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U.S. Environmental Protection Agency
Office of Transportation and Air Quality

via regulations.gov

Re: Control of Air Pollution from New Motor Vehicles: Heavy-Duty Engine and Vehicle Standards, EPA-HQ-OAR-2019-0055

The Southern Environmental Law Center (SELC) offers the following comments on the rule proposed by the U.S. Environmental Protection Agency (EPA) to revise its medium- and heavy-duty engine and vehicle standards.¹ SELC is a non-profit, non-partisan organization working in six states—Virginia, North Carolina, South Carolina, Georgia, Alabama, and Tennessee—and at the federal level to promote clean water and healthy air, protect natural areas, and advance cleaner and more equitable transportation alternatives, smarter growth, and community revitalization while addressing our current climate crisis.

The proposed standards are an important step to promote cleaner cars and trucks, and we welcome EPA's plans to update the current standards.² Under the Clean Air Act, the medium- and heavy-duty vehicle emissions standards are "technology-forcing" standards and technology that *eliminates*, not just minimizes, tailpipe pollution from these vehicles already exists.³ Yet EPA's proposal fails to accelerate the transition to zero-emission vehicle (ZEV) technology in this key part of the transportation sector. Vehicles sold while this rule is in effect will be on the road for decades. Given the serious public health and environmental impacts of tailpipe pollution from medium- and heavy-duty vehicles and the availability of technology that eliminates this pollution, we urge EPA to adopt the strongest possible standards under the Clean Air Act and to finalize the rule by the end of this calendar year.

As discussed further below, proposed Option 1 for the criteria pollutant emissions standards and the revised Phase 2 greenhouse gas (GHG) emissions standards do not go far enough. EPA's proposal underestimates ZEV penetration rates in light of declining costs and state requirements and initiatives, which results in less-stringent standards that do little to accelerate ZEV adoption in medium- and heavy-duty vehicles. The standards should also be fully aligned with the California Heavy-Duty Omnibus Regulation in 2027, establish minimum ZEV production requirements, and preserve the stringency of GHG emissions requirements for internal combustion engine vehicles. Moreover, to advance these goals, the credit systems used in the nitrogen oxides (NO_x) and GHG emissions standards must be properly tailored to ensure

¹ Although EPA has titled this rulemaking "heavy-duty engine and vehicle standards," the proposed criteria pollutant standards apply to Class 2b through 8 engines and vehicles, which many refer to as medium- and heavy-duty vehicles, and the revised Phase 2 GHG standards apply to Class 4 through 8 vehicles. *See* Control of Air Pollution From New Motor Vehicles: Heavy-Duty Engine and Vehicle Standards, 87 Fed. Reg. 17414, 17417, fn. 7 (proposed Mar. 28, 2022).

² Exec. Order No. 14037 (Aug. 5, 2021).

³ "[Clean Air Act] section 202(a)(3)(A) is a technology-forcing provision and reflects Congress' intent that standards be based on projections of future advances in control capability, considering costs and other statutory factors." Control of Air Pollution From New Motor Vehicles: Heavy-Duty Engine and Vehicle Standards, 87 Fed. Reg. at 17436.

the regulations result in cleaner internal combustion engines and meaningful deployment of ZEV technology beyond the forecasted baseline.

I. Tailpipe emissions from medium- and heavy-duty vehicles have significant public health and environmental impacts.

Medium- and heavy-duty vehicles generate an outsized share of harmful tailpipe pollution. Though comprising less than 10 percent of all vehicles on the road, trucks are responsible for over 60 percent of all tailpipe NO_x and particulate matter (PM) emissions.⁴ EPA estimates these vehicles will account for 89 percent of on-road NO_x emissions, and 32 percent of all mobile source NO_x emissions, by calendar year 2045.⁵ These vehicles also contribute to ambient ozone and carbon monoxide (CO) levels. All of these pollutants are linked to serious health impacts, such as premature death, respiratory illness, and cardiovascular issues, and all have health-based National Ambient Air Quality Standards (NAAQS) developed by EPA.⁶ One report estimates that NO_x and PM emissions from medium- and heavy-duty vehicles nationwide are “responsible for up to 4,550 premature deaths, 4,290 hospital visits, and 2.7 million incidents of exacerbated respiratory conditions and lost or restricted workdays annually,” resulting in over \$53 billion in monetized public health impacts annually.⁷

Many major metropolitan areas in the U.S., including many in the South like Washington, D.C., Atlanta, and Birmingham, already suffer from elevated concentrations of ozone, NO_x, and PM.⁸ Medium- and heavy-duty vehicle traffic (measured in vehicle miles traveled) is expected to grow by 29 percent through 2050, with higher projected regional growth rates in the Southeast.⁹ As noted in the Federal Register notice, “72 million people live within 200 meters of a truck freight route,” making exposure to medium- and heavy-duty vehicle tailpipe pollution a serious public health issue nationwide.¹⁰ Exposure to this type of pollution is also an environmental justice issue; “[r]elative to the rest of the population, people of color and those with lower incomes are more likely to live near truck routes.”¹¹ This is in part due to zoning practices and land use decisions, including in the South, that have consistently sited

⁴ Per EPA MOVES model emissions inventory. See e.g., U.S. ENV’T PROT. AGENCY, *MOVES and Other Mobile Source Emissions Models*, <https://www.epa.gov/moves> (last updated July 2, 2021).

⁵ Control of Air Pollution From New Motor Vehicles: Heavy-Duty Engine and Vehicle Standards, 87 Fed. Reg. at 17418.

⁶ *Id.* at 17441. See also, AM. LUNG ASS’N, *State of the Air* (2021), <https://www.lung.org/getmedia/17c6cb6c-8a38-42a7-a3b0-6744011da370/sota-2021.pdf>. For example, an estimated 750 premature deaths related to on-road vehicle emissions occurred in Virginia in 2016. *Transp., Equity, Climate & Health Project, Preliminary Results Slides*, <https://cdn1.sph.harvard.edu/wp-content/uploads/sites/2343/2020/10/TRECHPrelimResultsSlides.pdf> (last visited Apr. 13, 2022).

⁷ Dana Lowell & Jane Culkin, M.J. BRADLEY & ASSOCS., *Medium- & Heavy-Duty Vehicles: Market Structure, Environmental Impact, and EV Readiness* 13 (July 2021), <https://www.mjbradley.com/sites/default/files/EDFMHDVEVFeasibilityReport22jul21.pdf>.

⁸ See ENV’T AM., U.S. PIRG & FRONTIER GRP., *Trouble in the Air: Millions of Americans Breathed Polluted Air in 2018* (Winter 2020), https://uspirg.org/sites/pirg/files/reports/EnvironmentAmerica_TroubleintheAir_scm.pdf.

⁹ Dana Lowell & Jane Culkin, *supra* note 7 at 13.

¹⁰ Control of Air Pollution From New Motor Vehicles: Heavy-Duty Engine and Vehicle Standards, 87 Fed. Reg. at 17418.

¹¹ *Id.*

highways and commercial and industrial facilities that often rely on frequent truck deliveries in communities of color and low-income communities.¹²

Air quality can also be worsened by rising temperatures, one of the many effects of climate change. GHG emissions are a major driver of climate change, and the transportation sector is the largest source of GHG emissions in the nation.¹³ This is also true for most states in the South. The transportation sector is the largest source of carbon dioxide (CO₂)—a significant component of GHGs¹⁴—in every state in SELC’s region except for Alabama, where it is the second largest source.¹⁵ Within the transportation sector, medium- and heavy-duty vehicles are the second largest contributor of GHG emissions—behind only light-duty vehicles—accounting for about 24 percent of emissions.¹⁶ This amounts to roughly 7 percent of the nation’s total GHG emissions.

The U.S. is already experiencing climate change impacts beyond worsening air quality. Sea level rise is affecting coastal communities around the country, and the South is particularly vulnerable. For example, the Hampton Roads region in Virginia has one of the highest rates of sea level rise on the East Coast, with scientists predicting a rise of 1.5 to 2 feet by 2025.¹⁷ The frequency of extreme weather events, including heavy precipitation, high tides, storm surges, and heat waves, also continue to increase.¹⁸ These weather events can lead to public emergencies and infrastructure disruptions, stressing health services and communities. There is also an economic cost to climate change. Studies have found that climate change could cost the U.S. approximately 1.2 percent of the gross domestic product for every additional degree of warming, with the South expected to experience greater impacts than other part of the country.¹⁹

¹² See e.g., Kaveh Waddell, *When Amazon Expands, These Communities Pay the Price*, CONSUMER REPS. (Dec. 9, 2021), <https://www.consumerreports.org/corporate-accountability/when-amazon-expands-these-communities-pay-the-price-a2554249208/>; INST. FOR TRANSP. & DEV. POL’Y, *Highways and Zoning: Tools of Racist Policy* (Mar. 10, 2021), <https://www.itdp.org/2021/03/10/highways-and-zoning-tools-of-racist-policy/>; Ashish Valentine, ‘*The Wrong Complexion for Protection.*’ *How Race Shaped America’s Roadways and Cities*, NAT’L PUB. RADIO (July 5, 2020), <https://www.npr.org/2020/07/05/887386869/how-transportation-racism-shaped-america>; Johnny Miller, *Roads to Nowhere: How Infrastructure Build on American Inequality*, THE GUARDIAN (Feb. 21, 2018), <https://www.theguardian.com/cities/2018/feb/21/roads-nowhere-infrastructure-american-inequality>.

¹³ U.S. ENV’T PROT. AGENCY, *Fast Facts: U.S. Transportation Sector Greenhouse Gas Emissions 1990-2019*, EPA-420-F-21-076, 1 (Dec. 2021), <https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P1013NR3.pdf>.

¹⁴ U.S. ENV’T PROT. AGENCY, *Overview of Greenhouse Gases*, <https://www.epa.gov/ghgemissions/overview-greenhouse-gases> (last visited Apr. 13, 2022).

¹⁵ Based on 2018 CO₂ emissions. U.S. ENERGY INFO. ADMIN., *State Carbon Dioxide Emission Data Tables*, tbl. 4 (Mar. 2, 2021), <https://www.eia.gov/environment/emissions/state/>. For example, the transportation sector produces 48.6 percent of Virginia’s CO₂ emissions. *Id.*

¹⁶ U.S. ENV’T PROT. AGENCY, *Fast Facts: U.S. Transportation Sector Greenhouse Gas Emissions 1990-2019*, EPA-420-F-21-076, 1 (Dec. 2021), <https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P1013NR3.pdf>.

¹⁷ NAT’L OCEANIC AND ATMOSPHERIC ADMIN., U.S. DEP’T OF COMMERCE, *Global and Regional Sea Level Rise Scenarios for the United States* (2017), <https://bit.ly/2EUv033>.

¹⁸ Tom Steinfeld & Chris Coil, GEORGETOWN CLIMATE CTR., and Hans-Peter Plag, OLD DOMINION UNIV., *Understanding Virginia’s Vulnerability to Climate Change*, <https://www.georgetownclimate.org/files/report/understanding-virginias-vulnerability-to-climate-change.pdf> (last visited Apr. 13, 2022).

¹⁹ Robinson Meyer, *The American South Will Bear the Worst of Climate Change’s Costs*, THE ATLANTIC (June 29, 2017), <https://www.theatlantic.com/science/archive/2017/06/global-warming-american-south/532200/>.

II. EPA underestimates ZEV market penetration in medium- and heavy-duty vehicle classes, resulting in less protective tailpipe emissions standards than called for under the Clean Air Act.

The stringency of both the proposed criteria pollutant emissions standards and the revised Phase 2 GHG emissions standards is undermined because EPA underestimates ZEV market penetration. When analyzing the feasibility of the proposed standards, EPA projects that only approximately 1.5 percent of medium- and heavy-duty vehicles will be ZEVs in model year 2027.²⁰ Based on this estimate, EPA did not consider ZEV technologies when developing the criteria pollutant standards since the low ZEV market penetration would not “meaningfully impact [the] analysis of the proposed [standards].”²¹ Similarly, this low projection influenced the stringency of the revised GHG Phase 2 emissions standards because the proposed reduction in the numeric standards is equal to “the projected percentage of electric vehicles” in certain vehicle subcategories.²²

In developing its ZEV market penetration rate, EPA failed to consider the full scope of regulations and policies adopted by states related to medium- and heavy-duty ZEV deployment. EPA included data from the California Air Resources Board’s (CARB’s) Advanced Clean Trucks (ACT) rulemaking in its projections,²³ but the estimate does not seem to account for the six other states—Oregon, Washington, New York, New Jersey, Massachusetts, and Connecticut—that have also adopted the ACT regulations. The ACT regulations establish binding requirements that progressively increase the percentage of medium- and heavy-duty ZEVs that must be sold in these states starting in model year 2025.²⁴ By model year 2035, ZEVs will be required to make up approximately 55 percent of Class 2b-3 vehicle sales, 75 percent of Class 4-8 Group sales, and 40 percent of Class 7-8 tractor sales in these states,²⁵ which make up over 20 percent of the national fleet of medium- and heavy-duty vehicles.²⁶

EPA also does not seem to consider the impact of commitments made in the *Multi-State Medium- and Heavy-Duty Vehicle Memorandum of Understanding* (MOU) when calculating national ZEV market penetration. In addition to the states that have adopted the ACT regulations, Colorado, Hawaii, Maine, Maryland, Nevada, North Carolina, Pennsylvania, Rhode Island, Vermont, Virginia, and Washington D.C. have signed the MOU.²⁷ These 18 jurisdictions have

²⁰ Control of Air Pollution From New Motor Vehicles: Heavy-Duty Engine and Vehicle Standards, 87 Fed. Reg. 17414, 17458, 17601 (proposed Mar. 28, 2022).

²¹ *Id.* at 17458.

²² *Id.* at 17599.

²³ *Id.* at 17600.

²⁴ ELEC. TRUCKS NOW, *States Are Embracing Electric Trucks*, <https://www.electrictucksnow.com/states> (last visited May 9, 2022).

²⁵ See CAL. AIR RES. BD., Updated Informative Digest, 5 (Jan. 20, 2021), <https://ww3.arb.ca.gov/regact/2019/act2019/uid.pdf>. The ACT regulations provides some compliance flexibility through the use of credits. *Id.* at 6.

²⁶ Press Release, Earth Justice, *New York State Advances Clean Trucks Rule to Electrify Vehicles* (Dec. 30, 2021), <https://earthjustice.org/news/press/2022/new-york-state-advances-clean-trucks-rule-to-electrify-vehicles>.

²⁷ Press Release, Northeast States for Coordinated Air Use Mgmt., *NESCAUM Welcomes Nevada’s Participation in the Multi-State Zero-Emission Electric Trucks Initiative* (Mar. 31, 2022), <https://www.nescaum.org/documents/nescaum-welcomes-nevada-s-participation-in-the-multi-state-zero-emission-electric-trucks-initiative/>.

committed to a goal of having at least 30 percent of all new medium- and heavy-duty vehicle sales be ZEVs by no later than 2030, and 100 percent of sales being ZEVs by no later than 2050.²⁸

Finally, declining costs and other economic forces are also likely to drive higher deployment of medium- and heavy-duty ZEVs in coming years. A study by the National Renewable Energy Laboratory found that ZEVs in all medium- and heavy-duty vehicle classes could reach cost parity with diesel vehicles by 2035, even without incentives.²⁹ Coupled with the deployment of charging and refueling infrastructure, this could result in ZEVs accounting for 42 percent of medium- and heavy-duty sales by 2030, and over 99 percent of sales by 2045.³⁰

These factors will have significant impacts on the medium- and heavy-duty vehicle market and will likely drive national ZEV market penetration rates higher than EPA's projected 1.5 percent. EPA should therefore re-evaluate the stringency of its proposed standards after accounting for a higher ZEV market penetration rate.

III. EPA should align the criteria pollutant emissions standards with California's Heavy-Duty Omnibus Regulation in model year 2027.

Under the Clean Air Act, EPA must set criteria pollutant emissions standards “that reflect the greatest degree of emissions reduction achievable” after considering certain statutory factors.³¹ EPA determined that more-stringent Option 1 is feasible, and EPA should, at minimum, adopt these proposed standards.³² However, California recently adopted the Heavy-Duty Omnibus Regulation (the Omnibus Regulation), which is even more stringent. This indicates that standards stricter than Option 1 are feasible. In line with the Omnibus Regulation, EPA should adopt NO_x standards that are 90 percent below current standards starting in model year 2027.

As currently proposed, Option 1 does not harmonize with the Omnibus Regulation until model year 2031. This delay in alignment is projected to result in almost 72,000 more tons of NO_x emissions through 2045.³³ Given the localized nature of many of the impacts of tailpipe pollution—which, as discussed above, can seriously affect public health and disproportionately

²⁸ Multi-State Medium- and Heavy-Duty Zero Emission Vehicle Memorandum of Understanding, <https://www.nescaum.org/documents/mhdv-zev-mou-20220329.pdf/> (last updated Mar. 29, 2022).

²⁹ Catherine Ledna et al., NAT'L RENEWABLE ENERGY LAB'Y, *Decarbonizing Medium- & Heavy-Duty On-Road Vehicles Cost Analysis* (Mar. 2022), <https://www.nrel.gov/docs/fy22osti/82081.pdf>.

³⁰ *Id.*

³¹ The standards shall “reflect the greatest degree of emission reduction achievable through the application of technology which the Administrator determines will be available for the model year to which such standards apply, giving appropriate consideration to cost, energy, and safety factors associated with the application of such technology.” 42 U.S.C. § 7521(1)(3)(A)(i).

³² Control of Air Pollution From New Motor Vehicles: Heavy-Duty Engine and Vehicle Standards, 87 Fed. Reg. 17414, 17436 (proposed Mar. 28, 2022). EPA should not consider less-stringent Option 2, which it found to be feasible in model year 2027 but also to “result in lower levels of emissions reductions compared to proposed Option 1.” *Id.*

³³ U.S. ENV'T PROT. AGENCY, *Control of Air Pollution from New Motor vehicles: Heavy-Duty Engine and Vehicle Standards Draft Regulatory Impact Analysis*, EPA-420-D-22-001, at app. 5, tbl. 5-49 (Mar. 2022).

impact communities of color and low-income communities—any delay in adopting the strongest possible standards will harm communities nationwide. This is especially true in the near-term, when failure to align with the Omnibus Regulation starting in model year 2027 will result in over 4 percent less NO_x reduction each year from model years 2027 through 2030.³⁴ Less stringent standards will also continue to make it difficult for many state and Tribal governments to meet their obligations under the NAAQS. As noted by commenters during the public hearing on this proposed rule, localities have limited authority to address criteria pollutant emissions from mobile sources and strong federal tailpipe emissions standards are one of the most important tools available to address this type of pollution. Moreover, a single-step alignment would create a single national standard for medium- and heavy-duty engine and vehicle manufacturers, making planning and compliance easier.³⁵

Beyond more stringent numeric standards, EPA is also proposing important improvements to test procedures, life periods, and warranty requirements to ensure that medium- and heavy-duty vehicles run cleanly under more operating conditions across the lifetime of a vehicle.³⁶ These improvements contribute to the effectiveness of the standards. Under the current Option 1 proposal, however, idling standards and test procedures remain voluntary.³⁷ Data indicates that NO_x emitted during low load conditions and idling contributes between 15 and 60 percent of NO_x emissions over duty cycles,³⁸ and we encourage EPA to make idling standards and test procedures mandatory and consistent with California’s Clean Idle NO_x standard.³⁹ Longer regulatory useful life and emissions-related warranty requirements will also help to maintain emissions control through more of the operational life of these vehicles and we urge EPA to consider whether these requirements can be better aligned with the Omnibus Regulation.

IV. EPA should establish minimum ZEV production requirements and preserve the stringency of GHG emissions requirements for internal combustion engine vehicles in the revised Phase 2 GHG standards.

Although EPA characterizes the current rulemaking as a minor revision of the Phase 2 GHG emissions standards, bold action is needed to put the medium- and heavy-duty vehicle fleet on the path to eliminating GHG tailpipe emissions and to set the stage for increasingly stringent

³⁴ *Id.*

³⁵ “The heavy-duty engine and vehicle manufacturing industry has consistently maintained a strong preference for harmonized regulations across the U.S. and Canada, given the highly integrated nature of the North American market and the desire to avoid the additional costs associated with having to develop specialized products.” INT’L COUNCIL ON CLEAN TRANSP., *California’s Heavy-Duty Omnibus Regulation: Updates to Emission Standards, Testing Requirements, and Compliance Procedures* 10 (Jan. 2022), <https://theicct.org/publication/california-us-hdv-omnibus-reg-jan22/>.

³⁶ *See e.g.*, Control of Air Pollution From New Motor Vehicles: Heavy-Duty Engine and Vehicle Standards, 87 Fed. Reg. at 17422-26.

³⁷ *Id.* at 17464.

³⁸ Letter from Paul J. Miller, NORTHEAST STATES FOR COORDINATED AIR USE MGMT., to Mary D. Nichols, CAL. AIR RES. BD. 3 (Aug. 25, 2020), <https://www.nescaum.org/documents/nescaum-comments-carb-hdv-nox-omnibus-regulation-20200825.pdf/>.

³⁹ The proposed voluntary certification is based on California’s Clean Idle NO_x standard. Control of Air Pollution From New Motor Vehicles: Heavy-Duty Engine and Vehicle Standards, 87 Fed. Reg. at 17464.

standards in model year 2030. Establishing minimum ZEV production requirements—similar to requirements in the ACT regulations—is one of the best ways to accelerate the transition to ZEVs. EPA should therefore consider setting fleetwide minimum ZEV production requirements to achieve 20 percent ZEV sales by model year 2027, 30 percent ZEV sales by model year 2028, and 40 percent ZEV sales by model year 2029.

As manufacturers increasingly rely on ZEVs to meet the Phase 2 GHG emissions standards, manufacturers may continue to produce more-GHG-polluting internal combustion engines. Modeling shows that the currently proposed revisions to the GHG standards could result in internal combustion engine vehicles emitting more GHGs in model year 2027 than they did in model year 2017.⁴⁰ For this reason, any revisions to the Phase 2 GHG emissions standards should preserve the original standard's stringency for internal combustion engine vehicles. Introducing ZEV production requirements could help to separate the regulation of ZEVs and internal combustion engines and allow EPA to better ensure that gains in ZEVs deployment do not erode the stringency of the requirements intended for internal combustion engine vehicle.

V. When utilizing compliance flexibilities, EPA must ensure credit structures do not unnecessarily dilute the stringency of the standards.

EPA notes that proposed Option 1 is feasible without the use of credits.⁴¹ Yet the agency proposes to maintain the averaging, banking, and trading of credits and early adoption incentives to offer compliance flexibility for manufacturers. If these flexibilities are retained, it is critical that they do not unnecessarily dilute the effectiveness of the standards. Getting ZEVs on the road should be a priority, but efforts to incentivize their deployment cannot erode improvements intended for the internal combustion engines that will be sold during the period of the proposed rule.

For this reason, EPA should reconsider whether NO_x emissions credits should be provided for ZEVs at all.⁴² If ZEVs are permitted to offset NO_x emissions from other vehicles in manufacturers' fleets, manufacturers will be able to continue to sell highly polluting internal combustion vehicles that contribute to the significant public health and environmental impacts in communities. This is especially true given the fact that ZEV technology is not currently included in baseline compliance modeling due to EPA's artificially low ZEV market penetration projection discussed above. If EPA maintains the use of NO_x credits, we support the agency's efforts to minimize backsliding of emissions reductions from internal combustion engine vehicles through credit restrictions and caps. EPA's proposed early incentive credit multipliers, however, should be scaled back or eliminated.

⁴⁰ Sara Kelly et al., INT'L COUNCIL ON CLEAN TRANSP., *ICCT Comments on EPA's Proposed Heavy-Duty Engine and Vehicle Standards* 17 (May 10, 2022), https://theicct.org/wp-content/uploads/2022/04/public-webinar_10May2022.pdf.

⁴¹ *Id.* at 17550.

⁴² Additionally, the elimination of ZEV credits would better align the standards with the Omnibus Regulation, which phases out ZEV credits after model year 2026. *Id.* at 17557.

Under the revised Phase 2 GHG emissions standards, EPA should phase out super-crediting of ZEVs in 2024 or as soon as feasible. EPA currently proposes to apply advanced technology credit multipliers until model year 2028,⁴³ but this type of incentive is not needed given the growth of the ZEV market. Additionally, EPA should review its treatment of CO₂ emissions credits for ZEVs that are required as part of manufacturers' compliance with the ACT regulation. As noted by EPA, these vehicles "would still receive significant credits reflective of the difference between the applicable CO₂ emission standard and zero grams" CO₂ per ton-mile emissions.⁴⁴ Allowing these vehicles to generate federal CO₂ emissions credits would serve as a compliance giveaway to manufacturers since they will be *required* to provide these ZEVs under the ACT regulations. This makes no sense. At a minimum, these vehicles should not receive an advanced technology credit incentive under the Phase 2 GHG standards.

VI. Conclusion

Strong tailpipe emissions standards are one of the best ways to address the harmful impacts of vehicle pollution. Ultimately, EPA's current proposals fail to accelerate the transition of medium- and heavy-duty vehicles to ZEVs—readily available technology that eliminates tailpipe pollution altogether. EPA should therefore reassess its ZEV penetration rates in light of economic factors and state requirements and initiatives. At a minimum, EPA should fully align its criteria pollutant emissions standards with the California Heavy-Duty Omnibus Regulation in 2027, establish minimum ZEV production requirements, and preserve the stringency of GHG emissions requirements for internal combustion engine vehicles. EPA should also adjust the NO_x and CO₂ emissions credit systems to ensure that these compliance flexibilities do not unnecessarily dilute the stringency of the standards.

Sincerely,



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⁴³ *Id.* at 17607.

⁴⁴ *Id.* at 17605.