Clean Fuels
ALLIANCE AMERICA

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U.S. Environmental Protection Agency
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Air Docket
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1200 Pennsylvania Avenue NW
Washington, DC 20460

Docket ID No: EPA–HQ–OAR–2021–0427

Re: Comments of Clean Fuels Alliance America on the Renewable Fuel Standard (RFS) Program: Standards for 2023–2025 and Other Changes[1]

Dear Administrator Regan,

Clean Fuels is the U.S. trade association representing the entire biodiesel, renewable diesel, and sustainable aviation fuel supply chain, including producers, feedstock suppliers and fuel distributors. Made from an increasingly diverse mix of resources such as recycled cooking oil, soybean oil, and animal fats, the clean fuels industry is a proven, integral part of America's clean energy future. We serve as the clean fuel industry's primary organization for technical, environmental, and quality assurance programs and are the strongest voice for its advocacy, communications, and market development.

The biodiesel and renewable diesel industry is on a path to sustainably double the market to 6 billion gallons annually by 2030, eliminating at least 35 million metric tons of CO_2 equivalent greenhouse gas emissions annually. With advancements in feedstock, use will reach 15 billion gallons by 2050 or sooner. These fuels are among the cleanest and lowest-carbon fuels available today to help reduce greenhouse gas (GHG) emissions now and are available to meet President Biden's near- and long-term climate goals, particularly in hard to decarbonize sectors. [2]

In finalizing the overdue rules for 2021 and 2022, Administrator Regan committed to increase availability of homegrown fuels, put the RFS program back on track, and deliver certainty and stability. The preamble of this rule states that, "The volumes that EPA is proposing sustain a path of renewable fuel

[1] U.S. Environmental Protection Agency. Renewable Fuel Standard (RFS) Program: Standards for 2023–2025 and Other Changes, EPA–HQ–OAR–2021–0427, 87 FR 80582 (December 30, 2022), available at https://www.federalregister.gov/d/2022-26499

[2] 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

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growth for the program and build on the foundation set by the 2022 required volumes."[3] While the written language seemingly supports higher volumes, the proposed volumes for biomass-based diesel (BBD) and advanced biofuels contradict this sentiment.

However, with the right signals from EPA, sustainable growth of the Clean Fuels industry will be achieved while meeting and exceeding the six statutory factors EPA must consider in this "set" proposal. Increasing production of clean fuels through the RFS improves U.S. energy security, lowers diesel fuel prices, and generates carbon and emission reductions today that are necessary to meet future national environmental goals.

Our members are leaders among the U.S. companies investing in new biodiesel, renewable diesel and SAF capacity. EPA and other federal agencies are closely tracking this capacity. Additionally, our members are investing in infrastructure through the Higher Blends Infrastructure Incentive Program (HBIIP), while generating new jobs and increasing economic opportunities for growers, fuel producers and other economic sectors. EPA should not finalize RFS rules and volumes that undercut these investments.

We believe the evidence in our comments supports our request that EPA raise biomass-based diesel volumes by 500 million gallons and overall advanced volumes by 1 billion gallons each year through 2025.

Sincerely,

Kurt A. Kovarik

Kurt Kovarik
Vice President, Federal Affairs
Clean Fuels Alliance America

[3] 87 Fed. Reg. 80586.

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Volumes

The RFS program was developed to increase the volume of renewable fuel that is blended into U.S. transportation fuels. However, in the proposed rule, EPA selects volumes for biomass-based diesel that are far below available volumes of qualifying fuels. EPA's own data shows that production of qualifying (D4) fuel reached 3.1 billion gallons of biomass-based diesel in 2021 and exceeded 3.6 billion gallons in 2022. The Energy Information Administration's (EIA) December 2022 Short Term Energy Outlook (STEO), which until this proposal has informed EPA's decisions on annual RFS volumes, projects U.S. biodiesel and renewable diesel production to increase by more than 600 million gallons in 2023 – in response to the increased demand for clean fuels. Yet the proposed rule limits biomass-based diesel volume increases to 65 million gallons per year on average and advanced biofuels to 100 million RINs.

While we understand EPA does not set volumes based on capacity, the agency should not ignore the significant growth that the industry has invested in. The proposed rule even acknowledges that 5.1 billion gallons of renewable diesel capacity has been announced or is already under construction, yet the RVOs proposed for BBD and advanced are not even close to the projected capacity.[4] In February 2023, EIA projected that domestic renewable diesel capacity could more than double through 2025 to 5.9 billion gallons.[5]

This growth is a direct result of Environmental, Social, and Governance (ESG) goals from the private sector combined with the previous signals the Administration has given regarding GHG reductions, the SAF Grand Challenge, state programs, and the need for low-carbon liquid fuels to meet those goals.

Clean Fuels' asks that EPA increase the D4 BBD volumes by 500 million gallons year over year and increase the D5 advanced volumes by 1 billion RINs year over year as supported through the data in the following sections. If EPA is unable to significantly raise the volumes across the three years, we respectively request that the agency only finalize 2023 requirements as directed by the Consent Decree.[6] Finalizing a "no growth" scenario as proposed will have devastating consequences on the investments being made to meet the demand and achieve the goals the country has set forth.

Market Signals

The proposed rule erroneously states, "the set proposal provides a strong market signal for the continued growth of low-carbon advanced biofuels, including 'drop-in' renewable diesel, cellulosic biofuels, and through a newly proposed program for electricity produced from qualifying renewable feedstocks and used as transportation fuel."[7] While EPA acknowledges that "renewable fuels are a key policy tool identified by Congress for decarbonizing the transportation sector," the rule as written will not set the stage for further growth and development of low-carbon biofuels in the coming years.[8]

The significance of the RVO and the specific volume categories EPA sets cannot be overstated. The numbers EPA proposes have a direct impact on the board room decisions being made around the country on whether investments in biodiesel, renewable diesel, and SAF will occur.

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[4] 87 Fed. Reg. 80,597.

[5] U.S. Energy Information Administration. Today in Energy: Domestic renewable diesel capacity could more than double through 2025. (February 2, 2023). https://www.eia.gov/todayinenergy/detail.php?id=55399

[6] Growth Energy v. Regan, Case No. 1:22-cv-01191 (D.D.C.)

[7] 87 Fed. Reg. 80,586.

[8] *id.*

If the BBD and advanced volumes are not increased, ongoing renewable diesel, SAF, and oilseed crush investments will be reevaluated; projects may be halted, or assets stranded. It is likely that as these business decisions are being made, sustainable aviation fuel will be sidelined as it will no longer make sense financially. Investors will not make that financial commitment to these capital-intensive projects without clear signals from the agency. As a result, the volumes proposed will have a direct and negative impact on the Administration meeting its near-term goal embodied in the SAF Grand Challenge of at least 3 billion gallons per year by 2030.[9]

While we understand that the BBD and advanced categories could fill any potential gap in the conventional volume, these volumes would only increase the availability by 75 MGPY on average (per EPA) with the expectation that this number will decrease as E-15 penetrates the market. The signal that the market reacts to is the volumes guaranteed in the RVO. Investment decisions are not made based on where additional gallons could be satisfied, particularly with E-15 and e-RINS in the equation. It is important to note that the combined increase from filling the D6 "gap" with the volumes proposed for BBD still amount to only half of the previous year's increase, creating what we quantify as a "no growth" scenario for our fuels.

Table 1. RD Filling the D6 Category "Gap"[10]

Year	Fuel	Fuel Code	Fuel Category	RINs (million)	Volumes (MGPY)
2020	Renewable Fuel	6	Non-ester Renewable Diesel (EV 1.7)	129.66	76,268,925
2021	Renewable Fuel	6	Non-ester Renewable Diesel (EV 1.7)	134.67	79,217,986
2022	Renewable Fuel	6	Non-ester Renewable Diesel (EV 1.7)	127. 44	74,962,365

The impact that the RVO has on the market goes beyond investment decisions. The immediate market reaction following the announcement of the proposed rule saw soybean oil prices fall by 18%, used cooking oil by 9%, tallow by 8%, and distiller's corn oil by 14%.[11] Over the same time period, soybean meal prices rose by 8% and D4 RIN prices were 11% lower than they were prior to the proposal.[12] Those changes don't just impact our industry – they have ripple effects throughout the economy.

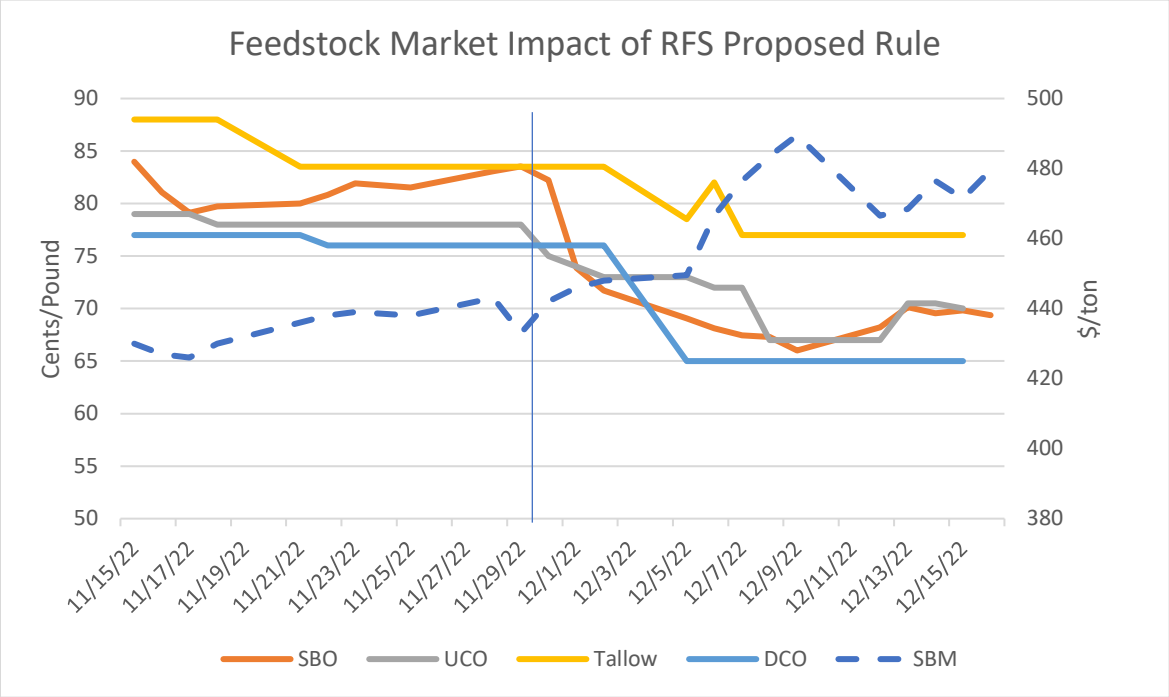
[9] Sustainable Aviation Fuel Grand Challenge Memorandum of Understanding. (September 9, 2021) https://www.energy.gov/sites/default/files/2021-09/S1-Signed-SAF-MOU-9-08-21_0.pdf

[10] EPA's RIN analysis shows that none of these D6 RD gallons are even coming into the United States -- and therefore aren't "available" to the program. https://www.epa.gov/system/files/other-files/2023-01/fuelproduction_Dec2022.csv

[11] The Jacobson Percent Change in Price from 11/29/2022 to 12/12/2022.

[12] *id.*

Figure 1. Feedstock Market Impact of the Proposed Renewable Fuel Standards for 2023, 2024, and 2025



The proposed volumes for biomass-based diesel and overall advanced biofuel volumes through 2025 are not consistent with the industry's projected growth, or with the Administration's own goals to reduce greenhouse gas emissions. Sending the right market signals through increased volumes, in contrast to what EPA currently proposes, would reduce GHG emissions, increase energy security, and boost the rural economy and farmers who rely on strong commodity demand to support their livelihoods and feed the world.

Request for Comment on Volume Requirements for 2026

Clean Fuels requests that EPA not estimate or set volumes and percentage standards out to 2026.[13] The current methodology used to estimate 2023, 2024, and 2025 is unfavorable to BBD and advanced volumes and does not accurately account for the industry's projected growth.

Request for Comment on Alternative Volume Requirements

Clean Fuels once again asks EPA to only set 2023 volume requirements if the agency is unwilling to substantially raise the volumes proposed for the BBD and advanced categories. It is our viewpoint that EPA is currently proposing volume requirements for three years based on incomplete data (despite the availability of complete data). With the volumes set in June 2022 and the market's response, Clean Fuels would have anticipated that the volumes proposed for 2023, 2024, and 2025 would have been higher to continue that trajectory. However, since that is not the case in the proposed rule, we would ask the agency to reexamine market data next year to better "account for the evolution of the fuels market" and establish volumes "more aligned with programmatic goals." [14]

[13] 87 Fed. Reg. 80,628.
[14] *id.*

Treatment of Small Refinery Volumes

Clean Fuels supports EPA's decision to project zero exempt volumes from small refinery exemptions (SRE) in the percentage standard calculations so long as all small refineries will be required to comply with their proportional RFS obligations.

Response to Remand of 2016 Rulemaking

Clean Fuels supports EPA's proposed supplemental volume of 250 million gallons in 2023 to make up for the 500 million gallons of renewable fuel it improperly waived for 2016, as remanded by the D.C. Circuit's decision in *Americans for Clean Energy*.[15]

Biodiesel

Biodiesel is the nation's first domestically produced, commercially available advanced biofuel. Made from an increasingly diverse mix of resources such as recycled cooking oil, soybean oil and animal fats, biodiesel is a renewable, clean-burning diesel replacement that can be used in existing diesel engines without modification. In addition, on-road diesel applications, railroads, shipping companies, and heating oil distributors are now demanding biodiesel fuel to meet their environmental and carbon reduction goals.

However, in order for biodiesel to flourish and continue to deliver quality fuel and heating oil to more Americans, the volumes for BBD and advanced must be raised in order to ensure a robust biodiesel industry, while also supporting growing renewable diesel and SAF industries. A more diversified fuel supply enhances energy security, which is not only a factor for EPA to consider as part of "set," but also one of the key justifications for the RFS program noted in Congress's statement of purpose.

In announcing robust volumes for 2022, EPA pointed to the success of USDA's Higher Blends Infrastructure Incentive Program (HBIIP) as one of the reasons for increasing biomass-based diesel and advanced volumes. And the agency was right to do so. In partnership with this program, biodiesel producers so far have increased consumer access to biodiesel by 1 billion gallons – more than 80% of the supported biofuel volumes. Consumer access to biodiesel is expected to grow even greater as the program will continue, with $500 million available over the next 10 years through the Inflation Reduction Act (IRA). It is important for EPA to consider that USDA has indicated that the majority of the funds will being allocated to the next round of applicants as early as summer 2023 with the second round the following year – achieving results within the timeframe of the rule as proposed.

Biodiesel producers have made investments for the future because of the RFS. The biodiesel industry as a whole will continue to invest in future growth to diversity the energy supply, grow jobs and the economy, invest in infrastructure, and reduce GHG emissions so long as the RFS provides us some measure of certainty for the future. However, to provide us the certainty in the market, particularly for biodiesel to remain competitive, EPA must finalize higher biomass-based diesel volumes than proposed.

Feedstocks

Slightly more than half of U.S. production of biomass-based diesel in 2022 was produced from vegetable oils, with the remaining from animal fats, used cooking oil (UCO), and distillers corn oil (DCO). This diversity allows biodiesel, renewable diesel, and sustainable aviation fuel producers to alter feedstock use based on regional and global market dynamics. Looking beyond previous feedstock sources, EPA has approved new pathways such as canola for renewable diesel, renewable jet, naphtha, liquified

[15] 864 F.3d 691 (D.C. Cir. 2017).

petroleum gas and heating oil that will contribute to feedstock supplies. Advances are also being made with new sources such as winter annual oilseed crops that can significantly contribute to future feedstock supplies.

As noted in our comments on the Volume Standards for 2020, 2021, and 2022, Clean Fuels retained LMC International Ltd. (LMC) to investigate current features of the North American feedstock markets to evaluate how they will evolve and the potential for significantly increasing supply of biomass-based diesel feedstocks of North American origin.[16] The LMC analysis focused on short-term increases of feedstock supplies (2021 to 2025) in North America only. Therefore, it is important to remember that additional feedstock supplies available via global trade are not part of the analysis. Additionally, the LMC study did not attempt to quantify additional gains in productivity from biotechnology (e.g., yield technology) in crops such as soybeans or canola. The LMC feedstock analysis concluded that "…. additional supplies of lipid feedstocks of North American origin…. raises the supply of suitable BBD feedstocks from 41.1 to 55 billion lbs., a total increase of 14 billion lbs. in the period 2021-2025". Therefore, up to 1.866 billion additional gallons of biomass-based diesel could be generated from the additional feedstock supplies available during this time frame, which supports a higher RVO than proposed by EPA.

Additionally, if there are concerns regarding the potential increased acreage, the USDA Farm Service Agency (FSA) and Natural Resources Conservation Service (NRCS) estimate that U.S. agricultural land reached approximately 382.6 million acres in 2021 and thus did not exceed the 2007 baseline acreage of 402 million acres.[17] During the 2023 to 2025 timeframe, additional feedstock to meet the demand of the growing clean fuels market will be generated primarily from increased oilseed processing capacity as outlined in the comments below.

Furthermore, EPA references baseline projections of domestic soybean oil production from the USDA Projections to 2031 in the proposed rule as justification for the modest increases in the biomass-based diesel volume obligation. However, it is vital to point out that the USDA projections assume no changes to the RFS. Industry announcements to expand U.S. soybean oil production, however, reflect expected growth in biomass-based diesel volumes and therefore exceed the USDA projections.

Clean Fuels partners with World Agricultural Economic and Environmental Services (WAEES) to examine economic impacts of increased production and use of biodiesel and renewable diesel in the U.S. market. The WAEES partial equilibrium modeling system is made up of a set of global econometric models emulating the behavior of the global agricultural sector. It includes over 30 commodities across 48 countries/regions and provides detailed supply, demand, and price estimates for each country and commodity. Of particular importance, the agricultural portion of the model simulates the impact on feedstock prices of alternative futures for the biofuel industry. The model is capable of tracing impacts through to the U.S. food expenditures and prices as well as the implications for farm income.

Volumes much larger than proposed by EPA (e.g., 500 million gallons per year for the biomass-based diesel RIN category from 2023 to 2025) were considered utilizing the WAEES model. Three relevant data points and trends emerged from this analysis. First, a volume obligation established greater than the

[16] LMC International. (January 2022). The Outlook for Increased Availability & Supply of Sustainable Lipid Feedstocks in the U.S. to 2025. (Appendix A.)

[17] U.S. Environmental Protection Agency, Renewable Fuel Standards (RFS) Program: RFS Annual Rules, 87 FR 39600, (July 1, 2022), available at https://www.federalregister.gov/d/2022-12376

proposed rule would not result in higher soybean oil prices than current market values. The average value of soybean oil in the 2021/22 marketing year was almost 73¢ per pound and ended 2022 at a monthly average price of 70¢ per pound.[18,19] In all scenarios with increased volumes conducted by WAEES, soybean values through the 2024/25 marketing year remained below the 70¢ per pound level.[20] Diversion of soybeans from existing export markets has also been referenced as a point of concern by EPA. USDA estimates exports for the 2022/23 marketing year at 1.99 billion bushels.[21] Analysis performed by WAEES estimates exports at 1.8 billion bushels or greater for all scenarios through the 2025/26 marketing year.[22] Finally, output from the WAEES analysis confirms that increased use of biodiesel and renewable diesel results in lower soybean meal values relative to baseline values.[23] This important consideration impacts how EPA should evaluate impacts on U.S. food consumers and will be discussed in more detail in the following section.

Impacts on Other Markets and End Users

Beginning in 2020, the United States and global markets have experienced significant volatility. Initially pummeled from the impacts of COVID-19, the global economy continued to face challenges from inflationary pressure on commodities and the situation in Europe which disrupted energy markets. These market forces have led to overall increased commodity values. Some industry groups have asserted that biofuels are the sole cause of this increase in prices, however data from this time period does not support the claim and demonstrates many factors beyond biofuels impact on current markets. Figure 2 depicts the monthly use of soybean oil for biodiesel production from January 2019 to December 2020 and the monthly soybean oil use for biodiesel and renewable diesel production beginning in January 2021. Soybean oil price appreciated significantly from January 2020 to May 2021, increasing from 33¢ per pound to 77¢ per pound. Yet during this time period, the average monthly use of soybean oil for biofuels remained flat at slightly less than 700 million pounds per month. From May 2021 to Nov 2022, there has been essentially no correlation statistically between monthly soybean oil prices and soybean oil use for U.S. biodiesel and renewable diesel production.

[18] USDA Economic Research Service, Oil Crops Outlook: January 2023, (January 2023), available at https://www.ers.usda.gov/publications/pub-details/?pubid=105598

[19] The Jacobsen, available at https://thejacobsen.com

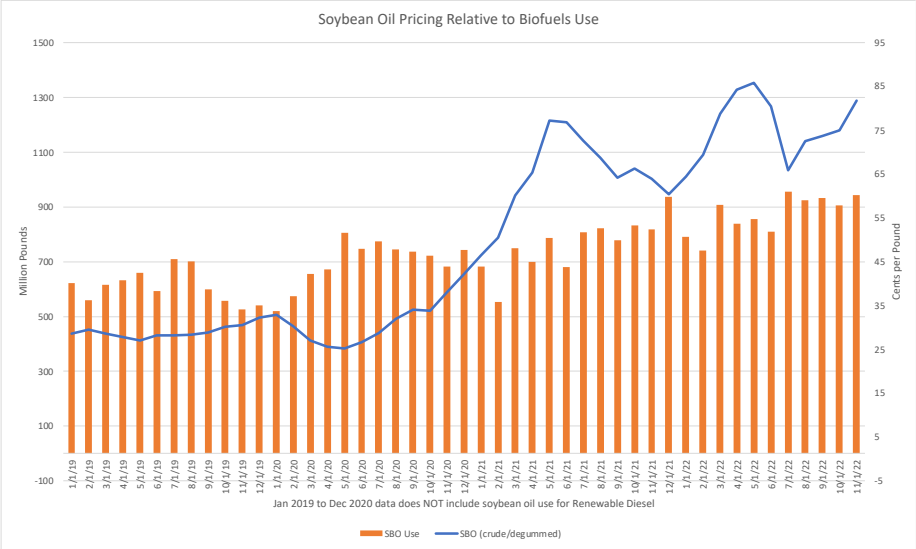
[20] World Agricultural Economic and Environmental Services (WAEES), (February 10, 2023), Economic Implications of Alternative Renewable Volume Oligations for 2023, 2024, and 2025 for Biomass Based Diesel and its Feedstocks. (Appendix B.)

[21] USDA Economic Research Service, Oil Crops Outlook: January 2023, (January 2023), available at https://www.ers.usda.gov/publications/pub-details/?pubid=105598

[22] Economic Implications of Alternative Renewable Volume Obligations for 2023, 2024, an 2025 for Biomass Based Diesel and its Feedstocks.

[23] *id.*

Figure 2. Soybean Oil Pricing Relative to Biofuels Use



All other things being equal, use of lipids for biofuels production does represent a new use and EPA is required by statute to consider price impacts from implementing the RFS. In the Proposed Rule EPA estimates changes in food expenditures from the proposed volumes compared to a no RFS baseline[24]. As noted by Mr. Dave Walton in testimony to EPA during the January 10th Public Hearing, "EPA calculated change in food expenditures compared to a no-RFS baseline in a way that overestimated biofuel impacts. Further, since EPA only considers price effects and not subsequent supply effects, the agency is only considering the cost of soybean oil and not the impact of decreasing soybean meal prices on food."

Simply put, EPA assumes that there are no changes in quantity supplied or demanded in response to the price changes. Since EPA only considers primary effects, they ignore impacts of soybean meal on food prices. About four pounds of meal are produced per pound of soybean oil. The protein rich meal is a feed source for livestock, primarily poultry and hogs in the United States. Dr. Jayson Lusk at Purdue University considered the impact of a 20% increase in soybean oil used for biofuels[25]. Dr. Lusk concluded:

> *Retail prices for [soybean] oil used in frying/baking, margarine, salad/cooking oil, and other oil-containing food items increase 0.16%, 0.82%, 4.41%, and 0.16%, respectively. The retail oil price increases are smaller than the wholesale price increases because soybean oil is only a small share of the overall cost involved in producing these retail foods.*
>
> *Retail prices for animal protein products fall as a result of rising demand for soy-based biofuels. Retail dairy, beef, pork, chicken, and egg prices are projected to fall by -0.02%, -0.01%, -0.06%, -0.13%, and -0.16%, respectively. Animal*

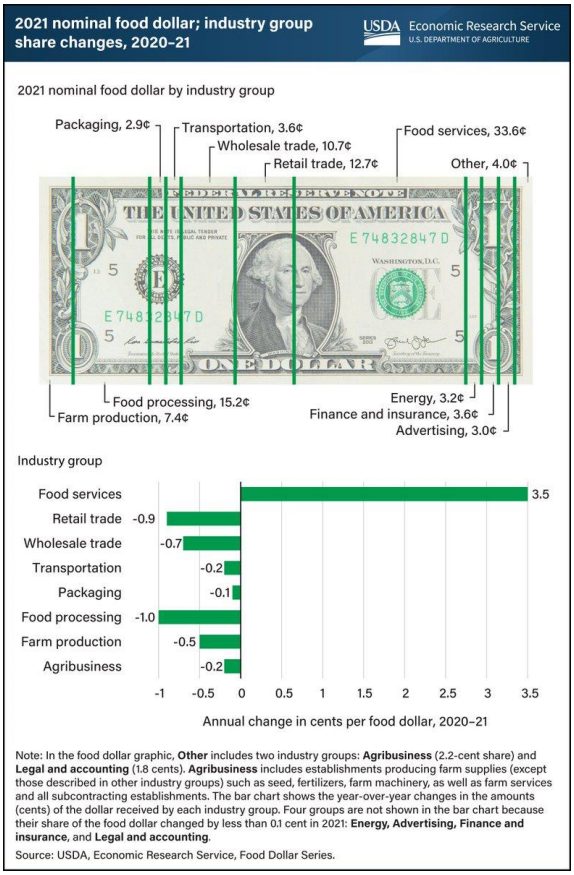
[24] Draft Regulatory Impact Analysis (November 2022, EPA-420-D-22-003) available at https://www.epa.gov/system/files/documents/2022-12/420d22003.pdf (DRIA) Page 417

[25] Jayson L. Lusk, Food and Fuel: Modeling Food System Wide Impacts of Increase in Demand for Soybean Oil, (November 10, 2022), available at https://ag.purdue.edu/cfdas/wp-content/uploads/2022/12/report_soymodel_revised13.pdf.

product prices fall because soybean meal, a primary animal feed input, is a co-product of the soybean crush, which also produces oil. Rising soybean oil prices leads to an increased supply of oil, which also leads to an increased supply of meal, thereby bringing down meal prices and the prices of animal products that rely on meal.

Lusk found that the net impact of the 20% increase in soybean oil used in biofuels was a .05% increase in the food at home CPI. While the soybean oil food changes were small to begin with, they are almost entirely offset by the reductions in meat prices which make up a larger share of the food CPI.

As referenced previously, Clean Fuels works with WAEES to examine the impacts of increased production and use of biodiesel and renewable diesel. The WAEES model includes consumer expenditures on food and the consumer price index for various food groups which simulates the impact of changes in crop and livestock commodity prices on food prices and consumer expenditures on food. The model utilizes historical data from the Bureau of Labor Statistics on consumer expenditures on food, the CPI for various food groups, and the relative importance of each food item in determining the overall CPI for food. Changes in food prices are estimated based on raw commodity prices as well as changes in other supply chain costs such as labor, packaging, transportation, marketing, etc. Two scenarios were examined by the WAEES team: increasing biomass-based diesel volume obligations by 350 million gallons per year and by 500 million gallons per year. Results from the WAEES analysis project per capita consumer expenditures for food could increase from 45¢ to $1.49 depending upon the year and scenario examined. On a percentage basis, these results are similar to conclusions from Lusk.



An Economic Bulletin authored by Cowley and Scott supplemented analysis performed by Lusk and WAEES modeling when it concluded commodity values have limited impact on U.S. food inflation.[26] The Federal Reserve Bank authors further noted the production of farm commodities makes up a small share of every dollar spent on food. Updated data from the USDA Economic Research Service shows farm production represents less than 8% of the nominal food dollar and the food service category represents the largest increase in cost in the 2020/21 timeframe.

Also, an important factor, for every additional bushel of soybeans processed in the United States, additional supplies of protein are generated which are a primary input for livestock operations.

[26] Cortney Cowley and Francisco Scott, Commodity Prices Have Limited Influence on U.S. Food Inflation, Federal Reserve Bank of Kansas City, (September 23, 2022), available at https://www.kansascityfed.org/research/economic-bulletin/commodity-prices-have-limited-influence-on-us-food-inflation/.

Increased soybean meal supplies keep farmer costs in check and improve their ability to continue to provide affordable food both in the United States and the export market. Recent market reactions support the notion that increased use of soybean oil for biodiesel and renewable diesel production affects the relative price of soybean meal. Simply stated, more meal supplies will lower the relative cost to produce staples like pork, chicken, turkey, egg, dairy, and even plant-based alternatives. A strong RVO helps keep the prices of these protein products affordable on tables across the globe.

These impacts extend beyond the livestock industry to pet food manufacturing. Pet food manufacturers are a user of fats and oils, but an even larger user of protein feedstuffs in the production of companion pet products. As noted in the study, "Pet Food Production and Ingredient Analysis" completed in 2020 for the Pet Food Institute, the quantity of animal fats and soybean oil used pales in comparison to the quantity of animal and plant proteins procured for manufacturing pet food.[27] Plant protein markets (e.g., soybean meal) and animal protein markets are positively correlated. Increased soybean processing capacity, discussed in the next section, will create additional soybean meal supplies and put downward pressure on prices for all protein sources and benefit livestock producers and pet food manufacturers alike.

Soybean Oil

While soybean oil is only one feedstock option for biodiesel and renewable diesel production, and growth will occur with other feedstocks as well, increased supplies of soybean oil alone justify an increased RVO for the 2023 to 2025 timeframe. Clean Fuels anticipates growth in soybean oil supplies from improved soybean yields (increased production per acre), increased oil yields from oilseed processors (increased production per bushel processed), and an overall expansion of domestic oilseed processing capacity.

Without accounting for increased production due to advancements in per acre yields, much of the additional supplies of soybean oil in the United States will be a result of new oilseed processing capacity. Available soybean oil supplies in the United States will be significantly greater than outlined in the proposed rule and Regulatory Impact Analysis. EPA has discounted growth in both existing oilseed crush and newly announced capacity that has moved from concept to actual groundbreaking. As noted previously and corroborated by the LMC report, oilseed processing capacity will increase significantly over the next 3 years and a similar trend is expected in Canada with canola processing capabilities. LMC estimated U.S. soybean crush to grow to 2.63 billion bushels by 2025; supplied by a combination of increased production in the United States (boosted by higher yields) and some shifts away from lower value export markets. LMC projected soybean oil production in the United States to increase to 30.8 billion pounds by 2025. This report, commissioned in 2021, now appears be conservative given additional industry announcements.

Based on industry announcements, 21 new processing plants or expansions to existing plants are planned between now and 2026. These facilities are located in 12 different states, would add approximately 650 million bushels of additional crush capacity, equal to almost a billion gallons of additional soybean oil supplies, and reflect a cash investment in rural America of almost $5 billion.

[27] Decision Innovation solutions, Pet Food Production and Ingredient Analysis, (February 2020). Prepared for IFEEDER, Pet Food Institute, and NARA available at http://ifeeder.org/wp-content/uploads/200218-Pet-Food-Report.pdf

Based on our internal estimates of when new plants and expansions will come on-line, industry intends to increase U.S. crush capacity by almost 350 million bushels more than assumed by EPA in the proposed rule between now and the end of 2025. Stated differently, the proposed rule doesn't account for approximately 0.5 billion gallons of soybean oil feedstock between now and 2025. As drafted, the proposed rule could put investments in rural American at risk and stymie some expansion plans within the soybean processing community.

Canola Oil

Clean Fuels appreciates the effort by EPA to finalize work and subsequent approval of canola oil as a feedstock in the U.S. for renewable diesel, jet fuel, naphtha, liquified petroleum gas and heating oil.[28] In finalizing the additional pathway for canola oil, EPA has created an opportunity to allow expanded production of biomass-based diesel. Its use will reduce greenhouse gas emissions, further reduce reliance on foreign oil, and enhance energy security by increasing the diversity of feedstock sources used to make biodiesel and renewable diesel, as well as sustainable aviation fuel. Since EPA has approved the pathway, EPA must now also factor in its use and contribution to growing the renewable diesel market as an additional available feedstock. By not considering canola oil for growth, EPA is underestimating the potential volumes for both biodiesel and renewable diesel.

In the Draft Regulatory Impact Analysis EPA outlines three points leading to their statement, "we are not projecting any growth in the domestic availability of canola oil for biofuel production through 2025."[29] These elements included 1) relatively poor economic returns for canola and lack of additional crush capacity for soft seeds, 2) lack of clarity whether imported canola oil would meet the definition of renewable biomass, and 3) potential for increased biofuels demand in Canada.

Over the past 10 years canola acres in the United States have increased approximately 70%; demonstrating their economic performance for U.S. agricultural producers and an economic fit in their rotations. Although the expansion of U.S. oilseed processing assets has predominantly focused on soybeans, more than one of these projects will have the ability to process soft seeds such as canola. During the 2023 to 2025 timeframe, more than 20% of the new crush capacity planned in the United States will have soft seed capabilities.

There is also a North American canola market that includes significant production in Canada. The United States and Canada have an open and mutually beneficial canola sector with an integrated marketplace. New canola processing facilities in Canada are being constructed or expanded, with 5.7 million metric tons being announced. Of those announcements, 80% are targeted to come on-line in 2024 and combined represents more than 500 million gallons of additional feedstock supplies. Given this growth of canola oil supplies in Canada in the coming years, it is reasonable to assume opportunities will exist for use by U.S. biodiesel and renewable diesel producer's dependent upon regional market conditions.

EPAs concern over the lack of clarity whether or not imported canola oil would meet the definition of renewable biomass would seem to be over-stated. EPA allows for the use of an aggregate compliance approach for planted crops and crop residue from foreign countries. EPA approved such a petition from the Government of Canada in 2011. In the last RFS rulemaking EPA stated that current cropland acreage

[28] U.S. Environmental Protection Agency, Canola Oil Pathways to Renewable Diesel, Jet Fuel, Naphtha, Liquefied Petroleum Gas and Heating Oil, 87 FR 22882, (April 18, 2022), available at https://www.federalregister.gov/d/2022-07598

[29] DRIA

in Canada does not exceed the 2007 baseline acreage and therefore canola produced in Canada remains under the aggregate compliance approach. More than 95% of the canola seed and canola oil imported into the United States originates from Canada; all of which would meet that portion of the definition of renewable biomass.

Although Canadian canola oil supplies will increase significantly by 2024 (due primarily to increased processing capacity), additional demand will also be generated from a national Clean Fuel Standard set to be implemented in Canada. Prior LMC analysis factors in this additional demand and forecasts more than 5 billion pounds of additional supplies could still be available to the U.S. market by 2025, depending upon market values. Additional details of North American vegetable oil supplies (including Mexico) are available through the LMC analysis.[30]

As EPA looks to finalize the volumes for these fuels, we request that EPA use accurate data and include canola as a feedstock to meet the growing demands of both biodiesel and renewable diesel and adjust the volume obligation upward.

Distillers Corn Oil

Distillers corn oil (DCO), a by-product of the dry milling corn ethanol industry, is a prime example of technology that did not exist prior to growth of the biomass-based diesel market. A little more than one decade ago, only 300 million pounds of DCO were utilized by biomass-based diesel producers; use grew to more than 2.9 billion pounds in 2022. LMC estimated total DCO production could reach almost 4.5 billion pounds in 2025.[31] This increase is based almost exclusively on continued adoption of new technologies that boost yields (pounds of lipid extracted per bushel of corn). Although not part of the LMC analysis, additional supplies of DCO would also be available with increased ethanol production in the United States due to increased use of mid-level blends (e.g., E15), increased ethanol export opportunities, or increased lipid levels in corn.

Animal Fats

Animal fats are produced as a by-product from the processing of livestock for meat and, as a result, the output of animal fats is principally determined by the level of animal slaughter – which in turn is linked with increased demand for animal protein diets and influenced by per capita incomes in developing countries. As the global consumption of meat has expanded, the production of animal fats has also increased. Although both edible and inedible grades of animal fats are traded, inedible fats such as choice white grease, inedible tallow, and poultry fat are the primary feedstocks for biodiesel and renewable diesel production. *LMC projects animal fats to reflect slow growth and stable production, noting "…. the slow pace of growth in meat consumption [in the United States] and minimal feedback from animal fat prices to rendering activity".[32] Up to 56 million additional gallons of biomass-based diesel could be generated from the new supplies of animal fat supplies in the United States available during this time frame."*

As noted previously the LMC analysis did not account for trade flows. Historically the United States was a net exporter of animal fats, but more recently has increased volumes of imported products (e.g., tallow). However, this does not represent a diversion of feedstock from other uses. Instead, overseas trade barriers, consumer preferences, and a glut of lower valued lipids have negatively impacted U.S.

[30] The Outlook for Increased Availability & Supply of Sustainable Lipid Feedstocks in the U.S. to 2025.
[31] *id*.
[32] *id*.

export markets and use for biodiesel and renewable diesel production have presented the opportunity to offset lost demand for rendered products.[33]

Economic Impact

Recently, Clean Fuels published a new study, "Economic Impact of Biodiesel on the U.S. Economy 2022," conducted by LMC International.[34] The study finds that based on 2021 market data, the biodiesel and renewable diesel industry produced 3.1 billion gallons and generated $23.2 billion in economic activity, while supporting 75,200 jobs paying $3.6 billion in annual wages in the United States. For every 100-million-gallon increase in domestic clean fuel production, the direct, indirect, and induced economic activity increases by $1.09 billion and U.S. jobs grow by 3,185. The largest economic and employment benefits occur in the farming, oilseed processing, and fuel production sectors.

The study further calculates that producing 6 billion gallons of clean fuels in the United States would increase overall economic activity from the current $23.2 billion to $61.6 billion and support 187,003 jobs earning $8.8 billion in wages. The construction of additional capacity would increase economic activity by an additional $4.3 billion and support an additional 144,500 related temporary jobs earning $5.8 billion in wages.

BBD Conversion Factor for Percentage Standard

Clean Fuels supports the upward adjustment of the BBD conversion factor for percentage standard to accurately reflect growth in advanced renewable diesel production. The step will ensure that the BBD volumes the agency sets are met. And it will enable an accurate calculation of available space in the program for additional advanced biofuels. We applaud EPA's decision to replace the average Equivalence Value for BBD with a factor of 1.57 and recommend more frequent updates as the industry grows.

Separated Food Waste Recordkeeping Requirements

Clean Fuels appreciates EPA's efforts to update its problematic separated food waste recordkeeping requirements. Unfortunately, the specifics of EPA's proposed alternative compliance approach mean that few—if any—suppliers and producers will be able to take advantage of it.

The proposed rule's preamble discusses creating a feedstock verification system like California's.[35] Clean Fuels fully supports and has advocated for such an approach. But the approach EPA actually proposed varies from California's approach in major ways. Most of those distinctions stem from EPA's requirement that producers and their feedstock suppliers participate in a Quality Assurance Plan (QAP). As a result of that key difference, both producers and feedstock suppliers would be subject to additional, burdensome requirements including retaining and paying a QAP provider and undergoing site visits and quarterly audits.

The process that California uses to verify that separated food waste comes from renewable sources is much less onerous. California requires renewable fuel producers to engage a third-party verifier approved by the California Air Resources Board (CARB) and ensure that the verifier and CARB staff have

[33] Direct communication with Mr. Kent Swisher, North American Renderers Association, (February 2023).
[34] LMC International, (November 2022), Economic Impact of Biodiesel on the United States Economy 2022: Main Report. Available at https://email1.cleanfuels.org/7CBJ-5VDK-2K9SAV-5BYKR-1/c.aspx
[35] 87 Fed. Reg. 80,702.

access to audit their feedstock suppliers' records.[36] The audits take the form of a once-per-year verification that includes verification of feedstock and looks at records for the prior two years. CARB has also issued guidance to third-party verifiers that they may take a risk-based assessment approach that applies the highest scrutiny to high-risk feedstocks such as imports or feedstocks that have reported CI scores significantly better than the standard score for that feedstock.[37] Table 2 below further describes the differences between the LCFS approach and EPA's proposal:[38]

Table 2: Comparison of Alternative Compliance Approach for Separated Food Waste in the Proposed Rule with the LCFS.

	LCFS	***Proposed Rule***
Responsibility for Audit	Producers pay costs of verification; suppliers agree to make records available	Both providers and feedstock suppliers must participate in and pay for QAP
Nature of Audit	Annual verification of records (with 2-year lookback period)	All requirements of QAP, including quarterly audits and site visits
Auditor	Any of over 200 CARB-approved third-party verifiers	One of 2 QAP providers
Liability	Liability only on the producer	Liability on both producer and feedstock suppliers

EPA purports to have based its approach on California's requirements for "joint applicants,"[39] but those requirements are the exception under the LCFS rather than the norm. The market for separated food waste such as used cooking oil (UCO) in California typically involves a producer collecting from many different suppliers or aggregators, none of which are joint applicants. And, in any event, the joint application process is still not analogous to EPA's proposed QAP-based approach.

There are two main problems with the proposed rule's QAP-based alternative compliance option:

- *First*, most UCO suppliers do not have the resources to participate in a QAP. Many UCO suppliers are small entities that collect UCO from individual restaurants and use paper records, and such suppliers lack the capital and personnel necessary for QAP participation. And even larger aggregators that could theoretically implement a QAP program are likely to be disinclined to do so to the extent the costs outweigh the benefits. UCO suppliers and aggregators will sell to biofuel producers where the incentives created by the RFS help biofuel producers offer a more competitive price than other uses like animal feed, oleochemical production, or export. The substantial costs of implementing a QAP can alter that calculus and make it more advantageous for the supplier or aggregator to simply export UCO or sell it to other domestic users.

[36] *See* 17 Cal. Code Regs §§ 95500, 95501, 95488.8. The auditing of feedstock suppliers is designed to "demonstrate proper accounting of attributes and conformance with certified CI data." *Id.* § 95488.8.
[37] This is Clean Fuels' understanding of California's guidance based on its conversation with members who produce fuel in California, as California's guidance is not publicly available. Clean Fuels recommends that EPA contact the California Air Resources Board (CARB) for a copy of the guidance.
[38] In addition to requirements of the LCFS, UCO suppliers in California are also required to register with the state's Department of Food and Agriculture. See California Department of Food and Agriculture, *Transporters of Inedible Kitchen Grease, available at* https://www.cdfa.ca.gov/ahfss/mpes/pdfs/ikg_manifest_isr.pdf. That registration requirement presents a relatively minimal burden for suppliers.
[39] 87 Fed. Reg. at 80,702.

- *Second*, QAP providers lack the ability to effectively audit thousands of UCO suppliers in a timely manner. There are currently two QAP providers—Weaver and EcoEngineers—and a third—Christianson—is entering the market. Those QAP providers are already backlogged on their existing audits, and auditing any significant quantity of UCO would require them to review voluminous records from thousands of individual UCO suppliers. For comparison, California has over 200 approved third-party verifiers and holds frequent training sessions to facilitate additional approvals.[40]

The result of those issues is that many biomass-based diesel producers simply will not produce biofuel from UCO. Many producers are already declining to use UCO under EPA's interpretation of its 2020 regulations, and the alternative compliance approach it has proposed does not offer a viable alternative. EPA's proposed alternative approach would therefore continue to limit production of an advanced biofuel with one of the best lifecycle greenhouse gas emissions profiles in the RFS program.

That result does not need to happen. Clean Fuels appreciates EPA's desire to eliminate fraud; indeed, biofuel producers have strong incentives to ensure that the market is free of fraud. But installing a QAP program for both producers and suppliers is unnecessary when implementing a program like California's annual verification is sufficient to ensure that biomass-based diesel producers who say they are using UCO are using UCO. The lack of need for such a system is particularly glaring when considering that EPA is in the same rule proposing a minimalist verification system for eRINs that relies on contracts between automobile manufacturers and renewable electricity producers.

Clean Fuels therefore recommends that EPA establish a feedstock verification system for separated food waste that mirrors the LCFS (or a substantially similar audit-based system). Under such an approach, producers using separated food waste would require their suppliers to agree to provide records to an auditor on an annual basis without the need for QAP participation. That system would be much easier for suppliers to adopt—the many suppliers who provide feedstock for fuel used in California already do. And it would be more efficient for both producers and suppliers, who would not need to comply with two entirely different verification systems for separated food waste.

Clean Fuels also recommends that EPA publish the regulations for an alternative compliance approach as a standalone section (or subsection) of the Code of Federal Regulations instead of cross-referencing its preexisting biointermediate provisions. Cross-referencing adds an additional layer of complexity and incorporates additional compliance requirements that EPA may not have intended.

Finally, EPA should take the opportunity to clarify in the preamble to its final rule the circumstances in which third parties can maintain records regarding separated food waste on behalf of a producer under EPA's existing regulations. For example, EPA should clarify that producers can satisfy 40 C.F.R. sections 80.1454(d) and (j) by contracting with an independent third party that will receive all required records directly from suppliers and maintain them in a format accessible to EPA.

Biointermediates

To recap, last year we expressed our concerns to EPA regarding the burdens associated with the new biointermediates rule. The constraints EPA places around their use are unduly restrictive and warrant

[40] California Air Resources Board, *LCFS Verification*, https://ww2.arb.ca.gov/lcfs-verification?utm_medium=email&utm_source=govdelivery (last visited February 6, 2023).

further review and consideration. Specifically, mandated QAP participation for biointermediates producers and users is not only an increasing cost and administrative burden, but also without a clear benefit. The additional documentation and tracking requirements add additional administrative and accounting complexity that is not required for other feedstock types.

The requirements for both biointermediates and separated food waste add administrative and accounting complexity that is not required for other feedstock types and goes against the recent streamlining of fuel regulations while adding hurdles to some of the lowest carbon intensity feedstocks.

Definition of Produced from Renewable Biomass

Clean Fuels is concerned that the proposed change would allow for fossil fuels that undergo pretreatment to classify as "produced from renewable biomass." The change disregards the intention of the Renewable Fuel Standard whereby renewable biomass is used to replace fossil fuels present in transportation fuel. We strongly caution EPA to ensure the integrity of the Renewable Fuel Standard if this portion of the rule is finalized.

However, if EPA were to change the definition of produced from renewable biomass and as a result adjust downward the ethanol equivalence from 1.7 RINs per gallon to 1.6 RINS per gallon for renewable diesel, EPA must leave the option open to account for future changes whereby the total portion of the energy in the fuel is produced from renewable biomass.

Despite accepting the RIN adjustment for renewable diesel, Clean Fuels is greatly concerned that EPA is brushing over the fact that renewable diesel is referred to as co-processed fuel and co-processed renewable diesel.

Definition of Co-Processed

The "Definition of Produced from Renewable Biomass" inadvertently classifies all renewable diesel as co-processed. Renewable diesel is not exclusively co-processed and EPA's statement under the new definition is unsubstantiated and incorrect. Simply re-calculating the equivalence value under the produced from renewable biomass definition does not classify renewable diesel as a co-processed fuel by default. However, we are concerned that in this proposed rule EPA seems to be favoring fossil fuels and co-processing versus growing the renewable fuels market as Congress intended.[41]

The current definition for co-processed fuels within the RFS states, "Co-processed means that renewable biomass or a biointermediate was simultaneously processed with fossil fuels or other non-renewable feedstock in the same unit or units to produce a fuel that is partially derived from renewable biomass or a biointermediate."[42] By considering hydrogen as a feedstock within the production process, EPA may create confusion and possibly even affect the operation of other unrelated federal programs, including tax incentives, that depend upon a unambiguous understanding of what it means for a fuel to be "co-processed". Comparing how renewable diesel is made with hydrogen and biodiesel is made with methanol, and while that impacts the total portion of energy, neither the hydrogen nor the methanol is a feedstock. According to the EPA's own website feedstocks under the RFS are the "renewable biomass that is converted into a renewable fuel".[43] Therefore, the fuel should not be considered to be co-

[41] 78 Fed. Reg. 62,463.
[42] § 80.1401
[43] https://www.epa.gov/renewable-fuel-standard-program/what-fuel-pathway

processed. Under the proposal to adjust the RINs it is simply putting renewable diesel and biodiesel on par with each other.

Extensive data suggests that when petroleum refineries co-process fats and plant oils, it is difficult to reconcile the amounts of renewable feedstocks used at the beginning of the process with the amount of fuel and other byproducts that result in the end. While we support the adjustment to renewable diesel, we are questioning EPA in not applying any additional restrictions to co-processed fuels as redefined in the proposed rule. When EPA sets the volumes for 2023, 2024, and 2025 the agency must remember that co-processing biomass at existing petroleum refineries involves relatively little risk, investment, or additional domestic employment. The volumes as proposed will not be incentivizing increased clean fuels production which is essential to contributing to the nation's clean fuel supply which lowers fuel prices, supports good-paying jobs, adds value for America's farmers, and cuts GHG emissions.

Limiting RIN Separation Amounts

Proposed Limit on Assigning or Separating RINs to Equivalency Value

EPA's proposal to eliminate the ability to assign and separate up to 2.5 RINs per gallon presents a significant problem for many biomass-based diesel producers who sell to parties who do not need or want RINs. There are two main situations in which renewable fuel producers sell fuel without attached RINs: (1) their customers do not have the capacity to participate in the RFS; and (2) their customers can separate RINs but do not want to deal with holding and selling them. For some biomass-based diesel producers, *most of their customers* fall into one of those two categories.[44]

An important example of the first situation is the heating oil market in the Northeast. The market consists of hundreds of small, regional distributers that lack the capitalization and resources to register for the RFS and separate RINs. Because those distributers do not want RINs, biofuel producers sell them RIN-less fuel for heating oil and are left with excess RINs in inventory. Without the ability to assign more RINs than equivalency value to other fuel, the producers are stuck with those excess RINs and cannot realize any economic value for them. Other customers who cannot separate RINs include small retailers and jobbers. Like heating oil distributors, those parties lack the funding, staffing, and desire to participate in the RFS.

The second situation occurs because, even among biomass-based diesel customers that have registered for the RFS, many retailers and other non-obligated-party customers want to avoid selling RINs on the open market. There are several reasons that those discretionary blenders prefer to separate RINs and sell them back to a producer, including:

- Holding and selling RINs is a risk for the customer—RIN prices can move significantly even in a single day, and many customers are unwilling to accept that level of price variability;

- There is an additional risk of non-payment or late payments from the RIN purchaser, which could require additional collection efforts;

[44] For example, one biomass-based diesel producer reports that nearly 60 percent of its customers will not accept RINs. Another reports that about 52 percent of its customers either will not accept RINs or will only agree to separate and sell RINs back to the producer.

- Holding RINs ties up the customer's capital. If the customer pays the producer for RINs and then waits to sell them on the market, their cash flow can be compromised until they can find a buyer for their RINs; and

- The process of selling and invoicing RIN transactions on the market inherently requires additional effort by the customer.

Those customers will continue to not want RINs even if EPA eliminates the ability to assign and separate up to 2.5 RINs per gallon. So, if producers continued their current production and sales, they would be left with massive inventories of K1 RINs that they could not monetize. Many producers would instead simply stop selling to those customers and the biomass-based diesel industry would generate less renewable fuel.

EPA's proposal would therefore discourage discretionary blending and concentrate blending among obligated parties and large blenders like truck stops. As a result, it would minimize the sale of renewable fuels to markets like the Northeast heating oil market. That would represent a significant missed opportunity to achieve EISA's goals. As EPA acknowledged when expanding the regulatory definition of "heating oil," expanding RIN generation "furthers the goals of [EISA] to reduce the use of fossil fuels and encourage increased production of renewable fuels."[45] In particular, "allow[ing] for the generation of additional advanced and cellulosic RINs" through production of renewable heating oil "help[s] enable obligated parties under the RFS to meet their renewable fuel obligations and offer their customers more alternative fuel options."[46] The proposed RIN separation limits would do the opposite.

If EPA is concerned that allowing assignment and separation of up to 2.5 RINs per gallon will present issues for tracking RNG distribution with EPA's current EMTS system, there is a different solution: EPA should update EMTS. Indeed, the proposed rule acknowledges that EPA could do so but expresses concern about timing. That concern is unfounded—EPA is under a deadline pursuant to a court-entered consent decree to finalize the volumes for 2023 by June 14, 2023, but it does not need to finalize its biogas regulatory reforms or its eRIN compliance system at the same time. EPA could take the time it needs to update EMTS and then finalize the biogas and eRIN reforms afterwards. Alternatively, it could finalize the regulation now but delay the effective date of those reforms to a date that would allow sufficient time for any necessary EMTS updates.

EPA also mentions concern about "RIN-flashing" in the proposed rule. It is unclear whether EPA is defining RIN-flashing to include only transactions in which an obligated party separates RINs and sells back to a producer or also transactions in which a discretionary blender sells separated RINs to a producer. Either way, the concern is unfounded—the RINs are ultimately being used for compliance through those processes, and EMTS continues to link each RIN to the production of renewable fuel. And, in any event, EPA's proposal does not prohibit RIN-flashing—it just limits the amount that can be separated to the fuel's equivalency value.

Moreover, limiting the ability to assign and separate RINs will reduce the liquidity and flexibility of the RIN market. With producers unable to assign additional RINs to fuel when they have excess RINs in their inventory, producers are likely to avoid transactions that would otherwise encourage blending and separation by discretionary blenders. And that in turn will reduce liquidity because it will concentrate

[45] 78 Fed. Reg. at 62,463.
[46] *id.*

RIN separation in the hands of fewer parties (primarily obligated parties and large blenders like truck stops). In deciding to create an open RIN market in which all parties can buy and trade RINs, EPA has previously expressed its desire to prevent exactly that type of concentration of market power.[47]

EPA should therefore ensure that its final rule does not eliminate the flexibility afforded by the ability to assign and separate up to 2.5 RINs per gallon. If EPA wants to consider reforms to its RIN separation regulations that will truly enhance transparency and reduce the possibility of fraud, it should do so in a separate rulemaking. As part of any such rulemaking, it is imperative that EPA provide a regulatory mechanism that allows producers to continue to receive value for RINs when they sell to customers who do not participate in the RIN market. For example, EPA should consider expanding the circumstances under which renewable fuel producers may separate RINs. One potential way to do so would be by allowing producers to separate RINs if they certify or otherwise maintain records that demonstrate that renewable fuel is being used for compliant purposes, even if that renewable fuel is further blended before use.[48]

Preventing RIN separation for blends above B20

EPA's proposal to prohibit separating RINs for biodiesel blends above B20 is also highly problematic. Biodiesel can be used in existing engines in blends up to B100, and the RIN separation limit would disincentivize higher blends.

Nothing in EPA's preamble discusses limiting separation of RINs for biodiesel to blends of B20 or less—it is only in Section 80.1429(b)(6) of the proposed regulatory text. It is therefore unclear why EPA proposed to reduce the limitation from B80 to B20.

EPA's justification for the previous B80 limit was articulated in its 2010 regulations as follows:

> "Biodiesel (mono alkyl esters) is occasionally used in its neat form. However, this approach is the exception rather than the rule. Consequently, in the NPRM we proposed that the RIN assigned to a volume of biodiesel could only be separated from that volume if and when the biodiesel was blended with conventional diesel. To avoid claims that very high concentrations of biodiesel count as a blended product, we also proposed that biodiesel must be blended into conventional diesel at a concentration of 80 volume percent or less before the RIN could be separated from the volume."[49]

Clean Fuels does not believe that limitation was necessary in the first instance, but even to the extent it was, the same concern is not present with respect to blends between B20 and B80. B30, for example, is not a "very high concentration of biodiesel" that is tantamount to using biodiesel in its neat form. And creating that limitation has real harms. While most biodiesel is currently used in blends of B20 or lower, it is technologically feasible to use higher blends right now. To achieve Congress's goal of increasing renewable fuel production, EPA should encourage consumers to use those higher blends rather than discourage them.

[47] 72 Fed. Reg. at 23,944 ("By expanding the number of parties that can hold RINs, we minimize the potential for any one party to exercise market power.").
[48] Few biomass-based based diesel producers can use the designation process currently in 40 C.F.R. § 80.1429(b)(4) because most biodiesel and renewable diesel is sold by producers in neat form and then further blended.
[49] 82 Fed. Reg. at 23943.

Indeed, use of blends higher than B20 is currently increasing, in part driven by state tax incentives and blending requirements, including but not limited to:

- Iowa: Biodiesel blends of B20 through B29 receive a tax credit of 7 cents per gallon through December 31, 2027. Biodiesel blends of B30 and greater receive a tax credit of 10 cents through December 31, 2027.

- Rhode Island: All heating oil sold in the state must contain at least 50 percent biodiesel or renewable diesel by July 2030.

- Connecticut: All heating oil sold in the state must contain at least 50 percent advanced biofuel by 2035. [50]

In addition, the Inflation Reduction Act provides a $600 federal tax credit for the installation of biofuel blend-compatible heating appliances. By 2026, that equipment must be suitable for blends of at least 50 percent biodiesel or renewable diesel. The IRA also provides $500 million to the Higher Blends Infrastructure Incentive Program (HBIIP) where the purpose of the program is to increase significantly the sales and use of higher blends of biodiesel beyond B20 by expanding the infrastructure for renewable fuels derived from U.S. agricultural products.

Those tax incentives and state mandates combined with new technological developments[51] and increasing acceptance of higher blends of biodiesel by OEMs to create a potential for significant expansion of biodiesel blends above B20. To achieve the RFS program's goals, it is imperative that EPA not hold that development back. EPA should therefore make no change to its existing regulation, or, even better, it could eliminate the current B80 limitation altogether and allow RIN separation for any blend of biodiesel.

Regulatory Program for Renewable Electricity - eRINs

EPA's eRIN proposal creates a verification process that is far simpler than the requirements for other fuels. It is particularly noteworthy that EPA has taken such a minimalist approach for eRINs while requiring a complex and expensive process for separated food waste. Where EPA has established stringent tracking procedures for separated food waste that involve maintaining records linking particular batches of renewable fuel to thousands of individual sources, its approach to eRINs allows electricity pulled off the grid (which could be generated by fossil fuel combustion or any other type of source) to stand in as a proxy for electricity generated from biogas, on the grounds that electricity is "fungible."[52] And the only assurance that there is any relationship between the two is a contract between the auto manufacturer and a renewable electricity producer, "so long as the OEM demonstrates that the vehicles it produced have used a corresponding quantity of electricity."[53]

If EPA is comfortable creating such a system for eRINs, it can allow an LCFS-like process for separated food waste. Indeed, the approach Clean Fuels has advocated would provide significantly more assurance

[50] Clean Fuels Alliance America, State Biodiesel Incentives Greater Than B20 (Appendix C.)
[51] For example, California recently approved advanced fuel-system technology that facilitates use of B100 in existing medium- and heavy-duty diesel engines. *See* Press Release, *Optimus Technologies, Inc. Secures California Executive Orders* (July 19, 2022), available at https://www.optimustec.com/carb-press-release.
[52] 97 Fed. Reg. 80,649.
[53] *id.*

that UCO and other separated food waste comes from renewable feedstocks, because it would include annual audits verifying suppliers' records.

Clean Fuels does not oppose EPA's proposal to establish a regulatory framework for eRINs in principle. But, in addition to ensuring that other fuels are not saddled with more burdensome feedstock verification requirements, there are two important issues for EPA to consider in finalizing and implementing its eRIN proposal.

First, EPA must ensure that it sets its renewable fuel volumes and percentage standards sufficiently high to continue to incentivize production of other renewable fuels. As EPA has acknowledged, its addition of the new eRIN program "significantly increases the uncertainty" of its cellulosic projection.[54] One risk of that uncertainty is that the use of eRINs exceeds EPA's projection and occupies a significant portion of the advanced biofuel volume, pushing out other advanced biofuels in the process. That risk is exacerbated by EPA assigning a very high equivalence value for eRINs produced from biogas; to the extent eRINs are available, obligated parties are likely to prefer them to all other advanced biofuels. EPA should therefore set the advanced biofuel volume high enough to leave room for other advanced biofuels in the event of higher-than-expected eRIN production—doing so would be consistent with Congress's goals and the six (o)(2)(B)(ii) factors, including reducing greenhouse gas emissions, enhancing energy security, and supporting the rural economy. In the event of eRIN availability that is at or below EPA's projections, there is plenty of production capacity already online for other advanced biofuels like biodiesel and renewable diesel to make up any shortfall. And, if it sets technology-forcing volumes now, EPA could use its cellulosic waiver authority at a later date if it projects that eRIN production is going to be significantly lower than it currently expects.

Second, EPA should ensure that finalizing the details of the complex proposed program for eRINs does not delay the 2023 volumes. Setting volumes as close to on time as possible is essential to driving the growth contemplated under EISA, which requires biofuel producers to make investments in advance based on the anticipated demand created by the program. EPA is under a court-approved consent decree to finalize the 2023 volumes by June 14, 2023, but that deadline does not apply to finalizing the eRIN proposal—EPA could separate the eRIN provisions from the provisions setting annual volumes and finalize the eRIN provisions later. Whether eRINs are available has an impact on what volumes EPA sets, but there is an easy fix for that issue: EPA can finalize the volumes for 2023 without projecting any eRINs, and then it can make the eRIN program effective in 2024 or later.

Climate Change

Greenhouse Gas Emissions

The Renewable Fuel Standard is a key instrument in the United States' fight against climate change. Increasing the RVOs for BBD and advanced biofuels provides additional GHG benefits under the RFS by avoiding petroleum-based diesel emissions and can help the Biden Administration reach its near-term commitment to reduce carbon emissions by 50-52% by 2030. Importantly, while electric vehicles may reduce emissions in the light-duty sector, the markets Clean Fuels' member producers serve – including heavy-duty trucking, shipping, and aviation – will continue to rely on liquid fuels for decades if not the foreseeable future, considering the technologies and lifetimes of the vehicles and equipment in these markets. For example, in heavy-duty trucks, we are likely at least a decade away from seeing commercial

[54] *id.* at 80,587.

electric vehicles penetrate the market.[55] With an assumed average lifetime of 15 years, heavy-duty trucking would depend on liquid fuels at least until 2050. The lag time in market penetration for aviation is even longer. On average, an aircraft is operable for about 30 years before needing to be retired, and there are no double-aisle electric aircraft in the works by leading aircraft manufacturers today. Consequently, aviation will depend on liquid fuels well beyond 2050.

This dependence on liquid fuels in these markets reinforces the role the RFS has in helping to decarbonize these hard-to-abate transportation markets by supporting the domestic renewable fuels sector. We estimate that by aligning the RVOs for D4 and D5 RINs alone with our proposal, EPA could avoid an additional 23.5 million metric tons of carbon dioxide equivalent ($MMTCO_2e$) through 2025. Taking the difference between EPA's proposed volumes and Clean Fuels' proposal, our proposal avoids an additional 2.62 billion gallons of petroleum diesel from entering the market (Table 3 below). Biodiesel and renewable diesel[56] reduce GHG emissions by roughly 72% on average based on their lifecycle emissions relative to petroleum diesel as calculated by U.S. Department of Energy Argonne National Laboratory's Greenhouse Gases, Regulated Emissions, and Energy Use in Technologies (GREET) Model and assumptions about feedstock and fuel pathway mixes based on data from the U.S. Energy Information Administration and EPA Moderated Transaction System data.[57] As such, our proposal could avoid an additional 23.5 $MMTCO_2e$ over the rule's time period (Equation 1 below) or save roughly 0.5% of transportation CO_2 emissions *per year* from 2023-2025 from just D4 volumes based on 2020 transportation emissions as published in the *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2020*.[58]

Table 3. EPA and Clean Fuels Proposed RVO volumes by RIN category (Billion gallons)

		2023	2024	2025	TOTAL
	D4: Bio-based diesel				
(1)	*Clean Fuels Proposal*	*3.26*	*3.76*	*4.26*	*11.28*
(2)	*EPA Proposal*	*2.82*	*2.89*	*2.95*	*8.66*
(1-2)	**Total difference**	**.44**	**.87**	**1.31**	**2.62**

Equation 1. Greenhouse Gas Emissions Avoided

$$2.62\ Billion\ gallons\ \times 96.45\ kg\frac{CO_2e}{MMBTU}\times 0.13\frac{MMBTU}{gallon}\times 72\% = 23.5\ MMTCO_2e$$

[55] Caleb Miller, General Motors Will Launch Electric Heavy-Duty Trucks by 2035, Car & Driver, (January 7, 2022), https://www.caranddriver.com/news/a38696855/general-motors-electric-heavy-duty-trucks/.

[56] While Clean Fuels also represents the sustainable aviation fuel market, there are no sufficient gallons of SAF being produced in the United States to be reported without revealing confidential business information. As such, our emissions estimates exclude SAF's GHG emission reduction potential.

[57] Argonne National Laboratory, GREET1 Model (October 2022), *available online at* https://greet.es.anl.gov/; U.S. EIA, Monthly Biofuels Capacity and Feedstocks Update, Table 2: Feedstocks consumed for production of biofuels, *available online at* https://www.eia.gov/biofuels/update/; Burkholder (2022) Memorandum: Biodiesel and Renewable Diesel Feedstocks (2014-2021), EPA Docket No. EPA-HQ-OAR-2021-0324, available online at: https://www.regulations.gov/document/EPA-HQ-OAR-2021-0324-0742.

[58] U.S. Environmental Protection Agency, Fast Facts from the Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2020, (2022), *available online at* https://www.epa.gov/system/files/documents/2022-04/fastfacts-1990-2020.pdf.

Greenhouse Gas Emissions Modeling

As part of this proposed rule, EPA requested comment on its GHG modeling comparison exercise to inform updating its GHG modeling framework. Clean Fuels supports EPA's decision to undertake this exercise and provides comment on salient attributes a revised modeling framework should have.

EPA's current GHG modeling framework is outdated, likely inaccurate, and insufficient for eliciting deeper GHG reductions from renewable fuels production. It is our understanding that EPA currently uses FASOM and FAPRI-CARD, two consequential models, to determine the GHG impacts of different RFS agricultural feedstock pathways based on pre-determined policy scenarios. Both FASOM and FAPRI-CARD model the trade flows for certain sectors of our economy, including the agricultural sector; the outputs being the GHG impacts that result from changes in agricultural markets due to increased demand for biofuels stemming from the pre-determined policy. FASOM models these impacts for the domestic market; FAPRI-CARD does so for the world market. EPA then adds process based GHG impacts from fuel production as provided by the GREET model to determine the total GHG impact of agriculture-based fuels.

FASOM and FAPRI-CARD, however, are outdated and no longer supported by the institutions that created them, rendering them obsolete for use in GHG modeling today. This is particularly important because the United States and world economies look and operate differently today from when each model was last updated. Furthermore, because each model determines market reactions to pre-determined policy scenarios but for different geographic scopes, using their outputs additively misrepresents the true impacts of the policies modeled. With globalization, trade flows within and between the United States and other countries have changed and are potentially more efficient, which would lead to different GHG emission outcomes for the same policies modeled. Moreover, EPA's framework then adds GHG impacts from the fuel production process to this inaccurate sum, mixing and matching consequential and attributional life cycle emissions, which cannot accurately result in the aggregate GHG impacts of the fuel pathways.[59]

Lastly, by relying mostly on consequential modeling, EPA's current approach misses the mark on driving GHG emission reductions, a key intent of Congress. While using consequential modeling may provide insight into the overall GHG impacts of a pre-determined marginal volume of renewable fuels introduced into the market, it does not provide a scope of responsibility that actors can respond to, taking control of those impacts and ultimately reducing them.[60]

As EPA considers revising its GHG modeling framework, Clean Fuels agrees with the suite of models EPA is reviewing in this exercise. These models include the most relevant and used models for considering the GHG impacts of biofuels in regulatory frameworks and academic research and analysis. Of note, the GREET model is currently used under California's Low Carbon Fuel Standard (LCFS) in conjunction with GTAP-BIO to determine the GHG impacts of qualifying fuels. Similarly, these two models as well as GLOBIOM underlie the U.N. International Civil Aviation Organization Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) lifecycle analysis for default carbon intensity scores for CORSIA eligible fuels. Unlike under CORSIA, however, California has made its version of the GREET model available for use by fuel producers, improving transparency in carbon intensity calculations for use under the LCFS. This transparency allows fuel producers to assess the effectiveness of investments to

[59] *See* Brander et al. (2019) "Coupling attributional and consequential life cycle assessment: A matter of social responsibility," *Journal of Cleaner Production* 215; 514, 515.
[60] *See* Brander et al. (2019) *supra*.

reduce carbon intensity *a priori* and drive GHG emission reductions throughout the fuel's lifecycle, increasing the GHG benefits the LCFS brings to the state.

As EPA reviews the outcomes of this modeling exercise in consideration of revising its modeling framework, Clean Fuels urges EPA to develop a framework that is transparent, up-to-date, amendable, consistent, and reflective of Congress' intent to reduce GHG emissions and support the domestic renewable fuels sector. This Administration has arguably worked harder than any before it to use an all-of-government approach to mitigate climate change, and reasonably, the RFS is a mature program it can and should leverage to contribute to those mitigation efforts. The U.S. National Blueprint for Transportation Decarbonization highlights the ways in which the transportation sector can change to mitigate climate change and, in particular, notes the potential for success in decarbonizing aviation through climate-smart agricultural practices, low-carbon electricity and hydrogen usage, and carbon capture and sequestration.[61] But, in order for these technologies to come to fruition, they must be properly incentivized. EPA can and should play a role in doing so through the RFS by creating a transparent GHG modeling framework that properly attributes the GHG reduction potential of these technologies. An attributional lifecycle assessment model like GREET provides the appropriate scope of responsibility[62] and transparency into the supply chain to incentivize the adoption of these technologies and drive cost-effective GHG emission reductions for the program.

While we encourage EPA to create a framework that is first and foremost transparent, we would caution EPA to carefully consider the time element of any revised GHG modeling framework. While global warming is driven by the buildup of GHGs in our atmosphere making the timing of those emissions important to overall global warming, in the modeling context, dynamic or time-step models may add a layer of complexity to GHG modeling without improving the certainty of the outputs. There are a multitude of factors with varying levels of certainty that impact the GHG outcomes of biofuel use, both process-based and market-mediated, so including one more factor, like time, may not provide more definitive outcomes. Consequently, ensuring the time element in EPA's framework may be unnecessary. That said, should EPA determine that it should adopt modeling that incorporates this time element, EPA must then also consider the time-related benefits of cumulative GHG emissions avoided by switching away from petroleum-based fuels with drop-in, commercially available renewable alternatives that rely on the fast carbon cycle for their energy source.[63]

In addition to transparency, a revised modeling framework must be up-to-date and readily amendable to reflect the latest scientific, industry, economic, and other pertinent information. EPA's current framework is plagued with outdated data that do not reflect today's world, which introduces knowable inaccuracies in outputs. Without using the latest scientific understanding in an ever-evolving field like climate change science, EPA's assessments of its program cannot confidently keep us on the correct trajectory to reducing GHG emissions. For example, it is our understanding that GLOBIOM relies on some data that is over two decades old despite the availability of more recent data that has yet to be

[61] U.S. Department of Energy, Department of Transportation, Environmental Protection Agency and Department of Housing and Development, U.S. National Blueprint for Transportation Decarbonization at 72, *available online at* https://www.energy.gov/sites/default/files/2023-01/the-us-national-blueprint-for-transportation-decarbonization.pdf.

[62] *See* Brander et al. (2019) *supra*.

[63] *See* Frank et al. (2022) "Quantifying and comparing the cumulative greenhouse gas emissions and financial viability of heavy-duty transportation pathways for the Northeastern, United States," *Fuel* 323; 124243, *available online at* https://doi.org/10.1016/j.fuel.2022.124243.

incorporated, potentially creating knowable inaccuracies in its output. GREET, on the other hand, is updated annually and, with its multiple funding streams and use in multiple programs, regularly incorporates the latest scientific information and data on fuel lifecycles.

Furthermore, in revising this framework, EPA must be forward thinking in its ability to incorporate knowledge we anticipate gaining over the coming years. The Inflation Reduction Act's massive investment in climate smart agriculture will incentivize the until now minimally tapped potential of croplands to sequester carbon. The Climate Smart Commodities program seeks to improve the quantification of soil organic carbon (SOC) and SOC change to better assess agriculture's role and potential in helping us fight climate change. Clean Fuels has urged the U.S. Department of Agriculture and its Natural Resources Conservation Service to invest in determining baseline SOC values and methodologies to determine SOC change for various agricultural practices. This work has the potential to materially impact the GHG outcomes of agricultural feedstocks biodiesel, renewable diesel, and sustainable aviation fuel use. Consequently, EPA's modeling framework should leverage this imminent information to appropriately assess GHG emissions from agriculture-based fuels.

In addition to ensuring this framework stays up-to-date, EPA must ensure the framework can be consistently applied across potential pathways. As we note in our comments on the hydrogen fuel lifecycle analysis, EPA is proposing an attributional lifecycle analysis approach to determine the GHG impacts of that pathway, while it combines elements of attributional and consequential lifecycle analysis for other pathways. This framework prevents pathways from being comparable, potentially creating perverse incentives to invest in certain renewable fuel production pathways that are not reflective of true GHG mitigation potential. Going forward, therefore, EPA needs to consider how a revised framework can be consistently applied across potential renewable fuel pathways.

Lastly, EPA should ensure that a revised GHG modeling framework reflects Congress' intent to reduce GHG emissions while supporting the *domestic* renewable fuels sector to promote energy security. It goes without saying that energy security comes from domestic renewable fuels sourced from domestic feedstocks. Programs like USDA's Climate Smart Commodities have the potential to deepen the GHG emission reductions of agricultural feedstocks by advancing our knowledge and understanding of soil organic carbon and the farming practices that can improve it, sequestering carbon from the atmosphere. Advancing this important ecological mechanism will help to reduce GHG emissions, but for it to be properly incentivized, its accounting needs to be incorporated into the right policy mechanisms. The RFS plays the dual role of decreasing GHG emissions while promoting the domestic renewable fuels sector and is therefore ripe to take on incorporating advances in agricultural practices into its GHG modeling framework to promote domestic fuels while reducing emissions.

Clean Fuels fully understands the concerns raised by some that international leakage and indirect land use change, in particular, may offset the GHG benefits of the RFS. We appreciate EPA's position of needing to balance these concerns when GHG emissions and climate change are a global issue, but actual GHG impacts are also highly uncertain and outside of domestic control. With the program's dual purpose to mitigate climate change and promote the domestic renewable fuels sector, EPA should consider ecosystem feedback and market-mediated impacts of the entire RFS program as it does through its regulatory impact analysis. But, given the epistemic uncertainty associated with our understanding of these impacts, EPA should not overly penalize any particular pathway for highly uncertain and uncontrollable outcomes that, in particular, may vary over time due to the whims of foreign policy. To be sure, EPA should follow its mission to protect the environment, but it should not use scientific uncertainty to prevent it from promoting domestically sourced renewable fuels.

Seeking Public Comment on Hydrogen Fuel Lifecycle Analysis

Clean Fuels appreciates EPA's transparency in reviewing the lifecycle analysis and associated GHG impacts for renewable natural gas hydrogen for use in fuel cells. We note here only that EPA has proposed to rely on the process-based or attributional lifecycle emissions model, GREET, for calculating the pathway's lifecycle GHG impacts exclusively without considering potential consequential GHG emission impacts; an inconsistent methodology relative to its GHG modeling framework for agricultural feedstocks. As a result, the GHG impacts for the hydrogen pathway are not comparable on an apples-to-apples basis with agricultural feedstock fuel pathways in the program. This problematic inconsistency reinforces the need for EPA to revise its GHG modeling framework. Please see our comments on attributes any revised modeling framework should have as EPA considers updating its GHG modeling.

Assessment of Environmental Justice

In addition to reducing greenhouse gas emissions, advanced biofuels also reduce particulate matter emissions. This benefits all populations including minority, low-income, and indigenous populations. Clean Fuels Alliance America, through our continued partnership with Trinity Consultants, released Phase 2 of our report that quantifies the health benefits and corresponding economic savings from converting from petroleum-based diesel to B100.[64]

The Trinity Report assesses the health benefits of substituting biomass-based diesel in transportation-related sources currently fueled by conventional ultra-low sulfur diesel (ULSD or diesel fuel) at 14 locations and as a replacement for home heating oil in one location throughout the United States. This study expands upon the Assessment of Health Benefits from Using Biodiesel as a Transportation Fuel and Residential Heating Oil completed by Trinity Consultants in 2021. This study uses a "bottom-up" approach, focusing on specific population groups such as those living in crowded urban housing complexes and portside communities. Even greater total benefits can be seen when considering comparable communities outside of these specific markets and locations.

Combining Phase 1 and Phase 2 of the study, researchers found that switching to 100% biodiesel in the 28 transportation and home heating oil sectors studied would provide immediate community health improvements that include more than 456,000 fewer/reduced asthma cases per year; more than 142,000 fewer sick days per year; cancer cases reduced by nearly 9,400 (over a 70-year timeframe); the prevention of more than 910 premature deaths per year; over $7.5 billion in avoided health costs annually; and a 45% reduction in cancer risk when legacy heavy-duty trucks such as older semis use B100, and an 86% reduced risk when biodiesel is used for home heating oil, known as Bioheat® fuel.[65]

The immediacy of these potential health benefits, especially for disadvantaged communities, is even more critical when one considers the years, possibly decades, it will take for states to pursue deep electrification and other decarbonization strategies. The RFS, when enacted according to Congressional intent will drive demand for higher blends of biodiesel resulting in direct public health benefits for disadvantaged communities.

[64] Trinity Consultants, Assessment of Health Benefits from Using Biodiesel as a Transportation Fuel and Residential Heating Oil, (April 2022). https://cleanfuels.org/resources/health-benefits-study

[65] *id.*

Policy Considerations

- *How can the proposed set rule further Congress' policy goal of enhancing energy security, specifically with respect to the transportation sector?*

The Renewable Fuel Standard was established as a cornerstone of America's energy independence. Since homegrown biodiesel and renewable diesel are direct replacements for foreign oil, a strong RFS is more important today than ever for the nation's national security. Clean Fuels firmly agrees with President Biden's March 8, 2022 statement: "Loosening environmental regulations or pulling back clean energy investment will not lower energy prices for families."[66]

Clean Fuels Alliance America and its members recognize the serious negative impact that rising crude oil prices are having on America's economy and the pocketbooks of Americans. Crude oil prices have steadily increased for months and accelerated greatly due to the proactive ban on imports of Russian oil, a measure that Americans strongly support. As the Administration explores ways to increase fuel supplies and provide Americans relief from high prices, our industry is investing billions to expand production of biodiesel, renewable diesel, and sustainable aviation fuel to further extend consumer access to clean fuels. Our partners in the agriculture industry are investing approximately $5 billion to expand the supply of renewable oils for both food and clean fuels. To date, U.S. biodiesel and renewable diesel producers are meeting more than 5% of the nation's demand for on-road heavy-duty fuels. These fuels remain essential in keeping food and other consumer items moving across the country and keeping diesel prices from rising even higher during the current shortage.

For example, in 2020 during the pandemic and associated shortfalls in fuel refining, the clean fuels industry contributed more than 3 billion gallons of biodiesel and renewable to maintain fuel supplies and keep essential goods moving. Without that additional supply, diesel prices would have increased $0.24 during the year – adding to the price of nearly every consumer good.[67] Our growing contribution to U.S. fuel supplies over the past decade reduced diesel prices by an average $0.31 each year. The 3 billion gallons produced by our industry displaces foreign fossil fuels, saving consumers money at the pump, significantly reducing carbon emissions, and reducing the environmental costs associated with petroleum.

Lastly, the study from World Agricultural Economic and Environmental Services (WAEES) also shows that without the supply of U.S.-produced biodiesel and renewable diesel to meet heavy-duty transportation fuel demand, diesel prices would be 4% higher on average over the past several years.[68] However, the RVO as proposed would reduce availability of biodiesel and renewable diesel right now, imposing higher costs on American consumers.

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[66] Remarks by President Biden Announcing U.S. Ban on Imports of Russian Oil, Liquefied Natural Gas, and Coal. March 8, 2022. https://www.whitehouse.gov/briefing-room/speeches-remarks/2022/03/08/remarks-by-president-biden-announcing-u-s-ban-on-imports-of-russian-oil-liquefied-natural-gas-and-coal/

[67] World Agricultural Economic and Environmental Service (WAEES), The Offsetting Impact of Expanded Biomass Based Diesel Production on Diesel Prices, April 29, 2022. https://cleanfuels.org/docs/default-source/news-releases---supporting-files/the-offsetting-impact-of-expanded-biomass-based-diesel-production-on-diesel-prices-4-29-2022.pdf?sfvrsn=d952e00_5

[68] The Offsetting Impact of Expanded Biomass Based Diesel Production on Diesel Prices.

- *How do the requirements of this proposed rule intersect with continued viability of domestic oil refining assets? How does the structure or positioning of refining assets in the marketplace, such as refineries that operate on a merchant basis, relate to a given obligated party's ability to participate, and associated costs with participation, in the RFS program?*

In the proposed rule, there are multiple times where EPA discusses maintaining stable fuel supplies and refining assets and focuses on the continued viability of domestic oil refining assets.[69] Yet at the same time, EPA discusses that the purpose of the RFS program is to boost energy security by supporting domestic production of fuels and diversifying the fuel supply all while playing an important role in incentivizing the production of low-carbon alternatives.

The intent from Congress is clear – the RFS program was created to reduce greenhouse gas emissions and expand the nation's renewable fuels sector while reducing reliance on imported oil by requiring a certain volume of renewable fuel to replace or reduce the quantity of petroleum-based transportation fuel, heating oil or jet fuel. However, the ill-placed focus on supporting the merchant refiners combined with the volumes as proposed is overshadowing the goals of the Administration to lower greenhouse gas emissions and transition away from fossil energy.

When addressing the costs of the RFS program, the United States Court of Appeals for the Tenth Circuit's decision in *Renewable Fuels Association v. EPA* clearly outlined 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."[70]

While refiners have chosen to shut down or convert to renewable diesel, the rationale to do so cannot be wholly contributed to RFS compliance costs. Even prior to the pandemic, U.S. refiners had to meet new regulatory requirements on sulfur emissions that forced refineries to increase their hydrotreating capabilities to meet U.S. gasoline and diesel specifications. At the same time, waste streams were becoming more heavily regulated, with tighter controls for flaring systems, sulfur units, amine units, wastewater treatment, and heater exhaust. In order to meet these new requirements, many refineries underwent projects with little to no profitability and continued to do so in order to remain in business.

In 2020 the impacts of COVID-19 were seen far and wide across the oil and gas marketplace. Oil product inventories around the world neared maximum operational inventories, driving down prices for the entire oil industry, which resulted in bad oil refining margins. Facing bad margins, some U.S. oil refiners decided to shut down. As a result of more stringent regulations, COVID-19, and Environmental, Social, and Governance (ESG) goals, from 2018-present, around 1.7-1.9 million barrels per day of refining capacity has gone offline in the United States alone.[71] Over the same time period across the rest of the world, only around 2.1 million barrels per day have shut down permanently. Despite these shutdowns, it is important to note that the United States remains a net exporter of oil products.

It is also important to recognize that some U.S. refiners who avoided shutdowns in their entirety were able to stay profitable and in business by taking advantage of their locations and converted closing assets to produce renewable fuels to supply the market. The conversion of marginal refining assets to

[69] 87 Fed. Reg. *80,586 and 80,587.*
[70] 864 F.3d 691 (D.C. Cir. 2017).
[71] EIA's Refinery Capacity Report available at https://www.eia.gov/petroleum/refinerycapacity/

renewable diesel assets allowed refiners the ongoing added benefit of taking advantage of credits and subsidies that were available while meeting ESG targets set by their investors. Examples include MPC Martinez, P66 Rodeo, Shell Convent, and HF Cheyenne. In other cases, oil refiners could also add onto current assets to improve their RVO situation such as BP Cherry Point and Kern Oil Bakersfield.

On another note, on the oil market, oil refining is continuing to expand globally with large projects being built in South Asia, East Asia, and Africa. These new projects are being built near new demand centers, but they are also being built with the newest and best technology, making them more profitable and cost-competitive compared to their peers. Many old, less efficient refineries, especially the independent teapots in China, are being driven out of business. The growth in oil demand globally is mainly being driven by non-OECD countries, as they continue to industrialize. However, OECD countries, especially those in Europe and North America, are likely to see peak oil demand within the next decade, driven by electrification and the advent of renewable fuels. U.S. oil refiners see this on the horizon and have decided to switch some of their marginal assets towards the energy transition while trying to place themselves in the best position with their other assets to export oil products to developing nations, particularly those in Latin America and Africa, as the large oil refining builds in Asia make it difficult to compete there. In this environment, it is already difficult for a merchant refiner to compete, especially as their consumer base will shrink with domestic oil demand peaking by the end of the decade.

- *Are there policy changes or additional programmatic incentives that EPA should consider implementing under the RFS program to strengthen or accelerate the transition to a decarbonized transportation sector?*

EPA should optimize the Renewable Fuel Standard to accelerate the transition to a decarbonized transportation sector. Since the program's inception, the RFS has reduced emissions by nearly a gigaton – far exceeding the 593 million metric tons of CO2 estimated in the 2009 regulatory impact analysis.[72] Unfortunately, the proposed BBD and advanced biofuel volumes have not kept pace with the industry's recent growth, nor EIA's projections. EPA must ensure growth for biomass-based diesel through 2030, issue annual rules in a timely manner that drive the market, approve new feedstocks and pathways, and ensure science-based lifecycle scores. Any new policy efforts or programmatic incentives aimed at reducing carbon should build on the success of the RFS rather than change or replace it.

- *If EPA were to incorporate some measure of the carbon intensity of each biofuel into the RFS program (e.g., providing a higher RIN value for fuels with a better carbon intensity score), what approach would best advance the program's environmental objectives, and at the same time be consistent with the statutory provisions of CAA section 211(o)?*

Clean Fuels is uncertain that there is a legal mechanism for EPA to incorporate any measure of carbon intensity of each biofuel into the RFS program that is consistent with CAA section 211(o).

While the RFS program does incorporate some measure of carbon intensity today by virtue of having variable qualifying GHG reduction thresholds for different RIN categories, the RFS is not by nature an LCFS. The RFS is a volume mandate that requires the use of renewable fuel volumes to replace or reduce the quantity of petroleum-based transportation fuel, heating oil or jet fuel while carbon intensity

[72] Stefan Unnasch and Debasish Parida, GHG Emissions Reductions due to RFS2-A 2020 Update, at p.14. https://d35t1syewk4d42.cloudfront.net/file/748/LCA_-_RFS2-GHG-Update_2020.pdf

programs such as an LCFS are designed to meet a certain carbon emission target. Additionally, the RFS is for fuels produced from renewable biomass while existing LCFS programs allow other fuels to qualify.

If EPA decides to look into the legality further, we ask that EPA start with a request for information (RFI) before starting a formal rulemaking process. However, before EPA can start to undertake the task of determining whether carbon intensity can be incorporated into the RFS program at a more granular level, EPA must first update its GHG modeling framework consistent with our recommendations to ensure that all renewable fuel pathways are treated equitably under the program.

Clean Fuels strongly opposes any additional mechanism, such as incorporating carbon intensity, that will create additional unnecessary hurdles, or worse, disqualify the crop-based feedstocks that many of our fuels depend on in order to meet the goals of the RFS, the Administration's climate policies, and the SAF Grand Challenge. It is only with a transparent, up-to-date, amendable, and consistent framework that reflects Congress' intent that EPA can then consider whether and, if so, how to incorporate a more granular understanding of carbon intensity into the RFS.

- *How can EPA best build upon the policy investments that the IRA established to further develop low-carbon renewable fuels, including through incentives established through the RFS program?*

EPA can build upon the policy investment that the IRA established to further develop low-carbon renewable fuels by ensuring that the RFS creates unbiased space for liquid renewable fuels to decarbonize the transportation sector. The IRA has continued the tax credits that EPA has previously relied upon to justify one way or another the RVO for BBD and advanced. The IRA provides additional market certainty that the proposed rule lacks. Section 40A - Biodiesel and Renewable Diesel Credit, Section 40B - Sustainable Aviation Fuel Credit, and Section 45Z - Clean Fuel Production Credit all provide Clean Fuels members additional policy certainty through year 2027. While the tax incentive shifts from an extension of the existing biodiesel blenders credit to a tech-neutral version in 2025, it continues to support the continuation and use of low-carbon renewable fuels such as biodiesel, renewable diesel and SAF.

Additionally, the IRA is continuing the success of the Higher Blends Infrastructure Incentive Program (HBIIP) by providing an additional $500 million to the program. In response to the success and demand of the program, USDA intends to make available the majority of $500 million in the first round of the IRA funding portion of the program, with the second round following summer 2024.

As EPA looks to the IRA as a policy supporting biofuels, it is important for EPA to distinguish HBIIP from an earlier iteration - Biofuel Infrastructure Program (BIP) – which was only open to ethanol projects. Biodiesel is eligible for HBIIP, which will significantly increase the sales and use of higher blends of biodiesel by expanding the infrastructure for renewable fuels derived from U.S. agricultural products. The program is also intended to encourage a more comprehensive approach to market higher blends by sharing the costs related to building out biofuel-related infrastructure. The expansion of biofuel infrastructure, as facilitated by HBIIP, broadens the availability of renewable fuels like B20 and higher blends, and helps American families save money at the pump while reducing carbon emissions and harmful tailpipe pollution. Expanded use of higher blends of biofuels also boosts the availability of skilled jobs with good wages in rural communities. Under HBIIP, the grants support fueling stations, convenience stores, hypermarket fueling stations, and fleet and fuel distribution facilities, including terminal operations and home heating oil distribution centers. Federal matching grants help the industry

build or retrofit terminals, storage, and rail capacity to enable broader consumer access to these clean fuels.

- *What role can the RFS program play, beyond what exists today, to further support the development of sustainable aviation fuel?*

If EPA would like to take a role in further supporting the development of sustainable aviation fuel, the agency must raise the volumes for BBD and advanced in order to ensure a robust biodiesel industry, while also supporting the growing renewable diesel and SAF industries. Without factoring in SAF into the RVO and projected BBD and advanced biofuels coming online, EPA will create a self-fulfilling prophecy whereby SAF won't take off, as the market signal required for the investment to move forward as explained in the Market Impacts section will not exist. It cannot be stressed enough that the SAF Grand Challenge is a priority for the Biden Administration; however, the low-carbon liquid fuels required to meet those goals will not come to fruition without a change to this RVO. This year is pivotal as both momentum and demand for these fuels has now the reached mainstream. If the BBD and advanced volumes are not increased SAF investments will be reevaluated. It is likely that as these business decisions are being made on where to invest in renewables, sustainable aviation fuel will be sidelined as it will no longer make sense financially as SAF is capital intensive. It is highly unlikely that investors will make a financial commitment to these capital-intensive projects without clear signals from the agency.

Additionally, EPA must continue to approve pathways for SAF but at the same time understand the impact that the approval will have on existing fuels. If we are going to decarbonize the transportation sector, we must look at the whole picture and not shift our focus to the sky. The immediate benefit that biodiesel and renewable diesel have on the environment and communities can be found in our "Climate Change" and "Assessment of Environmental Justice" sections.

- *Are there steps EPA should consider taking under the RFS program to capture opportunities related to hydrogen derived from renewable biomass?*

If EPA is to finalize the downward adjustment of the renewable diesel equivalency value as it relates to the proposed "Definition of Produced from Renewable Biomass," then EPA must adjust upward the equivalency value if future producers of renewable diesel are using hydrogen derived from renewable biomass whereby the total portion of the energy in the fuel is produced from renewable biomass.[73]

- *What actions should EPA consider to improve the transparency of how the Agency administers the RFS program? Are there steps EPA should consider taking to enhance RIN market liquidity, transparency, and efficiency, or otherwise improve market administration? For example, should EPA revisit some of the policy design conclusions of the 2019 RIN market reform rule such as the RIN holding thresholds that require parties to publicly disclose their positions? Are there other policy designs not considered in that rule that EPA should be considering in this rule?*

Clean Fuels appreciates EPA's efforts to improve transparency in finalizing "Public Access to Information" as it relates to the information submitted related to small refinery exemption petitions and their status as confidential business information (CBI).[74] This change provides necessary transparency to a program historically fraught with deception. While the information submitted with SRE applications is

[73] 87 Fed. Reg. 80,704.
[74] 87.Fed. Reg. 39,652.

not automatically become public information, we request once again that at least some information be included on the SRE dashboard to indicate the potential impact on biofuel producers as petitions are received. Of particular importance is the volume of gasoline and diesel – and associated RVOs – that are being petitioned for exemption. Publicly disclosing information throughout the RFS program is important in providing transparency and certainty to all stakeholders and ensuring its successful operation and integrity.

However, the suggestion to revisit the deferred 2019 RIN market reform rules remains unnecessary, as EPA has yet to see or share publicly any data-based evidence of RIN market manipulation.[75] However, if EPA decides to finalize any of the previously proposed RIN Market Reforms, we request that EPA remain true to its word and allow time for parties to comment before proceeding with a final rule. Clean Fuels does not find this proposed rule to be the proper venue nor is the data-based evidence of RIN market manipulation present to provide proper comment prior to finalization.

If EPA does plan to re-propose the RIN market reform rule, we ask that EPA reconsider the proposal on "Limiting Who can Purchase Separated RINs". This particular reform goes against the intent of the program and would undermine the liquidity that allows the RIN market to operate efficiently and effectively. For example, when RIN prices increase, it signals to obligated parties that more fuel is needed in order to meet their RVO and creates an incentive to expand both production and infrastructure versus buying higher priced RINs. Conversely, non-obligated parties can alleviate the burden of those needing to sell RINs by liquidating small RIN batches that would otherwise be refused by large, obligated parties.

Additionally, the earlier proposal on "Limiting Duration of RIN Holdings by Non-Obligated Parties" could negatively impact non-obligated parties who hold separated D6 RINs, such as discretionary blenders, who would need to retire or sell those RINs each quarter. This proposed reform may also cause non-obligated parties that participate in the fuels industry to purchase and carry even more D4/D5 RINs.

It is important to remember that RIN markets cannot function properly without transparency throughout the entirety of the RFS program, as increasing transparency is what is actually needed to prevent manipulation in the RIN market.

- *We request comment on how to account for the uncertainty in projecting the quantity of eRINs in the RFS program, and specifically, whether we should be considering lower (or different) cellulosic volume requirements for 2024 and 2025 in this rule.*

As mentioned previously and in greater detail in the section "Regulatory Program for Renewable Electricity – eRINs", Clean Fuels once again asks that EPA set both the BBD and advanced biofuel volumes high enough to leave room for other advanced biofuels in in the event of higher-than-expected e-RIN production.

[75] U.S. Environmental Protection Agency. Modifications to Fuel Regulations to Provide Flexibility for E15; Modifications to RFS RIN Market Regulations. (June 10, 2019) 84 FR 26980 https://www.federalregister.gov/d/2019-11653