendments. We appreciate the opportunity to comment to help strengthen the ACC II program and accelerate the transition to electric vehicles. Overall, we support CARB revisiting the ACC II program as intended to ensure accuracy and alignment with the national regulatory landscape and market.

***Accuracy is key in assessing the impact of PHEVs***

We support CARB's intention to revisit the Fleet Utility Factor (FUF) used to calculate plug-in hybrid vehicle (PHEV) emissions. We agree that real-world driver use of PHEVs may differ from the FUF and that drivers may be charging PHEVs less than what is currently assumed. We encourage CARB to ensure that the FUF is as accurate as possible to actual emissions and real-world use. Additionally, considering that the EPA is revisiting this issue, this is an appropriate time to investigate changes for the FUF to maximize the effectiveness of ACC II in addressing air pollution across the state. Overall, we believe that FUF and PHEV credits should be derived from operational data to ensure an accurate reflection of emissions impact.

***Ease and reliability of charging is a key factor in the EV experience***

With the rapidly changing EV and charging landscape, we support CARB's exploration to improve interoperability requirements for vehicles and implement a conformance testing protocol for vehicles.

Plug In America conducts an annual survey of EV drivers and intenders (consumers who are considering or intending to purchase an EV) to gather data on the EV ownership experience. Our 2023 survey results conclude that "While EV owners intend to continue driving electric, they voiced frustration with public charging infrastructure, with the most common issues being 'broken or non-functional chargers' or 'too few charging locations.'"[1] Unfortunately, when compared to our 2022 survey results, the responses from our 2023 survey show diminishing driver satisfaction with all fast-charging networks, most notably with the public charging networks. The relative importance of the challenge remains the same—broken chargers are the

[1] 2023 EV Driver Survey, Plug In America, https://pluginamerica.org/survey/2023-ev-driver-survey/

leading concern—but the magnitude of concerns overall has increased. For the major public charging networks (Blink, ChargePoint, Electrify America, and EVgo) considered as a group, **the most prevalent concern was broken chargers**. With 37% noting this "a major concern" and 9% deeming it "a deal-breaker for using this network."[2]

Additionally, we conducted a topical survey in early October 2023 focused on the charging experience, to understand any new developments since our annual survey report. The October 2023 survey confirms that public charging has left consumers wanting more. 50% of respondents indicated that they were either "dissatisfied" or "very dissatisfied" with both public charger availability *and* reliability.[3]

As California enters the mainstream adoption phase with mass market consumers (as opposed to early adopters), tolerance for charging inconvenience will continue to decrease while expectations of charging reliability and availability will increase.

***Improving consumer-facing EV information will support the EV transition***

Plug In America is pleased to see that CARB is considering updating the information available to consumers via the California Environmental Performance Label. These updates are timely, as the federal label, while including some valuable information, does not provide consumers with detailed information on EV performance in a variety of conditions. Currently, the label can be misleading to consumers who are expecting consistent performance even under drastically different driving conditions.

CARB has identified metrics that reflect the priority considerations of consumers looking to purchase an EV. Based on our 2023 EV driver survey, over 80% of EV owners indicated that they were generally satisfied with finding the information they needed to buy or lease an EV, but only 40% reported that they could find **all** the information they needed without difficulty, with cold-weather performance as the most common information lacking.[4] Additionally, information on real-world vehicle range was noted as lacking to a greater degree than it was in previous years, and EV buyers stated they had difficulty finding such information.[5] To address one of the most noted components of real-world range, we especially support a requirement that would share driving range information on the California Environmental Performance Label that reflects the average driving range in cold weather, similar to how the "city" and "highway" range estimates are displayed on the federal label.

Many consumers are new to EV technology and are not fully versed in the types of charging and how that applies to them in different use cases. Cost of charging (and overall vehicle operation and ownership), remains top of mind for consumers, and we agree that improved cost information should be readily available. We also strongly support a requirement to include

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[2] 2023 EV Driver Survey, Plug In America, https://pluginamerica.org/survey/2023-ev-driver-survey/
[3] October 2023 Charging Survey. Plug In America, http://pluginamerica.org/wp-content/uploads/2023/10/2023.10-Charging-Survey-Analysis.pdf
[4] 2023 EV Driver Survey, Plug In America, https://pluginamerica.org/survey/2023-ev-driver-survey/
[5] 2023 EV Driver Survey, Plug In America, https://pluginamerica.org/survey/2023-ev-driver-survey/

information that offers more context about the vehicle's efficiency, battery, and charging experience. Plug In America recommends including the following new information on the California Environmental Performance Label:

- **Display the estimated "driving range" in a larger size and more prominent location**. We recommend using the same metric as listed on the federal label and including it on the California label. Currently, the driving range is challenging to find on the federal label and we know that range is one of the most important factors for consumers in considering an EV; making this information more easily located is key to providing information on this top concern.
- **Add "battery size" in kWh.** As more drivers become more familiar with battery vernacular, understanding the battery size can help consumers understand their overall vehicle capabilities, cost options, and charging costs under different conditions and at different locations.
- **Include "fastest charge time (From 10%-80% based on vehicle on-board charging unit)".** Information on the fastest charge time can complement the "charge time" information displayed on the federal label. While the federal label charge time shares important information for typical Level 2 charging speeds, it may be alarming to consumers who are trying to assess charging capabilities for long-distance travel or other uses where charging is needed more rapidly. Adding the time it will take to charge the vehicle from 10%-80% at the maximum speed allowed by the EV's onboard charging unit will enlighten consumers to help them select the best charging stations to use to optimize charging speed and efficiency.
- **Display an EV efficiency performance scale.** Use a 1-10 scale with a visual similar to the smog and global warming scales, where 1 is the least efficient and 10 is the most efficient. This scale is intended to share vehicle use of energy so that consumers can easily identify vehicles that are most efficient in energy use (dependent on vehicle design and other factors.) This enables consumers to understand the varying impact of EVs from both an individual cost and a resource perspective over the vehicle's lifetime. Transitioning from an internal combustion engine to a battery electric vehicle offers significant efficiency gains, but as transportation becomes increasingly powered by electricity, we expect to see a greater focus on EV efficiency. While the EV efficiency performance scale is important, there may be other ways to illuminate this understanding. We recommend CARB continue to further investigate this issue.

Additionally, if possible, within the scope of CARB's authority through this amendment process, we recommend the following changes to existing information on the California Environmental Performance label:

- **Remove the "global warming score."** This is a vague metric that can be extremely confusing to consumers; it may do more harm than good. While we understand the intention to share information on the impact of an EV, the global warming score does not provide clear enough information to be useful to consumers.

- **Add to the language for the “smog score.”** As the smog score scale reads now, it can be misinterpreted to mean that a high score means higher smog volume or concentration. Especially since EVs score well on this metric and the smog score can be used to showcase the improved impact of EVs as compared to gas vehicles, we recommend improving the language to address this issue by adding a descriptor to the smog score (e.g., Smog Reduction Score.)

Thank you again for the opportunity to provide comment on this crucial program. Please do not hesitate to contact us with any questions or for further discussion.

Sincerely,

Joel Levin
Executive Director, Plug In America