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**Sierra Club California IEPR Heavy-Duty ZEV Workshop Comments**

*Additional submitted attachment is included below.*



June 11, 2020

Docket No. 20-IEPR-02  
California Energy Commission  
1516 Ninth Street  
Sacramento, CA 95814

**RE: Integrated Energy Policy Report Heavy-Duty Zero Emission Vehicle Market Trends Workshops**

Dear Commissioners:

Sierra Club California appreciates the opportunity to comment on the California Energy Commission (CEC) Integrated Energy Policy Report (IEPR) 2020 update. Specifically, these comments are regarding the May 20 - 21, 2020 workshops on Heavy-Duty Zero-Emission Vehicle Market Trends. These workshops are an encouraging step towards zero-emission transportation in the state.

To meet California's critical air quality and greenhouse gas reduction goals, the state's transportation system must shift away from diesel heavy- and medium-duty trucks, buses, off road freight vehicles and cargo handling equipment and towards zero-emission vehicles.

The scope of this problem is vast. For example, there are 16,000 port drayage trucks at the Ports of Los Angeles and Long Beach alone that need to be replaced with electric alternatives, in addition to thousands of pieces of port cargo equipment and thousands of buses and other equipment that all need to be electrified. This transition will require regulations and incentives to help accelerate demand for zero-emission vehicles (ZEV), install charging infrastructure to support future ZEV growth and continued investments in ZEVs.

**I. Californians urgently need 100% zero-emission medium and heavy duty vehicles**

Medium- and Heavy-duty vehicles and the fossil fuels that power them are the largest single transportation sector contributing to ozone pollution, greenhouse gas emissions, fine particulate matter and toxic diesel particulate matter. According to the California Air Resources Board (CARB), medium- and heavy-duty vehicles account for 26 percent of the state's smog-forming NOx emissions, which can lead to increased risk of asthma attacks, lung cancer, heart attacks, strokes and premature death.

Residents living along our congested urban zones and traffic corridors and around polluted warehouse, rail, and port complexes shoulder a disproportionate burden of diesel particulate matter emissions. And now we've learned that long-term exposure to pollution—particularly for residents in disadvantaged communities—is linked to COVID-19 mortality.<sup>1</sup>

The transportation sector is projected to increase greenhouse gas emissions 20 percent by 2050. However, freight movement emissions are expected to rise 30 percent in the same time period—the fastest growth in greenhouse gas emissions of any sector.<sup>2</sup> Zero-emission vehicle adoption is thus the key to meeting our state's climate goals.<sup>3</sup>

Energy Commission policies and actions must help ensure a zero-emission future.

## **II. Zero-emission vehicle technology in the medium- and heavy-duty sector is here**

The workshops on May 20 and 21 confirmed what much of the state already knew: electric medium- and heavy-duty vehicles are here. Rivian reported that Amazon ordered 100,000 battery-electric, medium-duty vehicles for deployment in first and last mile delivery. And while Rivian had to temporarily shut down its factory due to the COVID-19 pandemic, the Amazon electric delivery van order is still on time.

Tesla indicated that it released a prototype battery-electric, heavy-duty truck with a 300-mile range and it will release a 500-mile battery electric truck soon. Daimler stated that 30 of their fully electric heavy-duty trucks are used around the country today.

Daimler's electric semi truck, the Freightliner eCascadias, has been successfully deployed in Southern California. In 2019, Penske Logistics logged over 10,000 miles using two electric Freightliner Innovation Fleet eCascadias to make deliveries on dedicated routes. Penske plans on expanding the fleet to include 10 eCascadias in its Southern California operations.<sup>4</sup>

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<sup>1</sup> Xiao Wu, et al. *Exposure to air pollution and COVID-19 mortality in the United States: A nationwide cross-sectional study*, Harvard University, April 24, 2020, accessed: <https://projects.ig.harvard.edu/covid-pm> (finding that an increase of just 1  $\mu\text{g}/\text{m}^3$  in PM2.5 is associated with an 8% increase in the COVID-19 death rate.)

<sup>2</sup> Alexander Goetz, et al. *Urban Goods Movement and Local Climate Action Plans: Assessing Strategies to Reduce Greenhouse Gas Emissions from Urban Freight Transportation*, San José State University, April 2019, accessed: [https://transweb.sjsu.edu/sites/default/files/1796\\_Goetz\\_Alexander\\_Urban-Goods-Movement-Greenhouse-Gas-Emissions.pdf](https://transweb.sjsu.edu/sites/default/files/1796_Goetz_Alexander_Urban-Goods-Movement-Greenhouse-Gas-Emissions.pdf)

<sup>3</sup> California Air Resources Board, *Proposed Advanced Clean Trucks Regulation Staff Report Initial Statement of Reasons*, October 22, 2019, accessed: <https://ww3.arb.ca.gov/regact/2019/act2019/isor.pdf>

<sup>4</sup> *Penske Logistics Logs Over 10,000 Miles in Heavy-Duty Electric Trucks*, December 3, 2019, GoPenske, accessed: <https://www.gopenske.com/blog/logistics/penske-logistics-logs-over-10-000-miles-in-heavy-duty-electric-trucks/particle-2>

### **III. California must exercise caution regarding hydrogen fuel cells**

Some workshop participants indicated in their public comments that hydrogen fuel cell vehicles would be necessary for a fully zero-emission transportation future. The notion of quick refueling is appealing particularly for trucks making longer trips.

However, the state must be judicious in its support for hydrogen fuel cell vehicles. Much of the hydrogen in use today is either derived from methane gas—a potent climate pollutant—or is created using fossil fuels. Both of these options are incompatible with California’s climate and clean air goals.

There are also inherent risks associated with the creation, transportation, storage and use of hydrogen fuel which are non-existent in battery electric vehicles. Finally, hydrogen fuel cell vehicles, particularly those fueled with truly zero-emission hydrogen, are extraordinarily expensive. Hydrogen fuel itself can cost a whopping \$16 per gallon.

The state must only support truly zero-emission hydrogen fuel and should be cautious to not direct funds away from battery electric vehicles and infrastructure in favor of hydrogen.

### **IV. California can and must overcome funding challenges to transportation electrification**

Over the course of the three heavy-duty vehicle sessions, the main barrier identified by presenters can essentially be boiled down to funding.

Demand for these funds is already strong. As CalStart noted during a session, the funding in California’s Clean Off Road Equipment (CORE) program for yard trucks was exhausted within 45 minutes of opening the program.

With key regulations like the Innovative Clean Transit Rule, which passed in 2018, and the Advanced Clean Truck Rule on the horizon, manufacturers will produce zero-emission trucks and buses en masse. Incentive funds will successfully encourage early adoption of zero-emission fleets particularly in areas that are most overburdened by diesel pollution now.

Even as the current public health crisis limits the availability of existing funding, the state must continue these incentives and look for new ways to fund them as part of California’s economic recovery to ensure that environmental and air quality benefits reach all Californians.

### **V. Coordination with other statewide transportation electrification processes**

As the Energy Commission is likely aware, there are multiple stakeholder processes occurring right now involving medium- and heavy-duty transportation electrification. The California Public Utilities Commission and the Air Resources Board are overseeing these processes, and there

are others at the South Coast Air Quality Management District, among other venues.<sup>5</sup> Sierra Club encourages inter-agency collaboration on this topic.

Thank you for your consideration of these comments.

Sincerely,



Katherine Garcia  
Policy Advocate



Daniel Barad  
Policy Advocate

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<sup>5</sup> For instance, many panelists flagged infrastructure issues as a barrier to wider ZEV deployment. Several CPUC proceedings, including the Transportation Electrification Framework rulemaking and pending and approved investor owned utility pilot programs, address MD/HD charging infrastructure as well as topics like vehicle-to-grid integration and rate structures.