



Stringent New Vehicle Standards Proposed by EPA

APRIL 13, 2023

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Introduction

On Wednesday, April 12, 2023, EPA released a [proposed rule](#) aimed at reducing emissions from light-duty and medium-duty vehicles, including passenger cars, light-duty trucks, and some medium-duty vehicles (light-duty proposal). EPA also released a [proposed rule](#) for heavy-duty vehicles, the “Phase 3” greenhouse gas emissions standards (heavy-duty proposal or HD proposal). These two rules come on the heels of the Department of Energy’s (DOE) [proposed modification](#) of the method used to calculate the equivalent fuel economy of electric vehicles (EVs), or the petroleum equivalency factor (PEF proposal). If finalized as proposed, the three rules would cause significant changes to the transportation sector’s fleet composition in the coming years.

Light-Duty Proposal

The light-duty proposal sets new multi-pollutant standards for model years (MYs) 2027 to 2032. Specifically, the light-duty proposal includes more stringent emissions standards for criteria pollutants and greenhouse gases (GHGs), changes to certain optional credit programs, durability provisions for light-duty electrified vehicle batteries and warranty provisions for both electrified vehicles and diesel engine-equipped vehicles, and other more minor changes.

The light-duty vehicle performance standard is proposed to be 82 gCO₂/mile limit in 2032. The light-duty proposal includes a main proposal and three alternative options: a more-stringent option (Alternative 1), a less-stringent option (Alternative 2), and a third option that would begin more slowly and backload requirements to later years (Alternative 3). Alternative 1 is projected to result in an industry-wide average target of 72 g/mile of CO₂ in MY2032; Alternative 2 is projected to result in a target of 92 g/mile; and Alternative 3 is projected to result in the main standard of 82 g/mile. All options assume new EV sales of over 60%. In comparison, EV sales made up less than 6% of vehicle sales in 2022. EPA expects the new proposed rules, if finalized, will help drive the assumed increase in EV sales in future years.

With respect to the criteria pollutants targeted by the proposal, EPA is recommending non-methane organic gases (NMOG) plus nitrogen oxides (NOx) standards that would phase-down to a fleet average of 12 mg/mi by MY2032, a 60% reduction from the existing standards for MY2025 established in the Tier 3 rule in 2014. EPA is proposing a fleet average level of 60 mg/mi by MY2032 for medium-duty vehicles. For both light-duty and medium-duty vehicles, EPA is recommending a particulate matter (PM) standard of 0.5 mg/mi and a requirement that the standard be met across three test cycles.

By MY2032, the light-duty proposed rule is expected to result in a 56% reduction in GHG emissions as compared to the MY2026 standards, and the medium-duty portion of the rule will result in a 44% reduction in MY2032 compared to MY2026. EPA is projecting that the light-duty proposed rule will have net benefits of \$850 billion to \$1.6 trillion between 2027 and 2055 due to reducing both carbon dioxide and other pollutants, including particulate matter, as well as non-emission benefits.

The light-duty proposal also incorporates proposed revisions to other areas of the GHG program including off-cycle and air condition credits; the treatment of upstream emissions associated with zero-emission vehicles and plug-in hybrid electric vehicles in compliance calculations; medium-duty vehicle incentive multipliers; updating the On-Board Diagnostics (OBD) program to the latest version of the California Air Resources Board (CARB) OBD regulation; and vehicle certification and compliance. These proposed changes will make it more challenging to comply with the program by reducing credits. EPA is also seeking comment on potential future gasoline fuel property standards aimed at further reducing PM emissions.

Heavy-Duty Proposal

The HD proposal includes revisions to certain MY2027 GHG standards while issuing new standards for MYs 2028-2032, with progressively lower standards for each model year. The HD proposal also updates

averaging, banking, and trading program elements; adds warranty requirements for batteries and other components of zero-emission vehicles; and requires customer-facing battery state-of-health monitors for plug-in hybrid and battery electric vehicles. EPA is framing the HD proposal as a complement to the criteria HD pollutant standards finalized in December of 2022 for MY2027 and beyond, which substantially reduced NOx emissions standards for this segment.

The HD proposal also includes CO₂ standards for vocational vehicles and tractors and for both compression-ignition and spark-ignition vehicles. For vocational vehicles, the CO₂ emission standards range from 97 grams/ton-mile for compression-ignition heavy-heavy vehicles to 225 grams/ton-mile for spark-ignition light-heavy vehicles. For tractors, the CO₂ emission standards range from 48.1 grams ton-mile to 68.2 grams/ton-mile.

EPA estimates manufacturers' fleet-wide incremental technology costs under the HD proposal to be \$1.35 billion on average per model year for MYs 2027-2032 after applying the battery tax credit made available by the Inflation Reduction Act (IRA). Likewise, the incremental costs to the purchaser, after applying the IRA tax credit and adding electric vehicle supply equipment costs (i.e., charging costs), is an estimated \$2.9 billion average per model year. EPA estimates that by 2032, the heavy-duty proposal will result in a 50% electrification of new vocational vehicles, 35% of new short-haul freight tractors, and 25% of new long-haul freight tractors. EPA estimates that the plan will yield benefits of \$180 billion to \$320 billion, including operational savings, social benefits, and GHG and non-GHG pollutant reduction benefits.

PEF Proposal

DOE's PEF proposal applies to corporate average fuel economy (CAFE) standards issued by the Department of Transportation, and the National Highway Traffic Safety Administration (NHTSA). The PEF is used to calculate the fuel economy of EVs. It was viewed to be outdated; it had not been updated since June 2000. The National Resources Defense Council (NRDC) and Sierra Club had petitioned DOE to update the factor. DOE's proposal responds to this request.

The PEF proposal eliminates a fuel factor that divides a calculation of electric gasoline-equivalent electricity consumption by 0.15. The remainder of the calculation would be mostly based on the gasoline-equivalent energy content of electricity on a full lifecycle basis. The effect would significantly lower the computed fuel economy equivalent of each electric vehicle, which would have a potentially significant impact on auto manufacturers' plans for complying with CAFE standards. It is expected that NHTSA will propose the next round of CAFE standards within the next several months.

Specifically, DOE is proposing to set the PEF at 23,160 Watt-hours per gallon through 2031, a 72% reduction from the current PEF. The new PEF would apply to vehicles beginning in MYs 2027-2031 and be reviewed annually, but DOE does not expect further updates will be necessary during these model years. The PEF proposal did not include enumerated benefits or costs.

Potential Impact

The light-duty, heavy-duty, and PEF proposed rules, once finalized, should work together to reduce emissions from the transportation sector. Along with the CAFE standards to be proposed and finalized by NHTSA, compliance plans for vehicle manufacturers for future model years are likely to be significantly affected. These rules will likely pose challenges for automobile and truck manufacturers, not just in complying with the stringent new requirements for conventional vehicles, hybrids, and plug-in hybrids, but also in terms of increased costs, recharging infrastructure, and customer acceptance of EVs. The Biden Administration views the light-duty and heavy-duty proposals as including technology-neutral performance standards that avoid explicit electric vehicle mandates. This assertion is likely directed at future potential lawsuits, which are expected from multiple sectors.

As seen in California and states adopting California standards, it has been a challenge since the late 1990s to electrify the transportation sector, often requiring regulatory programs with significant crediting systems, flexibility, and significant lead time. The IRA and additional investments in and commitments to electrification and the development of key infrastructure may potentially help reduce the types of challenges seen in the past. However, economic, legal, and political forces will play a large role in determining the ultimate path for the transportation sector.

Next Steps

Comments on the PEF proposal are due by June 12, 2023, while comments on the light-duty and heavy-duty proposals will be accepted for 60 days, once the rule packages are published in the Federal Register.

For More Information

Van Ness Feldman closely monitors and advises clients on EPA rules and actions with implications for members of the transportation sector. For additional information, please contact [Britt Fleming](#), [Mike Farber](#), [Dick Penna](#), [A.J. Singletary](#), [Paul Libus](#) or any member of the firm's Environmental Practice in Washington, D.C. at (202) 298-1800.

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