

DOCKETED

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on Electric School Bus Infrastructure Workshop

Additional submitted attachment is included below.



September 28, 2022

California Energy Commission
715 P Street
Sacramento, CA 95815

RE: Electric School Bus Bi-Directional Infrastructure Funding Concept

Dear California Energy Commission (CEC) Staff:

Proterra appreciates the opportunity to provide input on the Electric School Bus Bi-Directional Infrastructure Funding Concept (Funding Concept). Proterra thanks the CEC for its commitment to support a sustainable energy and climate future, as well as making transformative investments in California zero-emission vehicle (ZEV) and infrastructure manufacturing. To this end, the Funding Concept will help California school districts pilot bi-directional models that will not only serve their communities, but will also serve as replicable models for electric school bus deployments in California and beyond.

Proterra is an American company, headquartered in California, who is a leader in the design and manufacturing of zero-emission electric transit vehicles and ZEV technology solutions for commercial vehicle applications. We focus in three critical areas:

- We design, develop, manufacture, sell, and integrate proprietary battery systems and electrification solutions into vehicles for global commercial vehicle original equipment manufacturer (OEM) customers serving the Class 3 to Class 8 vehicle segments, including school buses and other truck applications.
- We design, develop, manufacture, and sell electric transit buses as an OEM for North American public transit agencies, airports, universities, and other commercial transit fleets.
- We provide turnkey fleet-scale, high-power charging solutions and software services, ranging from Vehicle to Grid (V2G) solutions and fleet and energy management software-as-a-service to fleet planning, hardware, infrastructure, installation, utility engagement, and charging optimization.

Proterra is very supportive of the CEC's efforts to introduce innovative project approaches to ZEV school bus deployments. Currently, almost all funding for school buses and infrastructure is structured as rebates, such as the HVIP and EnergyIIZE programs and the first round of the United States Environmental Protection Agency Clean School Bus Program. As a result, most school bus deployments are limited to a vehicle and the minimum

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charging infrastructure needed. With no additional resources, few school districts are able to invest in projects demonstrating innovative concepts such as Vehicle to Grid (V2G).

The execution of this Funding Concept will provide resources for near-term, real-world demonstration of V2G and the subsequent benefits.

Proterra submits the following comments regarding the Funding Concept:

- **Strongly support additional funding**
The funding in this program is limited relative to the demand in California based on the number of school districts that plan to deploy electric school buses (ESBs). Additional funding, either providing during the release of the program or during the award phase, will allow more communities demonstrate and realize the benefits of V2G.
- **Minimize required match share**
Unlike other public agencies such as transit agencies, school districts have limited access to other funding sources. Requiring non-CEC match funds would limit projects to wealthier school districts or districts that have been able to obtain federal funding or other resources.
- **Allow maximum geographic diversity within the State of California**
A program framework that is statewide and not limited to high fire threat areas would provide benefits to more communities.
- **At current funding levels, limit projects to V2G components**
An expansion of the project scope to allow solar and stationary energy storage, as well as other project components will add value, but will significantly limit funding for multiple projects.
- **Remove minimum school bus project size**
Removing the minimum would allow for greater geographic participation as rural schools are less likely to operate a large fleet of bi-directional ESBs and allow for the technology to be proven in a greater number of areas around the state.
- **Allow maximum flexibility in ownership**
Flexible ownership, including Transportation as a Service (TaaS), would increase the number of school districts that could participate in the program.

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- **Remove minimum charging power level requirements**
Recommend that there not be a minimum power level to qualify. Higher power levels should be prioritized but removing this minimum will allow for greater participation at different price levels.

- **Clarify digital communication hardware readiness**
The concept requests that hardware be ready for digital communication using ISO 15118-20. We respectfully request further clarifications on the definition of 'hardware ready for digital communication using ISO 15118-20.' Requiring ISO 15118-20 could limit the options for V2G hardware and limit commercial competition.

- **Delay certification to UL 1741 Supplement B and any additional interconnection requirements**
Recommend that the CEC delay the Supplement B requirement as this as barrier is premature for the current state of the V2G hardware market. UL 1741 SA is adequate for the purposes of this project.

We greatly appreciate the opportunity to provide comments on the Electric School Bus Bi-Directional Infrastructure Funding Concept. Please reach out to Proterra if there are any comments or questions.

Sincerely,

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