

National Highway Traffic Safety Administration

NHTSA AND EPA PROPOSE NEW NATIONAL PROGRAM TO IMPROVE FUEL ECONOMY AND REDUCE GREENHOUSE GAS EMISSIONS FOR PASSENGER CARS AND LIGHT TRUCKS

The National Highway Traffic Safety Administration (NHTSA) and the Environmental Protection Agency (EPA) are issuing a joint proposal to establish a new National Program to regulate model year 2012 through 2016 passenger cars and light trucks in order to improve fuel economy and reduce greenhouse gas emissions. NHTSA is proposing Corporate Average Fuel Economy (CAFE) standards for MY 2012-2016 passenger cars and light trucks, and EPA is proposing national greenhouse gas (GHG) emissions standards to be established under the Clean Air Act. While NHTSA has been setting fuel economy standards since the 1970s, today's action represents the first-ever joint proposal by NHTSA with another agency.

The CAFE standards being proposed would apply to passenger cars and light trucks – categories which span the range of vehicles from sedans to crossovers to pickup trucks to vans – manufactured in model years 2012 through 2016. They will require these vehicles to meet an estimated combined average mile per gallon (mpg) level of 34.1 by MY 2016. Together with EPA's proposed standards, which also enable manufacturers to earn compliance credits by improving the air conditioners of their vehicles, the National Program overall is expected to result in improvement levels equivalent to 35.5 mpg.¹

These proposed rules were developed in response to President Obama's call for a National Fuel Efficiency Policy, a strong and coordinated federal fuel economy and GHG program for passenger cars and light trucks.² The proposed rules represent a coordinated program that can achieve substantial improvements in fuel economy and reductions of greenhouse gas (GHG) emissions from the light-duty vehicle part of the transportation sector, based on technology that will be commercially available and that can be incorporated at a reasonable cost. The agencies' proposals will also provide regulatory certainty and consistency for the automobile industry by setting harmonized national standards.

Why is it important to improve fuel economy and reduce GHG emissions from passenger cars and light trucks?

¹ The 35.5 mpg number is equivalent to 250 grams of carbon dioxide per mile (gCO₂/mi). It represents what the required level would be if the automotive industry were to meet EPA's requirement entirely through fuel economy improvements.

² President Obama Announces National Fuel Efficiency Policy, The White House, May 19, 2009. Available at http://www.whitehouse.gov/the_press_office/President-Obama-Announces-National-Fuel-Efficiency-Policy/. Remarks by the President on National Fuel Efficiency Standards, The White House, May 19, 2009. Available at http://www.whitehouse.gov/the_press_office/Remarks-by-the-President-on-national-fuel-efficiency-standards/.

Improving vehicle fuel economy is one of the key ways of achieving energy independence, energy security, and a low carbon economy. Reducing total petroleum use decreases our economy's vulnerability to oil price shocks. Reducing dependence on oil imports from regions with uncertain conditions enhances our energy security. Using vehicle technology to improve fuel economy, and thereby reducing tailpipe emissions of CO₂, is one of the three main measures of reducing those tailpipe emissions of CO₂. The two other measures for reducing the tailpipe emissions of CO₂ are switching to vehicle fuels with lower carbon content and changing driver behavior, *i.e.*, inducing people to drive less.

The need to reduce energy consumption is more crucial today than it was when EPCA was enacted in the mid-1970s. Net petroleum imports now account for approximately 57 percent of U.S. domestic petroleum consumption, and the share of U.S. oil consumption for transportation is approximately 71 percent.³ Moreover, world crude oil production continues to be highly concentrated, exacerbating the risks of supply disruptions and their negative effects on both the U.S. and global economies.

Gasoline consumption in the U.S. has historically been relatively insensitive to fluctuations in both price and consumer income, and people in most parts of the country tend to view gasoline consumption as a non-discretionary expense. Thus, when gasoline's share in consumer expenditures rises, the public experiences fiscal distress. Additionally, since U.S. oil production is only affected by fluctuations in prices over a period of years, any changes in petroleum consumption (as through increased fuel economy) largely flow into changes in the quantity of imports. As a consequence, however, measures that reduce petroleum consumption, such as fuel economy standards, will flow directly into the balance-of-payments account, and strengthen the domestic economy to some degree.

The environmental need to improve fuel economy is manifest. The U.S. transportation sector is one of the largest contributors to total U.S. and global anthropogenic emissions of greenhouse gases. Concentrations of greenhouse gases are at unprecedented levels compared to the recent and distant past, which means that fuel economy improvements to reduce those emissions are crucial to addressing the risks of global climate change.

What are the proposed standards?

NHTSA is proposing CAFE standards that are, like the standards NHTSA promulgated in March 2009 for MY 2011, expressed as mathematical functions depending on vehicle footprint. Footprint is one measure of vehicle size, and is determined by multiplying the vehicle's wheelbase by the vehicle's average track width.⁴ Under the proposed CAFE standards, each light vehicle model produced for sale in the United States would have a fuel economy target. The CAFE levels that must be met by

³ Energy Information Administration, Petroleum Basic Statistics, updated July 2009. Available at <http://www.eia.doe.gov/basics/quickoil.html> (last accessed August 9, 2009).

⁴ See 49 CFR 523.2 for the exact definition of "footprint."

the fleet of each manufacturer would be determined by computing the sales-weighted harmonic average of the targets applicable to each of the manufacturer's passenger cars and light trucks. These targets appear as follows when the values of the targets are plotted versus vehicle footprint – Figure 1 is for passenger cars, and Figure 2 is for light trucks:

Figure 1. Final MY 2011 and Proposed MY 2012-2016 Passenger Car Fuel Economy Targets

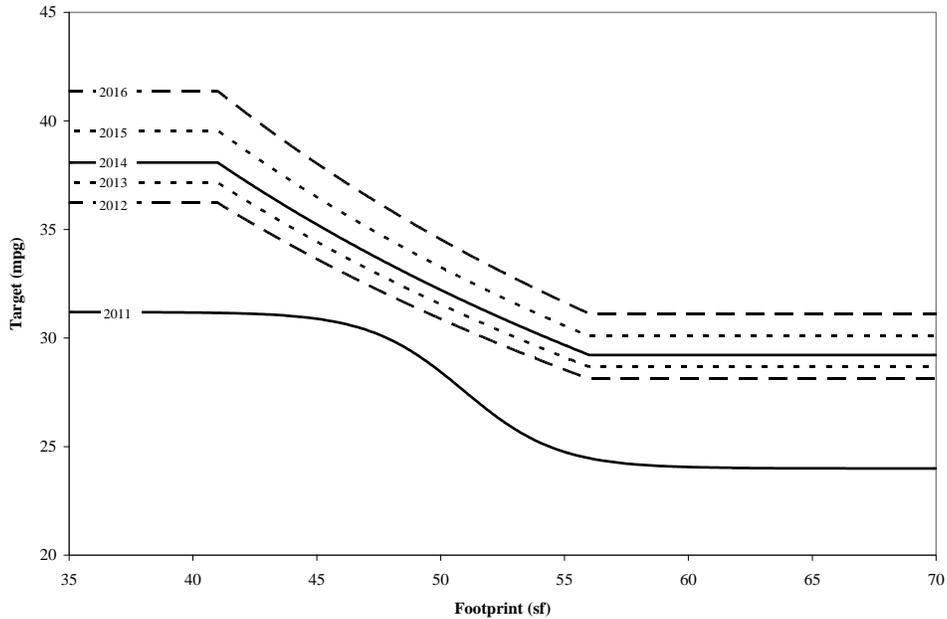
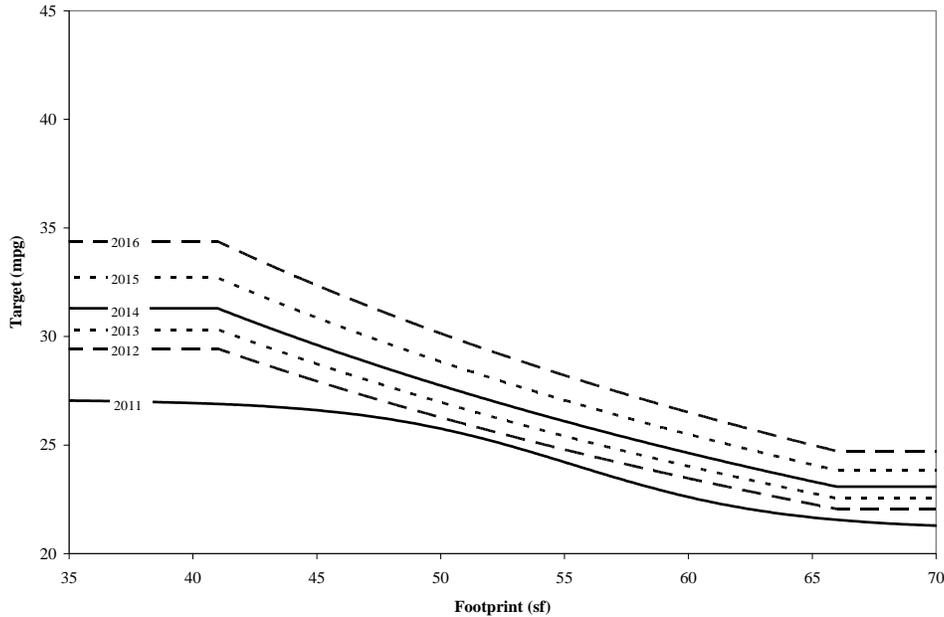


Figure 2. Final MY 2011 and Proposed MY 2012-2016 Light Truck Fuel Economy Targets



Under these proposed footprint-based CAFE standards, the CAFE levels required of individual manufacturers depend, as noted above, on the mix of vehicles sold. It is important to note that NHTSA’s CAFE standards and EPA’s GHG standards will both be in effect, and each will lead to increases in average fuel economy and CO₂ emissions reductions. The two agencies’ standards together comprise the National Program, and this discussion of costs and benefits of NHTSA’s CAFE standards does not change the fact that both the CAFE and GHG standards, jointly, are the source of the benefits and costs of the National Program.

Based on the forecast developed of the MYs 2012-2016 vehicle fleet, NHTSA estimates that the proposed targets shown above would require passenger cars and light trucks to meet an estimated combined average of 34.1 mpg in MY 2016. This represents an average annual increase of 4.3 percent from the 27.3 mpg combined fuel economy level in MY 2011. Table 1 below presents the estimated required levels by model year:

Table 1. Average Required Fuel Economy (mpg) under Proposed Standards

	2012	2013	2014	2015	2016
Passenger Cars	33.6	34.4	35.2	36.4	38.0
Light Trucks	25.0	25.6	26.2	27.1	28.3
Combined	29.8	30.6	31.4	32.6	34.1

For the reader’s reference, these estimated required mpg levels would be equivalent to the following in gallons per 100 miles for passenger cars and light trucks:

Table 2. Gallon/100 miles Equivalent to Average Required mpg

under Proposed Standards

	2012	2013	2014	2015	2016
Passenger Cars	2.9762	2.907	2.8409	2.7473	2.6316
Light Trucks	4.0	3.9063	3.8168	3.8168	3.5336

Manufacturers will have flexibilities under the CAFE program to make it easier and less costly for them to comply with the standards. Manufacturers can earn credits by over complying with a standard in a given model year, and can either apply those credits to achieve compliance in any of the three model years before or five model years after the year in which they were earned. They can also transfer the credits from the manufacturer's car fleet to the truck fleet or vice versa; or trade (*i.e.*, sell) them to another manufacturer. Additionally, manufacturers can continue to earn credits for producing alternative or dual-fueled (flex-fueled) vehicles, although Congress has provided for the phase-out of that flexibility by MY 2019.

What are the benefits and costs of the proposed standards?

Over the lifetimes of the passenger cars and light trucks sold in MYs 2012-2016, NHTSA projects that the proposed CAFE standards will save 61.6 billion gallons of fuel and reduce carbon dioxide (CO₂) emissions by 656 million metric tons (mmt).

NHTSA estimates that the lifetime benefits of the proposed CAFE standards would total over \$200 billion, including fuel savings, while the net costs of the standards total approximately \$60 billion. For the National Program as a whole (that is, NHTSA's standards and EPA's standards), the agencies estimate that the lifetime benefits would total over \$250 billion. NHTSA attributes most of these benefits—about \$157 billion—to reductions in fuel consumption, valuing fuel (for societal purposes) at future pretax prices in the Energy Information Administration's (EIA's) reference case forecast from Annual Energy Outlook (AEO) 2009.

Costs, in turn, represent necessary increases in technology application that will involve considerable monetary outlays. Because of these costs (and to a much less extent, civil penalties that some companies are expected to pay for noncompliance), the agency estimates that the proposed standards would lead to increases in average new vehicle prices, ranging from \$476 per vehicle in MY 2012 to \$1,091 per vehicle in MY 2016.

NHTSA notes that there will be benefits and costs beyond those quantified in the agency's analysis—for example, NHTSA has not monetized reductions in toxic air pollutants due to the proposed standards (a benefit), nor potential reductions in vehicle performance or utility (a cost) that might result from the proposed standards. However, by any metric, NHTSA expects that the benefits of the proposed standards will vastly outweigh the costs.

Has NHTSA conducted an environmental analysis for these proposed standards?

As it did for the MY 2011 CAFE standards, NHTSA has developed an Environmental Impact Statement as required by the National Environmental Policy Act and implementing regulations issued by the Council on Environmental Quality (CEQ) and NHTSA. On April 1, 2009, NHTSA published a notice of intent to prepare an EIS for this rulemaking and requested scoping comments. (74 FR 14857) The notice invited Federal, State, and local agencies, Indian tribes, and the public to participate in the scoping process and to help identify the environmental issues and reasonable alternatives to be examined in the EIS.

Concurrent with the proposed standards, NHTSA is releasing a Draft Environmental Impact Statement (DEIS). NHTSA prepared the DEIS to analyze and disclose the potential environmental impacts of the proposed MY 2012-2016 CAFE standards for the total fleet of passenger cars and light trucks and reasonable alternative standards for the NHTSA CAFE Program. The DEIS compares the potential environmental impacts of alternative mile per gallon (mpg) levels that will be considered by NHTSA for the final rule. It also analyzes direct, indirect, and cumulative impacts and analyzes impacts in proportion to their significance. The DEIS also describes potential environmental impacts to a variety of resources. Resources that may be affected by the proposed action and alternatives include water resources, biological resources, land use and development, safety, hazardous materials and regulated wastes, noise, socioeconomics, and environmental justice. These resource areas were assessed qualitatively in the DEIS.

Although the alternatives have the potential to decrease GHG emissions substantially, they do not prevent climate change, but do result in reductions in the anticipated increases in CO₂ concentrations, temperature, precipitation, and sea level. Estimated CO₂ concentrations for 2100 range from 778.4 ppm under the most stringent alternative to 783.0 ppm under the No Action Alternative. The differences among alternatives are small. For 2100, the reduction in temperature increase, in relation to the No Action Alternative, ranges from 0.007 °C to 0.018 °C. Given that all the action alternatives reduce temperature increases slightly in relation to the No Action Alternative, they also slightly reduce predicted increases in precipitation. They would also, to a small degree, delay the point at which certain temperature increases and other physical effects stemming from increased GHG emissions would occur. NHTSA presumes that these reductions in climate effects will be reflected in reduced impacts on affected resources.

How can I comment on the proposed standards and environmental analysis?

You will have 60 days to comment on the joint Notice of Proposed Rulemaking after it is published in the *Federal Register*, and 45 days to comment on the DEIS after EPA publishes a notice of its availability in the *Federal Register*. The DEIS comment period will end on November 9, 2009.

All comments should be identified by Docket No. NHTSA-2009-0059, and submitted by one of the following methods:

- Internet: <http://www.regulations.gov> (follow the online instructions for submitting comments)
- Mail:
 - Docket Management Facility, M-30
 - U.S. Department of Transportation
 - West Building, Rm. W12-140
 - 1200 New Jersey Avenue, SE
 - Washington, DC 20590.
- Hand Delivery: West Building, Ground Floor, Rm. W12-140, 1200 New Jersey Avenue, SE, Washington, DC 20590, between 9 a.m. and 5 p.m. Eastern Time, Monday through Friday, except Federal Holidays.

Hearings: NHTSA will hold three public hearings jointly with EPA regarding the proposed standards, one in Detroit, Michigan, on October 21, 2009, one in New York, New York, on October 23, 2009, and one in Los Angeles, California, on October 27, 2009. NHTSA will also hold a separate public hearing for the DEIS in Washington, DC on October 30, 2009.

Where can I find more information?

You can access the rule and related documents, including the DEIS, the Preliminary Regulatory Impact Analysis (PRIA), the computer model used in NHTSA's analysis, the model documentation, and all of the input and output files from the model on NHTSA's website, at <http://www.nhtsa.gov> (click on "Fuel Economy" on the left of the page). Additionally, for information about EPA's proposed standards, you can visit <http://www.epa.gov/otaq/climate/regulations.htm>. You can also check the rulemaking docket (NHTSA-2009-0059) for supplemental materials posted by the agencies, as well as public comments submitted by other people.