



**Testimony of Clean Fuels Alliance America  
Senate Committee on Environment and Public Works  
Hearing to examine the Environmental Protection Agency's Renewable Fuel Standard program,  
focusing on challenges and opportunities  
Wednesday, February 16, 2022**

Dear Chairman Carper, Ranking Republican Capito, and Committee members,

This year, our organization (formerly the National Biodiesel Board) evolved to become Clean Fuels Alliance America. Our new name embraces the new products our members are producing and the markets they are building – including biodiesel, renewable diesel, sustainable aviation fuel (SAF), Bioheat® fuel, maritime and railroad fuels. Clean Fuels serves as the industry's primary organization for technical, environmental, and quality assurance programs and we are the strongest voice for its advocacy, communications, and market development.

During the past two years' economic challenges, our members worked hard to meet increasing U.S. demand for cleaner, better fuels. In 2021, the biomass-based diesel market grew to 3.2 billion gallons – its highest volume ever. This generated more than 4.8 billion advanced biofuel credits for the Renewable Fuel Standard program. During the pandemic in 2020, the market reached 3 billion gallons, generating more than 4.4 billion advanced biofuel credits for the RFS.<sup>1,2</sup>

Maintaining this supply of cleaner, better fuel is crucial right now. Demand for distillates – for heating oil, heavy duty transportation, shipping, manufacturing – continues to increase, putting pressure on inventories.<sup>3</sup> At the same time, the U.S. Department of Energy notes that distillate fuel inventories are currently about 19% below the five-year average for this time of year.<sup>4</sup> The shortage of distillates is a key supply chain bottleneck that is contributing to inflation that could trigger a recession.<sup>5</sup> U.S. oil refiners are simply unable to meet demand for cleaner fuels.

The Renewable Fuel Standard (RFS) is necessary to build domestic alternative fuel production capacity, bolster U.S. energy security, and address environmental health. It is succeeding.

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<sup>1</sup> U.S. Energy Information Administration Monthly Biofuels Capacity and Feedstocks Update. (January 31, 2022). <https://www.eia.gov/biofuels/update/>

<sup>2</sup> U.S. Environmental Protection Agency. (December 2021). Spreadsheet of RIN Generation and Renewable Fuel Volume Production by Fuel Type for the Renewable Fuel Standard. <https://www.epa.gov/fuels-registration-reporting-and-compliance-help/spreadsheet-rin-generation-and-renewable-fuel-0>

<sup>3</sup> John Kemp, "[Column: Depleted U.S. Distillate Stocks Show Supply Chain Pressure.](#)" Reuters, February 6, 2022.

<sup>4</sup> Energy Information Administration, [Weekly petroleum Status Report](#), DOE/EIA-0208(2022-05), February 9, 2022.

<sup>5</sup> John Kemp, "[Column: Diesel is the U.S. Economy's Inflation Canary.](#)" Reuters, February 9, 2022.

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Our industry is poised to continue to grow and innovate to meet the evolving needs of the fuel market. In on-road, off-road, air transportation, electricity generation, and home heating applications, we project that the market for low-carbon biomass-based diesel will exceed 6 billion gallons by 2030, eliminating over 35 million metric tons of CO<sub>2</sub> equivalent greenhouse gas emissions annually. With advancements in feedstock, use will reach 15 billion gallons by 2050.<sup>6</sup> We are pleased that EPA proposed sustainable growth opportunities in the RFS for 2022 that are consistent with industry expectations.

We advocate that EPA continue to grow volumes in the future, set volumes and rules in a timely and forward-looking manner, and ensure that once set, the volumes are met.

The United States will need low-carbon liquid fuels in the future to meet President Biden's climate goals.<sup>7</sup> Greenhouse gas reductions can start now in the heavy-duty and long-haul diesel sectors with increasing use of biomass-based diesel. Biomass-based diesel use lowers net lifecycle carbon emissions by 74 percent on average compared to petroleum fuel – and up to 88 percent in the most efficient plants. It also lowers particulate matter by 45 percent.<sup>8</sup>

In addition to being a solution to reduce greenhouse gas emissions, the U.S. biodiesel and renewable diesel industry supports 65,000 U.S. jobs and more than \$17 billion in economic activity each year.<sup>9</sup> Every 100 million gallons of production supports 3,200 jobs and \$780 million in economic opportunity.<sup>10</sup> Biomass-based diesel production supports approximately 13 percent of the value of each U.S. bushel of soybeans.<sup>11</sup>

### **Growth of Industry Capacity**

The U.S. biodiesel and renewable diesel industry continues to expand, with consumption growing approximately 7% in 2021 relative to 2020. Domestic biodiesel and renewable diesel producers are increasing capacity to match.

Based on U.S. Energy Information Administration (EIA) data, there are 2.4 billion gallons of domestic biodiesel capacity and 1 billion gallons of domestic renewable diesel capacity as of November 2021.<sup>12</sup> Multiple expansions or new construction projects have been announced and the biomass-based diesel

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<sup>6</sup> <https://www.nbb.org/about-nbb/mission-vision>

<sup>7</sup> Executive Office of the President. Executive Order 14008: Tackling the Climate Crisis at Home and Abroad, 86 FR 7619 (February 1, 2021), available at <https://www.federalregister.gov/d/2021-02177>

<sup>8</sup> California Air Resources Board. LCFS Pathway Certified Carbon Intensities. Fuel Pathway Table. Current Fuel Pathways. REG Albert Lea, LLC. <https://ww2.arb.ca.gov/resources/documents/lcfs-pathway-certified-carbon-intensities>

<sup>9</sup> The Economic Impact of the Biodiesel Industry on the U.S. Economy. LMC International. August 2019. [https://www.biodiesel.org/docs/default-source/federal-files/lmc\\_economic-impacts-of-biodiesel\\_august-2019.pdf?sfvrsn=ce27766b\\_2](https://www.biodiesel.org/docs/default-source/federal-files/lmc_economic-impacts-of-biodiesel_august-2019.pdf?sfvrsn=ce27766b_2)

<sup>10</sup> Id.

<sup>11</sup> Frizzell, R. (2019). NBB Static Biodiesel Shock. Frizzell, R. (2021). NBB Static Biodiesel Shock. INTL FCStone. Report.

<sup>12</sup> U.S. Energy Information Administration. (January 31, 2022). Monthly Biofuels Capacity and Feedstocks Update. <https://www.eia.gov/biofuels/update/>

industry is poised for significant growth over the coming decade. Depending upon market conditions, up to 1 billion gallons of renewable diesel capacity could come on-line during the 2022 calendar year.

In July 2021 EIA noted, “If all projects come online as intended, U.S. renewable diesel production would total 5.1 billion gal/y (330,000 b/d) by the end of 2024.”<sup>13</sup> Since that EIA statement in July 2021, additional new projects have been announced.

It is important to understand that more than 70% of the current BBD market is met by biodiesel. As renewable diesel and SAF projects come online, Congress, the Biden administration and EPA must be careful not to abandon existing infrastructure investments or disincentivize production of biodiesel that is already addressing the climate crisis. If the goal is to achieve maximum carbon reductions, the market for biodiesel should be preserved, not simply shifted to different types of fuels.

RFS volumes should grow today and in the future to incentivize and account for the growing renewable diesel and SAF coming online.

### **Growth in Feedstock Supplies**

Investments have extended throughout the supply chain, including the oilseed processing sector and feedstock refining/pretreatment. Over the past year, U.S. companies have announced more than 500 million bushels of soybean processing capacity to come online over the next three to four years, with approximately 16% of the new capacity or expansions slated to come online in 2022. These investments would generate additional feedstock supplies for almost 780 million gallons of biomass-based diesel.

U.S. soybean crush is anticipated to grow to 2.63 billion bushels by 2025; supplied by a combination of increased production in the U.S. (boosted by higher yields) and some shifts away from lower value export markets. Overall supplies are a combination of increased processing and a long-term trend of higher oil output per bushel. LMC International Ltd., an independent consulting firm specializing in the economic and market analysis of crops and agro-industrial products, projects soybean oil production in the US to increase to 30.8 billion pounds by 2025.

The U.S. market continues to grow while maintaining its historic feedstock diversity. In 2021, slightly more than half of U.S. produced biomass-based diesel used vegetable oils and the remaining came from animal fats, used cooking oil (UCO), and distillers corn oil (DCO). This diversity allows biodiesel and renewable diesel producers to alter feedstock use based on regional and global market dynamics. In the future, other sources will contribute to feedstock supplies. Advances are being made with new sources such as winter annual oilseed crops.

According to LMC, up to 1.866 billion additional gallons of biomass-based diesel could be generated from the additional feedstock supplies available during this time frame.<sup>14</sup>

### **Let the RFS Work**

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<sup>13</sup> U.S. Energy Information Administration (July 29, 2021). U.S. renewable diesel capacity could increase due to announced and developing projects. <https://www.eia.gov/todayinenergy/detail.php?id=48916#>

<sup>14</sup> LMC International. (January 2022). The Outlook for Increased Availability & Supply of Sustainable Lipid Feedstocks in the U.S. to 2025. (Appendix A.)

EPA's recent proposal to retroactively adjust the 2020 volumes is unnecessary. Even with COVID-19 and delays in denying small refinery exemptions, obligated parties can comply with the standards finalized in late 2019 (and many have begun to do so). While transportation fuel demand fell in 2020 during the COVID-19 pandemic, the actual number of gallons of biofuel required under the RFS for 2020 decreased proportionally – because the volumes were set on time and translated into percentages. Based on EIA's most recent estimate of gasoline and diesel used in 2020, there are sufficient RINs for refiners to meet the obligation without changes – thanks in large part to the hard work of our members. If EPA retroactively reduces previously finalized volumes, it will erode confidence in the program and potentially cause further demand destruction.<sup>15</sup>

We agree with EPA's assessment that no refinery bears disproportionate RFS compliance costs, or a hardship created by compliance with the RFS program: "With no disproportionality and no economic hardship, there can be no disproportionate economic hardship pursuant to the statute."<sup>16</sup> But EPA must still account for any exemptions it could grant, since it has not made a final determination or settled inevitable litigation on pending exemptions.

If the agency reverses its accounting for potential small refinery exemptions, then our industry stands to lose demand for 147 million gallons of biomass-based diesel. When EPA retroactively grants exemptions, it returns credits to the system that then reduce demand for renewable fuels across the board in future years. The agency has not finalized its proposal to deny exemption petitions for 2019, 2020, and 2021, and it is in the process of reconsidering exemptions it granted in 2018. The agency also has not revealed the number of exemptions DOE recommended for those years and the associated volumes, per the methodology established in the 2020 rule.<sup>17</sup>

### **The RFS Reduces Greenhouse Gas Emissions Today**

Emissions from diesel uses in rail, long-haul trucking, home heating, aviation, and maritime sectors are going to continue to increase as travel and trade return to pre-COVID19 levels. The RFS is helping companies drive decarbonization in their supply chains right now and it should be viewed as a primary tool of the Administration to reduce greenhouse gas (GHG) emissions now and meet President Biden's near- and long-term climate goals.

It is clear the program works to dramatically reduce emissions – even absent the projected volumes of cellulosic biofuels. Since the onset of the program, the RFS has reduced emissions by nearly a gigaton – far exceeding the 593 million metric tons estimated in the 2009 regulatory impact statement.<sup>18</sup> Since 2010, use of biodiesel, renewable diesel, and Bioheat® fuel has avoided an estimated 143.8 million metric tons of carbon (See Figure 1).

The most recent update to the Argonne National Lab Greenhouse Gases, Regulated Emissions, and Energy Use in Technologies (GREET) model published in October of 2021 estimates that the *average*

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<sup>15</sup> U.S. Environmental Protection Agency. Notice of Opportunity to Comment on Proposed Denial of Petitions for Small Refinery Exemptions, EPA- EPA-HQ-OAR-2021-0566, 86 FR 70999 (December 14, 2021), available at <https://www.federalregister.gov/d/2021-26983>

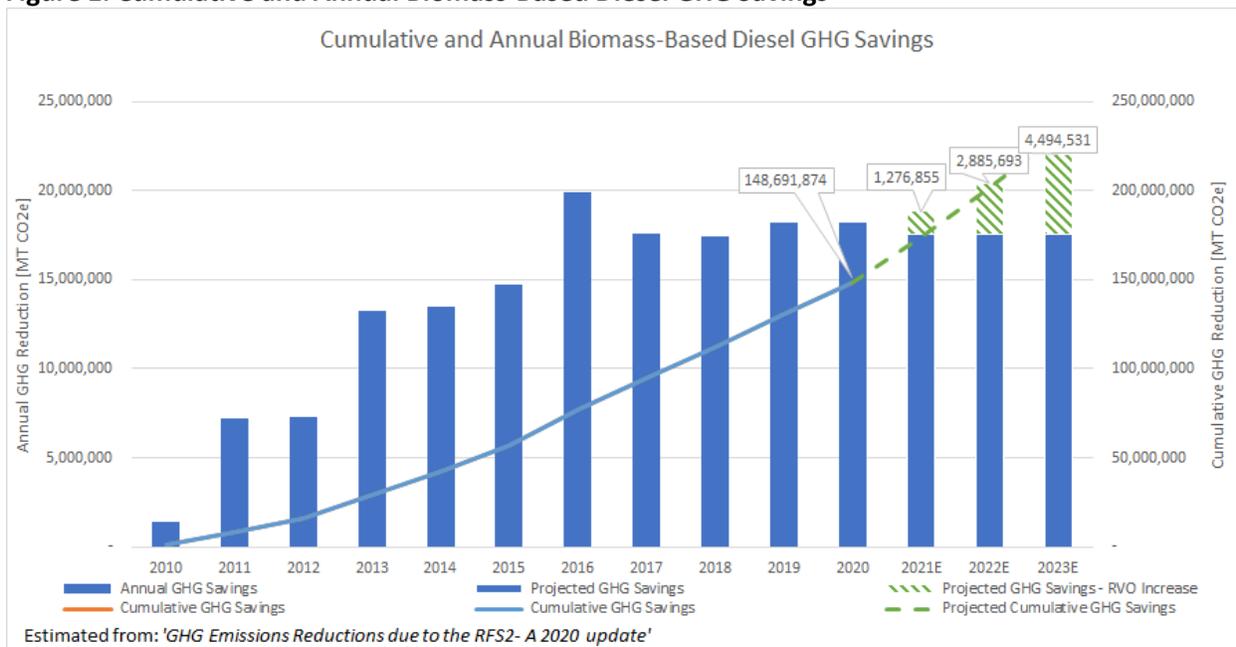
<sup>16</sup> Id.

<sup>17</sup> 85 Fed. Reg., 7052. Table VII B-1.

<sup>18</sup> Unnasch. S. and D. Parida (2021) GHG Reductions from the RFS2 – A 2020 Update. Life Cycle Associates Report LCA. LCA.6145.213.2021 Prepared for Renewable Fuels Association.

gallon of biodiesel and renewable diesel reduces emissions by approximately 74%. In addition, some producers are working through their supply chains to reduce emissions even further, including installing wind, solar, and other renewable energy onsite, creating fuel that reduces lifecycle emissions by 88%. Every 100 million gallons of biomass-based diesel added to the RVO is estimated to reduce emissions by over 600,000 MT annually.

**Figure 1. Cumulative and Annual Biomass-Based Diesel GHG Savings**



Biodiesel and renewable diesel are solutions that reduce carbon now. The immediate investment in a mature, currently commercialized biomass-based diesel fuel yields higher annual greenhouse gas emissions reductions than waiting for a technology that is still considered immature, such as EVs.<sup>19</sup> Increasing the use of biomass-based diesel now will provide immediate greenhouse gas reductions and a positive impact on health in disadvantaged communities.

### Environmental Justice

In addition to reducing greenhouse gas emissions, advanced biofuels reduce particulate matter emissions. For every 100 million gallons of U.S. biodiesel and renewable diesel used today in place of petroleum, particulate matter is cut by approximately 252 tons. According to EPA and the California Air Resources Board, biodiesel and renewable diesel significantly reduce criteria pollutants from diesel transportation and heating oil. This benefits all populations, including minority, low-income, and indigenous populations.

Last year, Trinity Consultants presented a report that quantifies the health benefits and corresponding economic savings from converting petroleum-based diesel to B100.<sup>20</sup> The report estimated that

<sup>19</sup> Frank, Jenny & Brown, Tristan & Haverly, Martin & Slade, Dave & Malmsheimer, Robert. (2020). Quantifying the comparative value of carbon abatement scenarios over different investment timing scenarios.

<sup>20</sup> Trinity Consultants. (March 2021). Assessment of Health Benefits from Using Biodiesel as Residential Heating Oil. <https://www.biodiesel.org/news-resources/health-benefits-study>.

displacing diesel with biodiesel in communities with high diesel emissions rates could result in significantly improved health outcomes for the local population. In the 13 sites analyzed throughout the country, Trinity estimated that a switch from diesel to 100 percent biodiesel would avoid or lessen 240,000 asthma attacks, recover 46,000 lost workdays, and avert 1,100 cases of cancer – among other key benefits – generating a societal value of \$3 billion dollars a year.<sup>21</sup>

In the transportation sector, benefits included a potential 44 percent reduction in cancer risk when heavy-duty trucks such as semis use B100, resulting in 203,000 fewer or lessened asthma attacks for the communities studied. When biodiesel is used for home heating oil, the study found an 86 percent reduced cancer risk and 17,000 fewer lung problems for the communities studied.

The American Lung Association has found that major trucking corridors, warehouse distribution centers and other diesel hot spots can inflict serious harms to human health, and often highlight disparities in the impacts of transportation pollution.<sup>22</sup> Biodiesel can make a difference now in reducing harmful tailpipe emissions that have this adverse impact. The RFS, when implemented in a timely manner will drive demand for higher blends of biodiesel resulting in direct public health benefits for disadvantaged communities.

### **Economic Impact**

Increasing use of biomass-based diesel has a direct impact on the U.S. economy, including rural communities. The spending that comes with biodiesel and renewable diesel production on feedstock, other materials, goods, and services generates significant circulation throughout the economy. This stimulates demand, supports jobs, generates additional household income, and creates new tax revenue. LMC International estimated that, assuming a consistent rate of domestic production, the 3 billion gallons of biodiesel, renewable diesel, Bioheat® fuel, and sustainable aviation utilized in the United States in 2020 supported more than 79,000 U.S. jobs, \$3 billion in wages paid, and \$20.4 billion in total domestic economic impact.<sup>23</sup>

Although new demand for biofuels will generally support commodity values, the biodiesel and renewable diesel industries have increased volumes in conjunction with growth in feedstock supplies. Recent announcements of multiple new renewable diesel operations in the U.S. during the past year combined with commodity value inflation in 2021 have caused some to implicate biofuels as the cause for higher commodity values experienced in 2021. Actual data does not support this conclusion (See Figure 2). The USDA World Outlook Board confirms that use of soybean oil for biodiesel and renewable diesel production during the first ten (10) months of 2021 was actually lower than in the same time period in 2020 (7.62 billion pounds in 2020 versus 7.32 billion pounds in 2021). Supply chain issues and logistical constraints due to COVID-19, and inflation in fertilizer and fuel prices which are key inputs to crop production have all contributed to general inflation in all commodity prices (see Figure 3).

Economic analysis performed at Purdue University corroborates this point and concludes there is lack of any clear, consistent relationship between soybean oil prices and use of soybean oil in biofuel

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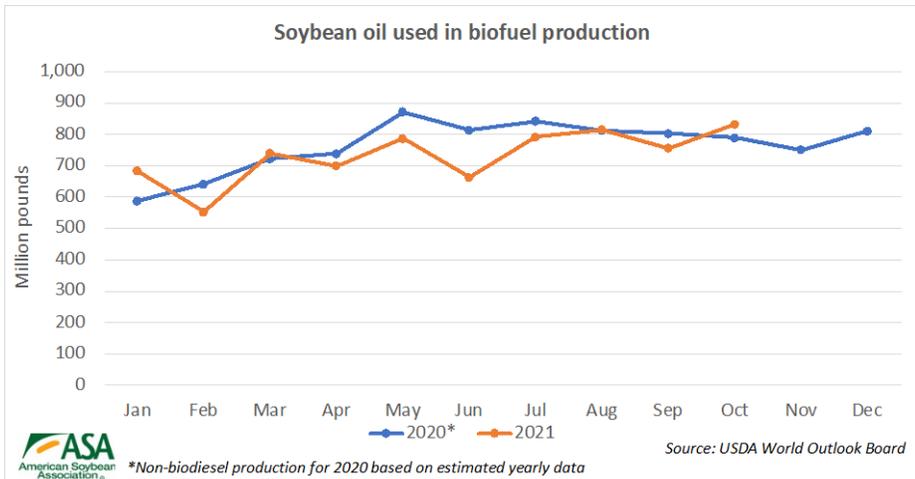
<sup>21</sup> Id.

<sup>22</sup> American Lung Association. (2020). The Road to Clean Air.

<sup>23</sup> LMC International. (August 2019). The Economic Impact of the Biodiesel Industry on the U.S. Economy.

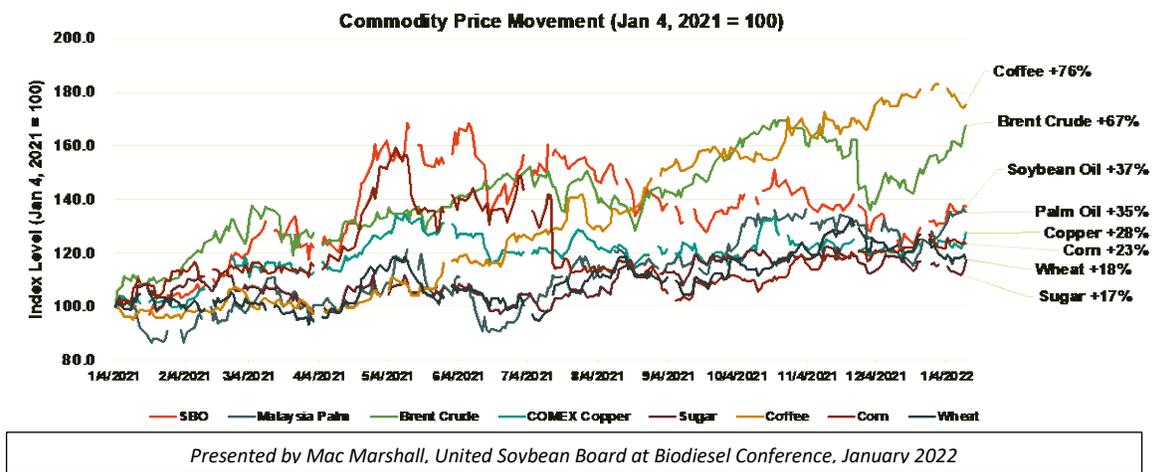
production.<sup>24</sup> Dr. Jayson Lusk notes, “Factors such as the global production and consumption of soybeans and soybean meal can, at times, have more definitive effects on domestic soybean oil prices.”

**Figure 2. Soybean Oil Used in Biofuel Production**



Furthermore, this analysis conducted at Purdue University notes that soybean oil represents a small share of the cost of most retail food items. Dr. Lusk conducted a simple, pass-through analysis which indicated, “A 1% increase in the price of soybean oil is associated with a 0.026% increase in retail potato chip prices; a doubling of soybean oil prices (a 100% increase) would be associated with a 2.6% increase in retail potato chip prices. For white bread and chocolate chip cookies a 1% increase in soybean oil prices is only associated with a 0.0034% and 0.0184% increase in retail prices, respectively.” Regression analysis with data from the 2011 to 2021 timeframe also concluded the relationship between changes in soybean oil prices and changes in the retail prices of food items (noted above) are small and difficult to precisely identify.

**Figure 3. Commodity Price Movement (Jan 4, 2021 = 100)**



<sup>24</sup> Lusk, J. L. (2021). Soybean Oil Prices and Retail Food Costs. Center for Food Demand Analysis and Sustainability, Purdue University, for the United Soybean Board.

In order for biodiesel and renewable diesel to have a positive impact on the rural economy, consistent and timely implementation of the RFS as intended by Congress is essential for increasing production and use of clean, renewable fuels in the United States. The RFS deadlines are important not only to biodiesel and renewable diesel producers, but to all program stakeholders throughout the supply chain who rely on market signals from the annual rules.

President Biden made a commitment to maintain the integrity of the RFS program as a bond with farmers and with rural communities. In the past several years, EPA retroactively reduced RFS requirements through a flood of small refinery exemptions. That destroyed demand for more than a half billion gallons of biodiesel and renewable diesel. Demand destruction like this has a direct impact on the bottom line for farmers across America.

Any positive impact of the biodiesel and renewable diesel industry on the rural economy will be lost if EPA retroactively adjusts the 2020 volumes and creates uncertainty about future volumes. A retroactive reduction will result in less biofuel blending in future years – once again causing demand destruction and a lost market opportunity for biodiesel and renewable diesel feedstocks. While the retroactive reduction looks like a short-term fix, the impact of this action is far-reaching and will be most felt in the rural economy.

Sincerely,

A handwritten signature in black ink that reads "Kurt A. Kovarik". The signature is written in a cursive, flowing style.

Kurt Kovarik  
Vice President, Federal Affairs  
Clean Fuels Alliance America