

Phase 2 Greenhouse Gas Emissions and Fuel Efficiency Standards for Heavy-Duty Vehicles

February 15, 2017 (IN10511)

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On October 25, 2016, the U.S. Environmental Protection Agency (EPA) and the National Highway Traffic Safety Administration jointly published the [second phase of greenhouse gas \(GHG\) emissions and fuel efficiency standards for medium- and heavy-duty engines and vehicles](#) through their authorities under the [Clean Air Act \(CAA\)](#) and the [Energy Independence and Security Act of 2007 \(P.L. 110-140\)](#).

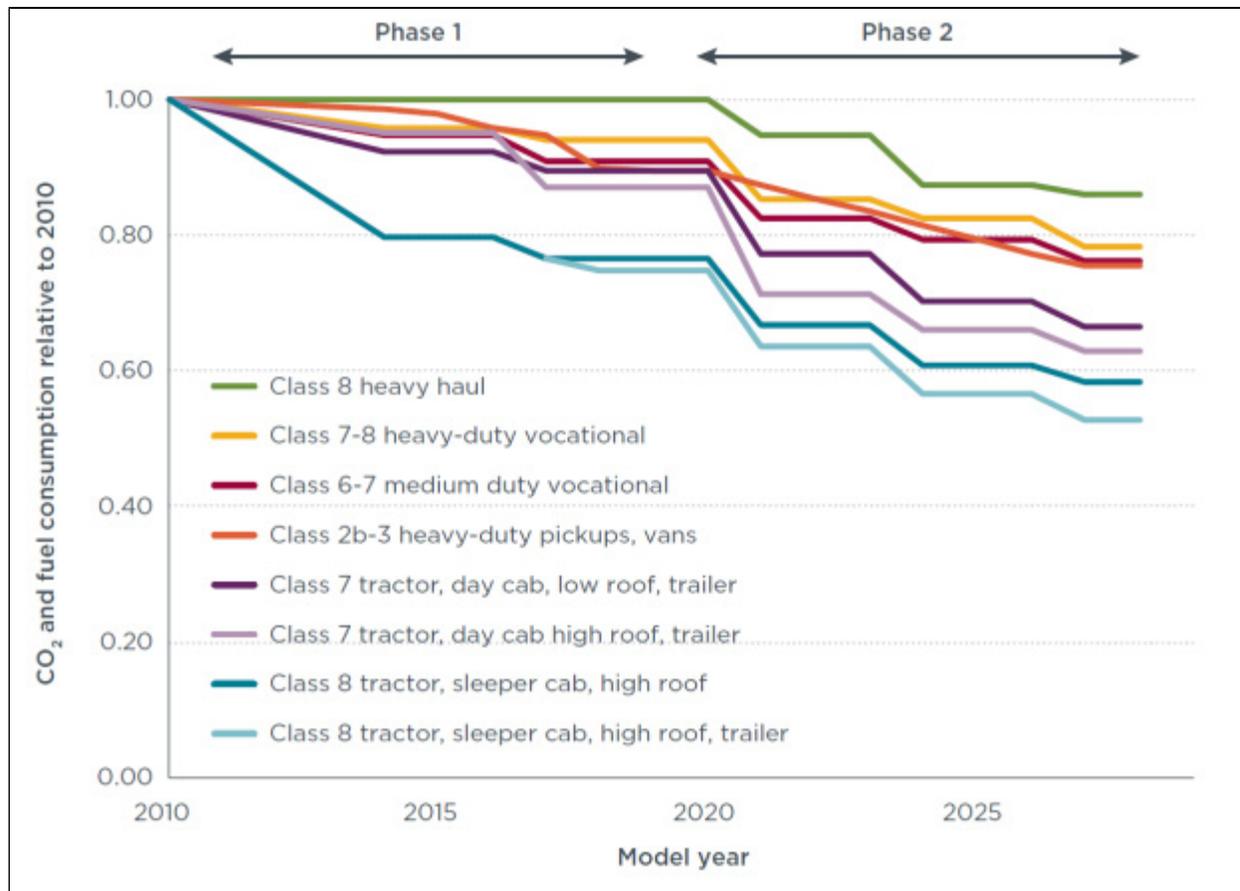
The Phase 2 rule sets emission standards for [tractor-trailers, vocational vehicles, and heavy-duty pickup trucks and vans](#). The rule expands on the [Phase 1 standards](#) (promulgated in 2011 for model years [MY] 2014 through 2018) and introduces first-ever controls on trailers (i.e., the part of the vehicle pulled by the tractor). The standards phase in between MY2021 and MY2027 for engines and vehicles and between MY2018 and MY2027 for trailers. The [agencies outline](#) several benefits of the rule, including (1) reducing carbon dioxide (CO₂) emissions and fuel consumption from new on-road vehicles, (2) benefiting consumers and businesses by reducing the costs for transporting goods, and (3) spurring innovation in the clean energy technology sector.

"Heavy-duty trucks account for just 4% of all the vehicles on the highway.... But they're responsible for about 20% of carbon pollution in the transportation sector.... And because they haul about 70% of all domestic freight—70% of the stuff we use, everything from flat-screen TVs to diapers to produce to you name it—every mile that we gain in fuel efficiency is worth thousands of dollars of savings every year." [Remarks by President Obama](#), February 18, 2014.

The Phase 2 rule maintains the underlying regulatory structure developed in Phase 1, such as the general categorization of medium- and heavy-duty vehicles and the separate standards for engines and vehicles. It also retains the Phase 1 averaging, banking, and trading compliance provisions and its flexibilities for small businesses. However, unlike Phase 1, the rule puts forth "technology-advancing standards" (i.e., standards based "not only on currently available technologies but also on utilization of technologies now under development or not yet widely deployed"). These may include advancements in the engine, transmission, driveline, aerodynamic design, lower rolling resistance tires, extended idle reduction technologies, and other accessories.

The agencies estimate that the Phase 2 standards will achieve vehicle fuel savings of up to 25% beyond Phase 1 when fully implemented and depending on the vehicle category (see [Figure 1](#)). Overall, the agencies estimate it could cut GHG emissions by approximately 1.1 billion metric tons of CO₂ equivalent and conserve approximately 2 billion barrels of oil.

Figure 1. CO₂ and Fuel Efficiency Reduction from the Heavy-Duty National Program



Source: [International Council on Clean Transportation](#).

Notes: Classifications defined at [49 CFR 523.2](#) and [49 CFR 565.15](#).

Under the agencies' cost modeling, the Phase 2 standards result in up to \$260 billion in total benefits over the lifetime of the vehicles sold in the regulatory time frame while costing the affected industry approximately \$30 billion. Payback periods for truck owners were determined to be favorable—with the buyer of a new long-haul truck in 2027 recouping the extra cost of the technology through fuel savings in less than two years. Overall, vehicle owners could save an estimated \$170 billion in fuel costs over the lifetime of the vehicles sold in the regulatory time frame.

Selected Issues

In general, reaction to the standards has been favorable. Many truck and engine manufacturers, drivers, fuel groups, and environmental organizations [provided comments in support](#) of the rule upon its proposal. Nevertheless, several issues may be of interest to Congress:

- Regulatory costs and deadlines.** The rule sets a final deadline in MY2027, an effort intended to satisfy truck and engine manufacturers who are seeking greater production certainty. However, because the standards are technology advancing, [some stakeholders](#) argue that compliance costs may be higher than the agencies estimated.

- **Emissions reductions.** Some stakeholders, including the [California](#) Air Resources Board (CARB) and some [health and environmental organizations](#), say that the rule is not aggressive enough, and they have pushed for more stringent standards. Further, on December 22, 2016, [EPA approved California's waiver request](#) under [Section 209\(b\) of the CAA](#) to adopt its own standards for heavy-duty engines and vehicles. [CARB has vowed](#) to push forward with its rulemaking, which some see as more stringent than the federal standards.
- **Engine versus vehicle standards.** The rule includes standards for both engine emissions and the vehicle as a whole. The Truck Trailer Manufacturing Association filed a [petition](#) with the U.S. Court of Appeals, D.C. Circuit, that contends that EPA lacks statutory authority under the CAA to regulate the non-engine parts of vehicles.
- **Racecar provisions.** The proposal included language that was reportedly intended to clarify EPA's tampering provisions with respect to nonroad vehicles, but [industry groups](#) claimed that it would prevent owners from modifying motor vehicles used exclusively for racing. [EPA removed the language from the final rule.](#) Nevertheless, some argue that the underlying compliance uncertainty remains. Legislation to clarify it had been proposed—but not acted on—in the 114th Congress (see [H.R. 4715/S. 2659](#)). A coalition of racing enthusiasts and suppliers filed a [petition](#) with the U.S. Court of Appeals, D.C. Circuit, to address the uncertainty.
- **Nitrogen oxide (NO_x) standards.** Controls for NO_x emissions (a precursor to [ground-level ozone](#)) generally compete against fuel efficiency efforts. Air quality regulators from Southern California and 10 other local and state agencies across the nation filed [a petition](#) to EPA to promulgate more stringent NO_x standards subsequent to the Phase 2 rule. EPA issued a [memorandum in response to the petition](#) on December 20, 2016, stating that the agency would initiate rulemaking "for a new on-highway heavy-duty NO_x program with the intention of proposing standards that could begin in Model Year 2024."

The report of issuance of the Phase 2 final rule falls within the time frame for the 115th Congress to introduce a joint resolution of disapproval under the [Congressional Review Act](#). If Congress were to overturn the rule, it would prevent EPA from promulgating a substantially similar rule unless subsequent legislation authorized it.