

**COMMENTS OF
THE 25x'25 ALLIANCE**

**On the U.S. Environmental Protection Agency's Reconsideration of Final Determination of:
Mid-term Evaluation of Greenhouse Gas Emissions Standards for Model Year 2022-2025;
Model Year 2021 Greenhouse Gas Emissions Standards**

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Introduction

The 25x'25 Alliance is a diverse, grassroots national alliance of nearly 1000 agriculture, forestry, conservation, business and environmental organizations working collaboratively to advance the goal of securing 25 percent of the nation's energy needs from renewable sources by the year 2025.

We are pleased to submit comments in response to the Reconsideration of the Final Determination of the Mid-term Evaluation of the greenhouse gas emissions standards for model year 2022-2025 light duty vehicles, as well as the appropriateness of the greenhouse gas emissions standards established for model year 2021 light duty vehicles.

When the previous Environmental Protection Agency (EPA) Administrator signed the Final Determination of the Mid-term Evaluation on January 12, 2017, they failed to account for the numerous comments that were submitted pointing to issues in EPA's Technical Assessment Report, as well as concerns about EPA breaking from the agreed to process of conducting the Mid-term Evaluation in conjunction with the National Highway Traffic Safety Administration's (NHTSA) rulemaking for the same model years. It is for these reasons that we would like to thank Administrator Pruitt for reconsidering the Final Determination and putting the Mid-term Review back on track in coordination with the NHTSA rulemaking to be completed by April 1, 2018.

Background

In 2009, the EPA issued an Endangerment Finding that found the greenhouse gas emissions from motor vehicles were contributing to climate change, and therefore posed a risk to public health and welfare.¹ In the years that followed, the EPA and the NHTSA began to jointly issue greenhouse gas emissions and fuel economy standards for new light-duty motor vehicles, beginning with vehicles within Model Years (MY) 2012-2016. In 2012, the EPA and NHTSA moved to set the greenhouse gas emissions and fuel economy standards for MY 2022-2025. At this time, it was recognized that it would be impractical to fully predict the technological and economic feasibility of meeting these standards, so all stakeholders – including auto manufacturers – agreed to proceed contingent upon a Mid-term Evaluation to be conducted in conjunction with NHTSA rulemaking that was to be completed by April 1, 2018. The Mid-term Review was intended to be a collaborative process that would involve stakeholder feedback and real data on current future technologies, and their ability to meet the ambitious standard of 54.4 miles per gallon equivalent across the new vehicle fleet by 2025.

In July 2016, EPA, NHTSA, and the California Air Resources Board released the Draft Technical Assessment Report (TAR) for the Midterm Evaluation of Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards for Model Years 2022-2025.² The more than 1000-page document was quickly, but thoroughly reviewed by stakeholders to meet the deadline for comments 60-days after the report's release.³ Despite the extensive comments that pointed to multiple issues in the Agency's modeling and assessment of current technologies, the EPA issued a Proposed Determination on the appropriateness of the standards for MY 2022-2025, concluding that auto manufacturers could meet the standards at slightly lower per-vehicle costs than

¹ See Federal Register/Vol. 74, No. 239/Tuesday, December 15, 2009/Rules and Regulations, Page 66496

² See EPA-420-D-16-900, July 2016.

³ See Federal Register/Vol. 81, No. 144/Wednesday, July 27, 2016 /Notices, Page 49217.

predicted in the TAR.⁴ With only 30 days to provide comments, which also covered a period that included major holidays, stakeholders rushed to respond to EPA's Proposed Determination by December 30, 2016. Despite the many comments that called on the EPA to rescind the Proposed Determination, and realign the Mid-term Evaluation process with the NHTSA rulemaking to be completed by April 2018, the Administrator signed the Final Determination on January 12, 2017.⁵ On March 22, 2017 Administrator Pruitt and Department of Transportation Secretary Chao filed the Notice of Intention to Reconsider the Final Determination of the Mid-Term Evaluation of Greenhouse Gas Emissions Standards for Model Year 2022-2025 Light-Duty Vehicles.⁶ We commend Administrator Pruitt and Secretary Chao for recognizing the importance of ensuring that Mid-term Evaluation is conducted in a collaborative and data driven manner that seeks to harmonize the greenhouse gas and fuel economy standards set by each agency.

Request for Comment on Reconsideration

In the Request for Comment on Reconsideration of the Final Determination of the Mid-Term Evaluation of Greenhouse Gas Emissions Standards for Model Year 2022-2025 Light-Duty Vehicles and Request for Comment on Model Year 2021 Greenhouse Gas Emissions Standards, the agency specifically requested comments, "relevant to the setting of greenhouse gas emissions standards, including but not limited to: The impact of standards on advanced fuels technology, including but not limited to the potential for high-octane blends."⁷ 25x'25 believes that high-octane fuels are an important compliance pathway given the recognition and endorsement by the Department of Energy⁸, as well as the EPA for the utility of higher-octane fuels to assist in achieving more efficient performance of the nation's new car fleet that will continue to use gasoline in large volumes for many decades to come⁹. Furthermore, in 2011 the Alliance of Automobile Manufacturers recommended increasing the minimum gasoline octane rating, commensurate with increased use of ethanol to help achieve future requirements for the reduction of greenhouse gas emissions.¹⁰ This stance has also been supported by individual automakers.¹¹

It is paramount to note that the co-design of fuels and engines is an important pathway for improving vehicle fuel economy and reducing greenhouse gas emissions, just as the co-design of fuels and emissions was important to reducing criteria emissions in the final Tier 3 fuel standards.¹² Vehicle manufacturers have to constantly consider available fuels when designing vehicles, and the

⁴ See EPA-420-R-16-020, November 2016.

⁵ See EPA-420-R-17-001, January 2017.

⁶ See 40 CFR Part 86, Federal Register/Vol. 82, No. 54/Wednesday, March 22, 2017/Proposed Rules, Page 14671.

⁷ See 40 CFR Part 86, Federal Register/Vol. 82, No. 160/Monday, August 21, 2017/Proposed Rules, Page 39551.

⁸ See DOE Study *Summary of High-Octane, Mid-Level Ethanol Blends Study*, July 2016, <http://info.ornl.gov/sites/publications/files/Pub61169.pdf>.

⁹ See EPA-420-D-16-900, July 2016, P. ES-2.

¹⁰ See Letter from Mitch Bainwol, Alliance of Automobile Manufacturers, to EPA Administrator Lisa Jackson, Re: Changes to U.S. Retail Gasoline, October 6, 2011. "...[T]o help achieve future requirements for the reduction of greenhouse gas emissions, we also recommend increasing the minimum market gasoline octane rating, commensurate with increased use of ethanol. Adding ethanol to gasoline increases its octane rating. To attain necessary octane levels, it is important that refiners not be permitted to reduce base gasoline octane ratings in light of the additional octane contribution from higher ethanol."

¹¹ See, e.g., Cynthia Williams, Ford Motor Company, Comments on Proposed Tier 3 Rule, EPA-HQ-OAR-2011-0135-4349 (July 1, 2013) ["strongly recommending that EPA pursue regulations...to facilitate the introduction of higher octane rating market fuels", noting that they "offer the potential for the introduction of more efficient vehicles."]

¹² See EPA-420-F-14-009, March 2014.

availability of high-octane gasoline for general use could be used by automakers to support phased introduction of higher efficiency internal combustion power trains that are capable of addressing increasingly stringent fuel economy and emissions performance standards in the near future. It is recognized that standards beyond 2025 are considered, high-octane fuel will increasingly be needed to support the deployment of compliant systems, but these technologies are also within reach and should be supported now. The current “Premium” fuel fails to be a viable option because the octane rating is not high enough, and even more limiting is the cost prohibitive status of this fuel in the retail market. Currently, the most cost-effective way of delivering clean, low-carbon, higher-octane fuel is through the use of ethanol. Affordable ethanol can be delivered through the existing, and expanding infrastructure being driven by public and private partnerships.¹³ By providing market certainty through a path to increased octane in regular gasoline, the EPA would open up competition in the marketplace that would allow ethanol producers and feedstock providers like American corn growers the opportunity to supply lower-cost and lower-carbon octane. The USDA has shown that current and future production practices for corn ethanol can result in a lifecycle analysis where the, greenhouse gas (GHG) emissions associated with corn-based ethanol in the U.S. are about 43 percent lower than gasoline when measured on an energy equivalent basis.”¹⁴

All of these points demonstrate unequivocally that an increase in the octane requirements would provide automobile manufacturers technology options to achieve reductions in greenhouse gas emissions, while also improving fuel economy of the nation’s light-duty fleet, providing lower-cost fuels to consumers, and supporting sustainable job growth across America.

Recommendations

First and foremost, it is critical that the reconsideration process of the Mid-Term Evaluation achieve harmonization between the EPA greenhouse gas and NHTSA fuel economy standards to not only provide guidance and certainty to all impacted stakeholders, but also to allow for flexibility in meeting harmonized, federal standards.

EPA should use its regulatory authority under the Clean Air Act to establish a minimum octane level of 98 research octane number (RON). This will help to drive the industry to produce vehicles that are optimized to utilize higher-octane fuels through technologies like higher-compression engines that significantly benefit from the reduced engine knock provided by a high-octane fuel.

EPA should also fulfill its commitment to correct the fuel economy equation (“R-Factor”) to accurately certify vehicles running on ethanol blends by setting the R-Factor at 1.0. While the EPA has not officially made this necessary correction, it is important to note that in the TAR, EPA modeling relied not only on an R-Factor of 1.0, but also utilized 98 RON fuel.¹⁵ Therefore, EPA either needs to correct the modeling that was done in the TAR using an 87 (R+M)/2 fuel, or EPA must ensure that future turbocharged vehicles are only fueled with 93 (R+M)/2 (98 RON) fuel.

¹³ See Co-Optimization of Fuels & Engines Presentation by John Farrell (NREL), Robert Wagner (ORNL), and John Holladay (PNNL) at the DOE FY17 Vehicle Technologies Office: Annual Merit Review. <https://www.nrel.gov/docs/fy17osti/68300.pdf>.

¹⁴ See Flugge, M., J. Lewandrowski, J. Rosenfeld, C. Boland, T. Hendrickson, K. Jaglo, S. Kolansky, K. Moffroid, M. Riley-Gilbert, and D. Pape, 2017. A Life-Cycle Analysis of the Greenhouse Gas Emissions of Corn-Based Ethanol. Report prepared by ICF under USDA Contract No. AG-3142-D-16-0243. January 30, 2017. https://www.usda.gov/oce/climate_change/mitigation_technologies/USDAEthanolReport_20170107.pdf.

¹⁵ See EPA-420-D-16-900, July 2016, p. 5-504.

Additionally, to ensure the benefits of high-octane fuels are available to consumers, it is necessary to move away from specifying the use of “Premium” fuel. To accomplish this, the EPA should amend the language in the Preamble to the Tier 3 fuel standard on page 23527 to read, “...vehicles or engines are considered to require **high-octane** fuel if they are designed specifically for operation on high-octane fuel and the manufacturer requires use of **high-octane** gasoline as part of their warranty...” Additionally, change section 1065.710, TABLE 1, footnote 2 to read “...For engines or vehicles that require the use of **high-octane** fuel...” Changing the language to read high-octane instead of “premium” would allow customers to use specified **high-octane** fuel without reference to marketing “grade.”

Lastly, the agency should take action to approve an alternative certification fuel with 25 percent ethanol and a minimum octane rating of 98 RON. Just as the Department of Energy through its national labs and the Department of Agriculture have recognized the improved life-cycle analysis of corn-based ethanol, so too should the EPA by updating its lifecycle analysis of corn-based ethanol¹⁶, as well as correct its MOVES 2014 model that is currently used to calculate the greenhouse gas emissions from ethanol.¹⁷ Finally, the EPA should provide Reid vapor pressure (RVP) relief to blends of 15 percent ethanol and higher ethanol blends, as these fuels can affordably provide consumers with fuel choices that reduce harmful volatile organic compounds (VOC) and greenhouse gas emissions.¹⁸ High-octane, low-carbon fuels are a near-term solution that can readily be expanded through the use of higher blends of ethanol to achieve both greenhouse gas emissions and fuel economy standards. EPA should utilize the opportunity of the Reconsideration of the Mid-term Evaluation to recognize these benefits and pursue solutions that puts them into place for not only MY 2022-2025 vehicles, but also MY 2018-2021.

¹⁶ See Request for Correction of Information submitted by Dr. Steffen Mueller concerning the U.S. EPA’s Lifecycle Analysis of Ethanol and Gasoline Under the Renewable Fuel Standard, April 11, 2016, <https://www.epa.gov/sites/production/files/2016-05/documents/16004.pdf>.

¹⁷ See O’Shea, W., S. Mueller, I. Caldwell, and J. Lin. (2016) *Evaluation of USEPA MOVES Model Sensitivity to Ethanol Fuel Blends: A Case Study in Cook County, Illinois*. https://www.researchgate.net/publication/309313658_Evaluation_of_the_USEPA_MOVES_Model_Sensitivity_to_Ethanol_Fuel_Blends_A_case_study_in_Cook_County.

¹⁸ See Stolark, J. (2016) “Summertime, When the Living’s Easy.” Environmental and Energy Study Institute. <http://www.eesi.org/articles/view/summertime-when-the-livings-easy>.