

EPA Will Propose Historic Greenhouse Gas Emissions Standards for Light-Duty Vehicles

Overview

On May 19, 2009, President Obama announced a historic national policy that will reduce greenhouse gas (GHG) emissions and improve fuel economy for all new cars and trucks sold in the United States. The President's policy recognizes the critically important need for our country to address global climate change and reduce oil consumption. The U.S. Environmental Protection Agency (EPA) will coordinate with the Department of Transportation (DOT) to propose standards for passenger cars, light-duty trucks, and medium-duty passenger vehicles, covering model years 2012 through 2016. Together, these vehicle categories are responsible for almost 60 percent of all U.S. transportation-related greenhouse gas emissions. (Transportation-related emissions comprise approximately 30 percent of total U.S. greenhouse gas emissions.) The President's national policy represents a historic collaboration between the EPA, DOT, the world's largest automakers, the United Auto Workers, environmental groups, the State of California, and other states.

EPA will propose to set the first ever federal emissions standards for greenhouse gases using its authority under the Clean Air Act (CAA). DOT's National Highway Traffic Safety Administration (NHTSA) will propose related fuel economy standards under the Energy Policy and Conservation Act (EPCA). The intent of this coordinated program is to allow auto manufacturers to build a single light-duty national fleet that provides significant reductions in both greenhouse gases and oil consumption.

According to EPA's preliminary analysis, the standards under consideration are projected to reduce GHGs by approximately 900 million metric tons and save 1.8 billion barrels of oil over the life of the program. The program would reduce GHG emissions from the U.S. light-duty fleet by 19 percent by 2030. EPA estimates an average increased cost of about \$1,300 per vehicle in 2016 compared to today's vehicles. However, the typical driver would save enough in lower fuel costs over the first three

years to offset the higher vehicle cost. Over the life of a vehicle, drivers would save about \$2,800 through the fuel savings that come from controlling GHG emissions.

This fact sheet contains an overview of the EPA and DOT “Notice of Upcoming Joint Rule-making to Establish Vehicle GHG Emissions and CAFE Standards.”

National Greenhouse Gas Emission Standards for Light-Duty Vehicles

EPA expects to propose a national carbon dioxide (CO₂) vehicle emissions standard under section 202 (a) of the Clean Air Act. EPA currently is considering proposing standards that would, if made final, achieve on average 250 grams/mile of CO₂ in model year 2016. The standards would begin with the 2012 model year. NHTSA expects to propose appropriate related Corporate Average Fuel Economy (CAFE) standards under EPCA.

Based on the agencies’ technical work over the last several years, there is a wide range of technologies available for auto manufacturers to consider in upgrading vehicles to reduce GHG emissions and improve fuel economy. These include improvements to the engines such as use of gasoline direct injection and downsized engines that use turbochargers to provide performance similar to that of larger engines, the use of advanced transmissions, increased use of start-stop technology, improvements in tire performance, increased use of hybrid and other advanced technologies, and the initial commercialization of electric vehicles and plug-in hybrids. In addition, it is expected that most companies would apply some air conditioning improvements to reduce GHG emissions. Although many of these technologies are available today, the emissions reductions and fuel economy improvements under consideration for the proposal would be expected to involve more widespread use of these technologies across the fleet. The proposal is expected to allow manufacturers the multi-year time period needed to incorporate GHG control technologies during the vehicle redesign process consistent with their normal business practice.

Program Design and Implementation

EPA intends to propose attribute-based standards, based on vehicle footprint, for both passenger cars and light-duty trucks.¹ The vehicle footprint is essentially the area enclosed by the points at which the wheels meet the ground. Generally, vehicles with larger footprints would be assigned CO₂ levels that are somewhat higher than vehicles with smaller footprints, based on where they fall along “footprint curves.” Manufacturers would use these assigned values to calculate their separate fleet average standards for cars and light-duty trucks. Each manufacturer would have unique standards for cars and light-duty trucks that are calculated based on the footprint curve values and final model year sales of each of the vehicle models in its fleet.

EPA expects to propose standards that would provide compliance flexibility to manufacturers, especially in the early years of the program. This flexibility would be expected to provide

¹This approach would be similar to that used by NHTSA for its Reformed CAFE light-truck standards, which was also extended to passenger cars in the 2011 CAFE standards.

sufficient lead time to make necessary technological improvements, and reduce the overall cost of the program without compromising overall environmental objectives. EPA is considering several flexibility provisions including:

- Credit carry-back, credit carry-forward, credit transfers, and credit trading
- Credits for reducing GHG emissions related to air conditioning system improvements
- Flex-fuel (FFV) and alternative fuel vehicle credits
- Temporary lead-time allowance alternative standards for manufacturers with total U.S. vehicle sales below a specified cut-off
- Early credits for achieving emissions reductions in the 2009-2011 model years, based on a national level established by EPA equivalent to those of the California standards
- Early credits for over-complying with CAFE in 2009-2011 model years for vehicles sold in states outside of the California and CAA section 177 states (without use of FFV credits)
- Additional credits for electric vehicles and plug-in hybrids
- Possible credits for employing technologies that achieve GHG reductions that are not reflected on current test procedures. Examples of such technologies could include solar panels on hybrids, adaptive cruise control, and active aerodynamics.

Compliance

EPA also intends to propose a compliance program that recognizes and replicates as closely as possible the compliance protocols associated with the existing CAA Tier 2 vehicle emission standards, and with CAFE standards. The certification, testing, reporting, and associated compliance activities could closely track current practice and thus be familiar to manufacturers. EPA already oversees testing, collects and processes test data, and performs calculations to determine compliance with both CAFE and CAA standards. In a coordinated approach, compliance mechanisms for both programs could be consistent and non-duplicative.

Background

Currently, one federal agency is responsible for a standard that focuses on GHG emissions, another federal agency is responsible for a standard that focuses on fuel economy, and several state agencies are working on standards that address similar issues. The intended proposed program would establish a consistent, harmonized, and streamlined approach to delivering environmental and energy benefits, cost savings, and administrative efficiencies.

EPA has been working on responses consistent with the decision of the Supreme Court in *Massachusetts v. EPA* and EPA's recent proposal to find that emissions of GHGs from new motor vehicles and motor vehicle engines cause or contribute to air pollution that may reasonably be anticipated to endanger public health and welfare.²

²74 Fed. Reg. 18886; April 24, 2009.

Since the 1970s, NHTSA has promulgated CAFE standards for light-duty vehicles to address our country's need to reduce oil consumption. In 2008, NHTSA proposed CAFE standards for model years (MY) 2011 through 2015. However, responding to a Presidential Memorandum of January 26, 2009, NHTSA issued CAFE standards limited to MY 2011,³ and has been comprehensively reviewing how it sets CAFE standards in the context of preparing to propose CAFE standards for MY 2012 and later model years.

In addition, in 2005 California adopted GHG emissions standards for new light-duty vehicles. Thirteen states and the District of Columbia to date, comprising approximately 40 percent of the light-duty vehicle market, have adopted California's GHG emission standards. In 2008, EPA denied a request by California for a waiver of preemption under the CAA for its GHG emissions standards. However, consistent with another Presidential Memorandum of January 26, 2009, EPA is currently reconsidering the prior denial of California's request.⁴ California and the states that have adopted California's standards are planning to enforce these standards if EPA grants California's request for a waiver of preemption.

Proposed Rulemaking Process

EPA and NHTSA are developing a joint proposed rulemaking, which will include full details on the proposed program and supporting analyses, including the costs and benefits of the proposal and its effects on the economy, auto manufacturers, and consumers. After the proposed rules are published in the Federal Register, there will be an opportunity for public comment and public hearings. EPA currently anticipates release of these proposals in the late Summer of 2009.

For More Information

You can access the EPA and DOT "Notice of Upcoming Joint Rulemaking to Establish Vehicle GHG Emissions and CAFE Standards" at EPA's web site at:

www.epa.gov/otaq/climate/regulations.htm

You can access The White House press release on President Obama's National Fuel Efficiency Policy at:

www.whitehouse.gov/the_press_office/President-Obama-Announces-National-Fuel-Efficiency-Policy/

For additional information, please contact EPA's Office of Transportation and Air Quality, Assessment and Standards Division, at asinfo@epa.gov, or (734) 214-4636.

³74 Fed. Reg. 14196; March 30, 2009.

⁴74 Fed. Reg. 7040; February 12, 2009.