



May 16, 2022

Michael S. Regan, Administrator
Environmental Protection Agency
1200 Pennsylvania Avenue NW, 1101A
Washington, DC 20004

Re: Response to Request for Notice of Proposed Rulemaking No. EPA-HQ-OAR-2019-0055: Control of Air Pollution From New Motor Vehicles: Heavy-Duty Engine and Vehicle Standards

SUBMITTED VIA [https:// www.regulations.gov](https://www.regulations.gov)
Docket No. EPA-HQ-OAR-2019-005
RIN: 2060-AU41
ELECTRONIC MAIL TO: [regulations.gov](https://www.regulations.gov)

The Zero Emission Transportation Association (ZETA) is a federal coalition advocating for 100% electric vehicle (EV) sales by 2030. We are dedicated to advancing policies that drive transportation electrification, which will create millions of good-paying jobs, secure American global EV manufacturing leadership, dramatically improve public health, and significantly reduce carbon pollution.

Please find ZETA's response to the Environmental Protection Agency's (EPA) Notice of Proposed Rulemaking on Control of Air Pollution from New Motor Vehicles: Heavy-duty Engine and Vehicle Standards. We thank the Biden-Harris Administration for pursuing decarbonization within the transportation sector.

Based on ZETA's comprehensive understanding of the EV market and our shared goals to improve public health and environmental protection, we urge EPA to adopt standards at least as stringent as Option 1. EPA's Option 2 is not stringent enough compared to Option 1 because it has lower NOx emission standards and assumes shorter useful life periods. Therefore, adopting Option 2—which would reduce nitrogen oxide (NOx) emissions by just 47% in 2045—would ensure that we fall far short of our emissions reduction goals which would have significant public health and corresponding economic consequences. The resulting analysis shows that Option 1 is technically feasible and would result in a greater reduction of emissions. Based on available technologies, we believe that EPA should adopt a standard even more stringent than Option 1 – the market for Class 2b and heavier electric vehicles (EVs) is prepared for a more stringent rule, like the standards adopted by California, than EPA determined in its initial assessment. Furthermore, issuing a more stringent rule will send a strong market signal to manufacturers that zero- and low-emission vehicles are the future, which will enable EPA to issue strong Phase 3 greenhouse gas (GHG) standards. Strong Phase 3 standards will be necessary to achieve the electrification goals called for in President Biden's executive order,¹ and they will be imperative in our collective effort to meet international climate commitments.

¹<https://www.whitehouse.gov/briefing-room/presidential-actions/2021/08/05/executive-order-on-strengthening-american-leadership-in-clean-cars-and-trucks/>

The Benefits of Heavy-Duty Electrification

There are profound benefits to advancing heavy-duty electric vehicles (HDEVs), which EPA defines as electric vehicles in Classes 2b–8. With an average lifespan of 33 years, most heavy-duty vehicles (HDVs) spend more time and miles on the road before retirement than light-duty vehicles.² As a result, failing to electrify these HDVs now means that fossil fuel-powered HDVs that roll off the assembly line during this rulemaking will remain on the road well beyond 2050, and add hundreds of thousands of vehicle miles with associated deadly emissions. Furthermore, the number of HDVs on the road has grown significantly in the last decade and can be expected to increase further as a result of the ongoing global e-commerce boom.³

Electrifying this vehicle segment represents a prime and outsized opportunity to improve public health, minimize GHG emissions, and reduce the country’s fossil fuel reliance and net energy consumption, as ZETA noted in great detail in our white paper, “Medium- and Heavy-Duty Electrification: Weighing the Opportunities and Barriers to Zero-Emission Fleets.”⁴ HDVs comprise a mere 4% of vehicles on the road, yet they disproportionately contribute to U.S. fuel consumption and resulting air pollution and climate repercussions. Buses and freight trucks alone represent 10% of all vehicle miles traveled (VMT), but they are responsible for 22% of all fuel used.⁵ Likewise, HDVs produce 24.4% of all emissions across the transportation sector, making them the single largest contributors to U.S. emissions of particulate matter (PM_{2.5}), NO_x, volatile organic compounds (VOC), and carbon dioxide (CO₂). All of these elements are linked to long-term respiratory, cognitive, and autoimmune impairment, and HDVs’ emissions are getting worse: between 1990 and 2019, GHG emissions from heavy-duty trucks and buses grew by 93% and 162%, respectively.⁶

According to the American Lung Association, the widespread transition to zero-emission transportation by 2050 can annually produce up to \$72 billion in avoided health costs, save approximately 6,300 lives, and prevent more than 93,000 asthma attacks and 416,000 lost workdays.⁷ These positive health impacts will be most significant among frontline communities. Disadvantaged communities are disproportionately likely to live near highways, leading to poor air quality.⁸ This higher exposure burdens underserved residents with negative health outcomes and higher healthcare costs.

Beyond its negative health impacts, transportation-based pollution damages the environment in myriad ways. The VOCs and NO_x emitted by diesel vehicles react to form dangerous ground-level ozone, which forms smog and leaves agricultural crops and forests particularly susceptible to stunted growth and a decreased ability to sequester CO₂. Likewise, nitric acid, another tailpipe pollutant, forms acid rain that leaches into the ground and waterways. Perhaps the most dramatic effect of diesel burning is its emission of global warming-causing GHGs. Global warming, in turn, causes extreme

² <https://energyoffice.colorado.gov/press-releases/polis-administration-releases-new-colorado-medium-and-heavy-duty-vehicle-study>

³ <https://www.bloomberg.com/news/newsletters/2021-11-16/theelectric-vehicle-invasion-is-already-here>

⁴ https://fs.hubspotusercontent00.net/hubfs/8829857/ZETA-WP-MHDV-Electrification_Opportunities-and-Barriers_Final3.pdf

⁵ <https://www.aceee.org/sites/default/files/pdfs/t2102.pdf>

⁶ <https://www.epa.gov/greenvehicles/archives-fast-facts-us-transportation-sector-greenhouse-gas-emissions>

⁷ <https://www.lung.org/getmedia/99cc945c-47f2-4ba9-ba59-14c311ca332a/electric-vehicle-report.pdf>

⁸ <https://www.smithsonianmag.com/history/how-federal-government-intentionally-racially-segregated-american-cities-180963494>

weather patterns, reductions in air quality, a rise in sea levels, and leads to widespread species extinction.⁹

Finally, the economic benefits of electrifying HDVs are significant. The total cost of ownership of HDEVs is lower than that of fossil fuel-powered HDVs (as explained in detail in the following section), especially amidst record-high gasoline and diesel prices. A new ZETA report found that gas-powered vehicles are 3-5 times more expensive to drive per mile than EVs,¹⁰ and those effects are multiplied in low-efficiency gas-powered vehicles like HDVs. HDV electrification is also precipitating tremendous job creation. A 2019 study found that in California alone, policies designed to electrify HDVs could generate 1.31 million more job-years than the status-quo policies.¹¹ The charging infrastructure necessary to accommodate this transaction could alone create more than 29,000 jobs across the country.¹²

Relatedly, the transportation industry is also experiencing considerable shortages of available truck drivers, and HDV electrification could ameliorate this crisis. The trucking industry is an estimated 80,000 drivers short, with many long-term employees citing stress as a reason for quitting.¹³ This trend is expected to worsen by 2030 as the industry struggles to meet the growth in freight demand.¹⁴ Drivers consistently report higher satisfaction with the EV driving experience than the fossil fuel-powered vehicle driving experience, however, and trucking is expected to benefit from the same trend. EVs provide a smoother ride with minimal vibrations, less noise pollution, and a high-tech driving experience free from the fumes of diesel exhaust.¹⁵ As a result, the health benefits associated with eliminating diesel fume inhalation and improved experience from a quieter drivetrain may reduce healthcare costs and increase driver retention.¹⁶

The Inadequate Stringency of Option 1

EPA should implement a more stringent rule than Option 1. The proposed options do not adequately reflect advancements in zero-emission vehicle (ZEV) technology. EPA found in its analysis that HDEVs will own a 1.5% market share by 2027, which is based on a “business as usual” scenario rather than one in which regulations and incentives push the market further towards zero-emission technologies. Using publicly available information on available MHDEVs, ZETA believes that assuming business as usual causes severe underestimate in adoption. Based on cutting-edge market research, our member companies’ public announcements, and other regulatory regimes, we assess that HDEV market penetration will greatly exceed 1.5%. In our fleet electrification white paper, we found that HDEVs will bring substantial economic advantages to fleet operators through total cost of ownership savings,¹⁷ in addition to HDEVs’ environmental and public health benefits.¹⁸ Batteries are the most expensive component in HDEVs, but their prices are dropping. Battery prices have already dropped 89% in real terms from \$1,200 per

⁹ <https://www.epa.gov/dera/learn-aboutimpacts-diesel-exhaust-and-diesel-emissions-reduction-act-dera>

¹⁰ <https://www.zeta2030.org/news/electric-vehicles-are-delivering-cost-savings-to-drivers-strong-electric-vehicle-tax-credits-will-ensure-that-all-americans-benefit-from-clean-transportation>

¹¹ https://calstart.org/wp-content/uploads/2022/02/ZIO-ZETs-Report_Updated-Final-II.pdf

¹² <https://secureenergy.org/the-commanding-heights-of-global-transportation-quantifying-the-employment-effects/>

¹³ <https://www.nytimes.com/2021/11/09/us/politics/trucker-shortage-supply-chain.html>

¹⁴ <https://www.trucking.org/news-insights/ata-chiefeconomist-pegs-driver-shortage-historic-high>

¹⁵ <https://www.trucks.com/2021/07/26/electric-trucks-cost-driver-benefits/>

¹⁶ <https://www.c2es.org/wp-content/uploads/2020/02/Insights-On-Electric-Trucks-ForRetailers-And-Trucking-Companies.pdf>

¹⁷ https://fs.hubspotusercontent00.net/hubfs/8829857/ZETA-WP-MHDV-Electrification_Opportunities-and-Barriers_Final3.pdf

¹⁸ Ibid

kilowatt-hour in 2010 to \$132 per kilowatt-hour in 2021.¹⁹ A continued decline in battery costs will further reduce HDEV purchase costs in the coming years. The evidence suggests that the lower TCO of HDEVs is driving fleet electrification, and it stands to reason that further HDEV price drops will accelerate electrification. In a survey of fleet managers conducted by the Department of Energy’s National Renewable Energy Laboratory (NREL), 64% cited lower TCO as a motivation for electrifying their fleets.²⁰ For this reason and others, NREL predicts that 42% of all MHDV sales will be MHDEV models by 2030.²¹

Likewise, a landmark CALSTART report, “Zeroing in on Zero-Emission Trucks,” assesses that HDEV sales will skyrocket in the next few years.²² According to the report, while only 20 HDEV models were on the market in 2019, 145 models are now available as of December 2021, and more models are being announced and entering production each year, as highlighted in Figure 1. CALSTART also notes that the more than 1,200 HDEVs deployed as of December 2021 are merely the beginning of a large wave of HDEV deployments: active orders show that 146,102 HDEVs will be deployed in the next few years. The diversification of HDEV models goes to show that manufacturers are recognizing and responding to market demands and that electrification is financially possible in a broad variety of HDV applications, rather than just in the “easy-to-electrify” applications of just a few years ago.

Figure 3: ZETI Model Availability in the United States (2019-2023)

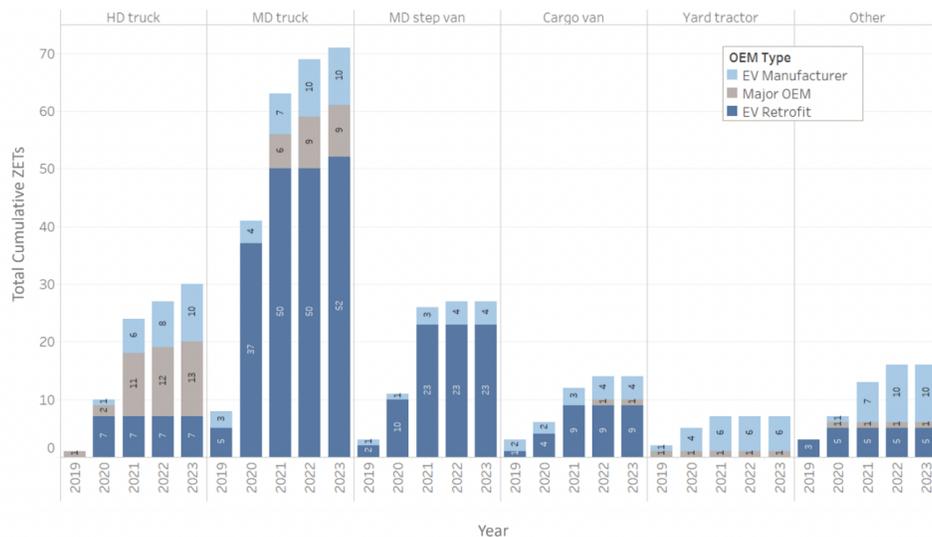


Figure 1: More HDEVs are becoming available each year.

Source: https://calstart.org/wp-content/uploads/2022/02/ZIO-ZETs-Report_Updated-Final-II.pdf

It is worth noting that fears about range anxiety are outsized. The average HDV travels approximately 101 miles per day,²³ long-haul trucks generally have the longest routes of all HDVs, and those trucks with the longest routes drive a maximum of 600 miles per day, but often average closer to 300 miles per day, as

¹⁹ https://about.bnef.com/blog/battery-pack-prices-fall-to-an-average-of-132-kwh-but-rising-commodity-prices-start-to-bite/#_ftn1

²⁰ <https://www.aceee.org/sites/default/files/pdfs/t2102.pdf>

²¹ <https://www.nrel.gov/docs/fy22osti/82081.pdf>

²² https://calstart.org/wp-content/uploads/2022/02/ZIO-ZETs-Report_Updated-Final-II.pdf

²³ <https://www.edf.org/sites/default/files/documents/EDFMHDVEVFeasibilityReport22jul21.pdf>

noted in Figure 2. Considering that many HDEVs today have similar ranges, the electric models currently available can meet up to 60% of the HDV sectors' needs.²⁴ HDEVs capable of traveling greater than the average distance of long-haul trucks are expected by the end of 2022, and HDEVs with ranges exceeding 620 miles are expected after 2023.²⁵

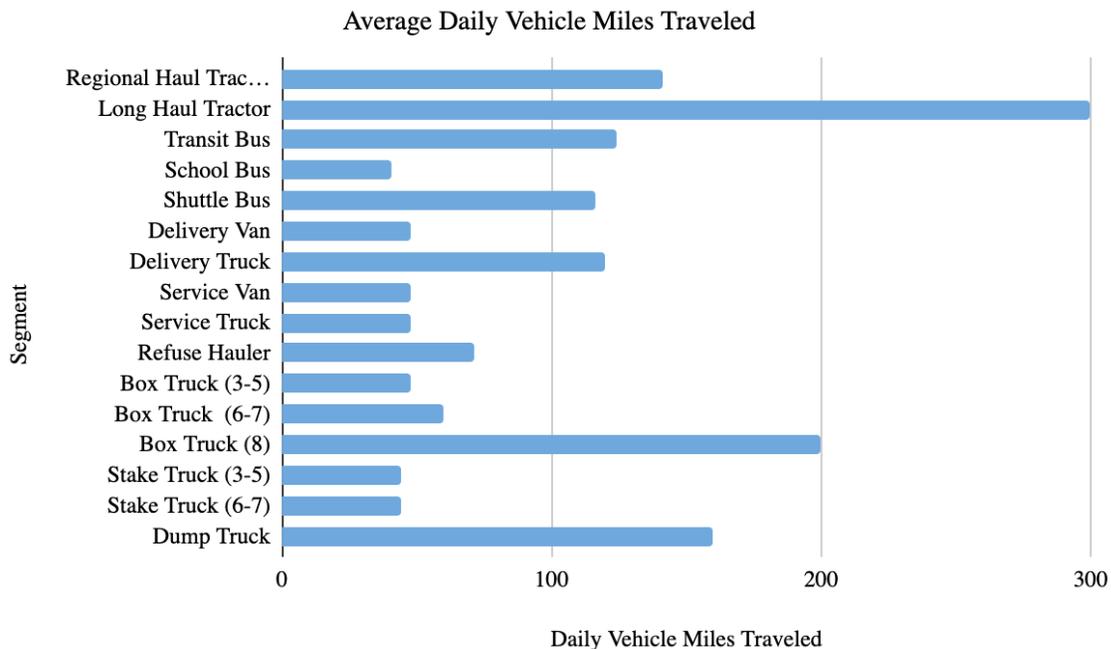


Figure 2: Average Daily Vehicle Miles Traveled of HDVs.

Source: <https://www.edf.org/sites/default/files/documents/EDFMHDVEVFeasibilityReport22jul21.pdf>

These do not account for the non-commercial sales of Class 2b vehicles like the recently-launched Rivian R1S and R1T or the soon-to-be-launched Ford F150 Lightning; these models alone will account for hundreds of thousands of units. This exponential growth of the HDEV market is occurring before the timeframe in which EPA's proposed standards are finalized. Finally, CALSTART's research shows that HDEVs will achieve price parity with traditional fossil fuel-powered HDVs. In California, even in the absence of state subsidies, HDEVs will be cheaper to own and operate than fossil fuel-powered HDVs by 2030.

That corroborates research from NREL, which found that HDEVs will be cheaper to purchase, operate, and maintain than fossil fuel-powered HDVs by 2035.²⁶ 50% of HDEVs will be cheaper by 2030—within the timeframe of EPA's rulemaking. Continuing improvements to ZEV technologies will allow HDEVs to become even cheaper and more accessible over the next decade.²⁷

²⁴ Ibid

²⁵ <https://calstart.org/wpcontent/uploads/2021/05/How-Zero-Emission-Heavy-Duty-Trucks-Can-Be-Part-of-theClimate-Solution.pdf>

²⁶ https://www.google.com/url?q=https://www.nrel.gov/docs/fy22osti/82081.pdf&sa=D&source=docs&ust=1651682526583368&usg=AOvVaw2fO_IyMdhtnFT-l4P6iJeD

²⁷ <https://www.energy.gov/articles/doe-projects-zero-emissions-medium-and-heavy-duty-electric-trucks-will-be-cheaper-diesel#:~:text=WASHINGTON%2C%20D.C.%20%E2%80%94%20The%20U.S.%20Department,diesel%2Dpowered%20combustion%20engine%20vehicles>

Additionally, EPA's assessment is at odds with current fleet electrification announcements, including the projections of ZETA member companies. While these companies will submit confidential business information in their own comments, even from publicly available information, it is clear that HDEVs will surpass a 1.5% market share by 2027.

ZETA member companies like Arrival, GreenPower Motor Company, Lion Electric, Proterra, and Tesla are all working to manufacture sufficient HDEVs to meet demand. These companies are capable of producing tens of thousands of HDEVs annually. These production capacities are proven in part by these companies' investments in new manufacturing plants like Tesla's Gigafactory in Texas, Rivian's plant in Georgia, Lion Electric's plant in Illinois, Proterra's heavy-duty battery manufacturing facility in South Carolina, and GreenPower Motor Company's plant in West Virginia.

While some of these companies are just initiating production, their pending orders from customers help illustrate what the HDEV market landscape will look like in the next few years. ZETA member company Rivian's partnership with Amazon is a noteworthy example: Amazon plans to purchase 100,000 Rivian delivery vehicles produced in Rivian's manufacturing plant in Normal, Illinois.²⁸ In addition to reducing Amazon's GHG emissions by 4 million metric tons per year by 2030, Amazon expects that these electric vehicles' fuel savings will significantly cut down the company's last-mile delivery costs. Below, you will find several examples of ZETA member companies developing, manufacturing, and delivering HDEVs across the country:

- Arrival will provide 10,000 delivery vehicles to UPS. UPS is one of the world's largest fleet operators, with 125,000 delivery vehicles around the globe. To reduce its operating costs and emissions,²⁹ Arrival's delivery van is made of ultra-lightweight composite materials which reduces the vehicle's weight, contributes to lower fueling and maintenance costs, and can significantly lower the total cost of ownership when compared to internal combustion engine vehicles. In addition, UPS now drives more than 1 million miles each business day using alternative fuel vehicles, which has saved more than 60 million gallons of conventional fossil fuels since 2000.
- GreenPower Motor Company developed the "battery electric automotive school transportation," or the BEAST. The BEAST's 194-kWh battery provides a range of up to 150 miles. The vehicle is also equipped with a Thermal Management System and anticorrosive E-coating, which can operate in the harshest climates, and has a turning radius of 37.7 +/- 1.6 ft—the best out of all school bus types in the industry.
- Lion Electric will be providing electric school buses to school districts across the country, and more than 600 are already operating throughout North America.³⁰ Lion Electric has seven purpose-built electric models, with their own chassis, bus body and truck cabin, and proprietary battery system technology. It has five new models coming out by the end of this year.

²⁸ <https://www.forbes.com/sites/alanohnsman/2019/09/19/amazons-multibillion-dollar-bet-on-electric-delivery-vans-is-game-changer-for-startup-rivian/?sh=da6f73ed0138>

²⁹ <https://electrek.co/2020/01/30/ups-orders-10000-electric-delivery-vans-arrival/>

³⁰ <https://www.prnewswire.com/news-releases/lion-electric-celebrates-10-million-miles-driven-at-act-expo-301542386.html>

- Proterra’s electric transit buses offer the longest drive range of any 40-foot electric bus on the market at 329 miles per charge. As a result, transit agencies across the U.S. and Canada have committed to purchase more than 1,300 of Proterra vehicles that have driven more than 25 million miles in heavy-duty applications.³¹ Proterra’s offerings include transit buses, school buses, delivery trucks, and shuttles. Recently, Proterra announced a multi-year agreement partnership with Nikola Corporation. This supply agreement will power Nikola’s Class 8 semi-trucks with Proterra’s battery systems.
- Tesla will begin delivering its “Semi” short-haul truck within the time frame of the rule, which, along with companies like Nikola, will transform the surface shipping industry. The Semi is planned to have a 300-mile and 500-mile range version. By lowering operating costs on high-mileage vehicles, these Semis will deliver cost savings to their fleet operators and significantly reduce pollution along interstate shipping corridors.

A variety of other companies outside of ZETA’s membership are also electrifying their HDV fleets, and a host of companies are partnering with local governments to electrify their fleets:

- FedEx is electrifying its fleet of 87,000 vehicles. It plans to buy only EVs after 2025, and its fleet will be 100% electric by 2040. FedEx says an electric fleet will cut maintenance costs in half, and its Chanje EV models will save 2,000 gallons of fuel and eliminate 20 tons of emissions per vehicle per year.³² Fedex’s BrightDrop models will decrease the cost of fueling by 75% compared to a fossil fuel-powered truck.³³
- Walmart also plans to buy 5,000 electric vans from BrightDrop, which are expected in 2023.³⁴ Similar to FedEx, Walmart’s BrightDrop vehicles will save dramatically on operating costs.
- DHL has already electrified 20% of its fleet, and it plans to decarbonize 70% of its first- and last-mile delivery services by 2025.³⁵
- IKEA is also electrifying all of its customer deliveries in thirty markets by 2025, and 25% of its deliveries are already electric today. IKEA believes electrifying its delivery fleet will create a competitive advantage and generate cost savings.³⁶
- BYD has delivered more than 65,000 electric buses worldwide, and it has invested more than \$250 million into its North American operations.³⁷
- Finally, EV100 brings together 121 companies around the world that have committed to electrifying their fleets. By 2030, EV100’s members will have electrified 5.5 million vehicles,

³¹ <https://www.proterra.com/about/>

³² <https://www.fleetequipmentmag.com/fed-ex-largest-electric-truck-purchase-zero-emission/>

³³ <https://www.cnbc.com/2021/12/17/fedex-gets-first-of-500-electric-trucks-from-gms-ev-unit-in-move-to-green-logistics.html>

³⁴ <https://media.gm.com/media/us/en/gm/home.detail.html/content/Pages/news/us/en/2022/jan/ces/0105-brightdrop.html>

³⁵ <https://www.dhl.com/discover/en-global/business/business-ethics/future-of-electric-vehicles>

³⁶ <https://evreporter.com/gati-and-ikea/>

³⁷ <https://en.byd.com/bus/about/>

avoiding nearly 86 million metric tons of pollution.³⁸ In its annual report, EV100 stated that “The business case for a transition to EVs is now stronger than ever, and the associated running costs are considerably lower than traditional internal combustion engine vehicles.”

Finally, EPA’s assessment that HDEVs will achieve 1.5% market penetration by 2027 ignores the regulatory impacts of the Advanced Clean Trucks (ACT) rule on technology advancement and adoption, which will require a 40–75% HDEV market penetration by 2035.³⁹ 15 states and the District of Columbia have signed a Joint Memorandum of Understanding that pledges to achieve a 30% HDEV market penetration by 2030 in each state, scaling toward a 100% HDEV market penetration by 2050.⁴⁰ Five of these MOU states (in addition to the ACT rule’s home state of California) have also adopted the ACT rule, and many more of the MOU states are expected to enact the ACT rule in the next few years.⁴¹ These MOU states represent 34% of all national HDV sales; if they all enacted the ACT rule, approximately 756,000 HDEVs would be deployed between 2024 and 2035.⁴² That number corresponds to more than 6% of all HDVs currently driving on America’s roads, with a far higher market penetration.⁴³

EPA’s assessment similarly underestimates the impact of President Biden’s executive order.⁴⁴ If the HDEV market penetration is 1.5% in 2027, then the United States will drastically underestimate President Biden’s transportation electrification goal. And we have already seen the introductory impacts of President Biden’s executive order on electrifying the federal fleet. The General Services Administration (GSA) is increasingly electrifying its fleet, the Department of Defense (DOD) is working to electrify some of its non-tactical vehicles, and the U.S. Postal Service (USPS) just ordered 10,019 electric delivery vehicles. These government HDEV investments will help build economies of scale for HDEV manufacturing to drive down their purchase prices, and will send clear market signals that will facilitate greater HDEV uptake in the private market.

Based on market research, ZETA member companies’ publicly available projections, and the current regulatory landscape, it is evident that HDEVs will achieve a much higher market share in 2027 than just 1.5%. For that reason, EPA should reconsider its analysis and enact more stringent NOx and GHG standards for the MY2027–30 period than it has proposed in Option 1.

NOx Crediting

EPA should provide credits for achieving lower NOx emissions than EPA sets as the standard via HDEV deployment. Because HDEVs do not have tailpipe emissions and therefore do not emit NOx or any other tailpipe pollution, it stands to reason that HDEVs should not be counted as vehicles that emit 0 grams of NOx per mile. HDEVs are the best available technological mechanism for mitigating NOx emissions, and manufacturers should receive credits for increasing their production share of HDEVs.

³⁸ <https://www.theclimategroup.org/ev100-publications>

³⁹ https://calstart.org/wp-content/uploads/2022/02/ZIO-ZETs-Report_Updated-Final-II.pdf

⁴⁰ <https://ww2.arb.ca.gov/news/15-states-and-district-columbia-join-forces-accelerate-bus-and-truck-electrification>

⁴¹ https://calstart.org/wp-content/uploads/2022/02/ZIO-ZETs-Report_Updated-Final-II.pdf

⁴² Ibid

⁴³ https://fs.hubspotusercontent00.net/hubfs/8829857/ZETA-WP-MHDV-Electrification_Opportunities-and-Barriers_Final3.pdf

⁴⁴ <https://www.whitehouse.gov/briefing-room/presidential-actions/2021/08/05/executive-order-on-strengthening-american-leadership-in-clean-cars-and-trucks/>

We appreciate the arguments that giving credits for HDEV deployments could obscure the true NO_x emissions of HDVs with tailpipes and, therefore, “dilute” the standard. We contend that EPA should mitigate this problem by both increasing the baseline MY2027 NO_x standard and increasing its ratcheting process through MY2030.

EPA should not issue multipliers for these NO_x credits. As more HDEVs become available, auto manufacturers will no longer need external incentives baked into these emissions standards to build more HDEVs. Manufacturers should be encouraged to maximize their HDEV production; credit multipliers would have the adverse effect of encouraging manufacturers to produce a limited number of HDEVs in order to inequitably write off the emissions of their most polluting vehicles. Multipliers would undermine the intention of this rulemaking. Once HDEVs make up the majority of the market, these credits should be removed to more stringently regulate the emissions of remaining fossil fuel-powered vehicles. We are agnostic to the mechanism for removing these credits.

Battery Durability Testing

We are concerned about EPA’s proposal to require manufacturers to attest that their usable battery energy (UBE) will exceed 70% over the HDEVs’ useful life. Because HDEVs are employed in so many different use cases, battery deterioration will vary greatly. For example, short- and long-haul trucks that use direct current fast chargers (DCFC) every day will likely experience faster battery deterioration than delivery vehicles that require Level 2 charging every other day. Additionally, unlike the end of the useful life for tailpipe emissions, when a battery deteriorates below 70% UBE, the vehicle is not emitting deadly criteria pollutants as a result. Rather, it is merely an inconvenience to the consumer. For this reason, EPA should maintain flexibility both with regard to its rating of vehicles’ useful lives and for battery durability requirements. Requiring an attestation like the proposed rulemaking suggested—that is, requiring the manufacturer to attest that the battery will maintain at least a 70% UBE over the vehicles’ lifetime—will likely force some manufacturers to add additional battery capacity above the vehicle’s rated range, which is not transparent to consumers and will drastically increase purchase costs while potentially reducing range. ZETA prefers a requirement for manufacturers to provide warranties for their batteries, certifying that batteries will be serviced or replaced if they do not achieve reasonable durability based on each vehicle’s particular use case.

Conclusion

ZETA and our member companies stand ready to facilitate the transition to a fully electrified heavy-duty vehicle market. The HDEV market is primed to accelerate in the coming years—hundreds of thousands of vehicles have been ordered, the diversity of models available is growing exponentially, and battery prices are falling rapidly. Regulatory certainty will ensure that manufacturers continue to invest in HDEVs, which deliver marked environmental and public health benefits in addition to their reduced cost of operation and, in many cases, ownership. EPA should provide this regulatory certainty by adopting Option 1 at a minimum to reduce NO_x and GHG emissions from HDVs. EPA should make its final rule even more stringent by considering the aforementioned expansion of the HDEV market and the other regulatory regimes already in place, including most notably the ACT rule. Issuing a stringent rule will

enable EPA to create strong—and environmentally and economically necessary—Phase 3 HDV rules in the coming years.

Thank you for your consideration.

Sincerely,

A handwritten signature in black ink, appearing to be 'JB', written over a horizontal line.

Joseph Britton
Executive Director
Zero Emission Transportation Association (ZETA)
659 C St. SE
Washington, DC 20003