

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**



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Order Instituting Rulemaking to
Modernize the Electric Grid for a High
Distributed Energy Resources Future.

Rulemaking 21-06-017
(Filed June 24, 2021)

**COMMENTS OF THE VEHICLE-GRID INTEGRATION COUNCIL ON THE PUBLIC
ADVOCATES OFFICE'S DISTRIBUTION GRID ELECTRIFICATION MODEL 2025
STUDY AND REPORT**

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In accordance with the Rules of Practice and Procedure of the California Public Utilities Commission (“Commission”), the Vehicle-Grid Integration Council (“VGIC”) hereby submits these comments on the Public Advocates Office at the California Public Utilities Commission (“Cal Advocates”) Distribution Grid Electrification Model 2025 Study and Report (“DGEM 2025 Study and Report”) pursuant to the *Administrative Law Judge’s Ruling Soliciting Comments on the Public Advocates Office’s 2025 Distribution Grid Electrification Model 2025 Study and Report* issued by Administrative Law Judge Jack Chang on January 08, 2026.

I. INTRODUCTION.

VGIC appreciates the opportunity to comment on the DGEM 2025 Study and Report, and we thank Cal Advocates staff for undertaking this substantial analytical effort and for continuing to refine a transparent, third-party assessment of how electrification will affect California’s distribution system costs and, in turn, ratepayers.

The DGEM 2025 Report meaningfully builds on Cal Advocates’ prior 2023 analysis and usefully complements the investor-owned utilities’ Electrification Impact Studies Part 2 (“EIS Part 2”). Together, these analyses provide the Commission with a more complete evidentiary record: the EIS Part 2 studies illustrate how utility-specific assumptions translate into infrastructure needs,

while DGEM offers an independent, system-wide view of distribution upgrade costs and rate impacts under varying electrification and load-management scenarios. In particular, the DGEM shows that increased EV adoption can place downward pressure on rates by spreading fixed distribution system costs over greater load, especially under scenarios that incorporate managed charging and other load-shaping strategies. As the Commission evaluates next steps in Track 1 of this proceeding, particularly regarding distribution planning practices and assumptions, it should strongly consider DGEM as a complementary source of evidence alongside the EIS Part 2 studies.

VGIC's prior comments on the Draft EIS Part 2 emphasized that vehicle-grid integration ("VGI") strategies, including managed charging platforms and bidirectional charging solutions, represent a critical set of tools for moderating distribution system costs while advancing California's transportation electrification and reliability goals. The DGEM 2025 Report reinforces those conclusions with additional data and modeling. In response to the 2025 DGEM, VGIC offers the following comments:

- DGEM provides critical evidence of the value of vehicle-grid integration initiatives.
- Cal Advocates should consider further benefits of VGI for ratepayers, including bidirectional EV charging systems, which can deepen the total load reduction available across California's EV fleet.

II. DGEM PROVIDES ADDITIONAL, INDEPENDENT EVIDENCE OF THE VALUE OF VEHICLE-GRID INTEGRATION.

Consistent with the Draft EIS Part 2 findings, the DGEM 2025 Report shows that unmanaged electrification can drive substantial distribution system upgrade costs, while strategic load management, particularly for EVs, can significantly reduce them. Overall, Cal Advocates

finds that **shifting EV charging to manage load on distribution circuits can deliver between \$5 billion and \$18 billion in cost savings by 2040.**¹

Importantly, DGEM’s highest-savings scenarios are not driven by electrification alone, but by assumptions that charging behavior is **actively** shaped to reduce coincident peaks on distribution circuits. Cal Advocates explains that “Our constructed managed charging load shape is intended to roughly emulate the grid benefits of a variety of managed charging strategies, describing the potential output of incentivized active managed charging programs, dynamic rate charging incentives, or other managed charging structures.”² Under the core managed scenario, DGEM assumes participation from roughly half of light-duty EVs and one-fifth of medium- and heavy-duty EVs.³ Additional savings could be provided with additional participation, and Cal Advocates shows initial data indicating an additional \$2.7 billion in cost savings could be provided with 90% light-duty participation and 50% medium- and heavy-duty participation. Cal Advocates further notes that this likely underestimates the marginal value of additional medium- and heavy-duty participation in charging management strategies.⁴

These results are consistent with VGIC’s earlier EIS Part 2 comments, highlighting that EVs can offer a significant source of modeled load flexibility and avoided costs.⁵ DGEM therefore provides valuable, independent confirmation that investments in VGI can be a key strategy for protecting ratepayers from unnecessary distribution upgrades as EV adoption accelerates.

At the same time, Cal Advocates appropriately notes a critical gap between modeled outcomes and today’s policy landscape, **“No rate or program currently exists that is likely to**

¹ DGEM at 83.

² DGEM at 79.

³ DGEM at 88.

⁴ DGEM at 88, Cal Advocates notes: “because of the spatial uncertainties in our MDHD modeling, this analysis may underestimate the marginal value of MDHD charging management.”

⁵ VGIC Comments on Draft EIS Part 2 Studies at 3-4.

achieve the degree of load shifting that our scenario describes” (emphasis added).⁶ VGIC strongly agrees with this assessment. The Commission should consider extending existing initiatives, such as PG&E’s V2X Residential and V2X Commercial Pilots, or authorizing new ones, such as the proposed Low Carbon Fuel Standard Holdback pilots for EV charging. The Commission should also seek to improve dynamic rate implementation to attract more customers by using simpler pilot designs.

III. FUTURE DGEM ANALYSIS SHOULD INCORPORATE BIDIRECTIONAL EVS AND EXPORT CAPABILITIES.

VGIC strongly supports Cal Advocates’ stated intent to continue refining DGEM in future iterations.⁷ The Commission should support continued refinements of DGEM and analytical work from Cal Advocates. For future DGEM reports, VGIC does encourage Cal Advocates to expand the analyses to include bidirectional EV charging and customer-sited exports.

The DGEM 2025 Report does not model any discharge from EVs, focusing instead on load shifting through managed charging. While this is an appropriate starting point, it likely understates the full flexibility potential available from the transportation fleet. As discussed in VGIC’s EIS Part 2 comments, PG&E’s analysis found that bidirectional EVs alone could provide hundreds of megawatts of local load reduction by 2040, even under conservative assumptions about adoption.⁸ Meanwhile, bidirectional vehicle and charger availability is expanding rapidly across light-, medium-, and heavy-duty segments.⁹ Conceptually, bidirectional charging system allows a participating customer’s flexibility to grow from simply avoiding charging, which is often done at

⁶ DGEM at 79.

⁷ DGEM at 86.

⁸ PG&E EIS Part 2 at 34.

⁹ VGIC Comments on Draft EIS Part 2 Studies at 6.

~10 kW, to avoiding charging *and* providing discharged energy to meet site load and/or export past the customer meter, yielding ~20 kW of flexibility.

Incorporating bidirectional charging systems into the DGEM would allow Cal Advocates to independently assess and confirm the extent to which these systems' ability to serve behind-the-meter load and/or export to the grid could further reduce distribution upgrade needs, particularly on constrained circuits or during localized peaks. This would, in turn, help the Commission and stakeholders better understand the relative cost-effectiveness of promoting bidirectional charging systems compared to traditional infrastructure investments. Given that SCE and SDG&E did not examine bidirectional charging systems in EIS Part 2, a DGEM-based assessment would provide critical insight and help inform future program and rate design.

IV. CONCLUSION.

VGIC appreciates the opportunity to provide these comments on the Cal Advocates' updated DGEM and to reiterate our tremendous gratitude for Cal Advocates' investment in expertly modeling this complex, emerging topic. We look forward to further collaboration with the Commission and stakeholders on this initiative.

Respectfully submitted,

/s/ Zach Woogen

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Executive Director

VEHICLE-GRID INTEGRATION COUNCIL

Date: February 5, 2026