

ENVIRONMENTAL PROTECTION AGENCY

Docket ID No. EPA-HQ-OAR-2015-0827

Topic: Midterm Evaluation Draft Technical Assessment Report for Model Year 2022–2025 Light Duty Vehicle GHG Emissions and CAFE Standards

Comments by: Advanced Biofuels USA, www.advancedbiofuelsusa.org a 501 (c) (3) not-for-profit educational organization. ABFUSA is not a manufacturer or trade organization.

Advanced Biofuels USA, would like to offer the following comments and recommendations for implementation.

1. **Current EPA CAFE Fuel Mileage Regulations Are Not an Expedited or Cost-Efficient Method for Achieving Motor Vehicle GHG Reductions**

Advanced Biofuels USA would like to remind EPA that Model Year 2022–2025 Light Duty Vehicle GHG Emissions and CAFE Standards were enacted as regulations to quickly reduce the emission of Green House Gases (GHGs) from motor vehicles and not as long-term fuel economy or vehicle design and cost rules. The enactment of these regulations came as response to a US Supreme Court ruling that allowed EPA to regulate GHGs since EPA had provided sufficient evidence that excessive combustion produced CO₂ was a health risk. ([Utility Air Regulatory Group v. EPA, 134 S. Ct. 2427, 2014](#))

When EPA enacted these regulations they were cited as the most expeditious and cost-effective way to reduce motor vehicle GHG emissions. However, since it takes at least 15-16 years for a US light-duty fleet to turn over, the projected GHG reductions of about 50 percent (from 27 mpg to 54.5 mpg) of this regulatory package would not occur until 15-16 years after a new model year vehicle fleet averaged 54.5 mpg. If that new model year was 2022, the total projected GHG reductions would not occur until 2037 at the earliest.

It is clear therefore, that the slow pace of GHG reductions that would be achieved by these motor vehicle regulations alone is not in keeping with the urgency that EPA reported was necessary to reduce the adverse health effects that climate change is predicted to cause before the 2037 time frame.

We therefore recommend that the Model Year 2022–2025 Light Duty Vehicle GHG Emissions and CAFE Standards be rewritten by EPA to focus on the expedited reduction of motor vehicle GHGs instead of solely focusing on the reduction of GHGs by dramatically reducing American middle and lower class vehicle ownership through much higher costs which would be the endpoint of the vehicle low-weight materials and high-technology engines that would be required to meet the regulations through all vehicle classes.

As is well known, motor vehicles GHG reductions can come from three approaches: 1) use of fuels with lower lifecycle GHG emissions than non-renewable petroleum fuel sources; 2) transportation system improvements such as increased public transit or land-use changes that decrease vehicle mileage traveled (VMT), and 3) improvements in vehicle efficiency that would increase fuel efficiency.

If EPA is as committed to expedited GHG reductions as they have said in the preamble of this and other packages of GHG emission control regulations, they should abandon the current narrow approach and instead enact regulations based on all cost-effective programs that would achieve emission reductions similar to those projected with these CAFE regulations at a much faster rate.

We recommend that among the fastest ways to achieve these reductions is to expedite the use of substantially larger quantities of low lifecycle GHG advanced biofuels instead of high lifecycle GHG petroleum fuels. Three specific programs that should be considered for immediate implementation are:

- The immediate recognition and use of the GHG benefits of renewable biofuels in all EPA calculations related to vehicle emissions. This includes setting the “R” fuel energy content factor for higher octane, higher ethanol fuels at “1.” This change is necessary since EPA has previously recognized that the engine technology used to set the “R” in the 1970s has reached levels of efficiency not envisioned at the time and as a result the factor does not represent the current reality.
- The immediate use of low GHG 30 percent renewable bioethanol (E30) as a base regular fuel for all Flex-Fuel and other E30 capable vehicles. This would reduce GHG emissions of these vehicles over current E10 fuels by 200 percent or higher depending on the biomass feedstock. The use of this fuel would not require any technical changes to the vehicles nor would fuel economy be reduced as has been shown in several published SAE papers.

- The immediate approval of E30 and related low GHG renewable fuels as “regular” priced (same as current 87 octane fuel) high-octane fuels for use in current technology high efficiency/high compression engines. The use of these “new regular” fuels would be a cost-effective way for manufactures to maximize the efficiency of smaller, more efficient engines (for example Ecoboost engines) that utilize high combustion pressures to achieve higher fuel mileage. This approach would allow vehicle manufacturers to reduce GHG emissions in two ways: 1) the substitution of low GHG renewables for petroleum fuels, and 2) the reduction of fuel use by optimizing current technology engines. If implemented expeditiously, model year 2018 vehicles could start bringing substantial GHG reductions to market. To provide a smooth path to making this “higher octane, higher ethanol content gasoline” available nationwide EPA should use its authority under section 211 of the Clean Air Act to provide for the commercial availability of this “higher octane, higher ethanol content gasoline.”

By making the widespread use of fuels that have low lifecycle GHGs a priority, substantial GHG reductions could be achieved well before 2037. Furthermore, the total GHG reductions projected for these CAFE regulations could be achieved without raising the cost of low-duty vehicles above the means of most Americans.

2. Revised Regulations Would Provide a Sufficient Supply of Low GHG Advanced Renewable Biofuels

The primary slow-down in the commercialization of biofuels with lower GHGs than corn starch has been US government policies to restrict light-duty motor vehicle renewable fuel use to E10. While confusion over year to year Renewable Fuel Standard (RFS) goals has caused some negative market effects, the removal of low-GHG renewable biofuels from the GHG reduction toolbox has sent a strong negative signal to the investment sector. Little private sector money is available when the US government strongly opposes the use of these fuels.

By revising these Model Year 2022–2025 Light Duty Vehicle GHG Emissions and CAFE Standards to begin the expeditious reduction of GHGs through the immediate expansion of higher renewable content fuels, a clear Demand Certainty Signal will be sent to the financial markets. This signal will restore the actual full environmental, social, and market value to these fuels and will result in the capital needed for total-biomass ethanol and other advanced biofuels to reach the market.

The availability of these fuels in a “level-playing field” environment, in conjunction with an enlightened regulatory approach that understands the importance of individual

vehicle ownership to the American public and economy will allow the US to achieve GHG reduction goals faster and at a lower cost than the current approach.