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September 15, 2022

Honorable Chair Liane Randolph
Honorable Board Members
California Air Resources Board
1001 "I" Street
Sacramento, CA 95814

Dear Chair Randolph and Board Members,

On behalf of the Union of Concerned Scientists, thank you for the opportunity to comment on the proposed amendments to the Advanced Clean Fleets Rule (ACF).

The ACF, adopted by the California Air Resources Board (CARB) in 2023 after significant and meaningful public participation, created economically and technologically feasible pathways to significantly reduce the pervasive and historic air pollution and climate change impacts from medium- and heavy-duty vehicles (MHDVs) in California. ACF represented a meaningful step toward a cleaner, prosperous, and more equitable future for our state's residents, businesses, and natural environment.

The inaction of the Biden administration on California's waiver request for the ACF, followed by the unprecedented attacks on clean air and climate change mitigation progress by the current administration have left our state in an unfortunate situation where the High Priority Fleet (HPF) and Drayage requirements under ACF as currently adopted must be repealed. Even so, we applaud CARB for continuing to work toward the successful implementation of the State and Local Government Fleet (SLG) requirements and we look forward to working alongside CARB to create new public policy tools that ensure the 2036 sales requirement under ACF remains technically and economically feasible.

Over the past several decades, our state's policies and programs to reduce harmful emissions from MHDVs have yielded meaningful reductions in key pollutants such as fine particulate matter ($PM_{2.5}$) and nitrogen oxides (NOx). However, more than 9 in 10 Californians still live in areas with unhealthy air quality and communities adjacent to freight hubs such as ports, warehouses, and railyards still experience inequitable access to clean air and resulting negative health outcomes.[1] Diesel trucks remain the largest source of California's NOx pollution and the largest source of air pollution disparity in the United States. [2, 3] Additionally, greenhouse gas (GHG) emissions from MHDVs have risen significantly over the past several decades, far outpacing that of light-duty vehicles.[4] Given these reasons and that freight movement by trucks

[1] American Lung Association. 2025. State of the Air 2025 Report. https://www.lung.org/getmedia/5d8035e5-4e86-4205-b408-865550860783/State-of-the-Air-2025.pdf
[2] California Air Resources Board. 2021. Mobile Source Strategy Presentation. https://ww2.arb.ca.gov/sites/default/files/barcu/board/books/2021/102821/21-11-2pres.pdf.
[3] Mary Demetillo et al. 2021.Space-Based Observational Constraints on NO2 Air Pollution Inequality from Diesel Traffic in Major US Cities. https://doi.org/10.1029/2021GL094333
[4] Wilson, Sam. 2025. *Ready for Work 2.0: On the road to clean trucks.* Union of Concerned Scientists. https://www.ucs.org/resources/ready-work-2

is estimated to increase by nearly 70 percent through mid-decade, **the state must remain focused on electrifying the on-road freight sector in a feasible and durable manner.**[5] **Accelerated electrification of on-road freight is critical to reducing inequitable exposure to air pollution and achieving California's ambitious climate goals.**

CARB's proposal for the SLG requirements

Staff's proposed amendments for the SLG requirements appear to balance the need to preserve the public health and environmental benefits of the rule, while meeting CARB's legislative requirements under AB 1594 (Garcia, 2023) and providing further flexibilities to covered public fleets. Staff's analysis suggests that Alternative 2 would have marginally greater environmental and public health benefits while exhibiting reduced economic costs, however this alternative may be less technically feasible in the short term as the market for zero-emission specialty MHDVs matures. This approach balances the need to reduce emissions from the public sector MHDV fleet while considering the current political headwinds and resulting market difficulties due to lost incentives, programs, and regulations supporting MHDV electrification. During the early stages of ACF's implementation, we must ensure that the rule is as durable as possible.

Although SLG fleets represent a relatively small portion of tailpipe pollution from MHDVs statewide, electrifying public fleets is a foundational step in wide-scale transportation electrification. Public agency deployments of zero-emission vehicles can help to boost the market for zero-emission trucks, driving down costs of vehicles and supporting infrastructure deployment through economies of scale and serving as an example of their successful deployment for more hesitant private fleets. Given this, we applaud CARB's commitment to the continued implementation of the SLG requirements under ACF.

California must make up for ACF's lost benefits

As originally adopted, ACF was estimated to accelerate the annual adoption of zero-emission MHDVs in California by around 80 percent – significantly reducing statewide exposure to toxic air pollution and resulting negative health outcomes and reducing GHG emissions by nearly 330 million metric tons through 2050. Additionally, the ACF would have provided nearly half a billion dollars in savings to our state's businesses through mid-century, largely due to the significantly reduced operational costs of battery-electric trucks.[6]

ACF represented what may have been the most technically and economically feasible pathway toward accelerated MHDV electrification for our state. In the absence of ACF's full implementation, California must now work earnestly to create new, politically durable pathways to reclaim the meaningful and much-needed public health, environmental, and economic benefits expected from the ACF.

Sustainable funding sources for MHDV electrification programs

ACF's Drayage and HPF requirements were the two chapters in ACF most responsible for near-term electrification. Given the repeal of these requirements, coupled with the unprecedented federal attacks on transportation electrification in recent months, California must find new ways to ensure the continued development of the zero-emission MHDV market and progress toward upfront and total cost-of-ownership parity among combustion and zero-emission models. **Although ACF's 2036 sales requirements remain today, additional actions, both regulatory and legislative, will be necessary to grow the market for zero-emission MHDV at a rate that safeguards the technical and economic feasibility, as well as the political durability, of this crucial state goal**.

Additionally, state investments in zero-emission fueling infrastructure specific to commercial vehicles, particularly among Class 7 and 8 tractor trucks, are necessary to accelerate freight electrification in the near term and ensure that market signals for private investments are preserved. The state has several options to

[5] Wilson, Sam. 2025. *Ready for Work 2.0: On the road to clean trucks.* Union of Concerned Scientists. https://www.ucs.org/resources/ready-work-2
[6] California Air Resources Board. 2023. *Final Environmental Analysis for the Proposed Advanced Clean Fleets Rule.* https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2022/acf22/acffinalea.docx

secure sustainable and expanded revenue generation for both new and existing zero-emission MHDV and infrastructure programs, such as the Energy Infrastructure Incentives for Zero-Emission Commercial Vehicles and the Hybrid and Zero-Emission Truck and Bus Voucher Incentive programs.

Fees on the sale of new combustion MHDVs or annual registrations of combustion models may generate sizable revenues for electrification programs. In 2024 alone, over 88,000 new combustion Class 2b-8 vehicles were registered in California.[7] The structure of such fees could take various shapes, including increasing in relation to vehicle size or by considering the comparative cost of analogous combustion and zero-emission models, potentially raising hundreds of millions of dollars in revenue annually to support MHDV electrification. As the state considers clean MHDV incentive programs, we strongly encourage programmatic structures that influence upfront price reductions over time.

Discussion and analysis of similar fee and incentive concepts have often focused on Class 4-8 vehicles. However, because around 70 percent of the state's annual new registrations of MHDVs are Class 2b-3 vehicles, we would encourage the state to consider including combustion Class 2b-3 vehicles under a fee program. This could significantly increase the annual revenues for the programs supported by the fee while encouraging the continued growth of zero-emission Class 2b-3 vehicles, which made up over one-third of the state's new Class 2b-3 registrations in 2024.[8]

Another potential significant and sustainable revenue source for electrification programs and investments is through small fees on last-mile deliveries to consumers made by fossil-fueled vehicles, including light-duty vehicles, MHDVs, and motorcycles. This approach would capitalize on both the significant growth in e-commerce and on-demand deliveries, as well as the growing adoption of zero-emission MHDVs over the past several years. Even at de minimis rates, delivery fees could generate significant revenue for electrification programs. For example, Colorado's retail delivery fee, which is set at a flat rate of $0.29 and exempts businesses with annual sales under $500,000, raised over $75 million during its first year of implementation for transportation electrification and infrastructure.[9] Given California's significantly larger population and e-commerce market, annual revenue from delivery fees would likely be greater than $400 million annually.

Developing zero-emission ecosystems at freight hubs

Focusing electrification efforts and investments at freight hubs, including seaports, railyards, and warehouses, is key to both reducing pollution in the areas struggling the most with poor air quality and fostering widescale truck electrification. As originally adopted, ACF was poised to deliver significant reductions of pollution from trucks operating in and around freight hubs across the state. In the absence of ACF's drayage requirements, Indirect Source Rules (ISRs) and container fees – two approaches currently implemented in Southern California with notable success – could help accelerate drayage electrification. Applied statewide, ISRs and container fees could help to turn ports, railyards, and warehouses into catalysts for widescale freight electrification while ensuring an even regulatory playing field for the state's diverse freight hubs.

Southern California's Warehouse ISR has influenced significant progress since its implementation in 2022, with zero-emission truck visits to covered facilities nearly tripled, usage of electric truck chargers increased by over 20-fold, and solar power usage at warehouses increased from under three gigawatt-hours to over 85 gigawatt-hours.[10] A statewide approach could expand these benefits to other warehouses as well as ports and railyards while better managing economic impacts from a patchwork adoption of ISRs. We would encourage any statewide ISR to set a strong focus on electrification by excluding compliance pathways that allow for combustion technologies wherever feasible.

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[7] UCS analysis of new Class 2b-8 vehicle registrations in California. Data provided by S&P Global Mobility
[8] Ibid.
[9] The Council of State Governments Midwestern Office. 2025. Overview of retail delivery fees in Colorado and Minnesota. https://csgmidwest.org/2025/02/27/question-have-states-implemented-or-considered-adoption-of-a-retail-delivery-fee/
[10] South Coast Air Quality Management District. 2024. 2nd Annual Report for the Warehouse Actions and Investments to Reduce Emissions (WAIRE) Program. https://www.aqmd.gov/docs/default-source/planning/fbmsm-docs/annual_report_waire_program_102024.pdf

Similarly, a statewide fee on shipping containers moved by combustion drayage vehicles could encourage freight electrification and generate substantial revenue for electrification programs while promoting economically equitable impacts among the state's diverse ports and railyards. Since implementing the $10 container fee in 2022, the Port of Los Angeles and Port of Long Beach have generated hundreds of millions of dollars for electrification efforts, including hundreds of zero-emission drayage truck purchases and over 400 electric truck charging positions throughout the region.[11, 12] Such a program could deliver significant benefits if scaled statewide and expanded to goods movements beyond containers.

While studies have estimated container fees to have negligible impacts to throughput at the state's two largest ports, even at rates as high as $70 per container, impacts may vary among smaller ports or those specializing in noncontainerized freight such as automobiles or bulk products.[13] Statewide implementation would allow for a more nuanced approach that expanded the benefits of container fees while mitigating potential negative impacts on throughput at smaller ports.

Delivering a better tomorrow for California

California has long led the nation in advancing clean air and climate policies, and continued leadership is critical to protecting public health, addressing climate change, and fostering zero-emission innovations in the freight sector. By adopting durable policy pathways, securing sustainable funding, and focusing investments where they are most needed, CARB can ensure that the state achieves its long-term clean transportation goals despite current political headwinds.

We urge the Board and staff to act decisively and in close coordination with sister agencies so that California's residents, businesses, and communities can realize the full public health, environmental, and economic benefits of a zero-emission freight system.

Sincerely,

Sam Wilson, Senior Analyst

Union of Concerned Scientists | Berkeley, California

[11] Port of Long Beach. 2025. Port to Increase Investment in Clean Trucks. https://polb.com/port-info/news-and-press/port-to-increase-investment-in-clean-trucks-03-28-2025/
[12] Port of Los Angeles. 2025. Port of Los Angeles Adopts Near-Term Clean Truck Spending Plan. https://www.portoflosangeles.org/references/2025-news-releases/news_052225_ctf
[13] Clean Air Action Plan. 2020. Economic Study for the Clean Truck Fund Rate. https://cleanairactionplan.org/wpfd_file/final-economic-study-for-clean-truck-fund-rate/