

DOCKETED

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**Volvo Group North America comments on Medium- and Heavy-Duty
Zero-Emission Vehicles and Infrastructure**

See attached.

Additional submitted attachment is included below.



Volvo Group North America

November 8, 2019

Comments on Docket # 19-TRAN-02 Project Title: Medium- and Heavy-Duty Zero-Emission Vehicle and Infrastructure

Dear CEC Staff,

On behalf of Volvo Group North America, thank you for the opportunity to comment on the California Energy Commission's proposed Medium- and Heavy-Duty Zero-Emission Vehicle and Infrastructure solicitation.

Volvo Group believes it is very important that the Energy Commission's investments in this sector not only be aligned with California's overall climate and air quality goals, but also complement other state and private investments in order to have the maximum desired impact.

This solicitation is designed to support deployment of zero-emission vehicles. Thus, it should closely align with policies such as the proposed Advanced Clean Truck (ACT) Rule and the oversubscribed HVIP program, which provides incentives for the purchase of zero-emission commercial vehicles.

Based on our experience with customers and partners involved in our ZANZEFF-funded Volvo LIGHTS heavy-duty electric truck commercialization project, we believe it is critical that infrastructure funding and purchase incentives be closely aligned. Unlike the situation with light-duty vehicles – in which vehicle charging is relatively inexpensive to install and the cost impacts usually can be managed easily – commercial vehicle charging infrastructure must be designed and implemented to fit with the business model of the company and the vehicle. This type of infrastructure is far more costly, technically sophisticated and more likely to trigger larger issues, such as permitting challenges, equipment availability or the need for grid upgrades.

Although California will continue to gain additional information about the market realities from these commercial pilot projects, at this point in the market's development, we already know the purchase of heavy-duty zero-emission vehicles is inextricably linked with both purchase incentives and charging infrastructure development. The advanced planning necessary for charging infrastructure installation requires that both activities be pursued simultaneously. For this reason, we would propose that any infrastructure funding include vehicle purchases for the project or be linked to funding for vehicle purchases.

Greater alignment is also needed among all the state's electric vehicle funding programs, from the California Air Resources Board (including VW settlement funds), the California Public Utilities Commission and local air districts. Policies and programs between the CEC and those agencies should ideally be folded into a "one-stop shop" for fleets, port terminals and warehouse owners to simplify and expedite the access to charging infrastructure funding and eliminate the maze facing applicants from having to master and coordinate multiple ill-matched public sources of support. Streamlining the process of complying with regulations and



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accessing incentive funding will improve the acceptance of BEV trucks and accelerate penetration in the marketplace.

In response to the presentations at your October 25 workshop and the concepts presented, we also offer the following suggestions:

I. Purpose

The CEC should try to maximize the applicability and value of its investments for all California stakeholders. Recently CARB has funded several projects through the ZANZEFF solicitation that will be ongoing for the next 12-18 months. These projects will deliver valuable technical and market lessons which should inform future solicitations for charging infrastructure needs. As a result, we recommend CEC consider projects that include wireless charging demonstrations or mobile and temporary vehicle chargers. Wireless charging could have significant benefits at ports, receiving docks or even fleets that contain a large number of vehicles. A solution for mobile and temporary chargers with a range of 300 kWh are needed for the heavy-duty market and could see wide use as both a rescue vehicle for use in delivering a charge to stranded vehicles and a solution for temporary site charging.

Since funding is limited and BEV technology for heavy duty vehicles is closer to commercialization than hydrogen fuel cells, we would argue that the CEC should focus its solicitation on electric charging infrastructure. Prioritizing projects that complement or build upon ZANZEFF projects could help build confidence in the marketplace and accelerate commercial penetration.

II. Eligible Applicants

Eligible applicants should be defined broadly, including both public and private entities. Since freight movement involves multiple players, it should not be restrictive, as was the case in past CEC solicitations (i.e., limited to ports or port terminals). Priority should be given to applicants that have commitments from multiple stakeholders that can showcase a systemic solution.

III. Project requirements

A unified charging standard will be critical to the widespread adoption of electric vehicles; however, no such standard is yet in place. Currently both CCS1 and CCS2 standards are being used in the U.S. and Europe, and an effort to build industry consensus on a new DC fast charging standard is being led by CharIN, an industry association which advocates for international charging standards.

As a result, we believe CEC should not mandate specific standards as part of its solicitation so that these early projects can help determine which single standard will emerge as the most advantageous for all applications as the industry continues to mature.

In light of initial uncertainty about vehicle range and charging strategy, it will be critical to allow CEC and other public agency funding to be used for private, behind-the-fence-charging. Again,



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the difference between light- and heavy-duty vehicle duty cycles, charging infrastructure and operational demands will severely undermine fleet willingness to pilot new technology vehicles if they don't have the ability to minimize the fueling uncertainty inherent in limited or inconvenient public chargers.

In conclusion, the availability of public funding for charging infrastructure at CEC and all state agencies should be guaranteed for a number of years. It also should be easy to access in order to reduce market risk for both OEMs and fleets as California seeks to embrace this paradigm shift in transportation. The availability of funds should be linked to the number of vehicles required by the proposed ACT Rule with some flexibility, should the market move more quickly than expected.

Sincerely,

Dawn Fenton
Director, Sustainability & Public Affairs
Volvo Group North America