

DOCKETED

Docket Number:	20-TRAN-04
Project Title:	Electric Vehicle Infrastructure Project Funding
TN #:	241073
Document Title:	Greenlots' Post-Workshop Comments on Light-Duty Electric Vehicle Infrastructure Allocations
Description:	N/A
Filer:	System
Organization:	Greenlots
Submitter Role:	Public
Submission Date:	12/22/2021 4:50:34 PM
Docketed Date:	12/22/2021

*Comment Received From: Greenlots
Submitted On: 12/22/2021
Docket Number: 20-TRAN-04*

Greenlotsâ€™™ Post-Workshop Comments on Light-Duty Electric Vehicle Infrastructure Allocations

Additional submitted attachment is included below.



December 21, 2021

Docket No. 20-TRAN-04

-Via e-file-

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

RE: Greenlots' Post-Workshop Comments 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 2, 2021 regarding light-duty electric vehicle infrastructure allocations, where funding ideas for light-duty EV charging infrastructure projects were presented.

Greenlots is a leading provider of electric vehicle ("EV") charging software and services and a member of the Shell Renewables and Energy Solutions group. The Greenlots network supports a significant percentage of the DC fast charging infrastructure in North America. Greenlots' smart charging solutions are built around an open standards-based focus on future flexibility while helping site hosts, fleets, utilities, and grid operators manage dynamic electric vehicle charging loads and respond to local and system conditions.

Greenlots is broadly supportive of the portfolio of funding concepts presented at the workshop. The ideas presented represent forward thinking and an appropriate balance of 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.

Microgrids, Resiliency, and Charging

Greenlots has long advocated for increased focus and funding for resilient EV charging. While EV charging holds significant ability today and increased promise over time to support grid resiliency, providing for resilient EV charging is also important to addressing key barriers to adoption. While limited access to charging infrastructure has presented "range anxiety" for drivers historically, the reliability and resiliency of that charging infrastructure represents the next significant hurdle that industry and government will need to take steps to overcome to support deeper adoption of electric vehicles as increasingly prevalent weather and climate related events affect grid reliability.

Greenlots encourages the Commission to approach this concept broadly, not limit eligibility to existing CEC-funded microgrid projects, and to focus measures and projects not just on developing future capabilities, but also those with a high likelihood of boosting consumer—including that of fleets—confidence in charging availability and reliability in the near term. Additionally, we encourage a focus on investments and technologies to harden EV charging that can serve the dual purpose of also helping to harden the grid and promote grid resiliency, rather than looking at these two capabilities separately.

Local Government Fleet Charging

Greenlots strongly supports efforts to increase the ability of local governments to invest in EV charging, and potentially using local EV charging permit streamlining progress as a metric or incentive for eligibility. Greenlots recommends that this should also be open to public charging serving fleets, and be a competitive solicitation to maximize project quality and the impact of state funds. The program should leverage utility funds that may be available, in particular those providing for or supporting grid and customer side make-ready, such that state funding can focus on the charging infrastructure itself and related services, particularly in the service areas of the regulated utilities. Importantly, this program should ensure that project costs that provide for charging reliability are covered, and that guaranteed levels of reliability and uptime are scored significantly in any evaluation criteria.

Finally, a 50 percent match share as proposed is likely far too high for many municipalities, and would likely result in the unintended consequence of funding flowing to those cities already developing such infrastructure as opposed to also supporting those that historically have not had the funding to do so. This is especially likely for smaller cities or those located in rural and disadvantaged communities, which the Commission must take care to ensure are not disadvantaged by the unintended implications of program requirements.

DC Fast Charger Corridors

Greenlots strongly supports increased efforts to build out DC fast charging corridors, and identifying and filling corridor charging gaps and building out redundancy where there may be minimal DC fast chargers “covering” a significant geography. Greenlots recommends that this effort focus on building range confidence, reducing gaps between stations, ensuring there are multiple chargers per site, and focus on rural areas that have particularly acute needs and have suffered from particularly limited investment to date. Greenlots also is supportive of increased funding or higher scoring for projects that can accommodate larger vehicles that increasingly are being electrified, such as pickups and trailers, including siting chargers with pull through capabilities.

Greenlots would also encourage a focus on highly visible, higher-powered (150kW+) public fast charging, especially in rural communities, 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 necessary foundational infrastructure exists, supporting adoption 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.

Greenlots notes that some commenters may suggest that investments in corridor fast charging aren't necessary or should be delayed due to federal funding that will become available. Greenlots disagrees with such contentions. Federal funding for public charging infrastructure deployment will not obviate the need for investments such as what the Commission has proposed. As an example, researchers estimate that \$87 billion, including \$39 billion for public fast charging, is needed by 2035 to grow the passenger EV market.¹ Planned federal investments are not nearly enough to meet the need. The recently enacted Infrastructure Investment and Jobs Act allocates \$5 billion to agencies to provide to states to facilitate the deployment of EV charging infrastructure and allocates \$2.5 billion for federal grants for alternative fuel infrastructure, including EV charging. California stands to receive less than \$100 million annually from the EV Formula Program, and an unknown portion of the \$2.5 where EV charging will be competing with other fuel types, and those funds are meant to meet the needs of both passenger vehicles and commercial medium and heavy-duty vehicles. The estimates of the investment needed to close the charging infrastructure gap as detailed above is exclusively for light-duty passenger vehicles, meaning potential federal dollars that are already insufficient relative to the documented need for light-duty vehicle charging are even more insufficient relative to the combined need for light-, medium-, and heavy-duty vehicle charging.

For these reasons, the limited funds the federal government may provide California are a much-needed, but far-from-sufficient investment. Energy Commission, utility programs and other investments will be needed to close a growing charging infrastructure gap, and delaying or reducing the size or scope of these investments does not make sense.

BESTFIT 2

Greenlots supports increased funding for a second round of this needed and well-designed funding concept. Indeed, the original BESTFIT solicitation demonstrated significant demand and a variety of well-conceived proposals, many of which did not end up receiving funds. Greenlots believes this program can be essentially extended/replicated as-is for future funding rounds.

¹ Atlas Public Policy, U.S. Passenger Vehicle Electrification Infrastructure Assessment, available at: <https://bit.ly/3jv70t2>

High Density Level 2 Charging

Greenlots supports this concept to provide for large scale Level 2 charging in dense urban areas with highly visible installations to increase charging confidence for EV drivers. Increased curbside charging, charging in parking garages, and charging at transportation hubs are all viable ways to increase public charging access. Greenlots encourages working directly with localities with metropolitan areas in identifying needs and solutions that are best fit for purpose and the community, and perhaps even limiting applicant eligibility to such municipalities themselves.

Low-Income Residential Charging

Greenlots strongly supports efforts to increase EV access and equity, and acknowledging that this is a more difficult market segment to address, supports CEC programs and investments targeting low-income residential charging. This is another scenario where partnership with local municipalities or communities may be an appropriate approach to designing programs and solutions, and efforts could include layering this on top of existing block grant programs (i.e. CALeVIP 2), however Greenlots would generally encourage a focus on programs with more competitive elements to increase project efficacy and quality. This concept could also be combined with or layered somewhat on top of the High Density Level 2 Charging concept, especially with respect to providing charging options to garage-less or driveway-less residents.

MIDAS/ELRP-Integrated Charging

Greenlots supports efforts to integrate CEC's Market Informed Demand Automation Server (MIDAS), which provides a database of current and future time-varying rates, greenhouse gas (GHG) emissions associated with electrical generation, and California FlexAlert Signals more synergistically with EV charging. Given the CPUC's intention to authorize IOUs to expand the Emergency Load Reduction Program (ELRP) to compensate vehicle-grid integration (VGI) aggregators, this would be a timely funding concept. Specifically, Greenlots would support grants for product and software development to demonstrate new ways of utilizing these resources. We encourage a non-prescriptive and open-ended approach allowing for diverse and innovative concepts to be developed utilizing these resources that could then apply to CEC for funding to support demonstration and commercialization.

Block Grants for Light-Duty EV Charging Infrastructure

During the workshop Commission staff identified the core goal of a second light duty block grant program as to "quickly & efficiently fund and deploy EV charging station installations."² Naturally, this follows from the goals of the existing CALeVIP program, which this successor program will follow. While Greenlots understands and supports these objectives, we caution against mirroring

² Staff presentation at slide 46.

CALeVIP too closely, and not fully taking advantage of the opportunity to evaluate and implement broader, more foundational changes to the program that would avoid well-known existing problems, and better align with evolving market needs and state goals.

Challenges with this existing program model and structure have strained programmatic budgets and unintentionally introduced perverse incentives that cause applicants to attempt to “game” the application process. Indeed, many market participants’ experiences with CALeVIP has made clear that prioritizing the rapid deployment of *incentives* with limited requirements has not necessarily resulted in the rapid deployment of charging *infrastructure*. In many cases, the prospect of CALeVIP incentive support for any particular project is a significant unknown, akin more to winning a lottery – which seems counter to the vision of the current program design that has tried to prioritize funding accessibility. This uncertainty then can make program incentives a financial sweetener or adder to projects that would likely be developed anyway, instead of largely supporting the development of projects that wouldn’t be built otherwise. Accordingly, there is significant opportunity to reimagine the current program design and administration structure. Greenlots therefore encourages the Commission to consider innovative ways to evolve the program, including the following:

- Re-introduce competitive elements to incentivize higher-quality projects and technologies. Greenlots strongly recommends that the Commission direct the CALeVIP successor program and its implementer to re-introduce more competitive elements to make state funding go further, while providing an incentive for higher quality projects, products, and services. The value of minimum-requirement, first come first served incentive program design comes largely from some degree of permanence and continued availability. When funds instead are subscribed within hours and even minutes, as continues to be the case with most CALeVIP DCFC programs, this program design instead is a liability. Moreover, relying entirely on a site-host focused, rebate-based, first come, first served structure has largely failed to introduce competitive forces into the program both with respect to project/site selection, and charging services procurement. This ties up funding in speculative projects with high cancelation rates rather than deploying the funds towards projects that demonstrate themselves to deliver the highest value through a competitive process.

Relying solely on this program design rewards applicant speed rather than project quality. Speed and access to funding are valuable program elements – and indeed, CALeVIP has been effective through the specific lens of deploying charging infrastructure. However, program structures that do not support or incentivize applicants to shop around for charging solutions that are potentially of the greatest value or best fit their needs, and instead favor the solution they can most readily identify, do not seem aligned with the development and support of an innovative and competitive marketplace for quality products and services.

- Introduce bulk-buy aggregation to leverage economies of scale. Greenlots recommends that the Commission consider mechanisms to aggregate demand for EV charging, similar to community solar programs, or community or neighborhood bulk purchase programs, and then have providers pursue those aggregated opportunities through competitive solicitations. Rather than having the program administrator only handle project screening and check cutting, that organization could deliver additional value by working closer with communities and acting as a match maker in the process. This would drive higher quality solutions, attract greater program participation from providers beyond those with large retail sales capacities, and further leverage state funds by adding competitive elements throughout the process, both in site selection, and in procurement. While Greenlots encourages this to be explored broadly, this program design could be especially powerful in addressing charging access in disadvantaged communities. This could be done either via one implementer, or perhaps through a separate implementers focused on certain market segments (e.g. those that are more difficult to address).
- Require site hosts to submit load management plans. Requiring that site hosts develop and submit a load management plan could be another way to introduce mechanisms that value, incentivize and support related technology and beneficial charging, while also better aligning with state goals.
- Adequately incorporate future technology requirements into this successor block grant program that the Commission has evaluated, but not acted upon over the last several years. Over the past several years, the Commission has proposed at multiple workshops future technology requirements for the CALeVIP program, but largely has not taken action to adopt its own recommendations.³ As part of a new light duty block grant program intended to be the successor of or continuation of CALeVIP, Greenlots recommends that the Commission seize the moment to implement the technology requirements it has contemplated over the years that are likely needed to help move the market toward greater adoption of standardization and driver-friendly technologies.

Greenlots firmly believes that the adoption of open protocols and standards is essential to support transportation electrification, grow the market for EVs, enhance the driver/customer experience, integrate with the electricity system, and lower the cost of ownership of both EVs and EV charging infrastructure. Indeed, the proliferation of open protocols and standards provides a platform and ecosystem for innovation and customer choice that is critical in guarding against stranded assets and protecting the prudence of public investments. Accordingly, Greenlots recommends that the Commission take necessary steps to support standardization in both VGI communication and hardware-software communication, as it has proposed to do at past workshops including those

³ These include 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

referenced above. By determining and setting a requirement early, and providing the market time to adapt its products to meet the requirements, the Commission can leverage its position to support clear state goals, improve the driver experience, and support an interoperable EV charging marketplace. This includes requiring third-party OCPP certification for Commission-funded charging infrastructure, in addition to ISO/IEC 15118 and "plug and charge" functionality (as the Commission's recent hardware readiness proposal would seem to pave the path towards), and any needed hardware changes to support these capabilities that are critical for vehicle-grid integration.

Expanded Use of Physical Signs at EV Charging Sites to Promote Driver Awareness

Greenlots is intrigued by this concept, agrees with its underlying premise, and supports its exploration. Given the fact that public signage can be difficult to develop and involve significant red tape, we would likely first encourage the Regional Readiness Grants approach, which would empower cities and counties to address this and handle many of the complexities they may be better situated to address. Learnings from this could be helpful in then developing processes to streamline and implement the other concept, involving charging developers themselves installing wayfaring signs, perhaps resulting in best practices for this to become a standard aspect of public EV charging infrastructure development.

Community-Led EV Infrastructure Projects

Greenlots strongly supports efforts to increase community capacity building and community-led charging infrastructure development. We would support a significant focus on rural areas where these capabilities and capacities may not exist, or otherwise be far less developed compared to other areas, including in tribal areas and with tribal communities. As discussed earlier, community involvement and community-led infrastructure projects could layer on top of many of the other concepts presented that are aimed at addressing difficult to reach market segments.

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.

Sincerely,



Erick Karlen
Sr. Advisor, Policy & Market Development