



**Testimony of Brian Jennings  
Executive Vice President  
American Coalition for Ethanol (ACE)**

**EPA Public Hearing on the Reconsideration of the Final Determination of the Midterm Evaluation of  
Greenhouse Gas Emissions Standards for Model Year 2022-2025 Light-Duty Vehicles**

**Washington, D.C.**

**September 6, 2017**

My name is Brian Jennings and I am the Executive Vice President of the American Coalition for Ethanol. I am grateful for the opportunity to testify on how ethanol should be part of the solution to meeting CAFE-GHG standards.

We believe the progress made by the CAFE-GHG program will plateau unless EPA increases the octane rating of fuel used in future engines. Unfortunately, the January determination issued by former Administrator McCarthy missed the opportunity to provide high-octane blends a role in improving fuel economy and reducing CO2 emissions. EPA instructed automakers to do a job but wouldn't give them access to one of the most useful tools in the toolbox.

That's why we are encouraged by EPA's reconsideration of the final determination and applaud the Agency for inviting comment on the "impact of the standards on advanced fuels technology, including...the potential for high-octane blends."<sup>1</sup>

With a blending octane rating of 113, American-made ethanol is the lowest cost, lowest carbon source of octane on the planet.

Today, thanks to the Renewable Fuel Standard, more than 15 billion gallons of ethanol is already helping refiners boost the octane of finished fuel. Instead of gearing up their facilities to produce expensive octane from petroleum, most refiners instead choose to make a "V-grade" gasoline blendstock in the neighborhood of 84 octane and add 10 percent ethanol to make an 87 octane finished fuel. Adding ethanol to boost octane saves them money and cuts back on refinery emissions.

Just as refiners have optimized to benefit from ethanol's octane value, automakers want to take advantage of how 25 to 30 percent ethanol can help them realize efficiency gains from technologies such as turbochargers and higher compression ratios in engines which recommend or require the use of high-octane fuel.

But don't simply take my word for it; consider what leading researchers and automakers themselves have to say about the need for increasing the octane rating of fuel.

According to Derek Splitter of the Department of Energy's Oak Ridge National Laboratory "...it is hard to argue the current stagnant fuel octane number can be sustained over the long term...increasing the

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<sup>1</sup> Request for Comment on Reconsideration of the Final Determination of the Mid Term Evaluation of Greenhouse Gas Standards of 2022-2025 MY Vehicles. <https://www.gpo.gov/fdsys/pkg/FR-2017-08-21/pdf/2017-17419.pdf>



octane offers significant motivation to achieve fuel economy and CO2 targets.”<sup>2</sup> DOE’s national labs, Oak Ridge, Argonne, and NREL, issued a report last year which indicated that “E25-E40 could offer significant benefits including fuel efficiency improvement in vehicles designed to use the increased octane.”<sup>3</sup>

As early as 2011, the Auto Alliance wrote a letter asking EPA to increase the octane rating of fuel “...we...recommend increasing the minimum octane rating, commensurate with increased use of ethanol. Adding ethanol to gasoline increases its octane. To attain necessary octane levels, it is important that refiners not be permitted to reduce base gasoline octane in light of the additional octane contribution from higher ethanol.”<sup>4</sup>

According to research by Jim Anderson of Ford Motor Company, “It appears that substantial benefits may be associated with capitalizing on the high-octane rating of ethanol. We estimate large increases (4 to 7 points) in the RON of U.S. gasoline are possible by blending 10 to 20 percent by volume ethanol above the E10 already present.”<sup>5</sup>

BMW already recommends the use of E25 (98-99 RON or 93 AKI) in some models of the MINI Cooper and other vehicles. BMW took this action in response to fuel economy requirements and says “it is MINI’s intention that all new models will be E25 compatible.”<sup>6</sup>

In closing, EPA should establish a minimum octane for fuel as part of its final determination of 2022-2025 MY standards and encourage the continued production of flexible fuel vehicles (FFVs) as a bridge to emerging engine technologies which will be optimized to take advantage of the high-octane benefits of blends such as E25 and 30.

Thank you.

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<sup>2</sup> A Historical Analysis of the Co-evolution of Gasoline Octane Number and Spark-Ignition Engines. Splitter D, Pawlowski A, and Wagner R. *Front. Mech. Eng.* 1:16. DOI: 10.3389/fmech2015.00016 (2016).

<sup>3</sup> Summary of High-Octane, Mid-level Ethanol Blends Study. July 2016. ORNL, NREL, ANL. U.S. Department of Energy. <http://info.ornl.gov/sites/publications/files/Pub61169.pdf>

<sup>4</sup> Letter from Mitch Bainwol, Alliance of Automobile Manufacturers, to The Honorable Lisa Jackson, EPA Administrator. October 6, 2011. (attachment A) <https://www.regulations.gov/document?D=EPA-HQ-OAR-2010-0799-9574>

<sup>5</sup> “High octane number ethanol-gasoline blends: Quantifying the potential benefits in the U.S.” Anderson, J.E. et al, Ford Motor Company. July 2012. <http://www.sciencedirect.com/science/article/pii/S0016236112002268>

<sup>6</sup> “MINI Cooper Shares E25 Know-How with BMW,” Canadian Report on Fuel Ethanol, Vol. 6, No. 5, September 14, 2016.