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**Ample CEC Vehicle-Grid Integration Funding Solicitation Concepts
Comment**

Additional submitted attachment is included below.



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**California Energy Commission
Docket No. 19-AB-2127**

***Ample, Inc. Comment on CEC Vehicle-Grid Integration Market Status and Funding
Solicitation Concepts Workshop (July 28, 2022)***

Thank you for this opportunity to provide input on the California Energy Commission's (CEC) Vehicle-Grid Integration Funding Solicitation Concepts.

Ample is a San Francisco-based startup that provides battery swapping services to California EV fleets — a repowering option that is as fast, convenient and economical as gasoline. Today, high cost and lengthy charge times mean that neither drivers nor fleet companies can afford to use EVs in high-intensity applications that require on the go repowering. As a result EVs are mostly relegated to affluent suburbanites who can charge at home. But Ample's modular battery swapping system provides a 100% charge in minutes at a price lower than gasoline. Ample's battery swap stations also have the potential to provide valuable grid services that maximize the utility of existing and future grid investments.

Ample appreciates the technology-neutral interoperability requirements described in the proposed Responsive, Easy Charging ProDuctsWith Dynamic Signals (REDWDS) solicitation. While the CEC deck presented at the solicitation workshop describes interoperability requirements that are not relevant to battery swapping stations, the deck includes the caveat that “[p]roducts that do not fall into the above categories are eligible and must describe how they support interoperability.”

We recommend that the final solicitation explicitly clarify that innovative charging technologies that repower EVs without an attached charging cable, such as battery swapping, are not bound by technical requirements designed for tethered charging, so long as they support interoperability.

Ample believes that the amounts that may be offered in the REDWDS solicitation (\$200,000 for development and \$500,000 for deployment) are enough to incentivize development and deployment of VGI technologies that will benefit EV drivers and improve operation of the electricity grid. CEC should also keep in mind that grant applications take a great deal of time, especially for smaller companies that have limited staff resources. CEC should work to simplify the application process, especially for solicitations like this one that would result in a relatively small amount of funding.



In addition to grants for deploying equipment like the proposed REDWDS solicitation, CEC should consider performance-based incentives that take into account the number of kilowatt hours available to a given system, dispatchability of that energy and other relevant performance metrics. For example, CEC could compensate entities that provide vehicle grid integration services based on the value and utilization of the services delivered.

Finally, CEC should consider revising terminology in future V2G solicitations. Ample swapping stations are not technically “vehicles” but given the larger amount of batteries stored in each station and the availability of those batteries, they provide access to superior grid and storage services as compared to a vehicle. We propose “EV battery-to-grid services” as a more technology neutral alternative.

Again, we appreciate the Energy Commission’s efforts to promote technology-neutral, performance-based incentives for EV infrastructure deployment. Given the size and constraints of this particular solicitation, Ample will likely not apply. However, we look forward to participating in future similar solicitations.