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Elaine Buckberg, Harvard Salata Institute Comments - Letter in Support

Additional submitted attachment is included below.

THE SALATA INSTITUTE
FOR CLIMATE AND SUSTAINABILITY
at Harvard University

May 15, 2024

California Energy Commission
715 P Street
Sacramento, CA 95814

Docket No. 22-EVI-04

Comments re Electric Vehicle Charging Infrastructure Reliability

Dear Chair Hochschild and Commissioners:

I write in support of the California Energy Commission's (CEC's) proposed regulations to promote EV charger reliability, in particular the requirement for reporting of real-time data by state- and ratepayer-funded chargers installed on or after January 1, 2024.

I am a senior fellow at Harvard University's Salata Institute for Climate and Sustainability and former chief economist of General Motors. My research at Harvard focuses on EV charging, including the impact of real-time data from EV chargers on EV adoption and emissions avoidance.

Drivers need to know where chargers are located, whether a charger is operating, if it is available or in use, and the pricing to start a charging session. This information should be available in a single place and updated promptly after every status change. The CEC's proposed regulation would expand the number of chargers in California for which drivers can find that information in one-stop apps.

Real-time data can accelerate EV sales and emissions reduction by giving EV drivers confidence about charging; it enables EV drivers to successfully navigate to working and available chargers, avoiding failed attempts and lost time. Real-time data can also alleviate the most extreme form of range anxiety—the risk of driving to a charging station on a road trip, finding that no chargers are working, and needing a tow to a working charging station.

Concerns about public charging deter potential EV buyers, as documented in survey research by J.D. Power. The CEC's proposed requirements for 97% uptime and 90% successful charges will further alleviate EV driver challenges, by applying these standards to state- and ratepayer-funded chargers installed on or after January 1, 2024 and January 1, 2026, respectively.

Finding a working and available charger today is not easy. Real time data in mapping apps like PlugShare, Google, and Apple remains limited. A 2022 study found that about one in four public fast chargers in the Greater Bay Area did not work; see Rempel et al.

Research with colleagues from Harvard and MIT finds that, along I-5, central real-time data is available in PlugShare for only 42% of stations and 24% of ports. Excluding Tesla, which is just beginning to open its stations to other drivers, the real-time data share rises to 57% of stations and 52% of ports—but with a loss of 27% of stations and 55% of ports. Google and Apple have even less

coverage than PlugShare. Charging network providers' proprietary apps only show their own chargers, forcing drivers to cross-reference across apps—which no driver can safely do while driving.

Charging Network Providers can benefit from posting real-time data through higher utilization. Fast chargers with real-time data have historically received 32% more check-ins on PlugShare, according to research by my colleague Omar Asensio of Harvard Business School.

Forthcoming research with colleagues at Harvard and MIT yields estimates that, if all fast chargers reported real-time data in one-stop apps**, the EV share of new vehicle sales in the U.S. would rise by nearly 10 percentage points** vs. baseline forecasts in 2028-2030. As a result, the **number of registered EVs in the U.S. would be nearly 20% higher** in 2027-2030.

The CEC's proposed regulation requiring reporting of real-time data by state- and ratepayer-funded chargers installed on or after January 1, 2024 would advance California toward those higher EV sales and avoid substantial emissions.

Sincerely,

Elaine Buckberg

Elaine Buckberg
Senior Fellow