

DOCKETED

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**UCSD Deep Decarbonization Initiative Comments on EV Charging
Behavioral Research (25-EPIC-01)**

Additional submitted attachment is included below.

June 17, 2026

CALIFORNIA ENERGY COMMISSION
715 P Street
Sacramento, CA 95814
Docket #: 25-EPIC-01

RE: Deep Decarbonization Initiative Comments on the Electric Program Investment Charge 2026–2030 Investment Plan (EPIC 5)

The Deep Decarbonization Initiative appreciates the opportunity to provide comments on the Electric Program Investment Charge (EPIC) 5 Investment Plan.

The Deep Decarbonization Initiative is a research group at the University of California San Diego working at the intersection of science, technology, and policy. A key part of our portfolio centers on the pivotal role that driver behavior has on electric vehicle (EV) charging, how EV charging interacts with decarbonization, and how EV charging will affect the power grid.

Rising EV charging needs make it increasingly crucial to accurately forecast the load profiles. Furthermore, understanding the factors that can reshape those profiles can provide enormous value, such as demand-response and energy storage through two-way charging. Indeed, the California Energy Commission’s own work has shown the potential for GW-scale differences in load profiles depending on whether the state encourages midday charging (e.g., in the Second Electric Vehicle Charging Infrastructure Assessment).

At present, many of the models used for forecasting load are rooted in assumptions that EV charging will be highly flexible. However, those assumptions lack evidence from behavioral science, and there are indications that the reality will be less flexible than expected.

There are profoundly important questions with little evidence-based answers: When and where will drivers plug in? How will they respond to interventions? What is the impact of charger availability and reliability on behavior? How flexible will EV loads be in reality? How much overnight charging can plausibly shift to midday, leveraging the state’s solar generation and reducing curtailment? Can “good” load growth from EV charging increase affordability?

The answers to those questions hinge on human behavior, and there is a small but promising literature beginning to test theories.

That work is already revealing three dynamics:

- Field studies are vital: Empirical evidence from real-world environments is key.
- Modeling disconnect: There is currently a significant mismatch between idealized, modeled behavior and real-world driver charging routines.
- California’s context matters: It is vital to conduct this research in-state so that it accurately reflects the realities of California’s context and grid.

Learning how real people actually charge, and which interventions can reshape their habits, requires rigorous field research.

All of this suggests that robust, empirical evidence on EV charging behavior will provide significant benefits to Californians. The lessons we learn will deliver on EPIC 5's core mandates of ratepayer affordability and optimizing grid integration, substantially boosting the public benefits from California's investments in electric vehicles and associated infrastructure.

The Deep Decarbonization Initiative recommends including behavioral field research and driver-centric experiments as a part of the Transportation Electrification or Distributed Energy Resources Integration initiatives. Understanding the human dimension of charging is a vital complement to the technical studies underway and planned.

Thank you for your consideration of these comments.

Sincerely,

David G. Victor

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