

Comments of
Clean Fuels Development Coalition
Nebraska Ethanol Board
Nebraska Ethanol Industry Coalition

On the U.S. Environmental Protection Agency's

[Docket ID No. EPA-HQ-OAR-2018-0167](#)

Re: Renewable Fuel Standard Program: Standards for 2019 and Biomass-Based Diesel Volume for 2020; Proposed rule, 83 Fed. Reg. 32,024 (July 10, 2018)

Please direct inquiries to:
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The Honorable Andrew Wheeler
Acting Administrator
U.S. Environmental Protection Agency
EPA Docket Center
Air and Radiation Docket
Mail Code 28221T
1200 Pennsylvania Avenue, NW
Washington, DC 20460

ATTN: Docket ID No. EPA-HQ-OAR-2018-0167

Re: Renewable Fuel Standard Program: Standards for 2019 and Biomass-Based Diesel Volume for 2020;
Proposed rule, 83 Fed. Reg. 32,024 (July 10, 2018)

Dear Acting Administrator Wheeler:

The Clean Fuels Development Coalition (CFDC) and several other like-minded groups listed below (CFDC et al.) appreciate this opportunity to respond to your agency's request for comments regarding the Renewable Fuel Standard (RFS) and the 2019 Renewable Volume Obligation (RVO).

CFDC is a non-profit organization established in 1988 to support the development of alternative fuels that can reduce harmful emissions, promote energy independence, and stimulate the economy. CFDC members and supporters include agricultural, ethanol, automotive, engineering, and public interest groups. The Nebraska Ethanol Board (NEB) is a state agency supporting ethanol production and use in Nebraska and the development of markets nationwide. NEB Board members and staff have been directly involved in major legislative and regulatory actions since 1970. The Nebraska Ethanol Industry Coalition is a group of state stakeholders supporting ethanol and cleaner fuels.

We commend EPA for its on-time proposal and providing us the opportunity to comment. Releasing these volume proposals in a timely manner allows for planning and stability in the market. It is our hope that the 2019 volume requirements will be finalized by the November deadline to further support market development to meet future requirements and intended outcomes for the RFS.

We are heartened to see the rule proposed by EPA allows for continued use of 15 billion gallons of conventional biofuels to meet RFS requirements. The proposal is consistent with the President's statements of support for the corn ethanol industry but this target only works if EPA implements the program in a way that honors Congressional intent now and in the future.

We are very concerned about the waivers granted to refiners that have reduced demand for ethanol by about 2 billion gallons. Additionally, reports that retroactive waivers have been granted to refineries outside the small refinery definition are very concerning as well because supplies of ethanol are plentiful and readily available at a lower cost than gasoline. The biofuels targets are a modest requirement that refiners and other obligated parties can and have met with ease. The use of ethanol, biodiesel, or other renewable fuels is intended to meet the range of public policy objectives established in the Energy Policy Act of 2005 that established the RFS. These renewable standards were well known and obligated parties have had more than a decade to prepare to meet them while the ethanol industry has responded with adequate production in a very timely manner. In your statements to Congress and in other public forums you have vowed to usher in a new era of transparency at the Agency. Nowhere would these be more welcome than in dealing with these waivers.

CFDC et al. recommend EPA not change the course of a successful RFS history or Congresses' original intent to generate billions of dollars in capital investments in the agriculture and bioenergy sectors while saving billions of dollars consumers spend for transportation fuels.

Ethanol is already providing relief for U.S. refiners. Ethanol replaces more expensive crude oil inputs at a nearly 2 to 1 pace and while also reducing the cost of crude oil processing and its related carbon emissions. Ethanol also helps refiners meet Clean Air Act Amendments of 1990 (CAAA) standards so they do not have to increase toxic/carcinogenic aromatics which are also some of the most carbon-intensive processes in the refinery. Furthermore, considering ethanol is less expensive than gasoline and especially lower cost than the most popular hydrocarbon-based octane enhancers that include benzene, toluene methylbenzene, ethylbenzene, and xylene dimethylbenzene. This part of the family of aromatics is commonly referred to as BTEX, which are the most lethal part of the gasoline mix. The multitude of other less known benzene-ringed aromatics make up the other half of the remaining aromatic content and are considered even more toxic when it comes to creating more particulate matter (PM) from gasoline as well as benzene tailpipe emissions.

We believe EPA should change what's appears to be its intent to create roadblocks, detours, and off ramps for the only legal and commercially viable replacement for nearly 8 billion gallons of benzene. Instead, we suggest EPA find innovative ways to quickly dismantle the regulatory barriers it has created. This change of direction would unleash free market forces allowing the agency to stimulate both urban and rural economies, hundreds of thousands more quality jobs, eliminate billions of dollars in oil imports, and save taxpayers and businesses billions of dollars in environmental and public health-related costs. The intended consequences include cleaner fuel, cleaner air, healthier citizens, a robust economy -- and EPA's actions will once again be aligned with Congressional intent.

The RFS continues to meet the intent of Congress and the objectives of the legislation, which was much more than just gallons of ethanol replacing gallons of gasoline and starting a war over the market share for transportation fuel. It is the multiplicity of the benefits of the RFS (i.e., energy, environmental, economic, national, and personal security) which made it a bipartisan success story and one of the most effective pieces of legislation in recent history. For example:

1. Ethanol reduces the emission of greenhouse gases (GHG/'s) that drive climate change. EPA needs to stop ignoring the progress ethanol has made in reducing greenhouse gases in processing and feedstock production. While this may have been a concern during the 1980's, today corn ethanol is exceeding many expectations and has a bright future to make even more progress. USDA's study—which largely tracks the methodology of EPA's 2010 lifecycle analysis (LCA)—estimates that in 2014 corn ethanol was 43% less carbon intensive than EPA's 2005 gasoline baseline, and that corn ethanol's advantage will grow to 48% by 2022 (see Urban Air Initiative RVO Comments to EPA for 2018 www.cleanfuelsdc.org/UAI2018EPARFSCOMMENTS). Now consider the carbon numbers for gasoline are going down as new sources of crude oil (tight and Canadian) require more processing and octane.

Reducing greenhouse gases and studying the impact of climate change is also very important to our military, national security and will likely impact immigration policies in the future.

2. Ethanol reduces mobile source air toxic (MSAT) pollution and thus health care costs. The U.S. consumes about 140 billion gallons of gasoline which contain 31 billion gallons of toxic/carcinogenic aromatics (which cause benzene tailpipe emissions), and as part of the aromatic content subset about 9 billion of those gallons of aromatics are still benzene – even after the American Petroleum Institute said the safe threshold for the chemical was zero – in 1948! The remaining 14 billion gallons of the “gasoline pool” is ethanol which is required by the U.S. renewable fuel standard (RFS). Therefore, any reduction in the RVO should be considered backsliding and antidumping under the CAAA restrictions for the aromatics ethanol replaces. According to research in *Lives per Gallon: The True Cost of our Addiction to Oil*, “The Institute for Transportation Studies at the University of California at Davis places the minimum external cost of air pollution from motor vehicles in the U.S. at \$24.3 billion each year.^[i] That would equal 17 cents per gallon health care tax at the pump. Other studies place air pollution health care costs up to \$672 billion, which would be adding as much as an extra \$2 per gallon health care toll on the consumer. And then consider ethanol is less expensive than the current toxic/carcinogenic replacement. Protecting public health and reducing health care costs is also a concern to the Department of Health and Human Services because ethanol will save billions of dollars in federal and state Medicaid and Medicare tax dollars. Your agency’s own estimates show the CAAA gets a \$30 to \$1 return on policy investment. Millions of lives saved, diseases and birth defects avoided, and health care costs lowered – all partly attributed to the RFS.

3. Ethanol drives investment in rural communities as was quantified in the comments by the National Farmers Union (www.cleanfuelsdc.org/NFURFSCComments2019). The Renewable Fuels Association also quantified the economic impact of ethanol in its annual analysis – all which was made possible by the RFS. From a jobs perspective, transitioning from OPEC oil to renewable ethanol would be the equivalent of adding up all the employees at GM, Ford, Chrysler, and all of the coal miners in the United States – and providing them with \$34 billion in new paychecks (see Table 1). Today’s ethanol industry has already created more direct jobs than Exxon Mobil employees and more indirect and induced jobs than the top ten U.S. oil companies have in total employees. In this way not circumventing the goals of the RFS helps the administration reach its goal of creating more manufacturing jobs in the Midwest. The RFS also supports the U.S. Department of Agriculture to meet its sustainable agriculture and rural economic development objectives – while reducing the burden of rural migration to cities which places an economic burden on our Governors and Mayors.

Table 1: Economic Stimulation from the RFS

Domestic Ethanol or OPEC Oil?	Billion Gallons Per Year	Contribution to GDP (\$Bil./Yr.)	Total Jobs	Added Income (\$Bil./Yr.)
Current Ethanol Production and economic stimulation (i.e., The RFS)	15.8	44	358,799	24
If Ethanol replaces OPEC Oil Imports in Gasoline Equivalent, 1.4 x increase over current ethanol economic stimulation numbers	21.9	31	502,318	34
Totals	37.7	75	861,117	58

Source: Clean Fuels Development Coalition OPEC equivalent and total estimates based on the study by [ABF Economics study](#) prepared for the Renewable Fuels Association.

4. The integrity of the RFS and future ethanol supplies were a critical part of CFDC’s recommendation to EPA and NHTSA in our Mid Term Evaluation comments. We and other stakeholders believe that the revised standards should encourage an orderly transition to the widespread availability of 98-100 RON fuel suitable for use in advanced higher-compression light-duty vehicles. Specifically, EPA and NHTSA should ensure that the higher octane compounds used to reformulate such higher quality fuels must meet minimum standards: reduced carbon footprint; affordable and widely available; compatible with vehicle manufacturers’ requirements; environmentally safe; and compliant with applicable statutes and Clean Air Act requirements. In defining the ideal “fuel of the future”, automakers have identified six priority characteristics: RON, sensitivity, sulfur content, volatility, PM properties, and Heat of Vaporization (HoV) (see the table in Attachment D presented by General Motors’ experts to the ASTM Octane Work Group. Ethanol—specifically E30+ high octane—is the only gasoline component that checks all six boxes. (See www.cleanfuelsdc.org/CFDCMTEGHGComments2017). Therefore the RFS will help automakers get the octane needed while helping refiners meet octane needs without violating Section 202 (I), anti-dumping, and/or backsliding provisions of the CAAA.
5. Ethanol reduces U.S. dependence on foreign fuel sources. This is very important as the nation still imports about 25% of its crude oil needs from OPEC at a cost of \$60 billion. It’s hard to imagine EPA giving OPEC’s refinery customers a waiver from the RFS considering their efforts to work with Russia to drive up the price of world crude oil prices. “The curbs by the oil cartel OPEC and partners [like Russia] have brought global oil supply and demand back into balance, to a degree that the International Energy Agency recently said it was “mission accomplished”. The result, Brent crude oil hits \$80 per barrel. Together, OPEC and Russia produce more than 40% of the world’s oil.”^{vi} Supporting the development of domestic liquid transportation fuels is important for meeting many of the goals of the U.S. Department of Energy and U.S. Department of Commerce.
6. Ethanol lowers transportation fuel and crude oil prices for consumers. The additional supply of ethanol resulting from the RFS lowers gasoline prices two ways, 1) at the pump because ethanol is less expensive than gasoline or other octane enhancers, 2) it adds a high octane finished product to the fuel supply. In 2008, the [Department of Energy’s National Renewable Energy Laboratory \(NREL\) estimated that ethanol saved consumers 17¢ per gallon on gasoline purchases](#). At that time ethanol production was 9.3 billion gallons per year. DOE estimates that if ethanol got to be 20% of the gasoline pool it could save up to 63¢ per gallon. Merrill Lynch did a study in 2008 and estimated ethanol saved consumers 50¢ per gallon. Other studies cited in the NREL study averaged in the 20-30¢ savings range. The average price of gasoline in 2008 was \$3.20. [A study by the Renewable Fuels Association](#) shows ethanol supplies reduced wholesale gasoline prices by \$1.09. Today, ethanol is 72¢ per gallon less expensive than gasoline at the wholesale level. When just comparing 90% of wholesale gasoline at \$2.13 and 10% ethanol at \$1.44, consumers are saving about 8¢ per gallon at the wholesale level – which is not being passed along by the refiners to the consumer at the retail level (and don’t forget the 50 cents that is tacked on for higher octane). Oil companies have a history of testifying before Congress saying saving their customers money is their top priority. This commercially available product is also a deterrent to anti-competitive strategies deployed by OPEC and the cartel’s allies like Russia designed to drive up the world price of crude oil. For example, world crude oil prices were \$30.24 in January of 2016 and \$54.17 in January when OPEC’s deal/strategy to cut world crude oil production by 1.8 million b/d. Today crude oil is \$73.80 and it reached \$80 for the first time since 2014. U.S. ethanol production displaces 2.2 million b/d of crude oil imports. In this way, the [RFS helps everyone](#) in the world by lower crude oil prices, which lowers the price of everything, including food.
7. The RFS opens the transportation fuels market to competition -- a sector of the economy with a long history of unfair trade practices. For example, Congress had to pass the “[Gasohol Competition Act of 1980](#)” to protect independent gasoline marketers that want to sell ethanol blends. Congress then used

the RFS to bust a 100-year crude oil/gasoline monopoly on the transportation sector. Ethanol represents the only legal and commercially available product that can displace gasoline in existing cars with existing refueling infrastructure – and most importantly replace the toxic/carcinogenic aromatic component in gasoline. Ethanol advocates are working with [The Federal Trade Commission’s Antitrust Division’s Competition Advocacy Program to address anticompetitive practices in the motor vehicle fuel market by urging EPA to remove regulatory barriers](#) to low-cost, octane-rich, clean blends of gasoline with higher concentrations of ethanol and other clean alternative fuels. This effort would save customers money at the pump, and it is essential to a successful outcome of the pending rulemaking on fuel economy standards – and meeting the final goals of the RFS – which will need the consumer to use more than 15% ethanol in their legacy vehicles. The free market must remain free for all and EPA must clear the path.

8. The RFS has significant health benefits. According to the Massachusetts Institute for Technology, 200,000 people die prematurely because of air pollution. They estimate about 50,000 of those deaths are from transportation-related pollution. Therefore, 150,000 die from stationary source pollution – so electric vehicles are not going to be the perfect solution to replace gasoline. Our health effects study research illustrates how air pollution, and specifically small particulate matter and mobile source air toxics can lead to many illnesses and death. Now consider that seven of the “Top 10 Causes of Death” in the U.S. are associated with the research we discovered about the harmful health effects from air pollution (see Table 2). Air pollution that includes mobile sources, which includes Mobile Source Air Toxics (MSATs), which includes benzene and benzene emissions from burning other aromatic octane enhancers. Now consider the RFS waivers EPA provided refiners just put 1.5 billion gallons of toxics back into the gasoline pool.

Table 2

Top 10 Causes of Annual Deaths in the United Statesⁱⁱ

(7 out of the top 10 causes are also related to health effects from air pollution)

1. Heart disease deaths - 614,348
2. Cancer deaths - 591,699
(Men lung - 85,920 — Women lung 72,160/Breast 40,450)
3. Respiratory disease/COPD deaths 147,101
4. Accidental deaths 136,053
5. Stroke deaths 133,033
6. Alzheimer's disease deaths 93,541
7. Diabetes deaths 76,488
8. Influenza and pneumonia deaths 55,227
9. Kidney disease deaths 48,146
10. Suicide deaths 42,773

Note: Contribution to death from climate change, greenhouse gases, fighting wars, and terrorism is not included.

We are quite aware that the heart of the opposition to the RFS centers on the credits and trading system of Renewable Identification Numbers (RINs). These RINs are a function of supply and if more ethanol was allowed—not required—to enter the market it would generate RINs that would drive down the cost of compliance for everyone. The key to increasing that supply is for EPA to address several regulatory impediments that would without question result in an increase in ethanol volumes used. EPA’s new modern-day legacy of supporting clean-burning fuels to clean the air and protect public health can start right now. We respectfully submit the following actions we believe EPA can take to address all of the aforementioned issues and keep the nation on track to lead the world in clean fuel development with a strong and enforceable RFS.

1. **Correct EPA Interpretation of 211(f) Substantially Similar Law:** Boyden Gray & Associates—on behalf of the Urban Air Initiative, National Farmers Union, and numerous other stakeholders—has filed a legal memorandum with EPA to correct its mistaken interpretation of the so-called “sub-sim” provision in the Clean Air Act. UAI et al. submitted comments in opposition to EPA’s 2017 REGS rule, which would have codified its prohibition against using E15 and higher blends in non-FFV vehicles. [EPA did not finalize the REGS Rule, therefore EPA’s sub-sim position has NOT been codified.] However, as of January 1, 2017, E10 is the nation’s certification fuel (meaning that ethanol is a fuel additive used in certification and therefore cannot be controlled under 211(f)). If EPA wishes to control the use of EXX/E30 blends in standard (non-FFV) vehicles, the legal burden of proof is on it to show that higher ethanol blends damage emissions control systems, or exacerbate tailpipe emissions.
2. **REGS Rule:** We are extremely concerned that EPA added the REGS rule to the unified agenda of proposed rules for this year as it contains this prohibition of higher blends and should be struck from the rule before it goes any further.
3. **Certification Fuel Approval:** EPA should expeditiously approve the use of a mid-level ethanol certification fuel (e.g., E25 – E30), allowing manufacturers to design optimized, high compression vehicles for use of 98 – 100 RON gasoline as #1 above is implemented over time.
4. **MOVES2014 Model Reform:** EPA/OTAQ should suspend use of its defective MOVES model—which relies on manipulated fuel samples provided by oil interests—and remedy its many flaws. Contrary to what happens in the real world, EPA added toxic aromatics and other “high boilers” to higher octane ethanol blends, and then deceptively attributed the higher emissions to ethanol rather than aromatics. States that use the MOVES Model for State Implementation Plan compliance will be deterred from permitting use of EXX blends until this model is corrected.
5. **Redo EPA’s 2007 Mobile Source Air Toxics (MSAT) Cost-Benefit Rule:** EPA used obsolete and fallacious factual predicates in its 2007 MSAT rule which was deliberately shaped to show that replacing toxic aromatic hydrocarbons (BTEX) with higher octane ethanol would not be cost effective. If EPA fulfilled its mandatory obligation under Section 202(1) of the Clean Air Act, and controlled BTEX content in order to reduce MSAT emissions “to the greatest achievable degree”, the MOVES model would by definition become unusable.
6. **Update the Lifecycle Analysis:** EPA should immediately revise its outdated estimate of ethanol’s lifecycle carbon emissions (the last iteration was in 2010), and bring it into line with the updated Argonne National Laboratory GREET model. Among other changes, EPA’s LCA models should recognize the ability of high-yield corn to restore soil organic matter, which transforms corn acres into substantial carbon sinks. Both EPA and CARB should adjust their carbon intensity (CI) factors for corn ethanol downward.

7. **Support the Minimum 98–100 RON Octane Standard for Gasoline:** Take advantage of the newly announced GHG – CAFE rulemaking to require an orderly transition to a nationwide minimum 98 – 100 RON gasoline standard. [Precedent: successful transition from leaded to unleaded gasoline in the 1980s.]
8. **Reinstate FFV Type Credits:** EPA should reinstate some meaningful vehicle credits to incentivize automakers to design engines to utilize ethanol's high octane. FFV credits have been effectively eliminated despite being no cost to consumers or taxpayers. Automakers have particularly expressed interest in being able to pro-rate the FFV credits calculated on E85 usage to midlevel blends that would be used to provide the above-noted octane.
9. **RVP Waiver:** Correct the Agency's longstanding misinterpretation of the Vapor Pressure Waiver which former Administrator Pruitt repeatedly indicated EPA could do.
10. **RFS Waiver:** EPA needs to restore 1.5 billion gallons of lost ethanol demand due to the RFS waiver for small refiners and place the burden of relief on suppliers of crude oil imports.
11. **Enforce Toxic Provisions of the CAAA:** EPA needs to enforce the Section 202 (l) in the CAAA to remove mobile source air toxics [aromatics] to the extent possible.

Conclusion

The RFS is an important public policy with far-reaching direct and indirect benefits for the vast majority of Americans. CFDC strongly encourages EPA to enforce the 15-billion-gallon requirement for conventional biofuels and to increase the advanced biofuel volume requirements for 2019. Recent wavering on the RFS has caused enormous setbacks in advanced biofuels, including cellulosic biofuel development, and, consequently, delayed important GHG and mobile source air toxic emission reductions. But EPA can still regain some lost ground and CFDC would be supportive of and most grateful for such efforts. We stand ready to offer any support and assistance EPA may find helpful regarding these matters. Thank you for your consideration of these comments.

Sincerely,

Douglas A. Durante
Executive Director

⁽ⁱ⁾ Mark A. Delucchi, "Environmental Externalities of Motor-Vehicle Use in the US," *Journal of Transport Economics and Policy* 34, part 2 (December 1999): 135–168; Arthur Winer and others, *Valuing the Health Benefits of Clean Air* (Washington, DC: American Association for the Advancement of Science, 1992); and Donald R. McCubbin and Mark A. Delucchi, "The Health Costs of Motor-Vehicle-Related Air Pollution," *Journal of Transport Economics and Policy* (1996): 122–131, referenced in Tamminen, Terry. *Lives Per Gallon: The True Cost of Our Oil Addiction* (p. 229)

ⁱ What are the factors driving up the price of world crude oil? Adam Vaughan, *The Guardian*, May 17, 2018

ⁱⁱ [The top 10 leading causes of death in the United States](#), Hannah Nichols, *Medical News Today*, February 2017