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*Comment Received From: Jaimie Levin, Center for Transportation and the Environment
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Heavy-Duty Hydrogen Fueling Infrastructure

Additional submitted attachment is included below.



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July 31, 2019

Commissioner Patty Monahan
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814

RE: Docket #19-IEPR-04 -- 2019 Integrated Energy Policy Report

Dear Commissioner Monahan:

We are writing to express the Center for Transportation and the Environment's (CTE) support for expanding the CEC's commitment for heavy-duty fleet infrastructure funding. At the July 18 workshop, the CTE expressed its support for comments made by the members of the Zero-Emission Vehicle Infrastructure panel, regarding the funding obstacle facing the fleet application of zero-emission charging and hydrogen fueling infrastructure. CTE encourages the Commission to focus funds available for Advanced Freight & Fleet Technologies for public transit hydrogen fueling infrastructure.

CTE is a member-based non-profit organization that fosters a collaborative process to advance clean sustainable transportation and energy technologies. Our members include a coalition of industry leaders and end users working toward the commercialization of zero emission transit buses and trucks. We represent vehicle manufacturers, technology companies, fuel cell manufacturers, energy suppliers, research centers, transit agencies, universities, and non-profit organizations.

CTE has worked to expand the network of light-duty hydrogen fueling stations, as well as the development of heavy-duty fueling stations. In 2016, California Air Resources Board (CARB) awarded CTE over \$22 million in Low-Carbon Transportation Funds to launch a pilot program to move fuel cell electric buses (FCEBs) and heavy-duty fuel cell technology closer to commercialization. Two high-capacity hydrogen fueling stations are close to completion. The larger of the two will fuel up to 50 buses in an 8-hour transit fueling window. The second station will support 30 or more buses in a 12-hour window.

Initial operation of the buses in service at AC Transit and Orange County Transportation Authority (OCTA) are demonstrating in excess of a 300-mile range, enabling these vehicles to operate as one-to-one replacements for diesel and CNG buses on all of AC Transit's and OCTA's routes. Another key outcome resulting from CARB's investment was to drive down the cost of the buses by 50% from previous models, to less than \$1.2 million per bus.

The advancements made by this pilot project can be further leveraged by scaling up the pilot project to 100 buses which will drive down the costs of FCEB by an additional 30%, to \$850,000. Increasing the demand for hydrogen will also promote increased supply and lower energy prices. However, the primary obstacle facing large-scale deployments is the need for infrastructure funding to support fueling stations and upgrades to diesel and CNG maintenance facilities to safely work on hydrogen.

The advancements in FCEB technology has a direct link to advancing the use of fuel cells and hydrogen fueling systems for truck and freight applications. With transit operators moving toward the implementation of the Innovative Clean Transit Rule, timing is critical in order to deliver price competitive buses and fueling infrastructure. Therefore, on behalf of CTE, we encourage your favorable consideration to address the infrastructure gap facing public transit properties.

Sincerely,

A handwritten signature in black ink that reads "Jaimie R. Levin". The signature is written in a cursive style with a long, sweeping underline that extends to the left.

Jaimie Levin
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