



September 29, 2017

VIA ELECTRONIC FILING (www.regulations.gov)

Scott Pruitt, Administrator
U.S. Environmental Protection Agency
EPA Docket Center
Office of Air and Radiation Docket
Mail Code 28221T
1200 Pennsylvania Avenue, NW
Washington, DC 20460
ATTN: Docket ID No. EPA-HQ-OAR-2015-0827

Re: 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; Request for Comment on Model Year 2021 Greenhouse Gas Emissions Standards, 82 Fed. Reg. 39,551 (Aug. 21, 2017)

Dear Administrator Pruitt:

The National Farmers Union (NFU) appreciates the opportunity to comment on the U.S. Environmental Protection Agency's (EPA) Reconsideration of the Final Determination of the Mid-Term Evaluation of Greenhouse Gas Emissions Standards for Model Year 2022-2025 Light-Duty Vehicles, 82 Fed. Reg. 39,551 (Aug. 21, 2017). In this notice, EPA also requests comment on the Model Year 2021 Greenhouse Gas Emissions Standards. NFU submits these comments to urge the Administration to promote the use of higher blends of ethanol through regulatory support for high octane fuels.

NFU has nearly 200,000 family farmer, rancher, and fishermen members nationwide and organized divisions in 33 states. We have supported family agriculture and rural communities since 1902: "the family farm is the keystone of a free, progressive, democratic national society, as well as a strong America, and is the basis of a safe, secure and stable food system."¹ The family farm system of agricultural production is truly sustainable, protecting the environment, improving the farmer's quality of life, and enhancing the surrounding communities. Accordingly, NFU promotes the sustainable production of food, fiber, feed and fuel.

Programs that encourage sustainable agriculture through diversified production, improved marketing strategies, and enhanced value-added opportunities are key to reversing the current trend of declining numbers of family farms. As such, we have supported "home-grown fuels

¹ Policy of the National Farmers Union, Art. 1, March 2017, <https://nfu.org/2017-policy/>.

from the farm” for over four decades. The modern biofuels industry has brought billions of dollars of capital investment, millions of dollars of new tax base, and many thousands of new good paying jobs with benefits to struggling rural communities. Domestic utilization of crops helps stabilize and support prices while dramatically reducing carbon emission and improving air quality. At a time when rural America is facing a major financial crisis in the farm sector, the need to reduce the size of price depressing surplus of corn supplies through more aggressive retail use of higher blend ethanol is paramount.

NFU is a grassroots organization, and our policy positions are directed by an annually recurring, vigorously democratic parliamentary process. Our policy supports the use of ethanol as a fuel additive for gasoline formulations to enhance octane levels.² In particular, NFU supports aggressively moving toward use of mid-level blends of ethanol (*e.g.*, E20-E40). Use of higher ethanol blends will provide significant benefits to the rural community and beyond. It will provide a market for the farmers’ production, expanding the economic benefits of diversifying crops and driving investments in rural communities. EPA’s disincentives to move toward higher ethanol blends by favoring other technologies in its existing regulations and its regulatory restrictions on ethanol use limits these investments and benefits to farmers. EPA can address these impacts through changes to its regulations, including those currently under reconsideration. NFU, therefore, has a significant interest in EPA’s actions here.

Increased use of ethanol also will reduce this country’s dependence on foreign fuel sources, and lower transportation fuel prices for consumers. In so doing, food prices, which are significantly tied to costs of transportation, should also be reduced. And, it will create more jobs, while continuing to support food security through, for example, production of livestock feed. As such, we urge EPA to reconsider and revise its regulations to promote these high octane, low carbon fuels.

Thus, NFU appreciates and agrees with EPA’s request for comment on Reconsideration of the Final Determination issued by EPA for the Midterm Evaluation of the 2022-2025 light-duty vehicle rule. As part of the Midterm Evaluation, EPA had agreed to consider whether the existing standards are appropriate under section 202(a) of the Clean Air Act, listing various factors to be considered in 40 C.F.R. §86.1818–12(h). As part of this evaluation, it is appropriate to consider the potential for mid-level ethanol blends—*i.e.*, high octane, low carbon fuels—to move this country toward greater fuel economy and cleaner air. Where EPA acknowledged that high compression engines may be needed to meet more stringent requirements in the future, ensuring the availability of high octane fuels is an important step in this process. Use of high octane, low carbon fuels, such as mid-level ethanol blends, promotes further air emission reductions, better oil conservation and greater energy security. Using higher blends of ethanol also reduces costs to consumers, and automobile manufacturers often point to consumer preference as key to ensuring introduction of new technology. As needed to support incentives

² *Id.* Art. VIII-C-2 and Family Farming and Expanded Higher Ethanol Blend Utilization.

for use of mid-level ethanol blends, NFU also supports harmonization of the EPA and NHTSA regulations, even for model year 2021.

I. STUDIES SHOW THE BENEFITS OF USING MID-LEVEL ETHANOL BLENDS AS A HIGH OCTANE FUEL.

Automakers are looking at higher compression engines to improve thermal efficiency and thereby fuel economy. With higher compression engines, higher octane fuels will be needed to prevent engine knock. “Auto manufacturers support bringing high octane fuels to market that are aligned with future engine technologies and vehicles that are designed and optimized to take full advantage of the performance qualities of those fuels.”³ As one automaker stated: “Higher-octane fuels are the cheapest CO₂ reduction.”⁴

Ethanol offers engine knock resistance at a lower cost than any other octane booster in gasoline. Higher ethanol blends can increase fuel octane without expensive refinery upgrades.⁵ Ethanol is also substantially cleaner than petroleum-based octane additives. It reduces emissions of particulate matter and air toxics such as benzene, toluene, and xylene. Ethanol further provides greenhouse gas (GHG) emissions reductions, which is increasingly important as the carbon intensity of gasoline *is increasing* with greater use of unconventional fossil fuels. At the same time, energy use in ethanol production and lifecycle GHG emissions have decreased with changes in farming practices and increased intensification (*e.g.*, higher yields). Renewable fuels also displace petroleum, promoting energy independence. Testimony at the September 6, 2017 public hearing held by EPA showed overwhelming support for reducing this country’s dependence on fossil fuels and promoting cleaner air. Mid-level ethanol blends easily move this country toward these goals.

Studies presented to EPA on the Draft Technical Assessment Report show the benefits of using high octane fuels on vehicle efficiency.⁶ A recent report issued by Oak Ridge National Laboratory, Argonne National Laboratory and the National Renewable Energy Laboratory cites increased vehicle efficiency, increased acceleration and significant reductions in GHG emissions

³ Comments of the Alliance of Automobile Manufacturers on Draft Technical Assessment Report at 71, Sept. 26, 2016 (EPA-HQ-OAR-2015-0827-4089).

⁴ Eric Brandt, *100-Octane, Super Premium Fuel is Coming to a Pump Near You*, The Drive, May 1, 2017, <http://www.thedrive.com/news/9836/100-octane-super-premium-fuel-is-coming-to-a-pump-near-you>.

⁵ See Anderson, J.E., *et al.*, *High octane number ethanol–gasoline blends: Quantifying the potential benefits in the United States*, Fuel, Vol. 97, July 2012, pp. 585-594 (finding high octane rating of ethanol could be used in mid-level ethanol blend to increase minimum octane number (Research Octane Number, RON) of regular-grade gasoline).

⁶ See, *e.g.*, AIR, Inc., *Evaluation of Costs of EPA’s 2022-2025 GHG Standards With High Octane Fuels and Optimized High Efficiency Engines*, Sept. 22, 2016, Attach. 1 to Comments of Minnesota Corn Growers Association, Minnesota Corn Research and Promotion Council and the Illinois Corn Growers Association, Sept. 26, 2016 (EPA-HQ-OAR-2015-0827-4167).

among the demonstrated benefits of mid-level ethanol blend fuels.⁷ The study found that vehicle manufacturers could benefit from high octane, low carbon fuels as a means to meet future fuel economy and GHG requirements, and serve as a way to increase torque in performance applications. That study also found that feedstock availability and costs are not expected to be obstacles to the substantial development of a high-octane fuel market, with E40 providing the greater fuel cost savings. Consumers would benefit from projected fuel cost savings, reduced price volatility, increased torque in performance applications, and the energy security and environmental attributes of mid-level ethanol blends.

II. EPA CAN, AND SHOULD, UNDERTAKE REGULATORY REVISIONS TO PROMOTE MID-LEVEL BLENDS OF ETHANOL.

A. EPA Should Ease the Ability to Use Mid-Level Ethanol Blends as Certification Fuel.

EPA has acknowledged that mid-level ethanol blends can be approved as certification fuel under 40 C.F.R. §1065.701.⁸ NFU encourages EPA to streamline the approval process for mid-level ethanol blends, as high-octane fuels.⁹ EPA can make findings to facilitate use of mid-level ethanol blends as certification fuel, but may need to make regulatory changes to ensure flexibility to use mid-level ethanol blends more generally.

Section 1065.701(c) lists criteria to obtain EPA approval to use fuels not specified as a test fuel in EPA's regulations. In particular, concerns have been raised with EPA's purported interpretation of the criteria that the fuel be "commercially available."¹⁰ In the preamble to the Tier 3 rule, EPA indicated that manufacturers can petition for approval of a higher octane, higher ethanol content test fuel "if they can demonstrate that such a fuel would be used by the operator and would be readily available nationwide, [and] vehicles would not operate appropriately on other available fuels."¹¹ While EPA made these statements in the preamble to the Tier 3 rule, the regulatory language provides only that there be a demonstration that the fuel "is commercially available." Being available simply means that the fuel is "accessible, obtainable."¹² Mid-level ethanol blends are obtainable in commerce today.¹³ For example, E25 and E30 are considered "common offerings" at retail stations, and current infrastructure can be

⁷ Tim Theiss, *et al.*, *Summary of High-Octane Mid-Level Ethanol Blends Study*, ORNL/TM-2016/42 (July 2016), Attach. to Comments of the Renewable Fuel Association, Sept. 26, 2016 (EPA-HQ-OAR-2015-0827-4174).

⁸ 79 Fed. Reg. 23,414, 23,528 (Apr. 28, 2014) ("Tier 3 Rule").

⁹ See Comments of Alliance of Automobile Manufacturers on Regulatory Reform, Issue 2.2, May 15, 2017 (EPA-HQ-OA-2017-0190-37160).

¹⁰ 40 C.F.R. §1065.701(c)(1)(ii).

¹¹ 79 Fed. Reg. at 23,528.

¹² *available*, <https://www.merriam-webster.com/dictionary/available>.

¹³ See, e.g., Holly Jessen, *E25, E40 for the masses*, Ethanol Producer Magazine, Feb. 4, 2016, <http://ethanolproducer.com/articles/12998/e25-e40-for-the-masses>. Currently, these mid-level ethanol blends are limited to use in FFVs.

used.¹⁴ Further, ASTM International has established specifications for high octane fuels, containing up to 50 percent ethanol (for test fuel) (D8076). This indicates that mid-level ethanol blends are commercially available. Moreover, the D.C. Circuit noted that, if EPA allowed the use of E30 as a test fuel, there would be “substantial reason to think that at least some vehicle manufacturers would use it.”¹⁵ It is unreasonable for EPA to interpret the phrase “commercially available” to mean “readily available nationwide,” as retailers and distributors will not broadly sell a fuel “nationwide” unless a substantial share of automobiles on the road nationally are certified and approved to use the fuel. Thus, EPA should clarify that a fuel need not be “readily available nationwide” as a condition of approval of new certification fuel petitions and, indeed, could make a determination that mid-level ethanol blends are already commercially available.

EPA also should consider providing more flexibility to allow the market to determine the best mid-level ethanol blend to meet the octane needs. The requirement to demonstrate that “vehicles would not operate appropriately on other available fuels” discourages flexibility and innovation, and deters engine makers from pursuing approval of alternative certification fuels. EPA’s regulations note that EPA can require, for engines designed to operate on different fuel types, use of “the most representative fuel mixture.”¹⁶ Thus, seeking approval of E30 should not necessarily prohibit the ability to use E25 or E40 blends that meet the same high-octane level and is representative of emissions from those fuels. This gives retailers and automakers more flexibility in sales and engine design.

To maintain this flexibility, EPA also should reconsider the provisions for ethanol flex fuels in its proposed Renewables Enhancement and Growth Support (REGS) Rule. In particular, EPA proposed to list as a prohibited activity the following: “Sell, introduce, cause, or permit the sale or introduction of gasoline containing greater than 15 volume percent ethanol (*i.e.*, greater than E15) into any model year 2001 or newer light- or medium-duty gasoline motor vehicle.”¹⁷ To the extent mid-level ethanol blends are used as certification fuels, they should not be limited to flexible fuel vehicles (FFVs). This may require additional regulatory action that could slow the process of approving mid-level ethanol blends in newer model vehicles. Moreover, once EPA approves the certification fuel, the manufacturer should be able to make a determination that the approved fuel can be appropriately used in other model year vehicles. In other words, it should not be required to go through a waiver process for the fuel to be used in other model year vehicles under 42 U.S.C. §7545(f). Indeed, there is evidence that mid-level ethanol blends

¹⁴ U.S. Department of Energy (DOE), *Alternative Fuels Data Center: Ethanol Blends*, https://www.afdc.energy.gov/fuels/ethanol_blends.html (last updated Mar. 16, 2017); DOE, *Clean Cities Blog: Key Considerations for E85 and Other Ethanol Blend Infrastructure*, July 20, 2016, <https://cleancities.energy.gov/blog/key-considerations-for-e85-and-other-ethanol-blend-infrastructure>.

¹⁵ *Energy Future Coal. v. EPA*, 793 F.3d 141, 146 (D.C. Cir. 2015).

¹⁶ 40 C.F.R. §1065.701(c)(3).

¹⁷ 81 Fed. Reg. 80,828, 80,975 (Nov. 16, 2016) (proposed 40 C.F.R. §80.1564(a)(3)). EPA would exclude use of higher ethanol blends in FFVs from this proposed prohibition.

does not adversely impact non-FFV vehicles on the road today,¹⁸ and EPA treats all gasolines as being of homogenous composition.

We understand that allowing for flexibility may result in the need to update EPA's fuel registration process under 40 C.F.R. Part 79. EPA's fuel registration requirements can be an obstacle to approval of new fuels. The environmental and human health benefits of ethanol have been thoroughly analyzed and are well understood. The same is true for information on emissions impacts, materials compatibility, and effects on "driveability." EPA should simplify and streamline its interpretation of statutory fuel registration requirements.

B. The R-Factor Used to Assess Fuel Economy Should be Adjusted to Account for Ethanol Content in Fuels.

Vehicle fuel economy is measured in two steps. First, the amount of carbon in the test fuel and in the exhaust emissions is measured. Then, the fuel economy value is derived using a complex fuel economy equation (40 C.F.R. §600.113-12).

The current fuel economy equation includes adjustments meant to control for changes in the test fuel from testing in 1975 that affect fuel economy.¹⁹ One adjustment is known as the R Factor, which is intended to represent the response of a typical vehicle's fuel economy to small changes in the fuel's energy content.²⁰ The current equation in the regulations uses an R-factor of 0.6 based on data from the 1980s. This factor fails to adequately adjust for changes in the test fuel with increased ethanol volume, as required by law.

EPA has admitted that it would need to update the test procedure adjustments if the certification test fuel is changed to include ethanol.²¹ EPA has found that the ethanol content of a fuel can affect the R-Factor. In response to comments on the Tier 3 rule, EPA acknowledged that changes may be warranted, but that more information was needed.²² EPA can and should update the R-factor to address use of higher ethanol blends. There is sufficient information to show that the current factor is too low, and should be closer to 1.²³ "With [a] correct R Factor, high-octane mid-level blends can offer real CAFE as well as GHG benefits."²⁴ Making this adjustment would allow automakers to use the new test fuel for purposes of compliance with the fuel economy requirements without being unfairly penalized for using a test fuel with a lower energy content.

¹⁸ NFU incorporates by reference its comments on EPA's REGS proposal (EPA-HQ-OAR-2016-0041-0301).

¹⁹ EPA-HQ-OAR-2011-0135-0604.

²⁰ *Id.* at 3.

²¹ 77 Fed. Reg. 62,624, 62,777-62,778 (Oct. 15, 2012).

²² EPA, Control of Air Pollution from Motor Vehicles: Tier 3 Motor Vehicle Emission and Fuel Standards Summary and Analysis of Comments, at 4-353 (Mar. 2014).

²³ See Brian West, Oak Ridge National Laboratories, DOE, *High Octane Fuels Can Make Better Use of Renewable Transportation Fuels*, Presentation at Biomass 2014, Washington, DC, July 29-30, 2014, slide 11.

²⁴ *Id.*

The purpose of the fuel economy requirements is to reduce petroleum consumption. Increased use of ethanol does just that. EPA should promote energy independence by supporting mid-level ethanol blends.

C. EPA Should Also Reconsider its Reid Vapor Pressure Requirements for Higher Ethanol Blends.

Ethanol itself has a low Reid vapor pressure (RVP) rating. It is the petroleum gasoline portion of the fuel that can cause the RVP to increase. At higher blends, such as E30, the RVP should not be an issue, as the higher volume of ethanol counteracts potential increases based on the petroleum gasoline. Nonetheless, EPA should consider its options to remove any obstacles to sale of ethanol blends above E10 based on the RVP requirements in 42 U.S.C. §7545(h).

EPA's regulations currently restrict the 1 psi waiver exemption for ethanol blends to fuels with an ethanol content of "at least 9% and no more than 10% (by volume) of the gasoline." 40 C.F.R. §80.27(d)(2). But the statute refers to "fuel blends" with gasoline and 10 percent ethanol, and increasing the volume of ethanol should *reduce* the fuel's volatility. By restricting the 1 psi waiver to gasoline with no more than 10 percent ethanol, EPA's interpretation discourages the use of higher ethanol blends even though ethanol itself has a lower volatility and numerous air quality benefits to burning petroleum-based gasoline, undermining the objectives the RVP control program and increasing pollution.

The ethanol and automotive manufacturing industries have also suggested an alternative approach to issuing a broader waiver; that is, imposing lower RVP limits on the petroleum gasoline blendstock. While EPA referenced potential adverse impacts on fungibility of fuel, there is precedent showing the gasoline blendstock can be set at a lower RVP to protect against exceeding 9 psi to address air quality concerns.²⁵

III. EPA SHOULD INSTITUTE CREDITS TO SUPPORT VEHICLES THAT PROMOTE INCREASED USE OF RENEWABLE FUELS.

Congress established policies, which were intended to work together, to promote production of U.S. biofuels and, thereby, energy independence. These policies include the Renewable Fuel Standard (RFS) program and revisions to the Corporate Average Fuel Economy (CAFE) standards. The RFS program, in particular, has worked to support growth in the use of renewable fuels, including ethanol, since 2005. EPA's GHG emission regulations should work hand-in-hand with RFS program, supporting biofuels.

Despite the requirements in the RFS to promote increased production of renewable fuel, EPA has, in recent years, sought to reduce the statutory volumes based on concerns over *use*. In particular, EPA has sought to limit the program based on a so-called ethanol "blendwall." Even

²⁵ 81 Fed. Reg. at 80,851.

EPA's most recent proposal continues to seek to limit the growth of ethanol use, as ethanol moves increasingly toward advanced feedstocks. EPA has, nonetheless, pointed to the RFS to explain why it need not support renewable fuels under its GHG requirements.²⁶ EPA then essentially ignores how increased use of ethanol can support compliance with the MY2022-2025 CAFE and GHG standards and beyond. EPA cannot have it both ways. As part of its mid-term evaluation, then, it should re-consider whether incentives can be provided to automakers to ensure vehicles being produced consider the increased use of renewable fuels.

One way to promote mid-level ethanol blends, and thereby higher-octane fuels, is to restore meaningful credits for FFVs and to establish a new incentive for engines optimized for efficiency on mid-level ethanol blends. The 2017-2025 standards included incentives for automakers to increase production of certain alternative fuel vehicles, but, along with 2014 guidance from EPA, discouraged production of FFVs. FFV production has been impacted by EPA's unfair treatment of FFVs, compared to other alternative fuel vehicles. Incentives to stimulate the production of vehicles that produce the benefits sought, and reduce costs to consumers, are appropriate. As such, EPA should restore an equitable utility factor for FFVs through MY2025 and adjust the "F Factor" upward to account for greater penetration of E85 in the marketplace.

In addition, EPA has acknowledged that raising octane levels could enable "LDGHG standards that go beyond the 2025 standards."²⁷ Thus, automakers that take action to move ahead of the curve should be able to obtain credits toward meeting the GHG/CAFE requirements. Such incentives could be tied to use of higher ethanol blends, thereby supporting those efforts to provide mid-level ethanol blends at the pump but also better ensure the benefits of these higher performing engines. But, EPA should not unduly restrict such incentives as it did with FFVs. Providing such incentives will create better benefits and move the country toward more efficient vehicles and higher octane, lower carbon fuels. It is also consistent with EPA's interpretation of its authority under section 202 to provide incentives to push new technologies and with the CAFE requirements, which support credits for moving the envelope forward. Introduction of these better performing fuels and engines are needed, and we believe consumers will reap the benefits and continue their use.

IV. EPA'S EMISSIONS MODELING SHOULD BE ADJUSTED TO BETTER ACCOUNT FOR THE BENEFITS OF ETHANOL FOR AIR QUALITY.

A. Ethanol Provides Air Quality Benefits, Which May Not Be Accurately Reflected in EPA's Current Models.

Ethanol, a renewable fuel, changes the emissions profile of gasoline, creating a cleaner, safer motor vehicle fuel. Real-world evidence shows use of ethanol blends reduces emissions of

²⁶ 77 Fed. Reg. at 62,823.

²⁷ EPA Presentation, *EPA's Regulatory Authority to Address Octane*, MSTRS Meeting, May 5, 2015, at 6.

carbon monoxide, particulate matter, air toxic chemicals, and greenhouse gases compared to burning petroleum gasoline. With higher octane fuels, and related engines discussed above, the motor fuel can burn even more efficiently. This results in better overall air quality than when vehicles burn conventional gasoline, significantly improving public health.

Concerns have been raised regarding the models used by EPA to determine emissions from fuels. Third-party reviews have shown that MOVES2014 may be inadequate as a tool for estimating the exhaust emissions of gasoline blends containing more than 10 percent ethanol. The model's results for mid-level ethanol blends have been shown to be inconsistent with other results from the scientific literature for both exhaust emissions and evaporative emissions, including results from real-world emissions testing.²⁸ The problems with MOVES2014 have been tied to the model's use of data that misrepresents the actual parameters and composition of mid-level ethanol blends. EPA should consider conducting a new study that better reflects mid-level ethanol blends and update its model.

B. Recent Assessments Show Continued Improvements in GHG Lifecycle Analysis, Finding Greater Emissions Reductions for Ethanol Compared to Petroleum Gasoline Than EPA Has Estimated.

The Energy Independence and Security Act of 2007 required EPA to conduct lifecycle GHG emissions analysis to identify the renewable fuels eligible to meet the various categories under the RFS program. EPA conducted this analysis for corn-based ethanol as part of the 2010 RFS rulemaking. Since that time, published studies and more recent data have improved the understanding of corn ethanol's lifecycle GHG impacts.²⁹ As noted above, U.S. farmers have responded to demand and concerns by moving toward sustainable practices *and intensification*, not land expansion. The land use aspect of EPA's analysis has not been experienced in the real world.³⁰

²⁸ See, e.g., Roger Wayson, et al., *Evaluation of Ethanol Fuel Blends in EPA MOVES2014 Model* (Jan. 2016), available at <http://www.ethanolrfa.org/wp-content/uploads/2016/01/RFA-MOVES-Report.pdf>; see also Request for Correction on EPA's EPAAct/V2/E-85 Fuel Effects Study and Motor Vehicle Emissions Simulator Model (MOVES2014) (RFC17001), submitted by Kansas, Nebraska, Energy Future Coalition and Urban Air Initiative, Jan. 19, 2017.

²⁹ See, e.g., ICF, *A Life-Cycle Analysis of the Greenhouse Gas Emissions of Corn-Based Ethanol*, Report prepared for U.S. Department of Agriculture (Jan. 2017), available at https://www.usda.gov/oce/climate_change/mitigation_technologies/USDAEthanolReport_20170107.pdf.

³⁰ See, e.g., Bruce A. Babcock and Zabid Iqbal, *Using Recent Land Use Changes to Validate Land Use Change Models*, Iowa State University Center for Agricultural and Rural Development, Executive Summary (2014), available at <http://www.card.iastate.edu/products/publications/pdf/14sr109.pdf> ("The contribution of this study is to confirm that the primary land use change response of the world's farmers from 2004 to 2012 has been to use available land resources more efficiently rather than to expand the amount of land brought into production. ... Our conclusion that intensification of agricultural production has dominated supply response in most of the world does not rely on higher yields in terms of production per hectare harvested. Any increase in yields in response to higher prices would be an additional intensive response."); see also Renewable Fuels Association, *USDA Data Show Cropland Reductions in Counties with Ethanol Plants from 1997-2012*, April 3, 2017, available at

Despite these advancements in lifecycle analysis, EPA has chosen not to acknowledge the significant overall benefits of increased ethanol use with respect to GHG reductions compared to petroleum-based gasoline. While requests to update the RFS lifecycle analysis have been rejected by EPA to date, the RFS statute includes specific parameters of how that analysis must be conducted, and this should not limit EPA's analysis of GHG benefits of ethanol blends. These newer studies and data show greater emissions reductions associated with corn ethanol, which is even more pronounced where more unconventional sources and heavier crudes are being used for gasoline today than in 2005 – the baseline used under the RFS. EPA, however, has declined to consider the significant GHG impacts of burning petroleum gasoline and the benefits of increasing use of renewable fuels beyond tailpipe emissions.

* * *

The family farm forms the backbone of this country. As discussed above, biofuels have played an important role in supporting family farms, which have faced significant pressure to stay in production from many sides and a struggling economy. NFU strongly encourages EPA to make appropriate regulatory changes to support increased use of mid-level ethanol blends, which are high octane, low carbon fuels. As has been shown by numerous studies, ethanol provides significant air quality benefits, in addition to providing much needed jobs and creating stability in markets providing benefits and promoting investments in the rural economy.

NFU appreciates EPA's efforts to address GHG emissions and, thereby, climate change and the climate resilience it brings to the food system. We support EPA's request for comments on the Mid-term Evaluation and urge EPA to reconsider its treatment of mid-level ethanol blends in its vehicle regulations, as well as looking to ensure harmonization with NHTSA's requirements to support incentives for high octane fuels. Virtually all parties, including EPA, acknowledge the GHG and fuel economy benefits of high octane fuels in more efficient engines, and the cost-effectiveness of using higher ethanol blends to meet the goals of these requirements.

We stand ready to offer any support and assistance EPA may find helpful regarding these matters. Thank you for your consideration of these comments.

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Sincerely,

A handwritten signature in black ink, appearing to read "Roger Johnson". The signature is written in a cursive style with a large initial "R" and a long, sweeping underline.

Roger Johnson
President