June 16, 2023

The Honorable Michael S. Regan
Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue NW
Washington, DC 20460

Re: Greenhouse Gas Emissions Standards for Heavy-Duty Engines and Vehicles – Phase 3; EPA-HQ-OAR-2022-1985

Dear Administrator Regan:

On behalf of the undersigned health and medical organizations, we write to provide comment on the United States Environmental Protection Agency's (EPA) proposed phase 3 greenhouse gas emissions standards for heavy-duty engines and vehicles. Reducing greenhouse gas emissions that drive climate change from the transportation sector is a top public health priority, and maximizing the benefits to cleaning up conventional pollution from the heavy-duty vehicle sector at the same time is a health equity imperative. We urge EPA to finalize the strongest possible heavy-duty greenhouse gas standards by the end of 2023, at least as strong as those in the Advanced Clean Trucks program (ACT). These standards should ensure real-world pollution reductions and spur the transition to zero-emission trucking.

Health Impacts of Heavy-Duty Vehicle Emissions

Emissions from traffic are a complex mixture of pollutants that make people sick and shorten lives. In 2022, the Health Effects Institute (HEI) released the largest systematic review of its type to date that looked at hundreds of studies on traffic pollution and related health effects between1980 and 2019. The review concluded with a high level of confidence that long-term exposure to traffic pollution is linked with all-cause, circulatory and ischemic heart disease mortality; with a moderate to high level of confidence that it is linked to lung cancer mortality, asthma onset in children and adults and acute lower respiratory infections; and with a moderate level of confidence that it is linked to term low birth weight and small for gestational age in fetuses, active asthma in children and respiratory mortality, ischemic heart disease events and

diabetes in adults.[1] The review also found that the evidence for health impacts of traffic related air pollution has grown since the last HEI study in 2010.

The heavy-duty vehicle sector is a driver of these health impacts. Despite making up less than 10 percent of all vehicles on the road, medium- and heavy-duty vehicles produce the majority of harmful on-road emissions, including conventional air pollutants like fine particulate matter ($PM_{2.5}$), and nitrogen oxides (NOx). NOx is a precursor of another air pollutant, ozone, which in addition to causing health harm is also a greenhouse gas.

Heavy-duty vehicles are also a major source of carbon pollution. Transportation is the single biggest source of greenhouse gas emissions in the U.S., making cleaning up trucks and buses a critical part of addressing climate change. Climate change is a health emergency, leading to more frequent and intense extreme weather events like flooding, excessive heat, drought, and wildfires; longer and more intense allergy seasons; increased risks from water-borne and vector-borne diseases like Lyme Disease; and worsening air quality.

The impacts of pollution from heavy-duty vehicles are not shared equally. According to EPA, seventy-two million people are estimated to live near truck freight routes.[2] They are more likely to be people of color and those with lower incomes. These overburdened communities are directly exposed to pollution that causes respiratory and cardiovascular problems, among other serious and costly health effects.

This disproportionate impact is echoed in the broader share of those most burdened by poor air quality. According to the American Lung Association's 2023 "State of the Air" report, more than 1 in 3 Americans are living in communities with unhealthy air. People of color are over three times more likely to be breathing the most polluted air than white people.[3]

Health Benefits of Zero-Emission Heavy-Duty Vehicles

In 2022, the American Lung Association released a report, "Zeroing in on Healthy Air," modeling the health impacts of a future in which 100% sales of new light-duty vehicles were zero-emission by 2035; 100% of sales of new medium- and heavy-duty vehicles were zero-emission by 2040; and 100% of electricity generation was clean and non-combustion by 2035. We offer this report to provide a supplement to EPA's regulatory impact analysis with this proposal to help understand the enormous health benefits of EPA's more stringent alternatives.

The transition modeled in the report would result in 110,000 premature deaths prevented; nearly 3 million asthma attacks avoided; more than 13 million lost workdays avoided; and $1.2 trillion in health benefits (all figures nationwide, 2020-2050). The transition would provide $1.7 trillion in

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[1] Health Effects Institute. Special Report 23. *A Special Report of the HEI Panel on the Health Effects of Long-Term Exposure to Traffic-Related Air Pollution* June 2022, updated April 2023. https://www.healtheffects.org/publication/systematic-review-and-meta-analysis-selected-health-effects-long-term-exposure-traffic

[2] United States Environmental Protection Agency. *Fact Sheet: Transportation Pollution and Environmental Justice.* March 2022. https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P10144Y3.pdf

[3] American Lung Association. *State of the Air 2023: Key Findings.* April 2023. https://www.lung.org/research/sota/key-findings

additional climate benefits (global, 2020-2050).[4] With regard to the vehicles policies specifically, the benefits come from both dramatic reductions in tailpipe emissions and upstream emissions reductions.

The scenario modeled in the report sees decreases of 14% in on-road greenhouse gas pollution reductions by 2030, 66% by 2040 and 93% by 2050. For heavy-duty vehicles specifically, those percentages are 7% in 2030, 58% in 2040 and 92% in 2050.

The Lung Association also released a follow-on report, "Delivering Clean Air," which focused in on the benefits of the zero-emission transition across the electricity and heavy-duty vehicles sectors, looking just in counties home to heavily trafficked truck routes. The report found that the transition to zero-emission heavy-duty transportation and clean, non-combustion energy by 2050 in counties with major truck routes would result in up to $735 billion in cumulative health benefits, 1.75 million fewer asthma attacks, 8.5 million fewer lost workdays and 66,800 avoided deaths.[5] The analysis looked at the 921 U.S. counties with trucking routes carrying 8,500 or more trucks per day. These counties represent less than one-third of all U.S. counties but are home to more than three-quarters of the U.S. population, with a disproportionate percentage being people of color compared to the population at large.

Even for communities not located near a source of heavy truck traffic such as a major truck route or distribution center, cleaning up heavy-duty vehicles represents an enormous health opportunity for vulnerable groups. Reducing exposure to harmful emissions from diesel school buses is an important priority for children's health. There are 480,000 school buses on the road nationwide, traveling 3.5 billion miles annually. About 95% of school buses are diesel powered. Diesel emissions contain a variety of toxics, including nitrogen oxides, particulate matter, benzene, and 1,3-butadiene. Diesel soot from school buses has been associated with reduced lung function and increased incidences of pneumonia in children. Exposure to diesel emissions can be especially harmful for children with asthma, and accelerating progress already underway to more zero-emission school buses on the road is a critical public health opportunity.

EPA Should Finalize Standards at Least as Strong as the Emissions Reductions in ACT

The EPA proposed standards are an important step forward and would provide greater emissions reductions than the less stringent alternative. However, in light of the urgency of the climate crisis and the rapid deployment of heavy duty zero emission vehicles, EPA should finalize standards at least as stringent as those reflecting the Advanced Clean Trucks policy, and potentially as stringent as reflecting the announcements manufacturers have made about plans to transition their fleets to zero-emission vehicles, as suggested in the proposal. EPA's analysis of the standards as proposed shows that the benefits would outweigh the implementation costs five-to-one, a strong start. However, while EPA did not provide a similar analysis of the more stringent alternatives the agency asks for comment on, we note that our reports mentioned above help show the enormous benefits for public health and health equity that could be achieved under a more protective standard.

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[4] American Lung Association. *Zeroing in on Healthy Air: Health and Climate Benefits of Zero-Emission Transportation and Electricity*. March 2023. https://www.lung.org/clean-air/electric-vehicle-report/zeroing-in-on-healthy-air

[5] American Lung Association. *Delivering Clean Air: Health Benefits of Zero-Emission Trucks and Electricity.* October 2022. https://www.lung.org/clean-air/electric-vehicle-report/delivering-clean-air

The Advanced Clean Trucks program is an increasing success story, with six states having adopted the rule and 16 states plus Washington, DC having signed the Multi-State Memorandum of Understanding to achieve 20 percent zero-emission truck sales by 2030 and 100 percent by 2050. Work is underway in additional states to adopt ACT.

While the structure of the standards is different, and EPA is not proposing to directly require increasing shares of zero-emission trucks sales as ACT does, we urge the agency to finalize heavy-duty greenhouse gas standards that reflect at least the same emissions stringency as ACT. These emissions standards would ensure health benefits in states beyond those that have already adopted ACT and drive a significant transition toward zero-emission trucks.

EPA Should Ensure Real-World Benefits

As in many of our organizations' previous comments to EPA on other proposals to reduce emissions from the heavy-duty vehicles sector, we note that the potential for banking, averaging and trading can allow for gaming of the system that reduces real-world emissions cleanup. We urge EPA to ensure that engine families are not allowed to generate excess emissions above the final limits by balancing benefits of zero-emission or hybrid vehicles against them.

We have also noted that even when vehicle manufacturers comply with the rules on paper, there remains the possibility of cheating or tampering with emissions controls for any non-zero-emission vehicle. The stronger the final standards and the more of a nationwide transition to zero-emission heavy-duty vehicles results from them, the lower the possibility of tampering with gas- or diesel-powered vehicle pollution controls.

We also continue to urge EPA to reflect the full useful life of heavy-duty vehicles in their testing and warranty requirements. Warranty provisions must match the full useful life of the vehicle, and we encourage EPA to consider this as one million miles.

EPA Should Finalize Locomotive Amendments

We appreciate EPA's proposal to correct course on preemption of locomotive regulations. The proposed language would enable EPA's preemption regulations to more closely track to the language in the Clean Air Act and avoid unintended impediments to state policy development.

California's unique air quality challenges necessitate that the state be able to set stronger emissions cleanup measures for locomotives as it does for other vehicles. Diesel-powered line haul trains, passenger trains and other locomotives create a significant health burden from their emissions, especially in communities located near railyards. The California Air Resources Board (CARB) estimates that operational emissions from a single train exceed those of more than 400 heavy-duty trucks.[6]

In April 2023, the California Air Resources Board concluded a rulemaking, the In-Use Locomotive Standards, to modernize and clean up locomotive emissions through a variety of operational standards. Combined, these actions represent the single largest share of state actions identified in the California State Implementation Plan (SIP) to achieve ozone standards by 2037. The locomotive operations program will achieve over 30 percent of the NOx reductions needed to meet California's ozone SIP commitments. The rules are projected to result in over

[6] California Air Resources Board. *Staff Presentation: Proposed In-Use Locomotive Regulation* at Slide 4. April 23, 2023. https://ww2.arb.ca.gov/sites/default/files/barcu/board/books/2023/042723/23-4-1pres.pdf

3,000 lives saved, tens of billions of dollars in public health benefits and a 90% average cancer risk reduction (cases per million people) in communities nearest California railyards by 2045.

The policies are designed to ensure that locomotives over 23 years old will no longer operate in California, bringing cleaner engine technologies into the fleet. This is crucial given that Tier 4 engines represent less than 5 percent of the locomotives operating in California today, while Tier 0 - or earlier - engines make up nearly a quarter of in-state locomotives. CARB approved enforceable idling limits, and created a framework for investment in cleaner technologies. The policy also includes reporting requirements and a framework for phasing zero-emission technologies across California rail operations over the coming decades.

We support EPA's proposed updates to the current locomotive preemption language. We believe this is a pragmatic approach that will continue to require EPA to judge the need for more health-protective state policies through the waiver review process, but will not prohibit more health-protective concept development by default. In addition to finalizing this change, we urge EPA to work toward its own more stringent Tier 5 and Zero-Emission standards for locomotive engines to address this major source of air pollution.

Conclusion

Stronger greenhouse gas emissions standards for heavy-duty vehicles are an important opportunity to not only reduce emissions from a major source of climate pollution, but also to drive a nationwide transition to zero-emission vehicles that improves public health and advances health equity and environmental justice. EPA must finalize standards at least as strong as matching ACT, and must do so by the end of 2023. This action stands to provide lifesaving benefits for patients and communities.

Signed,

Allergy & Asthma Network

Alliance of Nurses for Healthy Environments

The Asthma and Allergy Foundation of America

American College of Physicians

American Lung Association

American Public Health Association

Children's Environmental Health Network

Climate Psychiatry Alliance

Health Care Without Harm

Medical Society Consortium on Climate and Health

National Association of Pediatric Nurse Practitioners

Physicians for Social Responsibility

Public Health Institute