EMBARGOED UNTIL MONDAY, MARCH 7 AT 11:30AM ET

Heavy-Duty 2027 and Beyond: Clean Trucks Proposed Rulemaking

The Biden Administration's Clean Trucks Plan

Heavy-duty trucks and buses drive American commerce and connect people across the country. At the same time, these vehicles continue to contribute significantly to air pollution at the local, regional, and national level, often disproportionally affecting communities of color and low-income populations. As identified in President Biden's Executive Order 14037, *Strengthening American Leadership in Clean Cars and Trucks*, EPA intends to issue a series of regulations over the next three years to reduce pollution from trucks and buses and to advance the transition to a zero-emissions transportation future. EPA's "Clean Trucks Plan" would result in significant emissions reductions from new medium- and heavy-duty vehicles and will be major steps towards improving air quality and addressing the climate crisis.

The regulatory actions that make up the Clean Trucks Plan are as follows:

1) Setting stronger nitrogen oxide (NOx) standards for heavy duty trucks beginning in model year (MY) 2027 and tightening the "Phase 2" greenhouse gas (GHG) emissions for MY 2027 and beyond. This fact sheet provides an overview of the proposal to address this first action.

2) Setting stronger emissions standards for medium-duty commercial vehicles for MY 2027 and later. These revised standards will be proposed in combination with new standards for light-duty vehicles for MY 2027 and beyond.

3) Setting "Phase 3" GHG standards for heavy-duty vehicles beginning as soon as MY 2030 that are significantly stronger than the MY 2027 GHG standards.

In developing these actions EPA is applying its Clean Air Act authority, which allows the Agency to maximize NOx and GHG emissions reductions over the short and long terms, which will promote the path to a zero-emissions transportation future.

Overview of the Proposed Rule

This action, titled, *Control of Air Pollution from New Motor Vehicles: Heavy-Duty Engine and Vehicle Standards*, proposes stronger NOx and GHG standards to reduce pollution from heavy-duty vehicles and engines starting in MY 2027. The proposed standards would significantly reduce emissions of NOx from heavy-duty gasoline and diesel engines and set stronger GHG standards for certain heavy-duty vehicle categories. This proposed rule would ensure heavy-duty vehicles and engines are as clean as possible while helping jump-start the transition to zero-emission vehicles in the heavy-duty fleet.

EPA last revised the NOx standards for on-highway heavy-duty trucks and engines in 2001—more than 20 years ago. Although those standards achieved important NOx reductions, new

technologies that are an evolution of those available today can help achieve the additional reductions we need to improve air quality and health in our communities.

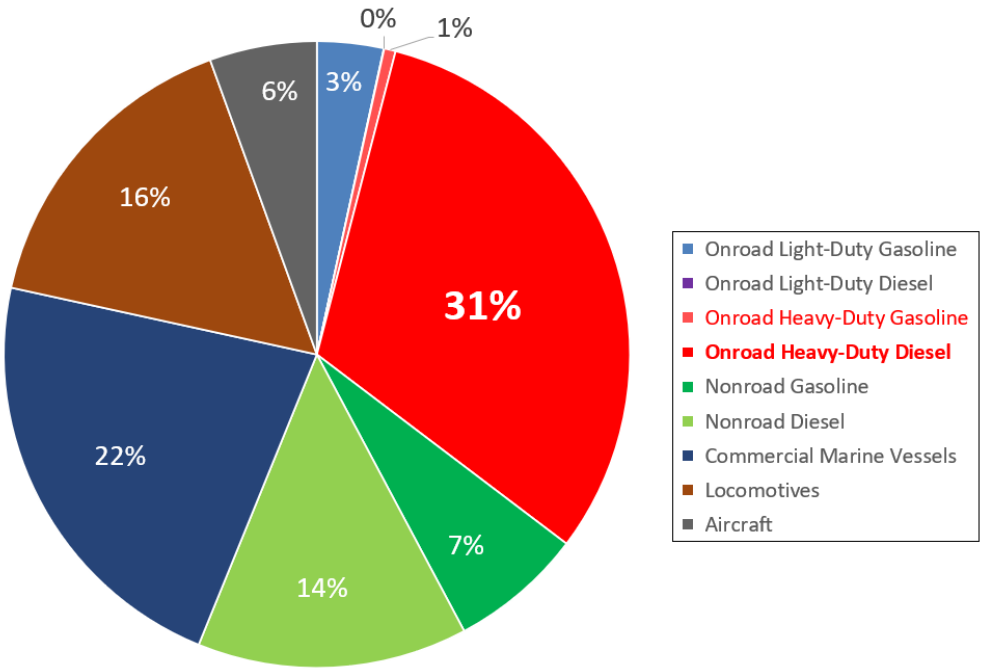
EPA intends to finalize this proposal before the end of 2022.

Air Quality and Health Impacts of Heavy-Duty Vehicles

Emissions from heavy-duty vehicles contribute to poor air quality and health across the country, especially in overburdened and underserved communities. Without further reductions, heavy-duty vehicles will continue to be one of the largest contributors to mobile source emissions of NOx, which react in the atmosphere to form ozone and particulate matter. Heavy-duty vehicles would contribute 32 percent of the mobile source NO_X emissions, and 89 percent of onroad NO_X emissions, in calendar year 2045. These pollutants are linked to respiratory and/or cardiovascular problems and other adverse health impacts that lead to hospital admissions, emergency department visits, and premature deaths.

Pollution from trucks directly affects people who live near roads and other areas of high truck activity like ports. Populations who live, work, or go to school near high-traffic roadways experience higher rates of numerous adverse health effects. EPA has estimated that 72 million people live within 200 meters of a truck freight route, and relative to the rest of the population, people of color and those with lower incomes are more likely to live near truck routes. NOx pollution from heavy-duty vehicles also impairs visibility and causes damage to terrestrial and aquatic ecosystems.

Mobile Source NOx (2045)

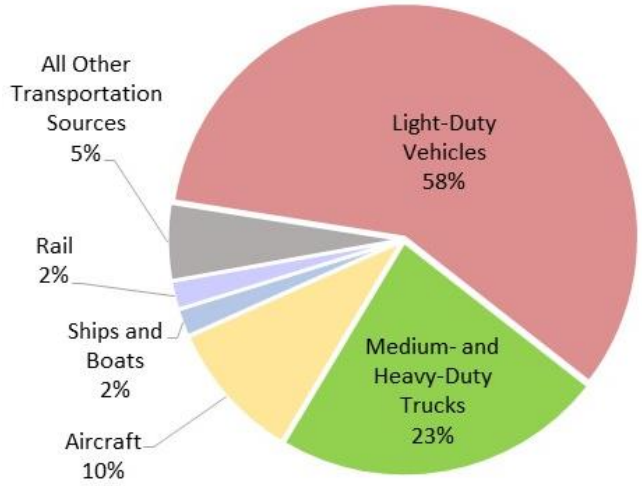


Sources: MOVES3 for onroad and nonroad and 2016 Emissions Modeling Platform for all other mobile sectors.

Heavy-Duty Vehicles and Climate Change

Transportation is the largest source of GHG emissions in the United States, making up 29 percent of all emissions. Within the transportation sector, heavy-duty vehicles are the second-largest contributor, at 23 percent. Reducing GHG emissions is a critical step in reducing the probability of impacts from climate change, including heat waves, drought, sea level rise, extreme climate and weather events, coastal flooding, and wildfires. Some populations may be especially vulnerable to damages associated with climate change, such as the very young, the elderly, low-income people, the disabled, people of color, and indigenous populations.

Mobile Source GHGs (2019)



Source: "Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2019," EPA 430-R-21-005.

Significant Benefits to Public Health and Welfare

EPA's goal is to deliver significant and needed public health benefits by designing a program that sets ambitious standards and that is feasible for the trucking industry, after giving appropriate consideration to cost and other factors. Under the proposal, NOx emissions from the in-use fleet of heavy-duty trucks would be reduced by as much as 60 percent in 2045 and would result in widespread air quality improvements across the U.S., especially in areas already overburdened by air pollution and diesel emissions. Reducing these emissions will provide cleaner air for communities across the country, prevent health issues like asthma, and ultimately save lives and trips to the hospital.

The present value of the stream of health-related benefits for the years 2027 through 2045 for the most ambitious proposed option would be as much as $250 billion dollars, assuming a 3

percent discount rate. EPA estimates that in 2045, the most ambitious proposed option would result in public health benefits by preventing the following (annually):

- Between 860 and 2,100 premature deaths
- 6,700 hospital admissions and emergency department visits
- 18,000 cases of asthma onset in children
- 3.1 million cases of asthma symptoms and allergic rhinitis symptoms
- 78,000 lost days of work
- 1.1 million lost school days

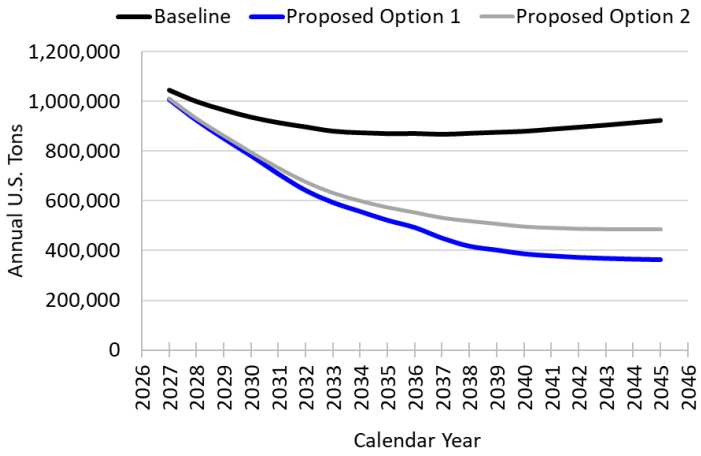
The benefits of the proposed rule would exceed its costs by billions of dollars.

Reducing NOx Emissions from Heavy-duty Vehicles: Proposed Regulatory Options

This proposed rule would reduce NOx from heavy-duty vehicles over a wide range of operating conditions, with significant emissions reductions at low speeds, idling, and in stop-and-go traffic. EPA is proposing longer useful life periods to ensure engines would meet emission standards for more of their operational lives and prompt engine manufacturers to design and build durable engines and emission controls. EPA is also proposing longer emissions warranty periods which would increase the number of useful life miles covered under warranty. Longer warranty periods may make it less likely for owners to tamper with emissions controls, and more likely that owners will make needed repairs.

EPA is proposing two regulatory options and is requesting comment on both, as well as considering the full range of options between them. Both options would set stronger standards for NOx emissions beginning in MY 2027, increase regulatory useful life, and increase emissions-related warranty periods. Proposed Option 1 would implement stronger NOx standards in two steps. The first increase in stringency would be in MY 2027, and the second would be in MY 2031; under this Option the 2031 NOx standards would be 90% lower than today's standards. Option 2 would immediately jump to full implementation of a NOx standard in MY 2027. As shown below, Option 2 would achieve less NOx emissions reductions than Option 1.

Heavy-Duty Highway NO_x Emissions Inventory: Baseline versus Proposed Options 1 and 2



Updating Existing Greenhouse Gas Standards

We are at the early stages of a significant transition in the history of the heavy-duty on-highway vehicle sector—a shift to zero-emission vehicle technologies. Major truck manufacturers and U.S. states have announced plans to transition the heavy-duty fleet to zero-emissions technology, and over the past few years we have seen the early introduction of zero-emission technologies in several commercial vehicle market segments. In light of these developments, the agency is now proposing targeted updates to the "Phase 2" GHG standards to reflect these market shifts to zero-emission technologies, which the agency did not foresee when it issued the "Phase 2" GHG emission standards. The "Phase 2" standards began in 2021 and become stronger every three years through 2027. The fully phased-in Phase 2 standards will achieve up to 24-25 percent lower CO_2 emissions compared to the previous GHG standards. The existing Phase 2 standards are still phasing-in, with the next change in stringency coming in 2024.

This proposal would further tighten the "Phase 2" GHG standards for MY 2027 for 17 of the 33 subcategories of vocational and tractor vehicles. These subsectors include school buses, transit buses, commercial delivery trucks, and short-haul tractors. EPA is also requesting comment on whether it would be appropriate in the final rule to increase the stringency of the standards even more than what we propose for MYs 2027 through 2029, including the potential for progressively stronger CO_2 standards across these three model years.

The agency aims to finalize standards that are as strong as possible in the near term and that provide a robust starting point for ambitious GHG standards for the truck industry as soon as MY 2030.

Related Actions

As noted above, EPA is developing two additional regulations under President Biden's Clean Trucks Plan. As part of a proposal for light- and medium-duty vehicles, EPA will consider new, stronger emission standards for MY 2027 and later commercial pickup trucks and vans. EPA is also developing "Phase 3" GHG emissions standards for heavy-duty engines and vehicles starting as early as MY 2030. These three rulemaking actions provide the opportunity for EPA to establish comprehensive, multipollutant standards for the near term and the long term, all while considering the significant potential for emission reductions that zero-emission technology can provide.

Public Participation

EPA welcomes public input into this rulemaking and looks forward to continuing its engagement with stakeholders throughout the rulemaking process. Today's proposal reflects input from stakeholders including community groups, the trucking industry, environmental and public health organizations, and state, local, and tribal governments gathered through comments in response to the Advance Notice of Proposed Rulemaking and through meetings with stakeholders throughout the development of the proposal.

EPA plans to hold a virtual public hearing for this proposal. EPA will begin registering speakers for the hearing upon publication of the proposal in the Federal Register. To register, please use the registration link that will be available on the EPA rule webpage once registration begins: https://www.epa.gov/regulations-emissions-vehicles-and-engines/proposed-rule-and-related-materials-control-air-1. Written comments must be received on or before 46 days after publication in the Federal Register.

For more information on these actions, please contact the U.S. Environmental Protection Agency, Office of Transportation and Air Quality through our webpage at: https://www.epa.gov/regulations-emissions-vehicles-and-engines/proposed-rule-and-related-materials-control-air-1