April 5, 2024

Comments of the Vehicle-Grid Integration Council
on DOER's V2G GRIP Application

The Vehicle-Grid Integration Council (VGIC) is a 501(c)(6) nonprofit trade association focused on accelerating the role of smart EV charging and discharging (i.e., vehicle-grid integration or "VGI") through policy development, education, outreach, and research. Scaling VGI is an essential part of transportation electrification and will help accomplish the following key policy goals:

- **Benefit drivers and fleet owners** by reducing the total cost of ownership.
- **Decarbonize the transportation sector** by accelerating EV adoption.
- **Support decarbonization of the power sector** by providing necessary grid services as renewable energy and distributed energy resource penetration increases.
- **Increase affordability** by reducing electricity bills for all customers.
- **Improve grid resiliency** and security during extreme weather events.
- **Foster economic activity** through innovation, competition, and market transformation.

With the proper support and coordination, these goals can be achieved, and EV drivers and fleets in Massachusetts can play a supportive role in the acceleration of both transportation electrification and grid decarbonization. **Our vision for VGI encompasses the following key elements:**

- **Ensure customer mobility needs are satisfied.** Drivers and fleets can participate in a wide variety of VGI services without compromising their mobility needs.
- **Managed charging will benefit EV drivers and fleet operators**: Drivers and fleets will be given the ability to align charging with the times of day when electricity prices are low, reducing operating costs by as much as 50% compared to unmanaged charging. Lowering the total cost of EV ownership will accelerate overall EV adoption by drivers and fleet managers, helping meet Massachusetts' decarbonization goals.
- **EVs provide emissions-free emergency power during blackouts**: During extreme weather blackouts or other power outages, EVs can utilize bidirectional charging capabilities to send energy to a home, building, or microgrid, serving as a generator and providing safe backup power for households and communities.

- **Charging infrastructure dollars go further**: Smarter management of EV charging can help manage the cost of deploying EV charging infrastructure, which encourages wider access to EV charging.
- **VGI enables EVs to provide valuable services to the grid and generate revenue**: V1G (unidirectional charging) and V2G (vehicle-to-grid, or bidirectional charging) will enable electric vehicles to both receive and feed power back to the grid, supporting advanced grid services such as frequency control, demand response, peak shaving, and more. A number of utilities have implemented programs that provide compensation for these valuable grid services.

VGIC is pleased to support the Massachusetts Department of Energy Resources' ("DOER") efforts to pursue federal Grid Resilience Innovation Partnerships ("GRIP") funding to implement a residential vehicle-to-everything ("V2X") pilot program. While V2X is allowed to participate and receive compensation in several demand response programs in Massachusetts and other states in the region, DOER's initiative can help advance the implementation of V2X for residential customers and help unlock benefits for this customer segment. The focus on low- and moderate-income customers and disadvantaged communities will also ensure that the benefits of EVs and V2X technology are available to the most vulnerable populations.

As DOER and Fermata Energy develop the structure and implementation details for the pilot, other current and planned residential V2X pilot projects may provide valuable lessons. For example, Pacific Gas & Electric's (PG&E) Residential V2X Pilot provides $2,500 ($3,000 for customers in disadvantaged communities) in upfront incentives and up to $2,175 in performance incentives. PG&E's pilot also requires participation in California's Emergency Load Reduction Program.[1] Duke Energy has announced a V2G initiative for residential customers with Ford F-150 Lightning vehicles in North Carolina.[2] In the United Kingdom, OVO, one of the country's largest energy service providers, implemented a residential V2G program in partnership with Nissan and Kaluza and produced a robust set of data on customer benefits and experience.[3] DOER should learn from and build upon these examples in its V2X pilot.

[1] https://www.pge.com/en/clean-energy/electric-vehicles/getting-started-with-electric-vehicles/vehicle-to-everything-v2x-pilot-programs.html#tabs-b0ada91e14-item-0334dbda48-tab

[2] https://news.duke-energy.com/releases/illuminating-possibility-duke-energy-and-ford-motor-company-plan-to-use-f-150-lightning-electric-trucks-to-help-power-the-grid

[3] https://info.kaluza.com/hubfs/What%E2%80%99s%20next%20for%20vehicle-to-everything%3F%20-%20Kaluza%20White%20Paper%20-%20Dec%202022.pdf

VGIC offers itself as a resource to support DOER and other stakeholders in any way that would be beneficial for the GRIP application. We look forward to continuing to collaborate with stakeholders in Massachusetts on transportation electrification efforts.

Respectfully submitted,

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