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Docket No. 20-TRAN-04
-Via e-file-

California Energy Commission
Docket Unit, MS-4
1516 Ninth Street
Sacramento, CA 95814-5512

RE: Post Workshop Comments of Greenlots on Light-Duty Electric Vehicle Infrastructure Allocations

Dear Commissioners and Staff,

Greenlots submits these comments in response to the California Energy Commission's ("CEC" or "the Commission") proposals presented by staff at the workshop held on December 17, 2020 regarding light-duty electric vehicle infrastructure allocations.

Greenlots is a leading provider of electric vehicle ("EV") charging software and services committed to accelerating transportation electrification in California, and a wholly owned subsidiary of Shell New Energies. The Greenlots network supports a significant percentage of the DC fast charging infrastructure in North America, and an increasing amount of Level 2 infrastructure. Greenlots' smart charging solutions are built around an open standards-based focus on future-proofing while helping site hosts, utilities, and grid operators manage dynamic EV charging loads and respond to local and system conditions.

Greenlots is broadly supportive of the portfolio of funding concepts presented at the December 17 workshop. The ideas presented represent forward thinking and a good balance between advancing new technologies, developing charging infrastructure in key locations, and advancing EV equity. Below we offer comments on the potential funding project categories discussed during the workshop.

Resilient Rural Charging

Greenlots is particularly pleased to see a focus on rural EV charging equity, a key issue which has seen less focus to date. Greenlots would encourage a focus on highly visible public charging in rural communities, DCFC in particular, which would address charging access needs, as well as serve to support future EV drivers and nurture EV purchase decisions. Highly visible public charging serves an important EV education and outreach function in addition to the actual charging it facilitates, signaling to drivers and communities that the necessary infrastructure or necessary foundational infrastructure exists, supporting purchase decisions. This charging infrastructure can also help drive tourism and the local economy by supporting EV drivers from elsewhere visiting or stopping on their way through. Importantly, the program would need to be

designed in a manner and incentivized at a level to support the fact that this infrastructure may see limited utilization in initial years, understanding its critical importance independent of utilization and associated economics. This specific concept may also be an appropriate opportunity to pilot Commission-backed utilization contracts or guarantees as an innovative financial mechanism to help address this challenge.

TNC Friendly Airport Fast Charging

Greenlots also sees strong merit in the TNC friendly airport fast charging concept. Such charging infrastructure also would provide value through extra visibility to many users and travelers, and there's an opportunity to drive significant utilization. Greenlots sees significant opportunity to pilot innovative load management capabilities in a DCFC context, which would be especially appropriate in a high utilization airport setting. Unfortunately, there has been a trend towards unmanaged DC fast charging, premised on the notion that in this context, all drivers always need and want the same thing: full power immediately to be as fully charged as desired as quickly as possible. This presumption ignores well-known driver price sensitivity with respect to refueling costs with traditional fuels. For example, it is not uncommon for drivers to go miles out of their way to save cents per gallon on gasoline.

In this context, it is not unreasonable to believe TNC EV drivers, for example, would choose to recharge when waiting for their next ride depending on price signals. Such a driver could also be given the option to save on their charging session if they are able to wait a few minutes to begin charging. Or they could be offered a similar discount for a slightly longer session at a lower power level. Or, in a sufficiently harmonized and networked EV charging ecosystem, a driver could be encouraged to charge at a different location later for a discount. While there are implications if other drivers are queued up, there are very workable solutions to reduce site and system costs associated with DC fast charging, and price signals are a worthwhile tool to pilot in addressing queuing challenges that may exist in this scenario.

Unfortunately, Greenlots has seen the industry err too much on the side of perceived driver experience imposed limitations, illustrated by the general absence of offering drivers *options* for cost savings, instead presuming this is the one situation where such *options* would not be appreciated or utilized. Providing drivers options to choose from, and otherwise ensuring that drivers can see and respond to system costs should they choose to, should receive heightened focus as further public DCFC is developed, and this proposed TNC pilot represents an excellent opportunity for this.

Advanced Technologies

With respect to the advanced technologies future project concepts, Proposal 2a regarding VGI should focus on Commission VGI objectives as has been discussed in past workshops,[1] and not be constrained by prior VGI work products from other venues where there has been a short-term feasibility focus. In line with the Commission's tradition of leadership and innovation, these projects should have an eye towards the horizon, with the aim of addressing barriers to key technologies and capabilities, rather being constrained by them.

Greenlots also sees value in Proposal 2c for alternative "home charging", in particular a focus on DCFC as an alternative to home charging/MUD charging, especially should this also pilot load management in a DCFC context. For many of the same reasons as discussed above, as this use case is less targeting drivers passing through, there's increased opportunity to pilot innovative load management solutions and driver interaction in a DCFC charging scenario.

Regarding hands free charging, Proposal 2b, it appears there's opportunity to combine Proposal 1a for wireless charging, and Proposal 1b for automated/robotic charging into a single, more technology agnostic proposal.

Greenlots sees value in the other advanced technologies proposals as well, however those commented on represent those we see the highest value in pursuing.

Level 1 and Level 2 Charging at Multi-Unit Dwellings (MUDs)

Greenlots strongly supports efforts to address the significant and enduring barriers to developing charging infrastructure in MUDs. This said, given the critical importance of supporting grid beneficial charging, we caution against an approach that focuses on Level 1 charging, which provides significantly more limited options for VGI. While costs are a challenge that stakeholders should be cognizant of, from an equity standpoint, Greenlots finds it problematic to address costs or more significant market barriers in certain contexts by simply providing cheaper or less capable equipment. Maintaining networking capabilities is critical for both the user experience and for facilitating VGI functionality.

Conclusion

Greenlots appreciates the Commission's consideration of these comments, its ongoing efforts to support transportation electrification and advanced mobility, and looks forward to the road ahead.

[1] Including past workshops on CALeVIP equipment technology requirements held on June 28, 2018, and November 18, 2019, the CALeVIP Projects Roadmap workshop held on October 4, 2018, and the CALeVIP 2021 Incentive Projects Planning workshop, held on October 23, 2019

Sincerely,

Erick Karlen
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