DOCKETED	
Docket Number:	22-ALT-01
Project Title:	2022-2023 Investment Plan Update for the Clean Transportation Program
TN #:	246906
Document Title:	Michael Coates Comments - True Electromobility Solutions
Description:	N/A
Filer:	System
Organization:	Michael Coates
Submitter Role:	Public
Submission Date:	10/26/2022 3:53:19 PM
Docketed Date:	10/26/2022

Comment Received From: Michael Coates
Submitted On: 10/26/2022
Docket Number: 22-ALT-01

True Electromobility Solutions

2022-10-25

Commissioner Patty Monahan

California Energy Commission (CEC)
715 P Street
Sacramento, CA 95814

Re: Docket No. 22-ALT-01 - CEC Clean Transportation Program Funding

Dear Ms. Monahan,

Volvo Group North America (Volvo Group) would like to thank the California Energy Commission (CEC) for the opportunity to support and provide comments on the proposed funding plan for the Clean Transportation Program. The aggressive funding plan rightly recognizes the critical need for sustained investments in charging infrastructure for scaling the deployment of medium- and heavy-duty ZEVs in order to meet state greenhouse gas and criteria pollutant emission reduction goals.

About the Volvo Group

Volvo Group drives prosperity through transport and infrastructure solutions, offering trucks, buses, construction equipment, power solutions for marine and industrial applications, financing and services that increase our customersâ€™ uptime and productivity. Founded in 1927, the Volvo Group is committed to shaping the future landscape of sustainable transport and infrastructure solutions. The Volvo Group is headquartered in Gothenburg, Sweden, employs some 100,000 people worldwide, and serves customers in more than 190 markets. Volvo Group North America, with headquarters in Greeensboro, NC, employs around 13,150 people in the United States and operates 11 manufacturing and remanufacturing facilities in seven states. In 2020, the Volvo Groupâ€™s global net sales amounted to about $36.8 billion.

In California, the Volvo Group and its dealers employ more than 1,000 people with locations in Costa Mesa, Mountain View, Corona, Hayward, Fontana, Stockton, Fresno and La Mirada. Volvo Group is in the process of training and certifying dealers to sell and service its electric products. Currently, dealers at four locations in California have been certified as HD EV dealers, with more expected to be added soon.

Volvo Groupâ€™s Electromobility Solutions

The Volvo Group has spent years developing complete solutions for electromobility, and today, in North America, we are selling the Volvo VNR Electric truck, Mack LR Electric waster hauler, five electric Volvo Construction Equipment models and the Nova Bus LFSe and LFSe+ electric buses. Both of the heavy-duty (Class 8) truck models are assembled exclusively in the U.S. for this market. While battery-electric vehicles are a suitable solution for city distribution, city buses, regional haulage and similar applications, hydrogen fuel cells (to power the electric driveline) will be a good option for heavy transport and demanding long-haul applications. For use cases involving heavier loads and/or drive longer distances, the weight of the batteries themselves become a limiting factor, and hydrogen fuel cells are likely to be an interesting alternative. With this in mind, the Volvo Group has formed a joint-venture (called Cellcentric) with Daimler Truck AG to drive the development of fuel cell technology for heavy-duty vehicle applications and is planning commercial introduction of these vehicles in the second half of this decade. Volvo Group appreciates the efforts to develop a refueling infrastructure to support the future deployment of heavy-duty fuel cell vehicles and sees this as a very important investment.

Within the Volvo LIGHTS project in California, we have successfully demonstrated deploying Class 8 electric trucks in real-world applications, putting 30 class 8 ZEVs in commercial operations across 11 different fleets.
The Volvo Group is the first traditional truck OEM to sell battery electric Class 8 trucks to customers and is the current market leader with more than 60% of the BEV market. Based on this experience, and our ongoing ZEV product development efforts, our biggest concerns about the Class 8 truck market are not related to technology viability, but rather about conditions beyond our control that are critical to ensure a conducive market environment.

Earlier this year the Volvo Group released a guidebook outlining many of the key lessons-learned from the Volvo LIGHTS project, many of which are similar to those encountered by other OEMs and stakeholders in similar projects including:
â€¢ The critical charging infrastructure deployment took more time than originally envisioned at the beginning of the project. Anticipate delays. Contact the utility and city agencies early.
â€¢ Issues such as property ownership can complicate, delay or even prevent infrastructure deployment.
â€¢ Early stakeholder engagement and coordination are essential for infrastructure deployment. City planning and local utilities can be allies or opponents in the project implementation process.
â€¢ The entire charging ecosystem needs to be considered. A fleetâ€™s business goals must align with the vehiclesâ€™ capabilities. That may dicate the type and cost of the charging infrastructure. Options such as on-site energy generation may need to be factored into project planning.
â€¢ A company may not know what charging infrastructure it needs until after it does a thorough duty cycle analysis. It is critical that this is done in advance of placing an order to help manage misalignment between vehicle deliveries and infrastructure readiness. .

â€¢ Workforce development is needed. Drivers, technicians, fleet staff, first responders, charging solution providers and utility companies need training to maximize electric vehicle efficiency and uptime. This could be accommodated as part of an infrastructure grant.
â€¢ Companies will need to build relationships with a diverse set of stakeholders to minimize operational disruptions from the introduction of new, advanced technology vehicles.
â€¢ Higher vehicle purchase prices plus new infrastructure costs can be crippling to a business. While these costs may be partially offset by government-sponsored programs, navigating those programs is another new, added complexity and cost for the business.

Overall Comments

â€¢ The success of Californiaâ€™s MHD infrastructure development is critical to the success of meeting the stateâ€™s goal of deploying 172,000 ZE trucks by 2030. Commercial vehicles will not be able to replace the current internal combustion engine vehicles without a plentiful, reliable public charging infrastructure.

â€¢ Aligning the timeline of CECâ€™s proposed funding amounts and concepts with the anticipated penetration of MHD ZEVs under the stateâ€™s ACT and ACF regulations will be critical to the success of those regulations and foster confidence in the marketplace.

â€¢ Infrastructure and vehicle incentives need to be directly linked (and sustained over many years) to mitigate lack of, or delays in, infrastructure deployments to avoid stranded assets.

â€¢ The lessons learned from successful joint solicitations by CARB-CEC should be applied to future programs to foster greater confidence in the value of the project for the applicantâ€™s long term success. Successful projects should include:
o an OEM partner with customer experience to ensure real-world applicability.
o a willing government partner.
o an infrastructure partner with a strong track record of delivering project support in a timely manner.
o community-based organizations as partners to ensure local understanding and support.
o a workforce development component.
o a project development ecosystem that incorporates technology partners capable of bringing innovation into the mix.

â€¢ Infrastructure grants should include power upgrades as well as operation and maintenance subsidies for the early years of operation. Likewise, renewable energy generation and storage technolog support are critical to covering the entire charging ecosystem.

â€¢ Increasing fleet confidence in MHD ZEVs depends on reliable charging stations. Uptime standards and reporting should be required for grant recipients, with a premium on high performance metrics. (The 97% uptime metric for charging equipment â€“ as discussed in a CEC staff Reliability Workshop â€“ would mean an EVSE would be unavailable for approximately 20 days/year, or two-thirds of a month. Thatâ€™s not acceptable for commercial operations.) Additionally, grants should allow successful applicants to adopt tools to increase charging station uptime.

â€¢ Delays in infrastructure projects will undermine the adoption of MHD ZEVs. A formal structure and process needs to be created wherein local agencies and utilities are held accountable to ensure timely completion of infrastructure projects. Furthermore, the infrastructure grants will rely on active enforcement of existing laws for streamlining (AB 1236), expedited permitting (AB 970), and other guidelines . Electric utilities and local authorities can still derail fully vetted and CEC-supported programs by taking extended amounts of time to provide approvals and permits.

â€¢ The Governorâ€™s Office of Business and Economic Development (GO-Biz) is well-positioned to coordinate activities among the various agencies and break through the siloed nature of these programs. CARB staff have stated their expectation of continued CEC support for infrastructure, but explicit linkage of programs remains only an aspiration, not a specific policy goal.

â€¢ While the proposed program concepts are needed to fill in gaps in infrastructure, we offer specific additional concepts to accelerate the transition to MHD ZEVs.
o A precise program targeting the refuse industry could take advantage of several currently available ZE refuse truck offerings. Such a program could be targeted to AB 617 or disadvantaged communities to ensure equity in air quality improvements. This would be a logical extension of the set-asides for drayage, transit buses and school buses. Like school buses, refuse trucks operate in neighborhoods and are very visible to the public.
o Recognizing the unique charging aspects of on-road MHD ZEVs and the prospects of ZEVs in the off-road sector, funding proposals that include mobile charging technology will foster this marketplace. Specific funding programs for mobile charging solution development and deployment would help address delays in grid upgrades and enable faster deployment of charging infrastructure.
o Providing on-site energy storage potentially reduces peak demand on the grid, while using second-life batteries reinforces a commitment to reduce the lifecycle impact of these components. Therefore, additional credit should be given to projects that include energy storage capability, particularly using second-life batteries.

The Volvo Group appreciates CECâ€™s efforts on this front, and we stand ready to work with CEC as well as GO-Biz, CARB, other state agencies, and the rest of the industry to transition to ZE freight solutions in the Golden State.

Thank you for taking the time to read and consider them.

Kind regards,

Aravind Kailas, Ph.D.
Advanced Technology Policy Director
Volvo Group North America
T. 1 714 277 8172
aravind.kailas@volvo.com

Additional submitted attachment is included below.

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[1] https://www.volvotrucks.us/trucks/vnr-electric/
[2] https://www.macktrucks.com/trucks/lr-series/lr-electric/
[3] https://www.cellcentric.net/en/about-us/
[4] https://www.lightsproject.com

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[5] https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201520160AB1236
[6] https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=202120220AB970
[7] https://business.ca.gov/industries/zero-emission-vehicles/plug-in-readiness/

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[8] https://ww2.arb.ca.gov/capp

[9] https://www.arcgis.com/apps/View/index.html?appid=c3e4e4e1d11546839ocf61d9db83efc4

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