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WeaveGrid Comments on 2022 Statewide ZIP Draft Outline

Additional submitted attachment is included below.

WeaveGrid

February 3, 2022

California Energy Commission
Fuels and Transportation Division
1516 9th Street
Sacramento, CA 95814

Subject: Weave Grid, Inc. Comments on 2022 Statewide ZEV Infrastructure Plan (ZIP): Draft Outline for Public Workshop January 20, 2022, Docket No. 21-TRAN-03

Weave Grid, Inc. (WeaveGrid) appreciates the opportunity to provide comments on the California Energy Commission's (CEC) 2022 Statewide Zero-Emission Vehicle (ZEV) Infrastructure Plan (ZIP).[1]

WeaveGrid is a California-based software company that helps utilities increase the adoption of electric vehicles (EVs) through greater understanding of customer charging behaviors, managed charging programs, and distribution-level optimization. WeaveGrid's technology leverages utility and charging data, including the embedded vehicle telematics—data, controls, and communication systems—and the charging equipment to transform unpredictable and disaggregated EV charging loads into a cohesive network of controllable grid resources. Our approach enables broad participation in utility programs while helping reduce the costs to serve EV loads. WeaveGrid is a market leader in providing these solutions, which we are deploying in utility programs across the United States.

WeaveGrid supports the purpose, principles, and structure proposed in the ZIP Draft Outline. Our comments focus on considerations for Chapter 3 of the ZIP. In particular, we are providing comments on the Level 1 and Level 2 charging for light-duty EVs, especially home charging, and Emerging technologies for both vehicles and infrastructure sections.

Level 1 and Level 2 home charging for light-duty EVs

Broad access to home charging is critical to supporting the state's EV adoption goals. Studies have found that approximately 80% of passenger EV charging currently occurs at

[1] ZEV Infrastructure Plan for Workshop, https://efiling.energy.ca.gov/GetDocument.aspx?tn=241200.

home. It is not surprising that home charging is predominant – it is convenient and typically one of the most affordable ways to charge an EV.

That said, the convenience and affordability of home charging should be extended to every possible household expected to use an EV where it is feasible. We appreciate the CEC's recent report, *Home Charging Access in California*, where survey results show that home charging access tops out at 33% in a business-as-usual scenario, but when parking behavior and electrical installations were optimized, it increased to 66%.[2] This indicates that significantly increasing access to home charging will require marketing, education, and outreach as well as working with various partners, including utilities, to extend home charging cost-effectively to as many households as possible. Not only will this benefit the growing number of EV drivers and encourage more people to go electric, but it will also significantly increase demand flexibility as the home charging use case offers this benefit more than many other charging use cases. Emphatically, expanding home charging needs to include homes within rural and underserved communities. We think that the CEC and other California agencies can play a strong role in increasing home charging access across their various programs and efforts.

Furthermore, a wide range of EV charging infrastructure can be used to unlock managed charging benefits from home charging, including Level 1 or Level 2 and networked or non-networked chargers. This wide range of EV charging technology optionality exists because most electric vehicles themselves are capable of managed charging, regardless of the charging infrastructure at the residence. Therefore, the CEC should consider supporting whichever kind of EV infrastructure is possible or desired by residents to increase home charging access so long as the charging can be managed.

Emerging technologies for both vehicles and infrastructure

Increasingly, embedded vehicle telematics, the data, controls, and communication systems within EVs, is being leveraged along with charging equipment to conduct a range of vehicle-grid integration (VGI) activities. From being able to detect EV load to managed charging to more sophisticated charging optimization incorporating a diverse array of data streams, telematics-based managed charging is an important technology to be considered in ZEV infrastructure planning. Vehicle telematics also offers important and high-quality data, such as state of charge and charging location, which allows for more precise and beneficial managed charging that meets driver needs and offers grid benefits.

Leveraging the capabilities and coverage of both smart chargers and smart charging through vehicle telematics is the optimal route going forward to support as many drivers as possible in their electrification journey.

We thank the CEC for consideration of these comments.

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[2] M. Alexander, *Home Charging Access in California*, California Energy Commission, January 2022. https://www.energy.ca.gov/sites/default/files/2022-01/CEC-600-2022-021.pdf.

Sincerely,

/s/ Amanda Myers

Amanda Myers
Policy and Regulatory Affairs Manager, West
Weave Grid, Inc.
Telephone: 650-590-9021
Email: amanda@weavegrid.com