



August 17, 2018

The Honorable Andrew Wheeler
Acting Administrator, Environmental Protection Agency
Air and Radiation Docket and Information Center
1200 Pennsylvania Avenue NW
Washington, DC 20460

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

Dear Acting Administrator Wheeler:

The Biotechnology Innovation Organization (BIO) is pleased to provide comment on the U.S. Environmental Protection Agency's (EPA's) proposed rule on the **Renewable Fuel Standard Program: Standards for 2019 and Biomass-Based Diesel Volume for 2020 (proposed rule)**¹.

BIO is the world's largest trade association representing biotechnology companies, academic institutions, state biotechnology centers and related organizations across the United States and in more than 30 other nations. BIO members are involved in the research and development of innovative healthcare, agricultural, and industrial and environmental biotechnology products. In the energy space, BIO represents more than 70 companies leading the development of new technologies for producing conventional and advanced biofuels. Through the application of industrial biotechnology, BIO members are improving conventional biofuel processes, furthering advanced and cellulosic biofuel production technologies, and speeding development of new energy crops.

The Renewable Fuel Standard (RFS) has been vital to the investment and growth of the advanced and cellulosic biofuels industry. The RFS has enabled the United States to become a leader in the development and deployment of new technologies which has led to the growth of the biobased economy, benefitting farmers and commodity producer, help revitalize rural economies, create good paying jobs, and foster energy independence.

Unfortunately, the success of the biofuels industry and the benefits it provides the nation as a whole have been put at risk in recent years due to EPA's actions administering the RFS. The proposed rule continues this uncertainty. While BIO supports EPA's decision to raise the advanced and cellulosic biofuel volumes in the proposed rule, these increases will be undercut by the continued issuance of small refinery exemptions (SRE) without reallocating gallons to other obligated parties.

¹ Environmental Protection Agency, Renewable Fuel Standard Program: Standards for 2019 and Biomass-Based Diesel Volume for 2020, EPA-HQ-OAR-2018-0167, 83 Fed. Reg. 32024 (Jul. 10, 2018), (to be codified at 40 CFR Part 80) Available at <https://www.regulations.gov/document?D=EPA-HQ-OAR-2018-0167-0002> (Proposed Rule).



Despite pledges from the administration to cut through regulatory red-tape to foster economic growth and investment from industry, EPA still lags behind in the approval of new advanced and cellulosic biofuel pathways and petitions for production facilities. These delays arbitrarily keep advanced and cellulosic biofuels from reaching the market place hindering the growth of the industry.

A strong policy and regulatory environment is critical to supporting the type of innovation that will help strengthen the biobased economy, create good paying jobs and help revitalize rural economies across the country. It is critical the final rule for the 2019 Renewable Fuel Standard Renewable Volume Obligations (RFS RVO) follow the letter and intent of the law to achieve these goals. As BIO illustrates in its comments below, it urges EPA to resolve these issues and overcome barriers keeping advanced and cellulosic biofuels from accessing the market.



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I. Introduction

a. Stable RFS Can Grow the Biobased Economy, Strengthening U.S. Agriculture and Rural Communities

The RFS has been the fundamental driver of investment, development, and growth of the U.S. biofuels industry since the law was first enacted in 2005 and enhanced in 2007. When properly implemented and allowed to function as Congress intended, the RFS led to billions of dollars in investment in new technologies and facilities, employing hundreds of thousands of Americans, often in rural communities. Analysis by Fuels America demonstrates these positive impacts: the RFS has led to \$184.5 billion of economic output, 852,056 jobs, \$46.2 billion in wages, and \$14.5 billion in taxes each year.²

The economic benefits of the RFS extend beyond the biofuels sector. Technologies developed because of the RFS have led to the growth and development of the biobased economy. Building on processes learned from biofuels production, BIO's member companies are developing new agricultural and low-carbon feedstocks, industrial enzymes, and biological catalysts for the conversion of biomass into advanced biofuels, alternative jet fuels, renewable chemicals, and biobased products. Biobased production encompasses a complex value chain, from agriculture through the manufacture of consumer goods, that provides an alternative to the petroleum-based value chain and that brings environmental, economic, and other benefits.

The biobased economy can generate new markets for agricultural producers, boost innovation in domestic manufacturing, and stimulate sustainable economic growth. According to the U.S. Department of Agriculture (USDA), in 2014, the biobased products industry contributed to 4.2 million jobs across the country, up from 4.0 million in 2013. In addition to the direct jobs created by the industry, the biobased economy generates a jobs multiplier of 2.76, meaning for every 1,000 biobased products jobs, 1,760 more jobs are supported in the United States.³ This industry contributed \$393 billion to the U.S. economy in 2014, up from \$369 billion in 2013.

The continued growth and development of the biofuels and the biobased economy comes at a critical time for America's farmers. Earlier this year, USDA released its

² See Fuels America, Fuels America Releases New Footprint Analysis: Renewable Fuel Drives Economic Growth. (Apr. 15, 2014). Available at <https://fuelsamerica.org/resources/fuels-america-releases-new-footprint-analysis/> (providing detailed description of study results, data sources, and methodology).

³ Golden, J., Handfield, R., Daystar, J., & McConnell, E. USDA: An Economic Impact Analysis of the U.S. Biobased Product Industry. (Oct. 2016). Available at <https://www.biopreferred.gov/BPResources/files/BiobasedProductsEconomicAnalysis2016.pdf>



10-year projection for the agricultural sector. It found, “over the next several years, the agricultural sector continues to adjust to lower prices for most farm commodities.”⁴ However, the report expected there to be strong global demand for soybeans. Unfortunately, due to the effects of U.S. duties placed on foreign steel, aluminum, and other products, a number of top export markets for U.S. commodities have placed retaliatory tariffs on agricultural goods. For soybeans, despite a recent rally, prices have struggled to rebound after dropping 16 percent last quarter, with more losses in store for later this year.⁵ Corn futures have fallen 15 percent, since a peak last May on the Chicago Board of Trade.⁶ China, which in 2017 bought about \$839 million worth of U.S. sorghum, has not purchased significant volumes since February, according to USDA data. As a result, sorghum which fetched as much as \$4.80 per bushel earlier this year was bidding roughly \$3.65 per bushel.⁷

The downturn in commodity prices could not have come at a worse time for the agricultural sector. According to USDA’s Economic Research Service:

Net farm income, a broad measure of profits, is forecast to decrease \$4.3 billion (6.7 percent) to \$59.5 billion in 2018, which would be the lowest level in nominal terms since 2006. Net cash farm income is forecast to decrease \$5.0 billion (5.1 percent) to \$91.9 billion, the lowest level since 2009. In inflation-adjusted (real) 2018 dollars, net farm income is forecast to decline \$5.4 billion (8.3 percent) from 2017; if realized, this would be the lowest real-dollar level since 2002. Real net cash farm income is forecast to decline \$6.7 billion (6.8 percent) in 2018, and this would be the lowest real-dollar level since 2009.⁸

⁴ Office of the Chief Economist, World Agricultural Outlook Board, U.S. Department of Agriculture. “USDA Agricultural Projections to 2027.” (Feb. 2018) Available at https://www.usda.gov/oce/commodity/projections/USDA_Agricultural_Projections_to_2027.pdf

⁵ Javier, L. Bloomberg “No End in Sight for Commodity Crash With Charts Sending Bear Signals.” (Jul. 19, 2018). Available at <https://www.bloomberg.com/news/articles/2018-07-19/no-end-in-sight-for-commodity-crash-as-charts-send-bear-signals>

⁶ Parker, B. Wall Street Journal “U.S. Grain Prices Crunched by Trade Fears.” (Jul. 19, 2018). Available at <https://www.wsj.com/articles/u-s-grain-prices-crunched-by-trade-fears-1532039037?mod=searchresults&page=1&pos=1>

⁷ Hirtzer, M., Polansek, T. Reuters “Over sorghum salad, U.S. farmers and Chinese buyers chew on trade.” (Jul. 20, 2018). Available at <https://www.reuters.com/article/usa-trade-china-sorghum/over-sorghum-salad-u-s-farmers-and-chinese-buyers-chew-on-trade-idUSL1N1UF1DP>

⁸ USDA Economic Research Service “2018 Farm Sector Income Forecast.” (Feb. 2018). Available at <https://www.ers.usda.gov/topics/farm-economy/farm-sector-income-finances/farm-sector-income-forecast/>



A robust RFS can offset these negative trends. A study from Center for Agricultural and Rural Development at Iowa State University found the RFS boosted the value of the U.S. agriculture sector by \$14.1 billion.⁹ If the RFS continues to ensure growth in the advanced and cellulosic biofuels, the demand for new feedstocks will provide a needed revenue source for producers. The collection of corn stover for cellulosic biofuels could provide farmers on average an additional \$46 per acre.¹⁰ EPA's recent "Registration of Isobutanol as a Gasoline Additive" (EPA-HQ-OAR-2018-0131) will enable to facilities to convert sorghum and corn into a "drop-in" fuel, creating more demand for these commodities.¹¹

A strong final rule for the 2019 RFS volumes can continue to promote growth of the advanced and cellulosic biofuels industry and support the U.S. agricultural sector during this downturn. However, this will only be possible if EPA

- addresses the demand destruction of biofuels through the issuance of small refiner exemptions under the RFS;
- addresses the order in *Americans for Clean Energy v. EPA* to remand 500 million gallons from the 2016 RFS volumes;
- Expedite pathways and facility registrations for advanced and cellulosic biofuel technologies;
- increases the advanced and cellulosic biofuel volumes to accurately reflect all the new technologies readily available to come online;
- rejects further reductions under the general waiver authority;
- maintains the 15-billion-gallon conventional mandate in the proposed rule; and provides Reid vapor pressure (RVP) parity for gasoline blends containing 15 percent biofuels or higher;

II. **Small Refinery Exemptions**

BIO is disappointed by EPA's decision to deem any comment on how small refinery exemptions (SRE) are accounted for beyond the scope of this rulemaking.¹² EPA's issuance of SREs and its decision not to reallocate expected 2019 SRE volumes to

⁹Moschini, G., Lapan, H. and Hyunseok, K. "The Renewable Fuel Standard in Competitive Equilibrium: Market and Welfare Effects." Center for Agricultural and Rural Development, Iowa State University. (Jun. 2017). Available at <https://www.card.iastate.edu/products/publications/pdf/17wp575.pdf>

¹⁰ POET "Make More Money Per Acre Today." Available at <http://poet-dsm.com/resources/docs/Make-More-Money.pdf>

¹¹ Environmental Protection Agency, Registration of Isobutanol as a Gasoline Additive, EPA-HQ-OAR-2018-0131, 83 Fed. Reg. 13,460 (proposed March 15, 2018) (to be codified at 40 CFR Part 79), available at <https://www.gpo.gov/fdsys/pkg/FR-2018-03-29/pdf/2018-06119.pdf>

¹² See Proposed Rule at 32057



ensure statutory RFS requirements has had a major impact on the biofuels industry and undermines the integrity of the statute.

a. SRE's Have a Significant Impact on the Biofuels Industry

Earlier this year reports started coming out that EPA had greatly expanded its issuance of SREs from its past precedent of issuing between six and eight waivers from the RFS per year to small refining operations of less than 75,000 barrels per day that can demonstrate they are struggling financially to comply, to roughly 20 in 2016 and at least 25 in 2017.¹³ Unfortunately, despite a number of requests from industry stakeholders and lawmakers¹⁴ with oversight over EPA, the exact number has not been disclosed. However, utilizing EPA's data for the RFS shows SREs cut RFS obligations by at least 1.6 billion gallons in 2016 and 2017.¹⁵

As Jonathan Coppess and Scott Irwin at the University of Illinois Department of Agricultural and Consumer Economics point out in the attached Appendix A:

The end result is that the final 15-billion-gallon conventional mandate was reduced to 13.887 billion gallons in practice through the impact of SREs. This represents not only a large reduction in absolute terms, but crucially, it results in the conventional mandate being well below the E10 blend wall. Similar computations can be used to compute actual RVOs for the other categories of biofuels. It is important to note that SREs reduce actual RVOs for all categories of biofuels not just conventional ethanol. The reductions in RVOs for all categories totaled 1.42 billion gallons in 2017.¹⁶

¹³ Renshaw, J. "U.S. ethanol groups bristle as EPA frees refiners from biofuels law." Reuters. (Apr. 4, 2018) Available at <https://www.reuters.com/article/us-usa-biofuels-epa-refineries/u-s-ethanol-groups-bristle-as-epa-frees-refiners-from-biofuels-law-idUSKCN1HB2AH>

¹⁴ Grassley, C., "Senators ask EPA to cease issuing RFS 'hardship' waivers." Biomass Magazine. (Apr. 17, 2018) Available at <http://biomassmagazine.com/articles/15229/senators-ask-epa-to-cease-issuing-rfs-undefinedhardshipundefined-waivers>

¹⁵ EPA. "Public Data for the Renewable Fuel Standard." Fuels Registration, Reporting, and Compliance Help. Available at <https://www.epa.gov/fuels-registration-reporting-and-compliance-help/public-data-renewable-fuel-standard>

¹⁶ Coppess, J. and Irwin, S. "EPA 2019 RFS Proposed Rulemaking: What You See Is Not What You Get." Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign. (Jul. 12, 2018) Available at <https://farmdocdaily.illinois.edu/2018/07/epa-2019-rfs-proposed-rulemaking-what-you-see-is-not-what-you-get.html> [Appendix A]



b. EPA's Actions Violate the Small Refineries Portion of the RFS

As BIO and its Coalition partners laid out in its June 4, 2018 petition to EPA,¹⁷ the Agency has gone against the intent of Congress to provide a temporary exemption, through December 31, 2010, to small refineries with a crude oil throughput of no more than 75,000 barrels per day.¹⁸ While Congress also provided that small refineries could receive a temporary extension of the exemption beyond 2010 based on either 1) the results of a required Department of Energy (DOE) study,¹⁹ or 2) an EPA determination of "disproportionate economic hardship"²⁰ on a case-by-case basis in response to petitions from small refineries, EPA has greatly diverted from the intent of the law with its massive expansion of retroactive SRE.

The statute clearly states "extends" the existing "exemptions." Congress authorized EPA to grant "petition[s] ... for an extension of the exemption under subparagraph (A) for the reason of disproportionate economic hardship."²¹ This means that EPA may grant a petition for an extension to cover a certain year only if "the exemption under subparagraph (A)" continues to exist up to that year. For example, EPA may grant a refinery's petition for 2016 only if the refinery was (validly) exempt for 2015, which in turn requires that the refinery have been (validly) exempt for 2014 and in prior years. Any petition for exemption submitted by a refiner that was not already covered by an exemption in previous years, therefore, must be rejected by the Agency.

This means the statute only permits EPA to act on exemptions that existed as a result of Congress's initial blanket mandate and were extended continuously up to the year covered by the petitions, regardless of when the petition is filed. As the Coalition lays out in its petition, attached in Appendix B, with its supporting appendices in Appendix C, EPA's permissive granting of retroactive exemptions and the resulting collective magnitude of those exemptions invalidate EPA's statutory obligation and prior rationale for the annual standards. That the Agency's policy change for liberally approving SRE's is unsupportable under the law and was unforeseeable in 2010.

¹⁷ Coalition, "Petition for Reconsideration of 40 C.F.R. §80.1405(c), EPA Docket No. EPA-HQ-OAR-2005-0161, promulgated in 75 Fed. Reg. 14,670 (Mar. 26, 2010); Petition for Reconsideration of Periodic Reviews for the Renewable Fuel Standard Program, 82 Fed. Reg. 58,364 (Dec. 12, 2017)" (Jun. 4, 2018). Available at <https://www.bio.org/letters-testimony-comments/biofuel-and-agriculture-groups-petition-epa-regarding-lost-rfs-volumes> [Appendix B and Appendix C]

¹⁸ 42 U.S.C. § 7545(o)(9)

¹⁹ 42 U.S.C. § 7545(o)(9)(A)(ii)

²⁰ 42 U.S.C. § 7545(o)(9)(B)

²¹ 42 U.S.C. § 7545(o)(9)(B)(i)



c. SRE are Leading to a Decline in Biofuel Blending

The increased issuance of SREs have had an impact on domestic biofuel consumption and production, which USDA Secretary Perdue noted was demand destruction.

The price at which the RIN sells serves as an incentive for blending. It drives obligated parties to make investments to meet their obligations under the RFS. This leads to the uptake of higher blends of biofuels and spur investment and development of new efficiencies in conventional biofuels and commercial scale production of advanced and cellulosic biofuels.

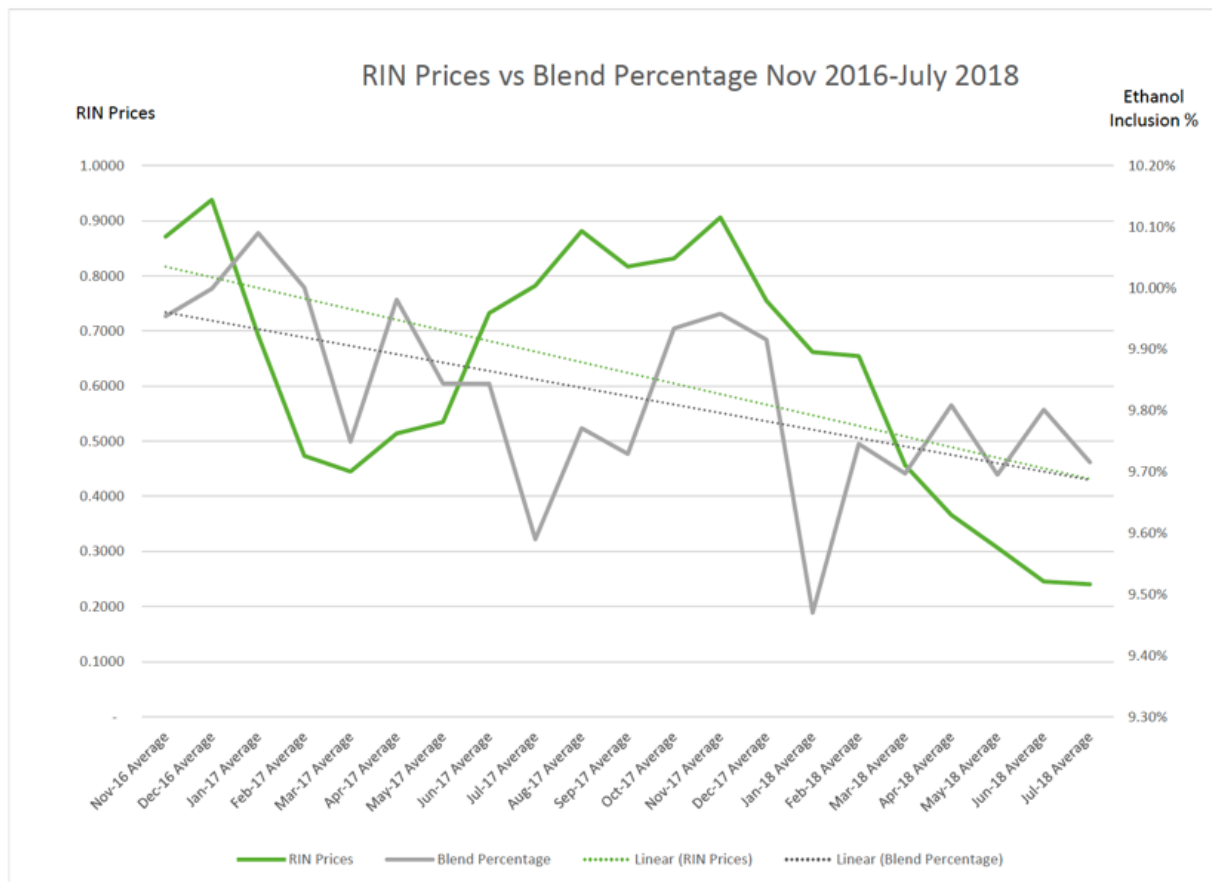
Efforts to artificially cap, lower, or manipulate the price of RINs, like SREs or other concepts like a RIN cap or RINs for exports eliminate this incentive and lower blending. Due to the issuance of SREs, RIN prices and blending rates have fallen. Not only does this negatively impact biofuels sector, it impacts the agriculture markets, driving down commodity prices. Despite claims from some obligated parties this does not have an impact on the blending of biofuels, the issuance of SRE has created a demand destruction as the following chart showing the comparison of RIN prices and blending percentages since November 2016 demonstrates.



EPA's actions on SREs is particularly damaging to the advanced and cellulosic biofuels industry. As Jeremy Martin, Senior Scientist, Clean Vehicles, Union of Concerned Scientists pointed out utilizing analysis from the University of Illinois, Department of Agricultural and Consumer Economics:

The immediate impact of SREs on the use of biofuels is complicated. It might seem that ethanol use would fall in line with the RFS standards, but for economic and technical reasons ethanol use is likely to remain very close to 10 percent of gasoline use, regardless of changes in the RFS, at least in the near term. Instead it is biodiesel that likely takes the biggest hit. This is because SREs includes reductions in advanced biofuels and bio-based diesel, and also because biodiesel has been filling the gap between the conventional ethanol mandate and the E10 blend wall,²² which would stop if the SREs push ethanol mandates below the blend wall.

The standard for non-food based cellulosic biofuels, which Pruitt had already reduced by more than 7% in 2018 compared to 2017, was effectively further reduced by about another 8% by SREs.²³



[https://www.ucs.org/sites/default/files/attach/2018/07/ethanol-and-biodiesel-credits-are-being-reduced-by-small-refinery-exemptions-to-the-rfs](#)



d. EPA's Decision Not to Reallocate Gallons Lost to SREs Goes Against Recommendations from Congress and within the Administration

Because of the impact SREs has had on the biofuels industry and the integrity of the RFS, there has been a vocal, bipartisan push from members of Congress and within the Administration, to get more information about the SREs issued and for EPA to reallocate 2019 SREs to ensure statutory RFS requirements going forward.

On April 9th, Senators John Thune (R-SD), Chuck Grassley (R-IA), Roy Blunt (R-MO), and Joni Ernst (R-IA) wrote to President Donald Trump, asking him to direct EPA to stop misusing waivers that are exempting large oil refining companies from meeting their legal obligations under the RFS.²⁴ Following the release of the letter, U.S. Department of Agriculture (USDA) Secretary Sonny Perdue told Senator Blunt in a U.S. Senate Appropriations Agriculture Subcommittee hearing on April 11, 2018²⁵ that he agreed with the concerns outlined in the letter, stating that the waivers issued reduced the RFS gallon, noting, "That is demand destruction." He went on to acknowledge, when coupled with the ongoing trade disputes, the SREs are "having an accumulative effect over our producers and their financiers and bankers and others in the whole supply chain of agriculture."²⁶

These Senators followed up on this letter with an April 12, 2018 press release²⁷ that it had received a response from EPA to a letter they had sent on January 11, 2018²⁸ that confirmed oil refiners are not negatively impacted by compliance with the RFS and EPA stood by its earlier conclusion that "all obligated parties, including

²⁴ Thune, J. "RFS Waiver Letter to President Donald Trump" U.S. Senate. (Apr. 9, 2018) Available at <https://www.grassley.senate.gov/sites/default/files/April%209%202018%20RFS%20waiver%20letter%20to%20POTUS%20%20Thune,%20Grassley,%20Blunt,%20Fischer,%20Ernst.pdf>

²⁵ Subcommittee on Agriculture, Rural Development, Food and Drug Administration and Related Agencies. "Review of the FY2019 USDA Budget Request." U.S. Senate. (Apr. 11, 2018) Available at <https://www.appropriations.senate.gov/hearings/review-of-the-fy2019-usda-budget-request>

²⁶ Voegelé, E. "Perdue discusses RFS waivers during Senate hearing." Biomass Magazine. (Apr. 11, 2018) Available at <http://biomassmagazine.com/articles/15209/perdue-discusses-rfs-waivers-during-senate-hearing>

²⁷ Grassley, C. "Grassley, Thune, Blunt, Fischer, Ernst Joint Statement on EPA Attacks on RFS." U.S. Senate. (Apr. 12, 2018) Available at <https://www.grassley.senate.gov/news/news-releases/grassley-thune-blunt-fischer-ernst-joint-statement-epa-attacks-rfs>

²⁸ Grassley, C. "Letter to EPA on RIN Data." U.S. Senate. (Jan. 11, 2018) Available at <https://www.grassley.senate.gov/sites/default/files/letter%20to%20epa%20jan%202011.pdf>



merchant refiners, are generally able to recover the cost of the RINs they need for compliance with the RFS obligations through the cost of the gasoline and diesel fuel they produce."²⁹

That same day, these five Senators, were joined by eight of their Senate colleagues in sending a bipartisan letter to EPA requesting the agency to cease issuing the waivers, provide topline information about the waivers already issued, disclose whether or not the agency redistributed the waived volume obligations among the non-exempted obligated parties, and outline the agency's plan to make the waiver process more transparent.³⁰

Concerns over the issuance of SREs was not limited just to the U.S. Senate.

On April 20, 2018 Energy and Commerce Committee Ranking Member Frank Pallone, Jr. (D-NJ) and Agriculture Committee Ranking Member Collin Peterson (D-MN) sent a letter to President Trump expressing their concerns about EPA inappropriately issuing waivers to fuel refiners in order to undermine the RFS. They urged the President to "instruct EPA to suspend consideration of any additional waiver requests and take steps to improve the transparency and accountability of the waiver program."³¹

On April 26, the bipartisan co-chairs of the House Biofuels Caucus called on EPA to cease all hardship waivers under the RFS until they are able to verify that the waivers will only be used for small refineries.³² The concerns raised in the letter were raised directly with former Administrator Scott Pruitt by one of its author's,

²⁹ Wehrum, W. "EPA Again Admits RFS Compliance Doesn't Hurt Small Refiners." U.S. Environmental Protection Agency. (Apr. 9 2018) Available at <https://www.grassley.senate.gov/sites/default/files/2018.04.09%20-%20Grassley%20Response%20re%20%20RFS%20RIN%20prices.pdf>

³⁰ Grassley, C., Klobuchar, A. "Bipartisan Group of Senators Request EPA Cease Issuing RFS 'Hardship' Waivers and Disclose Information to Congress." U.S. Senate. (Apr. 12, 2018) Available at <https://www.grassley.senate.gov/sites/default/files/Pruitt%20Small%20Refinery%20Letter%204.12.18.pdf>

³¹ Pallone, F., Peterson, C. "Urge President Trump to Stop Pruitt's Abuse of RFS Waivers." U.S. House of Representatives. (Apr. 20, 2018) Available at <https://democrats-energycommerce.house.gov/sites/democrats.energycommerce.house.gov/files/documents/Tump.2018.04.20.%20RFS%20Small%20Refinery%20Waivers..pdf>

³² Davis, R. "RFS Waiver Letter to Administrator Pruitt." U.S. House of Representatives. (Apr. 26, 2018) Available at https://loeb sack.house.gov/uploadedfiles/rfs_waiver_letter_to_sec._pruitt.pdf



Representative Dave Loebsack (D-IA)³³ in a House of Representatives Committee on Energy and Commerce Subcommittee on Environment hearing entitled, "The Fiscal Year 2019 Environmental Protection Agency Budget".³⁴

On June 20, 12 lawmakers from the House Energy and Commerce Committee and the Agriculture Committee requested information on the impact of SREs, noting EPA, "continues to hurt farmers and undermine the biofuels market by extending waivers to an unusually large number of refineries. Additionally, your implementation of the RFS program is undercutting the market for renewable fuels, and inflicting further economic pain in rural communities and throughout the agriculture sector."³⁵

The concerns raised about SREs by these members of Congress appeared to have had an impact on the Administration's handling of SREs going forward. Throughout the White House Office of Management and Budget's (OMB) inter-agency review of the Proposed Rule, reviewers from other agencies urged EPA to calculate the RVO percentage, adjusting for estimated exempted volumes due to SREs.³⁶

EPA's first draft of the Proposed Rule on May 9, 2018 did not attempt to adjust the RVO to account for expect small refinery exemptions. However, in the first round of comments submitted on May 25 reviewing the draft of the proposed rule, reviewers from other agencies recommend, "...we suggest that EPA include an 'expected' amount of [small refiner] waivers for the 2019 standards...In that way, the expected waivers will provide certainty to the industry with respect to their standards, but also will more closely meet the amount of renewable fuel stated as the objective of the rulemaking."³⁷ While another review asked related to SREs, "In

³³ Loebsack, D. "VIDEO: Loebsack Questions EPA Administrator Pruitt's Commitment to RFS." U.S. House of Representatives. (Apr. 26, 2018) Available at <https://loeb sack.house.gov/news/documentsingle.aspx?DocumentID=395159>

³⁴ House of Representatives Committee on Energy and Commerce Subcommittee on Environment. "The Fiscal Year 2019 Environmental Protection Agency Budget" (Apr. 26, 2018) Available at <https://energycommerce.house.gov/hearings/the-fiscal-year-2019-environmental-protection-agency-budget/>

³⁵ Loebsack, D. "House Energy and Commerce and Agriculture Committee Oversight." U.S. House of Representatives. (Jun. 20, 2018) Available at https://loeb sack.house.gov/uploadedfiles/small_refinery_ec_ag_oversight.pdf

³⁶ EO12866 Review of Renewable Fuel Standard Program: Standards for 2019 and Biomass-Based Diesel Volume for 2020 - Proposed Rule 2060-AT93 EPA-HQ-OAR-2018-0167-0103 (Jul. 10, 2018) Available at <https://www.regulations.gov/document?D=EPA-HQ-OAR-2018-0167-0103>

³⁷ EO12866 Review of Email from Chad Whiteman to Benjamin Hengst and Tia Sutton regarding the proposed Renewable Fuel Standard Program: Standards for 2019 and Biomass-Based Diesel Volume for 2020- Proposed Rule 2060-AT93 EPA-HQ-OAR-2018-



what ways can EPA provide more transparency regarding the number and volume of small refiner exemptions granted for the volume years covered by this proposed rule?"³⁸

Despite the comments provided on May 25, EPA did not incorporate the impact of SREs in its next draft. As a result in the second round of comments, delivered on June 4, reviewers again recommended that EPA, "Include an estimate for 2019 small refinery waivers based on the waivers granted over the past two years. Current procedures ensure the RVO isn't met."³⁹ While another reviewer stated, "it is wholly consistent with efforts to come close to the promulgated volumes that you estimate small refinery waivers instead of using a zero, which is in itself a biased estimate (known to be wrong)."⁴⁰

Finally after another set of reviews, EPA circulates on new draft of the proposed rule on June 19th that includes changes regarding its approach to SREs. EPA states it "...is taking a different approach in this proposed rule. Our proposed approach for 2019 is consistent with CAA section 211(o)(3)(B)(i), which states that EPA 'shall determine and publish...the renewable fuel obligation that ensures that the requirements of' the RFS program are met."⁴¹

0167-0103 (May 25, 2018) Comment 1, page 2, Available at <https://www.regulations.gov/contentStreamer?documentId=EPA-HQ-OAR-2018-0167-0103&attachmentNumber=20&contentType=pdf>

³⁸ EO12866 Review of Email from Chad Whiteman to Benjamin Hengst and Tia Sutton regarding the proposed Renewable Fuel Standard Program: Standards for 2019 and Biomass-Based Diesel Volume for 2020- Proposed Rule 2060-AT93 EPA-HQ-OAR-2018-0167-0103 (May 25, 2018) Comment 13, page 12 Available at <https://www.regulations.gov/contentStreamer?documentId=EPA-HQ-OAR-2018-0167-0103&attachmentNumber=20&contentType=pdf>

³⁹ EO12866 Review of Email from Chad Whiteman to Benjamin Hengst and Tia Sutton regarding the proposed Renewable Fuel Standard Program: Standards for 2019 and Biomass-Based Diesel Volume for 2020- Proposed Rule 2060-AT93 EPA-HQ-OAR-2018-0167-0103 (Jun. 4, 2018) Top Line Comments page 5, Available at <https://www.regulations.gov/contentStreamer?documentId=EPA-HQ-OAR-2018-0167-0103&attachmentNumber=21&contentType=pdf>

⁴⁰ EO12866 Review of Email from Chad Whiteman to Benjamin Hengst and Tia Sutton regarding the proposed Renewable Fuel Standard Program: Standards for 2019 and Biomass-Based Diesel Volume for 2020- Proposed Rule 2060-AT93 EPA-HQ-OAR-2018-0167-0103 (Jun. 4, 2018) Page 6, Available at <https://www.regulations.gov/contentStreamer?documentId=EPA-HQ-OAR-2018-0167-0103&attachmentNumber=21&contentType=pdf>

⁴¹ EO12866 Review of Email from Tia Sutton to Chad Whiteman regarding the proposed Renewable Fuel Standard Program: Standards for 2019 and Biomass-Based Diesel Volume for 2020- Proposed Rule 2060-AT93 EPA-HQ-OAR-2018-0167-0103 (Jun. 19, 2018) Page



EPA also recognizes, "For 2019, we have calculated the percentage standards adjusting for estimated exempted volumes, using the exempted volume for 2017. EPA finds that this number is appropriate because it represents the most recent year for which EPA has granted small refinery exemptions."⁴² EPA also states that it "...intends to propose changes to our regulations that would allow EPA to precisely account for any small refinery exemptions in establishing the percentage standards for future years."⁴³

Through these actions, EPA increased the total RVO for renewable fuel from 10.88 percent to 11.76 percent, as remaining obligated parties are required to blend more biofuel to make up for the exempted volumes from SREs.

The following day, June 20, EPA provides a revised draft, acknowledging the legal authority it has in accounting for SREs in setting the volumes. The new draft states:

EPA's proposed approach implements CAA section 211(o)(3)(B)(i), which states that EPA "shall determine and publish . . . the renewable fuel obligation that ensures that the requirements of [the RFS program in CAA section 211(o)(2)] are met." Our grant of small refinery exemptions affects the amount of transportation fuel subject to the renewable fuel obligation for that year. Projecting the total exempted volume based on the most recent exemption data is an appropriate way to address this effect and facilitate the satisfaction of the RFS program requirements in CAA section 211(o)(2).⁴⁴

158, Available at <https://www.regulations.gov/contentStreamer?documentId=EPA-HQ-OAR-2018-0167-0103&attachmentNumber=14&contentType=pdf>

⁴² EO12866 Review of Email from Tia Sutton to Chad Whiteman regarding the proposed Renewable Fuel Standard Program: Standards for 2019 and Biomass-Based Diesel Volume for 2020- Proposed Rule 2060-AT93 EPA-HQ-OAR-2018-0167-0103 (Jun. 19, 2018), Page 158, Available at Page 74 <https://www.regulations.gov/contentStreamer?documentId=EPA-HQ-OAR-2018-0167-0103&attachmentNumber=14&contentType=pdf>

⁴³ EO12866 Review of Email from Tia Sutton to Chad Whiteman regarding the proposed Renewable Fuel Standard Program: Standards for 2019 and Biomass-Based Diesel Volume for 2020- Proposed Rule 2060-AT93 EPA-HQ-OAR-2018-0167-0103 (Jun. 19, 2018), Page 158, Available at <https://www.regulations.gov/contentStreamer?documentId=EPA-HQ-OAR-2018-0167-0103&attachmentNumber=14&contentType=pdf>

⁴⁴ EO12866 Review of Email from Tia Sutton to Chad Whiteman regarding the proposed Renewable Fuel Standard Program: Standards for 2019 and Biomass-Based Diesel Volume for 2020- Proposed Rule 2060-AT93 EPA-HQ-OAR-2018-0167-0103 (Jun. 20, 2018), Page 74 Available at <https://www.regulations.gov/contentStreamer?documentId=EPA-HQ-OAR-2018-0167-0103&attachmentNumber=15&contentType=pdf>



EPA went on to note, “...this approach is consistent with the text of our regulations, which accounts for the ‘amount of gasoline’ and ‘amount of diesel projected to be produced by exempt small refineries’ in 2019.” Despite the final draft of the proposed rule saying would not take comment on SREs, this draft recognized EPA intended to “solicit comment on this new interpretation of our regulations.”⁴⁵

Unfortunately, EPA appears to backtrack from the June 19th and June 20th drafts and President Donald Trump’s commitment to the RFS⁴⁶ and submitted a new draft on June 22, removing the reallocations measures and taking the total RVO percentage back to 10.88 percent from 11.76 percent.⁴⁷ Key pages from this draft are attached in Appendix D.

These changes were put forward in the final draft of the proposed rule that was issued on July 10th.

Given the impact SREs are having on the biofuels industry and the agricultural industry as a whole, it is unreasonable for EPA to state it will not accept comments on this issue in the proposed rule. It contradicts calls from member from both the House of Representatives and the Senate to address the impact SREs are having on the RFS and ignores the recommendations of a number other administration officials in the inter-agency review of the proposed rule.

BIO recommends that EPA puts forward a final rule that follows the recommendations it put forward in the June 19 and June 20 drafts to reallocate the volumes lost to SREs and ensure the RFS is made whole. Going forward, EPA must make the process of issuing SREs more transparent and ensure that any exemption issued truly goes to a small refinery meeting the definitions under EISA.

⁴⁵ EO12866 Review of Email from Tia Sutton to Chad Whiteman regarding the proposed Renewable Fuel Standard Program: Standards for 2019 and Biomass-Based Diesel Volume for 2020- Proposed Rule 2060-AT93 EPA-HQ-OAR-2018-0167-0103 (Jun. 20, 2018), Page 74 Available at <https://www.regulations.gov/contentStreamer?documentId=EPA-HQ-OAR-2018-0167-0103&attachmentNumber=15&contentType=pdf>

⁴⁶ Trump, D. “White House letter to National Ethanol Conference.” White House. (Feb. 2017) Available at <https://ethanolrfa.org/wp-content/uploads/2017/02/White-House-NEC-Letter.pdf>

⁴⁷ EO12866 Review of Email from Tia Sutton to Chad Whiteman regarding the proposed Renewable Fuel Standard Program: Standards for 2019 and Biomass-Based Diesel Volume for 2020- Proposed Rule 2060-AT93 EPA-HQ-OAR-2018-0167-0103 (Jun. 22, 2018), Pages 94, 161, 170, Available at <https://www.regulations.gov/contentStreamer?documentId=EPA-HQ-OAR-2018-0167-0103&attachmentNumber=18&contentType=pdf> [Appendix D]



III. **Remand of DC Circuit decision in ACE**

BIO appreciates EPA's recognition it needs to expeditiously move to comply with the United States Court of Appeals for the District of Columbia Circuit decision in *Americans for Clean Energy (ACE) v. EPA*, 864 F.3d 691 (2017)⁴⁸ and remand the 500 million gallons lost due to the methodology in the 2014-16 RFS RVOs.⁴⁹ Despite EPA's determination that comment on the remand is outside of this rulemaking process and will be treated outside of the scope of this rulemaking, BIO urges the agency to quickly resolve the issues raised in responding to the court to make the industry whole from the gallons lost in the 2014-16 RFS RVOs in the final 2019 RFS RVOs.

This approach is consistent with recommendations made throughout the inter-agency review of the proposed rule with one commenter on May 25, 2018 noting, "EPA is required by ACE ruling to account for the 2016 incorrect waiver of 500mgal."⁵⁰ On June 4, the top line comments again raised the issue requesting EPA, "Include the 500mg of conventional biofuels waived under the general waiver authority for 2016 as determined by the court."⁵¹

IV. **Advanced and Cellulosic Biofuel Production**

BIO appreciates EPA's proposed rule increases the volumes in the advanced and cellulosic biofuel volumes from the final 2018 RFS RVOs. Advanced and cellulosic biofuel production is experiencing a small-scale but meaningful growth spurt due to high-tech advances.

However, BIO believes the volumes should be higher. First to offset the reduction in biofuel uptake due to SREs. Second to eliminate the unnecessarily large bank of

⁴⁸ See Proposed Rule at 32027

⁴⁹ Final Renewable Fuel Standards for 2014, 2015 and 2016, and the Biomass-Based Diesel Volume for 2017, 80 Fed. Reg. 77420 (Dec. 14, 2015). Available at <https://www.gpo.gov/fdsys/pkg/FR-2015-12-14/pdf/2015-30893.pdf>

⁵⁰ EO12866 Review of Email from Chad Whiteman to Benjamin Hengst and Tia Sutton regarding the proposed Renewable Fuel Standard Program: Standards for 2019 and Biomass-Based Diesel Volume for 2020- Proposed Rule 2060-AT93 EPA-HQ-OAR-2018-0167-0103 (May 25, 2018) Comment 2, page 7 Available at <https://www.regulations.gov/contentStreamer?documentId=EPA-HQ-OAR-2018-0167-0103&attachmentNumber=20&contentType=pdf>

⁵¹ EO12866 Review of Email from Chad Whiteman to Benjamin Hengst and Tia Sutton regarding the proposed Renewable Fuel Standard Program: Standards for 2019 and Biomass-Based Diesel Volume for 2020- Proposed Rule 2060-AT93 EPA-HQ-OAR-2018-0167-0103 (Jun. 4, 2018) Top Line Comments Page 5, Available at <https://www.regulations.gov/contentStreamer?documentId=EPA-HQ-OAR-2018-0167-0103&attachmentNumber=21&contentType=pdf>



carryover RINs, and third to recognize millions of gallons that could come online if EPA expedites the approval of stalled advanced and cellulosic pathway approvals and registrations.

a. SREs Impacts on Advanced and Cellulosic Blending

As discussed earlier in our comments, after arbitrarily lowering cellulosic biofuel volumes in 2018 by 7 percent, compared to 2017, the issuance of SREs have effectively lowered the new volumes by an additional 8 percent.

The advanced and cellulosic biofuels industry is poised for rapid development and production of these fuels if it can overcome the regulatory barriers barring their entry to the market place. However, if it were to overcome these barriers, it would still effectively be blocked from the market place due to the excess amount of RINs EPA has made available.

b. EPA is Maintaining an Unnecessarily Large Bank of Carryover RINs

While EPA can utilize the cellulosic waiver to set the cellulosic volumes to actual production, it should instead allow obligated parties to utilize carryover RINs to make up for the cellulosic biofuel shortfall, thereby eliminating any perceived need to reduce advanced and overall RVOs.

As EPA acknowledges in the proposed rule that updated reporting by obligated parties indicates an increase in the carryover of RINs from an estimated 2.22 billion to 3.06 billion; an increase in RINs available to meet obligations by 840 million.⁵²

As the analysis from the University of Illinois Department of Agricultural and Consumer Economics not pointed out:

Not only does the use of the small refinery exemptions without accounting for them in the obligation calculation work to reduce the mandate when exemptions are granted, the retroactive awarding of SREs for 2016 and 2017 results in RINs not being used which can be banked and carried over for obligation requirements in the next calendar year. Banking carryover RINs can provide flexibility to obligated parties for meeting the mandate because banked or carryover RINs can be used for compliance purposes. Importantly, this is limited by the statute which provides that credits are valid for compliance only for 12 months from the date of generation (7 U.S.C. §7545(o)(5)). Notably, EPA acknowledges in the proposed rule that updated reporting by obligated parties indicates an increase in the carryover of RINs from an estimated 2.22 billion to 3.06 billion; an increase in RINs available to meet obligations by 840 million. What may be one area of

⁵² See Proposed Rule at 32029



concern is EPA's explanation. While pegging the carryover and increase to "market factors, regulatory and enforcement actions, and judicial proceedings," EPA goes on to clarify that 1.46 billion carryover RINs are due to the small refineries that were granted hardship exemptions for 2017 and another 790 million carryover RINs due to small refinery exemptions for 2016 (Proposed Rule, at 32029). This is effectively 3 billion gallons of the obligation that could be met with carryover RINs rather than actual gallons of renewable fuel.⁵³

Building a bank of carryover RINs requires production and use of renewable fuels over the established annual standards. A seminal 2012 white paper from researchers at the University of Missouri's Food and Agricultural Policy Research Institute (FAPRI) first demonstrated the mathematical concept that EPA could not perpetually maintain a RIN bank under the RFS, since renewable volume requirements were designed to increase each year.⁵⁴ EPA also recognized this mathematical concept in the 2014-2016 RFS rule, noting "the ability to over-comply and create carryover RINs has become increasingly difficult."⁵⁵ Since 2014, however, EPA has waived substantial volumes of the advanced RVO in order to build inordinately large carryover RIN banks for the benefit of obligated parties.

However, by increasing banked credits by 38 percent to more than 3 billion credits, obligated parties will continue to rely on these excess credits for years, rather than utilizing liquid gallons of advanced and cellulosic biofuels.

EPA should work to drawdown this RIN bank, so obligated parties use liquid gallons of advanced and cellulosic biofuels.

c. EPA Must Improve the Timing and Efficiency of the Pathway Petition and Part 80 Registration Approval Processes

If EPA moves quickly on approving stalled pathways for new advanced and cellulosic biofuels and registration for corn ethanol facilities that have registered for producing cellulosic biofuel from corn kernel fiber, the final volumes for the 2019

⁵³ Coppess, J. and Irwin, S. "EPA 2019 RFS Proposed Rulemaking: What You See Is Not What You Get." Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign. (Jul. 12, 2018) Available at <https://farmdocdaily.illinois.edu/2018/07/epa-2019-rfs-proposed-rulemaking-what-you-see-is-not-what-you-get.html>

⁵⁴ Thompson, W. et al. "A Question Worth Billions: Why Isn't the Conventional RIN Price Higher?" Columbia, MO: Food and Agricultural Policy Research Institute. FAPRI-MU Report #12-12. (2012). Available at <https://www.fapri.missouri.edu/wp-content/uploads/2015/02/FAPRI-MU-Report-12-12.pdf>

⁵⁵ 80 Fed. Reg. 77485, Dec. 14, 2015.



RFS RVOs could be higher. Companies embracing these new technologies need some bureaucratic hurdles lowered in order to truly capitalize on opportunities.

BIO commends EPA staff for their consistent hard work to implement the RFS and realizes that resources are and will likely remain limited. We appreciate EPA's recent approval of sorghum oil pathways⁵⁶ under the RFS and hope we can see additional pathways that have been waiting for several years get approval and contribute toward the final 2019 RFS RVOs. There are a number of pathways which have gone through a comment period and are awaiting final action from EPA.

| Petitioner | Feedstock / Biofuel | Date Pathway Petition Submitted | Date Rule Published/Comment period | Comments / #Received |
|---|--|---|---|-----------------------------|
| Green Vision Group Plant Sensory Systems Tracy Renewable Energy | Sugar beets Notice (PDF) (8 pp.)/ Ethanol | March 21, 2012 January 18, 2017 June 26, 2013 | July 26, 2017/ 30 day | EPA-HQ-OAR-2016-0771 12 |
| Global Clean Energy Holdings and Emerald Biofuels, LLC Plant Oil Powered Diesel Fuel Systems, Inc. | Jatropha oil Notice (PDF) (14 pp) Correction Notice (PDF) (1 pp)/ Biomass-Based Diesel or Advanced | July 8, 2011 February 12, 2012 | October 19, 2015/ 30 day | EPA-HQ-OAR-2015-0293 7 |
| National Cottonseed Products Association | Cottonseed oil Notice (PDF) (8 pp)/ Biomass-Based Diesel | December 12, 2011 | July 14, 2015/ 30 day | EPA-HQ-OAR-2015-0092 3 |

⁵⁶ 83 Fed. Reg. 37735 "Renewable Fuel Standard Program: Grain Sorghum Oil Pathway" (Aug. 2, 2018) Available at <https://www.federalregister.gov/d/2018-16246>



| | | | | |
|----------------------------|--|------------------|---------------------------|-------------------------|
| Agrisoma Biosciences, Inc. | Carinata oil Notice (PDF) (8 pp)/ Biomass-based Diesel | August 5, 2013 | April 24, 2015/ 30 day | EPA-HQ-OAR-2015-0093 5 |
| Arvens Technology, Inc. | Pennycress oil Notice (PDF) (6 pp)/ Biomass-Based Diesel | March 2, 2012 | March 20, 2015/ 30 day | EPA-HQ-OAR-2015-0091 21 |
| National Sorghum Producers | Biomass sorghum Notice (PDF)(7 pp)/ Cellulosic | October 12, 2012 | December 31, 2014/ 30 day | EPA-HQ-OAR-2014-0537 7 |

Simply put, lag time on these approvals makes it harder for biofuel producers to attract and maintain investment, which impacts their ability to keep pace with the increasing annual RVOs. These companies want their technologies and plants to produce RFS-qualifying gallons, and EPA must help them do so by ensuring a consistent and timely approval process.

Cellulosic biofuel companies have waited on average more than 29 months for EPA to address their petitions for approval. Due to these delays, six have abandoned plans to produce biofuels due to the impact of petition approval delay. Three additional companies simply withdrew their petitions for the same reason.

Advanced biofuel companies have waited on average more than two years (27.7 months) for EPA to address petitions. For the 22 potential advanced biofuel producers whose petitions are pending (including the 8 awaiting final approval of or initial action on proposed rules), the wait is nearing 3 years (33.6 months). Three additional potential biofuel producers withdrew their petitions and abandoned plans to produce biofuel.

A wait time of multiple years can be fatal for commercialization of new technology. Without a pathway to the fuel market, companies find it difficult to attract the investment necessary to initiate, continue, and complete the construction and startup of new facilities. Petitioners' lengthy waits for approval of new pathways discourage investment in commercial production of advanced and cellulosic biofuels. EPA must solve this problem as soon as possible, to prevent choking the



path to expanded advanced biofuel volumes and cellulosic volumes. This expansion is one of the fundamental goals of the RFS.

d. EPA Must Provide More Flexibility on New Feedstocks and Technologies

More generally, looking to the future, EPA should continue to press toward expansion of the RFS program to accommodate as many routes to qualifying renewable fuel as possible. It should allow room for use of technologies and overcome further regulatory barriers to enable new, innovative technologies to make it to the market place.

EPA should take rapid action to clarify that the RFS program's definition of renewable biomass can accommodate both non-photosynthetic and non-heterotrophic biofuel pathways as a way to increase volumes of advanced biofuels. As BIO submitted back in 2016,⁵⁷ such a clarification could help prevent avoidable shortfalls in investment in and production of advanced biofuels, which provide substantial greenhouse gas (GHG) emissions reductions from the transportation sector.

EPA should also consider expanding its definition of renewable biomass under the RFS to include trees established from natural regeneration silvicultural systems and process wood residue established from silvicultural systems. Expanding the definition of renewable biomass from naturally regenerated forest land, residues, and byproducts from milled logs and pulpwood type logs would make the U.S. Department of Energy's billion-ton study on biomass feasible.⁵⁸

A broader approach to pathways and new feedstocks is a much better fit with the statute's interlocking goals, which include jumpstarting investment, innovation, and job growth in the United States; enhancing energy and national security domestically and abroad; and combating climate change.

e. Corn Kernel Fiber Technologies Improve Cellulosic Biofuel Volumes

In July 2014, EPA published an initial rule for the Renewable Fuel Standard program opening up these new technologies for cellulosic ethanol production. The rule classified corn kernel fiber as a crop residue and approved pathway petitions for producing cellulosic ethanol and generating D3 RINs. With the rule in place, a

⁵⁷ Comment submitted by Brent Erickson, Executive Vice President, Biotechnology Innovation Organization (BIO) on Renewable Fuel Standard Program: Standards for 2017 and Biomass-Based Diesel Volume for 2018 EPA-HQ-OAR-2016-0004-3601 (Sep. 14, 2016) Available at <https://www.regulations.gov/document?D=EPA-HQ-OAR-2016-0004-3601>

⁵⁸ U.S. Department of Energy. Billion-Ton Report: Advancing Domestic Resources for a Thriving Bioeconomy. (Jul. 2016) Available at https://energy.gov/sites/prod/files/2016/12/f34/2016_billion_ton_report_12.2.16_0.pdf



number of BIO's companies began bringing new technologies to the market; several have now reached the commercial stage.

Edeniq's⁵⁹ combination of technologies work within existing corn ethanol processes to increase overall ethanol yield up to 7 percent and generate measureable cellulosic ethanol gallons, up to 2.5 percent of a plant's overall production. Several of Edeniq's partners – Pacific Ethanol Stockton, Little Sioux Corn Processor, Flint Hills Shell Rock, and Siouxland Energy & Livestock – are already generating cellulosic ethanol RINs.

POET biorefineries⁶⁰ have been using a fractionation process for more than a decade to separate protein, fiber and oil from the corn kernel. The additional starch and cellulose in the fiber are already being converted to ethanol. DuPont offers enzymes that hydrolyze corn kernel fibers within different production and pretreatment processes, yielding 6-10 percent more ethanol and 30-40 percent more corn oil. Novozymes⁶¹ also offers enzymes that degrade corn kernel fiber, increasing starch ethanol production by 2 percent and yielding additional corn oil.

Other processes convert corn kernel fiber to ethanol in a separate, bolt-on process. For instance, Quad County Corn Processors⁶² in partnership with Syngenta's Enogen⁶³ has deployed a combination of technologies that increase ethanol production by 14 percent overall, with a 6 percent yield of cellulosic ethanol. The Cellerate Process used by QCCP reprocesses stillage from the starch ethanol process to extract and ferment more sugars. ICM's⁶⁴ technology combination also separates corn fiber into its own process stream, generating 7-10 percent cellulosic

⁵⁹ Edeniq Pathway Technology Brochure Available at http://www.edeniq.com/pdf/Edeniq_Pathway_Technology_Brochure.pdf

⁶⁰ POET. "POET PRODUCES CELLULOSIC ETHANOL FROM CORN COBS" Press Release (Jun. 27, 2017) Available at <https://poet.com/pr/poet-produces-cellulosic-ethanol-from-corn-cobs>

⁶¹ Novozymes Website "Fuel Your Plant's Performance" Available at <https://www.novozymes.com/en/advance-your-business/bioenergy>

⁶² Quad County Corn Processors website Available at <http://www.quad-county.com/index.cfm?show=10&mid=33>

⁶³ Syngenta Enogen Website Available at <http://www.syngenta-us.com/corn/enogen/ethanol-producer>

⁶⁴ ICM Brochure Available at http://www.icminc.com/images/pdfs/product_sheet/Generation%201.5%202016%20Rev%201.pdf



ethanol. ICM intends to build a new biorefinery in Colwich, Kansas,⁶⁵ as the next stage in commercializing the technology.

This technology led to the rapid increase in cellulosic gallons in 2017, surpassing the volumes produced in 2016 and several producers are in the process of registering their facilities with EPA to generate cellulosic ethanol RINs. Several million additional gallons of capacity could come online in 2018, boosting the 2019 RFS RVOs.

Unfortunately, despite past approvals, EPA has stopped processing and approving new cellulosic production registration applications with the last one approved in November 2017. This delay of an already approved technology represent millions of new cellulosic biofuel gallons avoided during 2018, which are therefore not being considered as part of the 2019 RVO analysis.

Recognizing the impact these delays would have on the development of cellulosic biofuel gallons, BIO, along with a number of agricultural, biofuel, and biotechnology trade organizations sent a letter to former Administrator Scott Pruitt on February 15, 2018, noting the, "overly conservative corn kernel fiber ethanol projection, compounded with uncertainty around how quickly EPA will approve new corn kernel fiber ethanol technologies for D3 RIN generation, threatens to slow adoption of cellulosic production capacity at existing ethanol facilities across the country."⁶⁶

By resuming the processing and approving new registration applications for the production of qualified cellulosic biofuels, especially those applications proposing to produce the fuel using technology previously approved by EPA, the industry, could easily surpass the 24 million gallons of liquid cellulosic biofuel EPA projects for 2019.

According to Edeniq's comments from the EPA's public hearing on the proposed rule⁶⁷, "Edeniq's current customers using or proposing to use already approved technology could produce 25 million gallons in 2019. And, if the EPA moves forward with reviewing and approving new applications with technical

⁶⁵ Sapp. M. "ICM to build \$175 million biorefinery called ICM Element next to HQ." Biofuels Digest. (Mar. 2, 2017) Available at <http://www.biofuelsdigest.com/bdigest/2017/03/02/icm-to-build-175-million-biorefinery-called-icm-element-next-to-hq/>

⁶⁶ Biotechnology Innovation Organization. "Coalition Letter in Support of Cellulosic Biofuel Technologies" BIO (Feb. 15, 2018) Available at <https://www.bio.org/letters-testimony-comments/bio-led-coalition-letter-support-cellulosic-biofuel-technologies>

⁶⁷ Standards for 2019 and Biomass-Based Diesel Volume for 2020 Under Renewable Fuel Standard Program: Public Hearing, 83 Fed. Reg. 31098 (Jul. 3, 2018). Available at <https://www.regulations.gov/document?D=EPA-HQ-OAR-2018-0167-0001>



improvements, Edeniq customers could provide more than 50 million gallons of cellulosic ethanol from corn kernel fiber in 2019.”⁶⁸

Technology developers are working with EPA to overcome remaining regulatory hurdles. Already, about a third of U.S. ethanol producers have won approval from EPA as efficient producers, deploying technologies that increase starch ethanol as well as oil production from the same corn feedstock. In the very near term, these efficient producers could begin generating cellulosic ethanol from corn kernel fiber, with little additional investment or construction time. What they need most is for EPA to expedite the registration process to generate D3 RINs.

BIO urges EPA to jumpstart the approval of these pathways and registrations and increase the liquid cellulosic biofuel volumes to reflect the additional plants that could be online by 2019.

f. EPA Should Reject Consideration of Further Reductions Under the General Waiver Authority

EPA is right to recognize the circumstances do not exist to justify the waiver of volumes under the general waiver authority under CAA Section 211(o)(7)(A).⁶⁹ There has been no evidence that implementation of the RFS would severely harm the economy or the environment of a State, a region, or the United States. Nor is there inadequate domestic supply of biofuels.

In fact, due to the uncertainty in the agricultural markets discussed earlier in our comments, there will be an excess of feedstocks, further depressing commodity prices for producers. The administration has already taken it upon itself to address this surplus with USDA authorizing up to \$12 billion in programs, which includes the purchase of commodities.⁷⁰

This surplus extends beyond grain and oilseed crops. US dairy producers now have a 1.39 billion-pound surplus of cheese and American meat producers now have 2.5 billion pounds of chicken, turkey, pork, and beef in cold storage.⁷¹ Given surplus of

⁶⁸ Caswell, S. “Edeniq Testimony on Standards for 2019 and Biomass-Based Diesel Volume for 2020 Under Renewable Fuel Standard Program: Public Hearing” Edeniq (Jul. 18, 2018). Available at <https://www.edeniq.com/uploads/news/Edeniq-Final-Verbal-Testimony-RFS-071818.pdf>

⁶⁹ See Proposed Rule at 32029

⁷⁰ Perdue, S. “USDA: President Trump stands by American farmers.” USA Today (Jul. 25, 2018) Available at <https://www.usatoday.com/story/opinion/2018/07/25/usda-president-trump-aids-american-farmers-editorials-debates/838554002/>

⁷¹ Resnick, B. and Zarracina, J “The US has a 2.5 billion-pound surplus of meat. Let’s try to visualize that.” Vox. (Jul. 24, 2018) Available at <https://www.vox.com/science-and-health/2018/7/24/17606958/meat-cheese-surplus-visualized>



grain, oil seeds, along with meat and dairy products, there should be no need to trigger the general waiver authority.

Further, EPA should reject its rationale of artificially keeping the advanced biofuel volumes low out of concerns of higher volumes diverting significant quantities of advanced feedstocks or biofuels from existing sources.⁷²

V. Conventional Fuel Volumes

a. EPA is Correct to Set the Conventional Fuel Volume at 15 Billion Gallons

EPA is correct to set the volume of 15 billion gallons of conventional fuel⁷³, as it did in the 2018 final rule.⁷⁴ As settled in ACE, EPA does not in fact have the authority to waive statutory RFS volumes on the basis of renewable fuel distribution or consumption capacity. Since the supply of conventional renewable fuel is available, then EPA is correct to set the volumes at 15 billion gallons.

b. EPA Should Implement a RVP Waiver for E15

To help ensure a market for the 15 billion gallons of conventional biofuels and create headroom in the marketplace for cellulosic biofuels, is to implement a Reid vapor pressure (RVP) waiver allowing for year-round sales transportation fuel containing 15 percent of biofuels (E15). While President Donald Trump has reiterated his support of resolving this issue time⁷⁵ and again,⁷⁶ final action has been delayed due to concerns about obligated parties needing something in exchange.

⁷² See Proposed Rule at 32046

⁷³ See Proposed Rule at 32048

⁷⁴ Renewable Fuel Standard Program: Standards for 2018 and Biomass-Based Diesel Volume for 2019, 83 Fed. Reg. 32024 (Dec. 12, 2017). Available at <https://www.gpo.gov/fdsys/pkg/FR-2017-12-12/pdf/2017-26426.pdf>.

⁷⁵ Chase, S. "Trump says administration working toward RVP waiver for E15 sales." Agri-Pulse (Apr. 12, 2018) Available at <https://www.agri-pulse.com/articles/10839-trump-says-administration-working-toward-rvp-waiver-for-e15-sales>

⁷⁶ Voegelé, E. "Trump reiterates support for year-round E15 sales at Iowa event." Ethanol Producer Magazine (Jul. 26, 2018) Available at <http://www.ethanolproducer.com/articles/15484/trump-reiterates-support-for-year-round-e15-sales-at-iowa-event>



However, due to the unprecedented issuance of SREs⁷⁷ and the uncertainty created due to the numerous meetings between the administration, members of congress, and industry stakeholders over the price of Renewable Identification Numbers (RIN) credits,⁷⁸ obligated parties have gotten their priority with RIN costs at five-year lows⁷⁹.

All the while, refineries are enjoying skyrocketing profits. Phillips 66 reported earnings from refining, increased to \$910 million in the second quarter from \$224 million a year earlier⁸⁰. Revenues went up 39 percent for Valero Energy Corp. Profits at Valero jumped 54.2 percent from a year earlier, due to a drop in biofuel blending costs because of lower RIN prices⁸¹. CVR reported a net income of \$51 million for the second quarter, in part due to low RIN prices⁸².

This comes after the first quarter of 2018 where HollyFrontier reported profits per share up 677 percent;⁸³ Valero reported profits per share up 60 percent;⁸⁴ CVR

⁷⁷ Renshaw, J., Prentice, C. "Exclusive: Trump's EPA ignored Energy Department calls to limit biofuel waivers." Reuters (Jun. 26, 2018) Available at <https://www.reuters.com/article/us-usa-epa-biofuels-exclusive/exclusive-trumps-epa-ignored-energy-department-calls-to-limit-biofuel-waivers-idUSKBN1JM17T>

⁷⁸ Renshaw, J. "Trump administration preparing list of possible biofuels tweaks: sources." Reuters (Mar. 19, 2018) Available at <https://www.reuters.com/article/us-usa-biofuels-trump/trump-administration-preparing-list-of-possible-biofuels-tweaks-sources-idUSKBN1GV2S4>

⁷⁹ Staff "Biofuel credits drop ahead of expected White House policy announcement." Reuters (Jun. 4, 2018) Available at <https://www.reuters.com/article/us-usa-biofuels/biofuel-credits-drop-ahead-of-expected-white-house-policy-announcement-idUSKCN1J01VD>

⁸⁰ Chatterjee, L. "Phillips 66's profit beats on higher refining margins." Reuters (Jul. 27, 2018) Available at <https://www.reuters.com/article/us-phillips-66-results/phillips-66s-profit-beats-on-higher-refining-margins-idUSKBN1KH19K>

⁸¹ Benny, J. "WRAPUP-2-Valero, Marathon beat profit estimates as refining margins rise" Reuters (Jul. 26, 2018) Available at <https://www.reuters.com/article/marathon-pete-results/wrapup-2-valero-marathon-beat-profit-estimates-as-refining-margins-rise-idUSL4N1UM57V>

⁸² GlobeNewswire "CVR Energy Reports 2018 Second Quarter Results." NASDAQ (Jul. 25, 2018) Available at <https://www.nasdaq.com/press-release/cvr-energy-reports-2018-second-quarter-results-20180725-01337>

⁸³ "HollyFrontier Corporation Reports Quarterly Results" (May 2, 2018) Available at <http://investor.hollyfrontier.com/news-releases/news-release-details/hollyfrontier-corporation-reports-quarterly-results-2>

⁸⁴ Valero "Valero Energy Reports First Quarter 2018 Results." (Apr. 26, 2018) Available at <http://www.investorvalero.com/phoenix.zhtml?c=254367&p=irol-newsArticle&ID=2344804>



Energy reported profits per share up 192 percent;⁸⁵ and PBF with profits per share up 193 percent.⁸⁶

Asking the biofuels industry to accept concessions to get buy-in for RVP relief or reallocation of RINs from those who have received a SRE⁸⁷ while the refining industry enjoys increasing profits and rural America is dealing with stagnating farm incomes should be a nonstarter.

Approval of year-round use of E15 can greatly benefit U.S. consumers. Gasoline prices typically rise at the start of summer, as refineries switch to production of summer-grade gasoline. At the start of the 2018 summer driving season, U.S. consumers are paying the highest gasoline prices they've seen since 2014. The U.S. Energy Information Administration (EIA) predicts that consumers will pay nearly \$0.50 per gallon more to fill up in summer 2018 compared to 2017. ⁸⁸ Providing a permanent RVP waiver would provide U.S. drivers some relief.

Ethanol is a low-cost, high-octane fuel additive that replaces petroleum-based octane components. It burns cleanly, decreasing engine tailpipe emissions. While Ethanol has a lower RVP than gasoline blendstock; however, when ethanol is blended with gasoline blendstock at concentrations below 50 percent, the mixture's volatility increases. While gasoline blends containing 10 percent ethanol (E10) earns a small waiver of the RVP limits, E15 does not. E15 is therefore limited by EPA regulations during the summer driving season.⁸⁹

⁸⁵ CVR Energy "CVR Energy Reports 2018 First Quarter Results and Announces Cash Dividend of 50 Cents." (Apr. 26, 2018) Available at <http://www.cvrenergy.com/NewsRoom/pdfs/2018-04-26%20CVI%20Q1%202018%20Earnings%20Release--FINAL.pdf>

⁸⁶ PBF Energy, "PBF Energy Reports First Quarter 2018 Results, Declares Dividend of \$0.30 Per Share" (May 3, 2018) Available at <http://investors.pbfenergy.com/news/2018/05-03-2018-113025918>

⁸⁷ Renshaw, J. "EPA to keep pursuing biofuel changes under new leadership: Wheeler" Reuters (Jul. 24, 2018) Available at <https://www.reuters.com/article/us-usa-epa-biofuels/epa-to-keep-pursuing-biofuel-changes-under-new-leadership-wheeler-idUSKBN1KE2X6>

⁸⁸ Hallahan, K. "National average gasoline prices approach \$3 per gallon heading into Memorial Day." Energy Today. Washington, DC: Energy Information Administration. (May 25, 2018) Available at <https://www.eia.gov/todayinenergy/detail.php?id=33562>.

⁸⁹ Johnson, C., E. Newes, A. Brooker, R. McCormick, S. Peterson, P. Leioby, R. Uria Martinez, G. Oladosu, and M. Brown, "High-Octane Mid-Level Ethanol Blend Market Assessment." National Renewable Energy Laboratory Technical Report NREL/TP-5400-63698. (Dec. 2015).



EPA has the authority to extend the E10 RVP waiver to E15 blends, permitting year-round use of E15. The extension would have no noticeable impact on gasoline evaporative emissions, since nearly all gasoline used in the United States is currently E10. Increased use of E15 would have a positive impact on the environment, reducing greenhouse gas emissions by millions of metric tons over the next decade.⁹⁰ Increased use of E15 would also create market space for increased production and use of advanced and cellulosic ethanol, further increasing the greenhouse gas benefits.⁹¹

Most importantly, increased use of E15 would provide U.S. drivers relief from rising gas prices. Researchers from the University of Illinois Department of Agricultural and Consumer Economics calculated that increasing use of ethanol to 10 percent in gasoline saved U.S. consumers \$7 billion between 2008 and 2016.⁹² Using a similar model – calculating both the price difference between ethanol and gasoline blendstock and the price difference between ethanol and other octane additives – BIO calculates that the switch from E10 to E15 can save U.S. drivers \$9.5 billion per year.

As such, EPA should immediately approve the RVP waiver allowing for year-round sales transportation fuel containing 15 percent of biofuels.

c. EPA Should Reject any Proposal to Attach RINs to Biofuel Exports

EPA and the Administration should outright reject any further consideration of developing an export RIN subsidy. BIO adamantly opposes any concept of attaching RINs to any exported renewable fuels due to the impact it would have on the development of domestically produced advanced and cellulosic biofuels. The goal of the RFS is to promote the production and use of homegrown biofuels. Attaching a RIN to exports would flood the RIN market and result in lower blending.

An export subsidy RIN would negatively impact export markets for U.S. biofuels and would cause a trade backlash as importing countries would likely impose countervailing duties on ethanol imports from the US, exposing another commodity

⁹⁰ Biotechnology Innovation Organization. "GHG Benefits of the Consumer and Fuel Retailer Choice Act." Washington, DC. BIO, (Jun. 2017) Available at <https://www.bio.org/sites/default/files/GHG%20Benefits%20of%20the%20Consumer%20and%20Fuel%20Retailer%20Choice%20Act%20June%202017%20%28002%29.pdf>.

⁹¹ Stock, J.H. "The Effect of a Higher Ethanol Blend RVP Waiver on RIN Prices." Cambridge, MA: Department of Economics and Harvard Kennedy School, (Jul. 2017) Available at https://scholar.harvard.edu/files/stock/files/rvp_waiver_and_rins_stock_071117.pdf.

⁹² Irwin, S., and D. Good. "On the Value of Ethanol in the Gasoline Blend." *farmdoc daily* (7):48, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, (Mar. 15, 2017) Available at <http://farmdocdaily.illinois.edu/2017/03/on-the-value-of-ethanol-in-the-gasoline-blend.html>



from rural America to trade sanctions. As a May 14, 2018 letter from Advanced Biofuels Canada to former EPA Administrator Scott Pruitt noted, "Our industry would regard the ability of a U.S. exporter to realize RIN values in the Canadian market as an export subsidy and would understandably act to protect our domestic biofuels producers accordingly."⁹³ As the U.S. Grains Council noted, "any move that would relate RINs to exporting ethanol could be severely detrimental to the competitiveness of ethanol exports and would harm the U.S. grains industry."⁹⁴

RINs for exports has the potential to further undercut RIN prices,⁹⁵ the result across the board would be lower blending levels and lower commodity prices. Under an export RIN scheme, corn producer losses are estimated to be between \$4.2 billion and \$16.7 billion over the next five years. Corn prices would fall between 4 and 40 cents per bushel.⁹⁶ Further exacerbating the pain of commodity producers.

Finally, as analysis from the University of Illinois Department of Agricultural and Consumer Economics noted:

It would not appear that the RFS statute permits this revision because the statute is very clearly intended only for mandates on domestic transportation fuels. Specifically, the general requirements are for implementation that will "ensure that gasoline sold or introduced into commerce in the United States, on an annual average basis, contains the applicable volume of renewable fuel" in the statutory schedule (42 U.S.C. §7545(o)(2)). The statute, in fact, contains numerous uses of the phrase "sold or introduced into commerce in the United States" but provides no authority for addressing exports of renewable fuel. It is difficult to conclude that the statute permits any use of exports to meet the mandated requirements, especially if doing so would

⁹³ Thomson, I. "RIN eligibility on biofuel exports under Renewable Fuel Standard." Advanced Biofuels Canada. (May 14, 2018) [Appendix E]

⁹⁴ Press Release. "Statement from the U.S. Grains Council on Renewable Fuel Standard and Reallocating RINs." U.S. Grains Council (May 8, 2018) Available at <https://grains.org/statement-from-the-u-s-grains-council-on-renewable-fuel-standard-and-reallocating-rins/>

⁹⁵ Salisbury, B., Palmer, C. "Trump Endorsement of Export RINs Would Have Dramatic Implications for RINs, Ethanol, and Refiners but Details Warrant Caution." B. Riley FBR. (May 9, 2018) Available at <https://brileyfbr.bluematrix.com/sellside/EmailDocViewer?encrypt=c7fb7306-13fe-40df-ac19-64b708ac1fc6&mime=pdf&co=fbr&id=sutternj@gmail.com&source=mail>

⁹⁶ Informa Economics IEG for Growth Energy. "The Impact of Applying RINS to U.S. Ethanol Exports on Farm Revenue and the Economy." (Oct. 2017) Available at <https://growthenergy.org/wp-content/uploads/2018/08/Growth-Energy-Ethanol-Exports-Final-Report.pdf>



reduce the demand for renewable fuel domestically or conflict with the market-forcing intent of the statute.⁹⁷

BIO urges EPA to drop any further consideration attaching RINs to biofuel exports

VI. **Environmental Benefits**

The RFS has been critical to driving investment in technologies that have lowered emissions in our transportation system. As BIO pointed out in 2015, over the first 10 years of the RFS, the law's requirements displaced nearly 1.9 billion barrels of foreign oil and reduced U.S. transportation-related carbon emissions by 589.33 million metric tons.⁹⁸ The total reduction in harmful greenhouse gas emissions (GHGs) is equivalent to removing more than 124 million cars from the road over the decade.⁹⁹ These savings mostly resulted from the increase in the use of conventional biofuels.

These environmental benefits were not just identified by BIO's analysis, but by independent federal government analysis as well. For instance, Argonne National Labs Greenhouse Gas Assessment Model (GREET) has found that corn ethanol delivers on average a 34-percent reduction in GHGs over gasoline. These savings result even after penalizing biofuels for both direct and indirect land use change something petroleum is not penalized for under GREET.¹⁰⁰

The U.S. Department of Agriculture (USDA) report, "A Life-Cycle Analysis of the Greenhouse Gas Emissions of Corn-Based Ethanol" found that GHG emissions associated with producing corn-based ethanol in the United States are about 43 percent lower than gasoline when measured on an energy equivalent basis.¹⁰¹

⁹⁷ Coppess, J. and S. Irwin. "Deal-Making on the RFS: Follow the North Star." *farmdoc daily* (8):40, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign. (Mar. 7, 2018). Available at <https://farmdocdaily.illinois.edu/2018/03/deal-making-on-the-rfs-follow-the-north-star.html>

⁹⁸ Biotechnology Innovation Organization. "The Renewable Fuel Standard: A Decade's Worth of Carbon Reductions." Washington, DC. BIO, Available at <https://www.bio.org/sites/default/files/RFS%2010%20Year%20GHG%20Reductions.pdf>

⁹⁹ Biotechnology Innovation Organization. "The Renewable Fuel Standard: A Decade's Worth of Carbon Reductions." Washington, DC. BIO, Available at <https://www.bio.org/sites/default/files/RFS%2010%20Year%20GHG%20Reductions.pdf>

¹⁰⁰ Wang, M., Han, J., Dunn, J., Cai, H. & Elgowainy A. Well-to-wheels energy use and greenhouse gas emissions of ethanol from corn, sugarcane and cellulosic biomass for US use. *IOP Science*. (Nov. 22, 2012). Available at http://iopscience.iop.org/1748-9326/7/4/045905/pdf/1748-9326_7_4_045905.pdf

¹⁰¹ USDA Factsheet: Lifecycle Greenhouse Gas Emissions of Corn-Based Ethanol. Available at



Unlike other studies of GHG benefits, which relied on forecasts of future ethanol production systems and expected impacts on the farm sector, this study reviewed how the industry and farm sectors have performed over the past decade to assess the current GHG profile of corn-based ethanol.

The environmental benefits of biofuels go beyond GHG reductions. Ethanol reduces tailpipe emissions of both hydrocarbons and carbon monoxide, which helps prevent the formation of ground-level ozone. Data from 222 EPA sensing sites show that ozone levels have fallen during the period in which ethanol blending increased.¹⁰² Additional data from the University of Illinois-Chicago show substantial reductions in particulate matter (PM) and benzene with the addition of ethanol.¹⁰³ Biofuels' ability to reduce particulate matter in fuels is not limited to ground transportation. Using biofuels to help power jet engines reduces particle emissions in their exhaust by as much as 50 to 70 percent.¹⁰⁴ These findings are the result of a cooperative international research program led by NASA and involving agencies from Germany and Canada.

These environmental benefits are only to improve as new, low-carbon advanced and cellulosic biofuels come online at commercial scale. Due to the requirements under the RFS, advanced and cellulosic biofuels must achieve greenhouse gas emissions reductions of 50 percent and 60 percent from the baseline of gasoline. The cellulosic ethanol produced at plants like POET's Project Liberty can slash emissions by 85 to 95 percent or more.¹⁰⁵

Isobutanol is beneficial in helping communities with compliance of environmental regulations. Due to isobutanol's low-blend volatility, it can help the over 300 counties nationwide reach EPA's target for ozone at 75 parts per billion (ppb) and

https://www.usda.gov/oce/climate_change/mitigation_technologies/Ethanol_Report_Factsheet_Final.pdf and https://www.usda.gov/oce/climate_change/mitigation_technologies/USDAEthanolReport_20170107.pdf

¹⁰² Cooper, G. Real-World Ozone and Particulate Data Expose Fallacy of Minnesota Study. Renewable Fuels Association (RFA). (Dec. 18, 2014). Available at <http://www.ethanolrfa.org/2014/12/real-world-ozone-and-particulate-data-expose-fallacy-of-minnesota-study/>

¹⁰³ Mueller, S. UIC Study PM and Benzene in Splash Blended Fuels with Ethanol. (May 2017). Available at http://www.erc.uic.edu/assets/pdf/UIC_Cook_County_Slides.pdf

¹⁰⁴ National Aeronautics and Space Administration (NASA). NASA Study Confirms Biofuels Reduce Jet Engine Pollution. (Mar. 15, 2017). Available at <https://www.nasa.gov/press-release/nasa-study-confirms-biofuels-reduce-jet-engine-pollution>

¹⁰⁵ POET "First commercial-scale cellulosic ethanol plant in the U.S. opens for business." (Sep. 3, 2014) Available at <http://poet-dsm.com/pr/first-commercial-scale-cellulosic-plant>



possibly achieve the EPA's Scientific Advisory Board recommendation that the ozone target be lowered to 60 to 70 ppb. Isobutanol also has great potential for improving environmental air quality in the aviation industry. Isobutanol is an ideal platform molecule to produce renewable iso-paraffinic kerosene (IPK), a blendstock for jet fuel. As the airline industry evaluates sustainable alternative fuels to reduce its greenhouse gas emissions profile, while improving local air quality, approval and deployment of isobutanol will allow sustainable alternative aviation fuels to be developed and brought to market.

Utilizing higher blends of biofuels can also have a positive impact on the environment, reducing greenhouse gas emissions by millions of metric tons over the next decade.¹⁰⁶ Increased use of E15 would create market space for increased production and use of advanced and cellulosic ethanol. Over the next 10 years, summer use of E15 could save between 7 million and 10.4 million metric ton of CO₂ equivalent greenhouse gas emission. These savings are equal to taking 1.4 million to 2.2 million cars off the road over the 10-year period.¹⁰⁷

As EPA continues to evaluate the environmental benefits provided by biofuels, it is important the agency survey the full value chain of the industry and recognize the efficiencies and sustainability practices built in by feedstock and biofuel producers to go well beyond the statutes' emissions reduction targets, improve air quality, and protect the soil and water. BIO urges EPA to work collaboratively with the industry in these evaluations, utilize the studies and researchers at other federal agencies, and avoid studies and analysis that use outdated models and information and cherry pick data to get a preferred outcome.

VII. **Conclusion**

The advanced and cellulosic biofuels industry can make real and substantial contributions to our nation's transportation fuel supply that will strengthen the agriculture sector and our rural communities, lessen our dependence on foreign sources of oil, lower prices for consumers, and improve air quality and reduce greenhouse gas emissions. However, this is only possible if the final rule includes the necessary changes recommended above to ensure biofuels have access to the transportation fuel market that the RFS provides.

¹⁰⁶ Biotechnology Innovation Organization. "GHG Benefits of the Consumer and Fuel Retailer Choice Act." Washington, DC. BIO, (Jun. 2017) Available at <https://www.bio.org/sites/default/files/GHG%20Benefits%20of%20the%20Consumer%20and%20Fuel%20Retailer%20Choice%20Act%20June%202017%20%28002%29.pdf>.

¹⁰⁷ Stock, J.H. "The Effect of a Higher Ethanol Blend RVP Waiver on RIN Prices." Cambridge, MA: Department of Economics and Harvard Kennedy School. (Jul. 2017). https://scholar.harvard.edu/files/stock/files/rvp_waiver_and_rins_stock_071117.pdf.



EPA must improve the SRE process and provide transparency on who receives a waiver, how many gallons are waived, and other relevant information. Further, EPA should revisit its June 20th draft of the propose rule and reallocate all waived gallons from 2016 and 2017 and account for any future waivers in the 2019 volumes.

BIO appreciates EPA's recognition it needs to address the remand from ACE. BIO urges the agency to quickly resolve the issues raised in responding to the court to make the industry whole from the gallons lost in the 2014-16 RFS RVOs in the final 2019 RFS RVOs.

The proposed rule makes a good first step in raising the advanced and cellulosic biofuel volumes from the 2018 RFS. However, these gains are meaningless unless EPA addresses the demand destruction created by the SREs. Further, EPA must drawdown the RIN bank, which has grown to over 3 billion credits, so obligated parties are compelled to use liquid gallons of advanced and cellulosic biofuels. EPA can also do more to bring more advanced and cellulosic biofuels to the marketplace by expediting pathway petitions for advanced and cellulosic biofuels and jumpstart the processing and approving new cellulosic production registration applications for corn kernel fiber.

EPA should reject any consideration of further reductions to the advanced biofuel pool or the overall volumes under the general waiver authority. There is no evidence the factors required to trigger the general waiver authority are present. Instead EPA should increase the proposed volumes for advanced by recognizing that there we be an excess of feedstocks and through reallocation of SREs through the advanced pool.

EPA was correct in setting the conventional volumes at 15 billion gallons. However, as discussed with the advanced and cellulosic volumes, the level is meaningless unless EPA addresses the demand destruction created by the SREs. In its final rule EPA should explicitly state that it rejects any further efforts to artificially lower RIN prices through a cap or tying RINs to biofuel exports. Instead, EPA should focus on removing burdensome regulations that prohibit the year-round sale of E15, by providing RVP relief in the final rule. This change would increase consumption of biofuels, lower RIN prices through the market, and provide consumers access to lower cost options at the pump.

When allowed to work, the RFS has enabled billions of dollars of investment in new technologies that have led to the rapid growth of the renewable fuels industry and the biobased economy. This benefits our nation's economic and energy security. We can build on this success with a final rule that truly increases volumes for advanced and cellulosic biofuels.

BIO urges the agency to work with and our member companies to make our recommended changes. The result will bolster agriculture and rural communities,



spur the development of new investment, innovation, and job growth; and to enhance energy and national security.

We look forward to working with you toward these goals. Thank you for considering these comments.

Sincerely,

A handwritten signature in black ink that reads "Brent Er". The signature is fluid and cursive, with a prominent flourish at the end.

Brent Erickson, Executive Vice President
Biotechnology Innovation Organization (BIO)