Growth Energy Comments on EPA's Renewable Fuel Standard (RFS) Program: Standards for 2023–2025 and Other Changes

Docket # EPA-HQ-OAR-2021-0427

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February 10, 2023

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INTRODUCTION

Growth Energy is the world's largest association of biofuel producers, representing 90 biorefineries that produce nearly 9 billion gallons annually of low-carbon renewable fuel and 107 businesses associated with the biofuel production process. Growth Energy respectfully submits these comments on the Environmental Protection Agency's Proposed *Standards for 2023–2025 and Other Changes* ("Set").[1]

Congress established the Renewable Fuel Standard ("RFS") program to spur the market to substantially increase the use of renewable fuel in the nation's transportation fuel supply. Congress did so for the many important benefits that increased renewable fuel use would bring: reduction in harmful greenhouse gas ("GHG") emissions, enhanced energy security and independence, and economic development, especially rural communities. The proposed 2023-2025 standards undoubtedly provide such benefits, but only to a modest extent; the standards are still far below the levels of increased usage that could reasonably be achieved without causing significant economic or environmental harms. Consequently, EPA's proposal leaves significant climate, energy security, and economic benefits on the table at a time when such impacts must be prioritized.

Growth Energy, therefore, urges EPA to carefully reconsider several parts of its proposal to ensure that they accord with the goals Congress set for the RFS program and EPA's obligations to rely on the best available science. EPA should use the full force of the RFS program to drive an innovative, low-carbon, domestically sourced energy transformation in the transportation sector.

More specifically, in this comment, Growth Energy argues as follows:

Part I.A: *EPA must implement the Set to drive significant increases in renewable fuel use.* Although EPA has some discretion in establishing RFS volume requirements for 2023 and beyond, that discretion is not unbounded. Above all, EPA must serve Congress's primary purposes in enacting the RFS by setting volume requirements (particularly the total requirement) at the maximum achievable level that is unlikely to cause significant environmental or economic harm, such as the sort that would trigger a general waiver; EPA may not lower volume requirements for fear of causing some minor or improbable economic or environmental harms. To that end, EPA must operate with the understanding that "demand for renewable fuel will be a function of the renewable fuel standards set by EPA."

Part I.B: *Setting volume requirements and percentages for the next three years is appropriate.* It is both permissible and reasonable for EPA to simultaneously set 2023-2025 volumes and percentage standards. The only relevant statutory constraint on the timing is that EPA set the standards no later than 14 months before the year in which they apply. Additionally, the statute allows EPA to set percentage standards for these years, and to do so concurrently with

[1] Proposed *Renewable Fuel Standard (RFS) Program: Standards for 2023–2025 and Other Changes* ("NPRM"), 87 Fed. Reg. 80,582 (Dec. 30, 2022).

the volume setting. Finally, EPA's proposal to set volumes and percentage standards for three years at once (but not four years) strikes an appropriate balance between strengthening market certainty for producers, obligated parties, and other market participants while avoiding undue risk of inaccurate projections of fuel use.

Part II: *EPA should set higher total volume requirements to incentivize the market to use more of the available conventional ethanol*. The level of growth in renewable fuel use reflected in EPA's proposed 2023-2025 volumes is far below Congress's express goals. And the market already could easily achieve markedly higher volumes: it could annually produce, distribute, and consume more than 16 billion gallons of ethanol (more than 1 billion gallons beyond what EPA proposes) without increasing compatible distribution or consumption infrastructure, without increasing corn acreage, and without disproportionately reducing the supply of corn for non-ethanol uses—in other words, without causing environmental or economic harm. EPA's volumetric analysis for ethanol is fundamentally flawed. EPA incorrectly treats the "blendwall" as an actual hindrance on achievable volumes, bases its forecast on historical performance that has been suppressed due to weak prior RFS requirements, and assumes that any ethanol growth will come solely from the expansion of infrastructure to deliver higher blends. EPA's analysis disregards the fundamental economic principle and congressional intent that future demand for renewable fuel is a function of the standards EPA sets. That is, the RFS requirements are, in effect, self-fulfilling, provided there is sufficient supply of renewable fuel. Accordingly, to better serve Congress's goals, EPA should increase the total volumes to reflect the full amount of ethanol (and all renewable fuel) that the market could use in response to those standards. In the end, EPA's approach seems to reflect an unstated, unexplained price cap, which is unlawful.

Part III: *In establishing maximum reasonably achievable standards that effectuate the RFS program's core goal to reduce GHG emissions in transportation fuel, EPA must update its lifecycle assessment of corn starch ethanol to reflect best currently available science. The proposed volumes are unlikely to result in adverse environmental impacts such as land use conversion or impacts to wetlands, ecosystems, water quality/availability, or soil quality. Increased consumption of higher level ethanol blends would result in important air quality benefits that EPA should not overlook.* Reducing GHG emissions from the transportation sector is a core congressional objective of the RFS and deserves special emphasis. This requires EPA, in this rulemaking, to update its GHG emissions lifecycle analysis ("LCA") for corn starch ethanol using the best currently available science, which is significantly more favorable than EPA's existing 2010 lifecycle analysis. An expert report by Environmental Health and Engineering ("EH&E"), a multidisciplinary team of environmental health scientists and engineers, highlights that estimates of indirect land use change—an impactful component of total LCA values—have converged around a relatively narrow range that is considerably lower than EPA's 2010 estimate, even accounting for different selections of model type and model inputs. Among other reasons, updating EPA's LCA estimate is necessary to ensure that (1) EPA accurately captures the GHG emissions reduction benefits of the RFS program, and (2) implementation of the RFS program in pathway approvals for new fuels, such as alcohol-to-jet sustainable aviation fuel ("SAF"), reflect accurate GHG accounting. The EH&E report also provides EPA with a thoughtful framework for critically evaluating the scientific literature on LCA, which EPA identified in the proposal, according to fundamental criteria of scientific credibility. When this framework identifying the best available science is applied, the range of

LCA values for corn ethanol decreases considerably from the range presented in the proposal, resulting in a central credible estimate of *51 gCO2e/MJ*.

In addition, as detailed in Ramboll's technical report, there is no credible evidence that the proposed standards will adversely affect wetlands, ecosystems, species, habitat, water quality/availability, or soils; EPA should therefore correct its overstatements relating to these impacts. The Ramboll report also presents economic research and regression analyses that find no connection between implied conventional RFS volumes, corn prices, and acres planted in corn, and, consequentially, no connection to environmental impacts associated with land use change. Finally, EPA must recognize that the significant air quality benefits of consumption of higher-level ethanol blends support finalization of volumes well-above those proposed.

Part IV: *Higher implied ethanol volumes would have positive economic effects.* Higher RFS standards would further increase energy security and independence and promote rural economic health, without increasing food prices. Specifically, both EPA's evidence and other studies show that raising RFS standards to maximize the achievable displacement of petroleum would further promote U.S. energy security and independence. Rural economies would also grow significantly if EPA used the RFS to accelerate the transition to year-round, nationwide E15. And these benefits would not come at the cost of increased corn prices. The country's increasing efficiencies in harvesting corn and converting it to ethanol means that achieving substantially higher volumes of ethanol use would not disproportionally divert corn away from food uses—a conclusion confirmed by empirical studies showing that corn prices are independent of RFS requirements.

Part V.A: *EPA must set volume requirements high enough to draw down the RIN bank.* EPA's proposal to intentionally set the RFS requirements low enough not to draw down the RIN bank through 2025 undermines Congress's intent that the RFS program force the market to increase its use of renewable fuel by artificially suppressing the amount of renewable fuel use needed to meet future obligations. Further, EPA's rationale for maintaining the bank is incoherent: liquidity is provided by RINs' tradability, not their ability to be carried over, and EPA's refusal to require obligated parties to use the bank to meet their 2020 obligations after the Covid-19 pandemic belies EPA's assertion that the bank is needed to provide compliance flexibility for unforeseen market disruptions. EPA's position is especially pernicious because the current bank stems largely from a wave of retroactive small-refinery exemptions that EPA now admits were illegal. EPA's proposal to set three years of RFS standards provides EPA with an opportunity to gradually draw down the bank and thereby enable the RFS program to spur greater use of renewable fuel.

Part V.B: *EPA's projection of zero SREs is sound.* In line with the Tenth Circuit, EPA has correctly interpreted the statute to permit an SRE only if the small refinery shows that compliance with its RFS obligations will cause it disproportionate economic hardship. Further, EPA has properly determined, after extensive review of empirical evidence, that small refineries do not experience an economic hardship from compliance because they pass their RIN costs down the supply chain. Insofar as EPA's data suggests that, on average, some small refineries buy RINs above average market prices and sell below average market prices, those differences are far too small to constitute the requisite "hardship."

Part V.C: *EPA's proposed 2023 supplemental volume is necessary and appropriate on remand from* ACE. Both EPA's duty to obey the D.C. Circuit's mandate in *Americans for Clean Energy* ("*ACE*") and EPA's statutory duty to ensure RFS volumes are met require it to impose supplemental obligations equal to the 500 million gallons that *ACE* held were unlawfully waived for 2016. Because EPA already imposed half of that volume in 2022, it remains obligated to set an additional 250-million-gallon supplemental obligation. A supplemental 2023 obligation would not be retroactive because it applies to future conduct, and retroactive rulemaking concerns do not apply in any event when an agency is rectifying court-identified legal errors. Moreover, a 2023 supplemental obligation would not even upset settled expectations; there was no legitimate expectation in the unlawful waiver to begin with, it was clear since *ACE* that a remedy was required, and EPA announced its intent to promulgate the proposed remedy in early 2021. Finally, even if EPA needed to account for the supposed "burden" of complying with the supplemental obligation, the ample availability of carryover RINs would adequately account for that.

Part V.D: *EPA should set fixed cellulosic volumes using eRIN projections, and subject eRINs to the same compliance safeguards as other RINs.* Growth Energy appreciates the challenge of setting cellulosic standards into the future when certain subcategories—eRINs and other potential pathways—are nascent. However, consistent with EPA's duty not to assume the need to invoke a cellulosic waiver, it is better for EPA's projections to err high rather than low because the cellulosic waiver will remain available to correct over-projection but the mechanism to correct under-projection is unclear and could introduce additional market uncertainty. Further, EPA has no authority to adopt a standard that automatically adjusts to match actual cellulosic volumes; it must fix definite cellulosic volume requirements in advance. Separately, it is imperative that eRINs be treated like other RINs, with adequate compliance procedures set in place to prevent double-counting and other forms of fraud. EPA is correct that its new eRIN program creates an increased risk of double-counting of biogas for RIN generation. Growth Energy agrees with EPA's suite of proposed biogas regulatory reforms intended to address that risk.

Part VI: *Higher volumes of renewable fuel provide net benefits to communities with environmental justice concerns.* Growth Energy supports EPA's decision to include environmental justice impacts as an additional factor for consideration in the "Set" rulemaking process. Biofuels play an important role in mitigating disproportionate impacts of climate change on low-income and vulnerable communities. However, biofuels have additional environmental justice benefits that EPA does not adequately consider in the proposed rule, including improvements to air quality as compared to petroleum fuels and providing lower-cost fuel options to consumers. EPA should note these significant benefits in the final rule, and reconsider its discussion of alleged adverse impacts that have not been shown to be causally related to the RFS program, such as impacts to water quality, soil quality, and food prices.

Part VII: *EPA should promptly finalize the ongoing Endangered Species Act ("ESA") Section 7 consultation with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service and conclude that the proposed standards have "no effect" or are "not likely to adversely affect" listed species or critical habitat.* EPA should act to prevent serial litigation over procedural aspects of the ESA by decisively concluding its ongoing Section 7 consultation process for both the 2023-2025 standards and the previous 2020-2022 standards prior to June 14,

2023, which is consent decree deadline for finalizing the proposed rule. EPA should make all efforts to avoid finalizing the rule without having completed its consultation obligations, in order to avoid a new round of litigation; furthermore, delay in the consultation process is not a justification for failing to timely publish the final rule under the consent decree. We also encourage EPA to pursue a programmatic structure in its consultation analysis such that subsequent RFS rulemakings can build on EPA's present work to facilitate consistent, timely compliance with ESA obligations moving forward. On the merits, the record evidence (reviewed in Part III) clearly shows that the best available science supports a determination that the RFS program either has no effect or is not likely to adversely affect any listed species or critical habitat. Any potential link between RFS volumes and species impacts is far too attenuated to show that species harms are reasonably likely to occur.

DISCUSSION

I. THE SET FRAMEWORK

A. EPA Must Implement the Set to Drive Significant Increases in Renewable Fuel Use

Although EPA has some discretion in establishing RFS volume requirements for 2023 and beyond, that discretion is not unbounded. EPA identifies three constraints on its discretion: the advanced requirement must "be at least the same percentage of the [total] volume [requirement] as in calendar year 2022," EPA must "assum[e]" that it "will not need to issue a [cellulosic] waiver," and the BBD requirement must be above the prescribed "floor."[2] But there is an additional, more fundamental constraint: EPA must serve Congress's primary purposes in enacting the RFS of driving the market to use higher amounts of renewable fuel. In short, EPA must set volume requirements (particularly the total requirement) at the maximum achievable level that is unlikely to cause significant environmental or economic harm, such as the sort that would trigger a general waiver; EPA may not lower volume requirements for fear of causing some minor or improbable economic or environmental harms.

Congress's immediate purpose in enacting the RFS program was, as EPA notes, "to increase the use of renewable fuels in the transportation sector well beyond what would occur in the absence of the program."[3] By doing so, Congress sought to achieve three more fundamental goals: (1) reduce GHG emissions; (2) improve U.S. energy security and independence; and (3) promote rural economic development.[4] Thus, "Congress intended the Renewable Fuel Program

[2] *Id.* at 80,588-80,589; 42 U.S.C. § 7545(*o*)(2)(B).

[3] NPRM at 80,606.

[4] *Id.* at 80,638 ("The broad goals of the RFS program are to reduce GHG emissions and enhance energy security through increases in renewable fuel use over time."); *Growth Energy v. EPA*, 5 F. 4th 1, 7 (D.C. Cir. 2021) ("To move the United States towards greater reliance on clean energy, the Clean Air Act's Renewable Fuel Standard Program calls for annual increases in the amount of renewable fuel introduced into the U.S. fuel supply."); *American Fuel & Petrochemical Mfrs. v. EPA*, 937 F.3d 559, 568 (D.C. Cir. 2019) ("Enacted in 2005 and amended

to be a market forcing policy that would create demand pressure to increase consumption of renewable fuel."[5] Plainly, if the RFS standards are not market-forcing—if instead they merely reflected a prediction about what levels the market would achieve anyway—the program would be pointless.

Importantly, Congress envisioned the RFS increasing the use of renewable fuel by substantial amounts, not small increments. This is evident from Congress's statutory schedule of required volumes through 2022. In 2006—the year before RFS2 was enacted—less than 5 billion gallons of renewable fuel were produced and consumed domestically.[6] In 2007, domestic production and use of renewable fuel reached only about 7 billion gallons.[7] Yet, Congress required that 9.0 billion gallons be used in 2008, 12.95 billion gallons be used in 2010, and 36.0 billion gallons be used in 2022.[8] Indeed, Congress established a program that would almost immediately exceed existing production and consumption, and that would more than quintuple consumption within fifteen years. Starting with 2008, Congress prescribed annual increases of 91.5%, 23.3%, 16.7%, 7.7%, 9.0%, 8.9%, 9.7%, 12.9%, 8.5%, 7.9%, 8.3%, 7.7%, 7.1%, 10.0%, and 9.1%. Even excluding the first three years' growth, the statutorily specified rate of annual growth averaged 8.9%, stayed consistently within a narrow band—between 7.1% and 12.9%—and did not diminish over time. Moreover, Congress understood that at 36 billion gallons, renewable fuel would "displace over 15 percent of the gasoline we use to power our trucks and cars" (assuming the volume of gasoline remained constant).[9] Thus, as one Senator put it at the time, Congress intended the RFS program to grow renewable fuel "dramatically."[10]

When it comes to setting volume requirements for 2023 and beyond, EPA must pursue Congress's goals in establishing the RFS program and adhere to the structure Congress prescribed to achieve those goals. That focus is reinforced by the statutory Set factors that correspond directly to the fundamental goals Congress sought to achieve through the RFS program: "the impact of … renewable fuels on … climate change," "energy security," "job creation" and "rural economic development."[11] Thus, to best serve Congress's goals, EPA must

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in 2007, the Renewable Fuel Program … was designed to move the United States toward greater energy independence and security and to increase the production of clean renewable fuels." (cleaned up)); *American for Clean Energy v. EPA ("ACE")*, 864 F.3d 691, 696 (D.C. Cir. 2017) ("Congress intended the Renewable Fuel Program to move the United States toward greater energy independence and to reduce greenhouse gas emissions.").

[5] *ACE*, 864 F.3d at 705 (cleaned up).

[6] *See* 75 Fed. Reg. 14,670, 14,744, 14,755 (Mar. 26, 2010).

[7] *See id.*

[8] 42 U.S.C. § 7545(*o*)(2)(B)(i)(I).

[9] 153 Cong. Rec. S15428 (daily ed. 2007) (statement of Sen. Pryor).

[10] 153 Cong. Rec. S7586 (daily ed. 2007) (statement of Sen. Thune).

[11] 42 U.S.C. § 7545(*o*)(2)(B)(ii).

set volume requirements—and especially the total requirement—to the maximum achievable level of renewable fuel use.

To be sure, Congress "did not pursue its purposes of increased renewable fuel generation at all costs."[12] Indeed, other Set factors direct EPA to attend to the feasibility of increasing renewable fuel use ("the expected annual rate of future commercial production of renewable fuels" and "the sufficiency of infrastructure to deliver and use renewable fuel"[13]) and to the potential economic and environmental consequences of doing so ("the impact of the production and use of renewable fuels on the environment," "on the … deliverability of materials, goods, and products other than renewable fuel," "on the cost to consumers of transportation fuel and on the cost to transport goods," and on "food prices"[14]).

But still, that does not mean that Congress intended to empower EPA to "balance" these various, sometimes competing considerations however EPA wishes or to allow minor or improbable economic or environmental harms to hold up achievable growth in renewable fuel use at the expense of the important benefits Congress created the RFS program to achieve. Virtually any renewable fuel increase will have *some* degree of potentially unwanted effects (otherwise it would already happen); if EPA had authority to lower achievable volume levels just to avoid such effects, the program would hardly be able to achieve Congress's aim of spurring substantially increased use of renewable fuel. The RFS statute embodies Congress's policy judgment that substantial increases in the use of renewable fuel is overall beneficial, and EPA must respect that policy judgment when implementing the statute, including the Set.[15]

Accordingly, EPA should strongly favor higher volume requirements even in the face of some uncertainty about their achievability. In particular, EPA must operate with the understanding that "demand for renewable fuel will be a function of the renewable fuel standards set by EPA."[16] EPA should not treat demand-side features of the fuels market as fixed constraints, for using RFS requirements to drive the market to "overcome" demand-side "constraints" is the essence of what Congress "intended" the RFS program to do.[17] This approach of favoring the highest achievable volumes is appropriate because Congress also provided national safety valves in the event that the RFS standards turn out to be too problematic, namely, "waiver provisions that allow EPA to lessen the Renewable Fuel Program's requirements in specified circumstances."[18] As noted, the statute expressly directs EPA to assume that a cellulosic waiver will not be needed. But EPA should take that approach with respect to all the waiver types. Setting volume requirements that EPA reasonably believes are

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[12] *ACE*, 864 F.3d at 714 (cleaned up).

[13] *Id*.

[14] *Id*.

[15] *Alabama Power Co. v. EPA*, 40 F.3d 450, 456 (D.C. Cir. 1994) (EPA may not "substitute its policy judgment for that of Congress").

[16] *ACE*, 864 F.3d at 710 (cleaned up).

[17] *Id.* at 705, 710.

[18] *Id*.; *see* 42 U.S.C. § 7545(*o*)(7)(A), (D), (E).

likely to exceed the domestic supply of renewable fuel or to create the conditions that would cause severe economic or environmental harm would be counterproductive: a later waiver will reduce the volume requirement anyway while leaving the market whipsawed. The market benefits more from the predictability of setting appropriate standards at the outset and sticking to them.

B. Setting Volume Requirements and Percentages for the Next Three Years Is Appropriate

Growth Energy approves EPA's decision to propose "applicable volume requirements and the associated percentage standards for 2023–2025."[19] EPA has statutory authority to do so, and has reasonably concluded that setting RFS volume requirements and percentage standards for three years now strikes a proper balance between the market's need for long-term planning and the increased risk of inaccurate projections over longer periods.[20]

First, EPA is correct that the CAA permits it to set volume requirements and their associated percentage standards at one time for several future years.[21] The only deadline in the CAA that applies to standard setting for years after 2021 requires EPA to "promulgate rules establishing the applicable volumes … no later than 14 months before the first year for which such applicable volume will apply."[22] Of course, as has frequently been the case, EPA has failed to meet that deadline for the 2023 and 2024 standards. But that failure neither precludes EPA from promulgating standards for those years now,[23] nor precludes EPA from promulgating the standard for 2025 *more than* 14 months before the start of 2025. Consequently, EPA has discretion to determine, within reason, the timing of the standard settings.[24] Moreover, EPA has the authority to establish percentage standards for years after 2021. To be sure, whereas the CAA directed EPA to establish annual "applicable percentages" for compliance years through 2021,[25] the CAA mentions only "applicable volumes" for later years. But that difference cannot be understood to reflect congressional intent to forbid EPA from continuing to set percentage standards. Rather, this statutory silence again must be viewed as a grant of some discretion to

[19] NPRM at 80,589.

[20] *Id*.

[21] *Id*.

[22] 42 U.S.C. § 7545(*o*)(2)(B)(ii).

[23] *ACE*, 864 F.3d at 718.

[24] *Van Hollen, Jr. v. FEC*, 811 F.3d 486, 495 (D.C. Cir. 2016) ("Congressional silence of this sort is … an implicit delegation from Congress to the agency to fill in the statutory gaps." (cleaned up)).

[25] 42 U.S.C. § 7545(*o*)(3)(B)(ii).

EPA to fill in the gap reasonably.[26] After all, it would be impossible in practice for obligated parties to comply with a single national volume requirement, or for EPA to enforce such a requirement, without percentage standards.

In sum, the statute permits EPA to set volume requirements and associated percentage standards for 2023-2025 together in advance.

Second, EPA's policy decision to set volumes and percentage standards for three years (2023-2025), but not for a fourth year (2026), is reasonable, and Growth Energy commends EPA's effort to resume timely standard setting. As EPA explains, setting standards for three years "increase[s] certainty for obligated parties and renewable fuel producers," allowing them to accurately plan investments in renewable fuel production and RIN acquisition.[27] It "also provide[s] certainty for obligated parties in determining compliance *deadlines*" given that, under 40 CFR 80.1451(f)(1)(i)(A), "compliance will not be required for a given compliance year until after the percentage standards for the following year are established."[28]

On the other hand, as EPA notes, "[s]etting percentage standards several years in advance … could result in less accurate gasoline and diesel projections being used" because "[p]rojections further into the future are inherently more uncertain."[29] That in turn increases the uncertainty for the market regarding what their future obligations will actually be and what steps they will need to take to meet them.[30] The risk of inaccurate forecasting is especially great for 2026 given EPA's new eRIN program. Beginning with 2026, EPA "expect[s] additional electricity generating capacity to come online to take advantage of the new eRIN market."[31] That significant development will introduce markedly "greater uncertainty" into a projection today about the "availability of eRINs for 2026."[32]

In light of these competing considerations, Growth Energy agrees with EPA's ultimate conclusion that "three years represents an appropriate balance at this time" between the "desire to strengthen market certainty by establishing applicable standards for as many years as is practical" and the fact that "longer time periods increase uncertainty in projected volumes."[33] It accordingly makes sense for EPA to set volumes and percentage standards through 2025 but not for 2026 at this time. Again, though, EPA remains obligated to issue the 2026 standards by

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[26] *Fisher v. Pension Benefit Guar. Corp.*, 994 F.3d 664, 671 (D.C. Cir. 2021) ("In an administrative setting …, the contrast between Congress' mandate in one context with its silence in another suggests not a prohibition but simply a decision not to mandate any solution in the second context, i.e., to leave the question to agency discretion." (cleaned up)).

[27] NPRM at 80,589.

[28] *Id*.

[29] *Id*.

[30] *Id*.

[31] *Id.*

[32] *Id*.

[33] *Id*.

November 1, 2024,[34] and Growth strongly urges EPA to issue the 2025 standards well before 2025, consistent with the pre-Set requirement that standards be issued by November 30 of the preceding year.[35]

II. EPA SHOULD SET HIGHER TOTAL VOLUME REQUIREMENTS TO INCENTIVIZE THE MARKET TO USE MORE OF THE AVAILABLE CONVENTIONAL ETHANOL

EPA's proposed standards for 2023-2025, and the approach it takes to determine them, do not properly reflect the design of the RFS program or Congress's intent in establishing it.

This can be seen clearly from the fact that the degree of growth EPA proposes to require is much smaller than what Congress specified. EPA's proposed volume requirements reflect annual increases of only 0.9%, 5.0%, and 3.7%, which are far below (less than half of) Congress's average of 8.9% and well below even Congress's lowest increase, 7.1%. Further, whereas Congress expected the concentration of renewable fuel to exceed 15% by now, EPA's proposal would only fractionally raise the already-low ethanol concentration from 10.36% (in 2021) to 10.44%, 10.49%, and then 10.53%, and would raise the market-wide renewable fuel concentration to only approximately 10.83%, 11.39%, and then 11.84%.[36] At EPA's proposed pace, Congress's goals are nowhere in sight.

There is no legitimate justification for the level of growth reflected in EPA's proposal. EPA says its proposal contemplates using 14.455, 14.505, and 14.534 billion gallons of ethanol,[37] and explains that the number of "vehicles capable of consuming E85 and the low, albeit modestly growing, number of retail stations that offer E85[] represent significant infrastructure constraints on the market's ability to deliver and use E85."[38] EPA is wrong; the market already possesses ample capacity to achieve much higher volumes. Recent analysis by Stillwater Associates shows that the market can already produce about 16.147 billion gallons of conventional ethanol without increasing corn acreage above the pre-RFS level, without adversely affecting the supply of corn available for non-ethanol uses, and without raising corn prices—which is to say, without causing economic or environmental harm.[39] Stillwater's analysis also shows that existing distribution infrastructure as estimated by EPA—including stations and dispensers for E15 and E85—is capable of delivering far greater volumes of ethanol than 16.147 billion gallons per year, which means without any marginal cost associated with infrastructure expansion.[40] And Stillwater finds that the existing vehicle fleet's ethanol consumption capacity

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[34] 42 U.S.C. § 7545(*o*)(2)(B)(ii).

[35] *Id*. § 7545(*o*)(2)(B)(i).

[36] NPRM at 80,600, 80,631.

[37] *Id*. at 80,603.

[38] EPA, *Draft Regulatory Impact Analysis: RFS Standards for 2023-2025 and Other Changes*, 392 (Nov. 2022) ("DRIA").

[39] Stillwater Assoc., LLC, *Assessment of Production and Consumption Capacity of Conventional Ethanol in 2023-2025*, at 3, 10, 12 (Feb. 9, 2023) ("Stillwater Report") [Ex. 1].

[40] *Id.* at 15.

vastly exceeds 16.147 billion gallons per year and thus is not a meaningful constraint.[41] In short, the market already could produce, distribute, and consume more than 1 billion gallons of additional ethanol beyond what EPA proposes without increasing compatible distribution or consumption infrastructure.[42]

(To be sure, as Growth Energy has explained previously, vastly more infrastructure is compatible with E15 and E85 than EPA credits, and the marginal cost of converting stations to support those fuels is quite low and could be incentivized through sufficiently high RFS requirements,[43] but there is no need to expand infrastructure to use substantially more ethanol in 2023-2025, as just explained.)

Although EPA's statutory duty to at least maintain the 2022 advanced-total ratio would not allow EPA to set the 2023 total requirement high enough to use *all* that ethanol, EPA could still set the 2023 total requirement about 500 million gallons higher than it proposes.[44] And the advanced-total ratio requirement would not preclude EPA from setting the 2024 and 2025 total requirements high enough to use *all* 16.147 billion gallons of available ethanol.[45] (Of course, the limitation on the implied non-advanced volume imposed by the ratio depends on the level of the advanced volume requirement. That standard should also be increased in line with the rapid increase in production of biomass-based diesel, which would allow for a higher implied non-advanced volume.)

At a more granular level, EPA makes a series of related errors in assessing the "achievable" volumes of ethanol: it treats the ethanol "blendwall" as an actual hindrance on achievable volumes, it bases its forecast on historical performance, and it assumes that any growth will come solely from the expansion of infrastructure to deliver higher blends.

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[41] *Id.* at 16.

[42] For more detailed analysis, see Growth Energy, *Comments on EPA's Renewable Fuel Standard (RFS) Program: RFS Annual Rules*, 67-69 (Feb. 4, 2022) ("2020-2022 Growth Energy Comment") [Ex. 4]; Stillwater Assoc., LLC, *Comments to EPA on 2020-2022 RFS Rule* (Feb. 4, 2022) ("2022 Stillwater Report") [Ex. 5]. Also see Stillwater's recent analysis of the additional volumes of E15 that could be used year-round in RFG nationwide. *See* Stillwater Report at 16-17.

[43] 2020-2022 Growth Energy Comment at 71-74.

[44] The constraining 2022 ratio was 0.2729 (=5.63/20.63). Given EPA's proposed advanced requirement of 5.82 billion gallons, the maximum total requirement consistent with the advanced-total ratio requirement is 21.33 billion gallons (=5.82/0.2729), which exceeds the proposed 20.82 billion gallons by 0.51 billion gallons.

[45] Given EPA's proposed advanced requirement for 2024 of 6.62 billion gallons, the maximum total requirement consistent with the advanced-total ratio requirement is 24.26 billion gallons (=6.62/0.2729), which exceeds the proposed 21.87 billion gallons by 2.39 billion gallons.

EPA's ethanol expectations are based on an analysis that correlates the historical pool-wide concentration of ethanol with the number of E15 and E85 stations.[46] That analysis does not meaningfully identify the volume of ethanol that could be achieved in response to appropriate RFS signals because it incorrectly disregards the potential for increasing per-station sales of E15 and E85—even though EPA acknowledges that "E15 sales volumes per station have increased in previous years, and thus could continue to increase in the future as well."[47] Past ethanol use does not at all suggest the limits of future ethanol use for a given number of stations because historically, RFS standards have been far too low to stimulate additional use of higher-blend fuels, as Growth Energy has explained before.[48] This is evident in the long history of generally very low D6 RIN prices, reflecting the weak pressure that the RFS requirements have placed on the market to increase higher-blend fuels.[49]

As EPA notes, as the concentration of ethanol increases in a gallon of fuel, the gallon's energy content declines.[50] Consequently, it is a matter of basic economics that consumers generally will not choose higher blend fuels unless those fuels are priced at a substantial discount to E10—a discount that offsets the difference in energy content, as well as the inconvenience of having to refuel more often and the hesitation some consumers may feel about using an unfamiliar fuel.[51] But historically, E15 and E85 have only rarely and briefly been discounted enough relative to E10 to incentivize consumers to select those fuels over E10.[52] According to EPA's own pricing data, E85 "is typically priced 16% lower than E10 at retail," but as EPA notes, E85 must be priced at least 21% below E10 just to offset the difference in energy content.[53] And even the experience from those periods of below-parity pricing is not indicative of what is achievable because they were too rare and short for consumers to reliably recognize and become acclimated to the pricing advantage or for retailers to make the necessary

[46] NPRM at 80,600; DRIA at 370.

[47] DRIA at 374; *see id.* at 388 ("the expanded volume in 2023–2025 would require additional infrastructure, primarily the expansion of retail stations").

[48] Growth Energy, *Comments on EPA's Proposed Renewable Fuel Standard Program: Standards for 2017 and Biomass-Based Diesel Volume for 2018*, 3-28 (July 11, 2016) [Ex. 6]; Marc Chupka, J. Michael Hagerty, Nicholas Powers & Sarah Germain, *Peeking Over the Blendwall: An Analysis of the Proposed 2017 Renewable Volume Obligations* (July 11, 2016) [Ex. 7].

[49] DRIA at 41.

[50] *Id.* at 32.

[51] *Id*.

[52] *Id.* at 33; *see also* 2022 Stillwater Report at 14-15.

[53] DRIA at 32, 59.

investments to sustain the pricing advantage. Importantly, the RFS requirements were so low that there was no *need* for the market to maintain such discounts to come into compliance.[54]

The simple, obvious, and congressionally intended solution to stimulate increased use of E15 and E85 is to set higher RFS requirements.[55] As RFS standards become more demanding, RIN prices rise, which in turn enables retailers to discount higher-blend fuels relative to lower-blend fuels, which, again, is vital to increasing demand for higher blends. Thus, EPA's approach of basing future RFS volume requirements on its assessments of historical experience is fundamentally flawed. EPA should look instead at what level of use the market could achieve in response to more stringent RFS standards. In fact, EPA acknowledges this mechanism—it notes that "higher RIN prices reduce the price of fuel blends with higher proportions of renewable fuel and increase the price of fuel blends with lower proportions of renewable fuel"[56]—yet inexplicably disregards it for purposes of assessing the achievable volumes. Put another way, EPA's proposal disregards the fact that, as the D.C. Circuit has said, "demand for renewable fuel will be a function of the renewable fuel standards set by EPA"[57]—that is, the RFS requirements are, in effect, self-fulfilling (provided there is sufficient supply of renewable fuel).

EPA's analysis of the history of the RFS reflects its fundamental errors. EPA observes that, over the life of the RFS program, the actual non-cellulosic ethanol consumption has substantially underperformed its 2010 projections.[58] EPA posits that this pattern "appears to be linked to the E10 blendwall and the difficulty that the market has had in increasing sales of higher-level ethanol blends (e.g., E15 and E85). The 2010 projections included a significant volume of E85 that did not materialize."[59] As Growth Energy has explained many times, however, the market did not have *difficulty* increasing sales of higher blends and E85 did not fail to *materialize* due to some mysterious external barrier. Rather, *EPA* did not incentivize the market to increase higher blends because EPA set RFS requirements too low to do so.[60] By treating the so-called blendwall as the *cause* of lower RFS requirements rather than the *result* of them—and thus something that higher RFS requirements would overcome—EPA again (in the words of the D.C. Circuit) allows "the demand for renewable fuel [independent of the RFS to]

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[54] 2017 Growth Energy Comment at 3-28; Chupka et al., *Peeking Over the Blendwall: An Analysis of the Proposed 2017 Renewable Volume Obligations*; Edgeworth Economics, *The Impact of EPA's Policies Regarding RVOs and SREs* (Aug. 30, 2019) [Ex. 8].

[55] *See also Monroe Energy, LLC v. EPA*, 750 F.3d 909, 919 (D.C. Cir. 2014).

[56] DRIA at 499.

[57] *ACE*, 864 F.3d at 710 (cleaned up).

[58] DRIA at 13.

[59] *Id.* at 14.

[60] 2017 Growth Energy Comment at 3-28; Chupka et al., *Peeking Over the Blendwall: An Analysis of the Proposed 2017 Renewable Volume Obligations*; Edgeworth Economics, *The Impact of EPA's Policies Regarding RVOs and SREs*.

largely dictate[] the volume requirements[, which] turns the Renewable Fuel Program's 'market forcing' provisions on their head" and thus impermissibly thwarts Congress's intent.[61]

Yet, EPA asserts that "E15 and E85[] have generally not been cost effective, even with the incentives provided by the RFS program … largely because … [t]he lower energy content of ethanol is more noticeable as the amount of ethanol increases [and] [i]nfrastructure limitations have restricted the availability of higher-level ethanol blends."[62] That is patently incorrect and completely contrary to the facts and basic economics. Again, the RFS program has not set requirements high enough to provide meaningful incentives to use more E15 and E85. Their lower energy content is not a barrier to use but rather a reason why they need to be discounted further relative to E10, which again is in turn a reason why the RFS requirements need to be more stringent—to raise RIN prices and thus to lower the relative retail price of higher blends. As noted above, EPA's own data shows how rarely higher blends have been priced at or below the inflection point needed to attract consumers away from E10. And the infrastructure for delivering more E15 and E85 is not a barrier at all. Again, the existing infrastructure has consistently vastly exceeded the levels of use that EPA's RFS standards required. Rather, consumers did not buy more E15 and E85 from existing stations that could already deliver more of those fuels because those fuels were not priced low enough to incentivize consumers to do so, as a direct result of the low RFS standards.

One important reason why EPA should not treat the blendwall as a constraint is that it largely reflects the entrenched interests of integrated petroleum refiners. Companies that both produce petroleum products and sell gasoline—which own the bulk of retailers—have a strong economic incentive to use as little renewable fuel as possible and thus generally avoid selling higher blends at all, or at prices genuinely competitive with E10.[63] Data from a natural experiment in California illustrates this. It shows that in response to California's LCFS, *independent* retailers were able to dramatically increase their E85 sales—averaging 30% *annual* increases over a five year period.[64]

The only potentially coherent justification for setting RFS standards as low as EPA has been setting them and now proposes to set them for 2023-2025 is the existence of a price cap or cost cap of some sort. But EPA has no authority to impose such a cap under the RFS statute. Moreover, if EPA were operating pursuant to such a cap, it would be required to disclose and

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[61] *ACE*, 864 F.3d at 712.

[62] DRIA at 41.

[63] *See* Edgeworth Economics, *Evaluation of Potential E15 Sales in California* 6 (Apr. 5, 2022) [Ex. 9].

[64] *See id.* at 7-8.

explain the cap in its proposal so that interested parties could comment on the cap's appropriateness.[65]

III. THE RFS STANDARDS ARE UNLIKELY TO HAVE ADVERSE ENVIRONMENTAL EFFECTS

A. The Role of the Environmental Impacts Analysis in the Set Rulemaking

As explained above, in promulgating rules to set the applicable volumes of renewable fuels from 2023 onwards, EPA must establish volume requirements that maximize achievement of Congress's market-forcing policy and objectives, so long as the volumes are feasible and will not cause significant, unintended environmental impacts. The environmental impacts factor is relevant to this analysis in at least two respects.[66]

First, expressly included within the environmental impacts factor is "climate change."[67] This is one of several Set factors that directly corresponds to the core congressional objectives of the RFS. Reducing GHG emissions from the transportation sector as a means of mitigating climate change is a foundational purpose of setting renewable fuel standards in the first place—indeed, the RFS is the only Clean Air Act program explicitly aimed at reducing GHG emissions in transportation fuel. Under the market-forcing structure of the RFS and the Set rulemaking process, EPA must therefore prioritize achievement of this goal through increased renewable fuel usage to the maximum extent feasible. Doing so requires EPA, in this rulemaking, to update its lifecycle GHG emissions analysis for conventional corn ethanol using the best currently available science, which is much more favorable than EPA's existing 2010 lifecycle analysis. To guide EPA in this analysis, Growth Energy is submitting a new expert report from EH&E, a multidisciplinary team of environmental health scientists and engineers, that presents a thoughtful framework for EPA to employ in evaluating existing LCA methodologies and studies and appropriately take into account uncertainty. Applying that framework to models addressing indirect land use change ("iLUC"), values over time show a clear downward trend and convergence around a narrow range that is approximately *two to four times lower* than EPA's 2010 estimate.[68]

Second, EPA must address environmental impacts other than climate change—including air quality, conversion of wetlands, ecosystems, wildlife habitat, water quality, and water

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[65] *See Owner-Operator Indep. Driver's Ass'n v. Fed. Motor Carrier Safety Admin.*, 494 F.3d 188, 199 (D.C. Cir. 2007) ("The most critical factual material that is used to support the agency's position on review must have been made public in the proceeding and exposed to refutation" (cleaned up)).

[66] As part of the environmental effects factor in the set rulemaking process, EPA must consider "the impact of the production and use of renewable fuels on the environment, including on air quality, climate change, conversion of wetlands, ecosystems, wildlife habitat, water quality, and water supply." 42 U.S.C. § 7545(o)(2)(B)(ii)(I).

[67] *Id*.

[68] *See infra* Part III.B.

supply[69]—as checks to make sure that the renewable fuel standards set by EPA do not produce significant environmental harms. Congress recognized that with *all* energy production there are environmental effects, and directed EPA to review such potential negative effects associated with renewable fuels. But Congress did not intend for EPA to decide that those effects outweigh achieving the primary goal of the program—that would frustrate the purpose of the RFS. Rather, Congress intended for EPA to ensure the market-forcing impact of the program through prioritization of the core GHG emissions reductions, economic, and societal benefits of the RFS.

Here, there is no credible evidence that the proposed standards will adversely affect wetlands, ecosystems, species, habitat, water quality/availability, or soils. More specifically, claims that the RFS volumes proposed by EPA will cause land use conversion are unsubstantiated, and EPA's environmental assessment should reflect the absence of an established causal relationship between the RFS and any adverse impacts associated with land use conversion to wildlife habitat, ecosystems, or species. There is similarly no sound science that the RFS program has caused, or will cause, adverse impacts to water quantity or quality. To properly fulfill its mandate under the Set rulemaking process, EPA must correct the record on its treatment of these issues.

To this end, Growth Energy is submitting an expert report from Ramboll, which explains economic analysis conducted to determine that RFS has minimal to no effect on corn prices or acres planted in corn, and highlights several critical methodological flaws in the scientific literature that EPA cites as support for potential land use change impacts (including Lark et al. 2022 and Wright et al. 2017). The report finds no evidence demonstrating that adverse impacts to wetlands, ecosystems, wildlife habitat, water quality, soil quality, or water supply are attributable to the volumes in the proposal. Indeed, many of the studies EPA relies on in the DRIA to suggest otherwise have critical methodological flaws or do not even attempt to answer the question of whether the RFS drives such environmental impacts.[70]

B. Mitigating Climate Change Must Be a Central Factor in EPA's Analysis When Setting RFS Volumes

In the proposed rule, EPA acknowledges that there is "some GHG reduction" from ethanol consumption and correctly notes that "greater volumes of ethanol consumed thus correspond to greater GHG reductions."[71] While adequate to support EPA's proposed volumes, EPA's analysis underemphasizes both the central importance of the climate change factor and the magnitude of climate benefits of corn-starch ethanol. In the final rule, EPA should require total renewable fuel volumes that reflect the substantial GHG emission reductions produced by corn-starch ethanol, which the proposal woefully underestimates.

[69] 42 U.S.C. § 7545(o)(2)(B)(ii)(I).

[70] *See infra* Part III.C.

[71] NPRM at 80,626.

1. GHG emissions reductions are a core purpose of the RFS program

As EPA notes, a "primary policy goal of the RFS program is to reduce GHG emissions by increasing the use of renewable fuels such as ethanol and biodiesel." Reducing GHG emissions from transportation was a fundamental purpose of the Energy Policy Act of 2005 ("EPAct") and Energy Independence and Security Act of 2007 ("EISA"), and is reflected in the statutory text codified at Section 211(o) of the Clean Air Act;[72] well-settled by the case law[73] and legislative history;[74] and expressly acknowledged by EPA: "Congress created the [RFS] program to reduce greenhouse gas emissions and expand the nation's renewable fuels sector while reducing reliance on imported oil."[75]

EPA notes that, with the end of the statutory table of volumes, "we are beginning a new phase of the RFS Program."[76] Similarly, the world is beginning a new phase in climate action, where "[u]nless there are immediate and deep emissions reductions across all sectors, limiting global warming to 1.5°C will be beyond reach."[77] EPA is quite right to note that the proposed rule "comes at a time when major policy developments and global events are affecting the

[72] 42 U.S.C. § 7545(o).

[73] *Ams. for Clean Energy v. EPA ("ACE")*, 864 F.3d 691, 696 (D.C. Cir. 2017) ("Congress intended the Renewable Fuel Program to move the United States toward greater energy independence and to reduce greenhouse gas emissions."); *Growth Energy v. EPA*, 5 F. 4th 1, 7 (D.C. Cir. 2021) ("To move the United States towards greater reliance on clean energy, the Clean Air Act's Renewable Fuel Standard Program calls for annual increases in the amount of renewable fuel introduced into the U.S. fuel supply."); *Am. Fuel & Petrochemical Mfrs. v. EPA*, 937 F.3d 559, 568 (D.C. Cir. 2019) ("Enacted in 2005 and amended in 2007, the Renewable Fuel Program . . . was designed '[t]o move the United States toward greater energy independence and security' and 'to increase the production of clean renewable fuels.'").

[74] 149 Cong. Rec. S5985, (2003), Statement of Tom Daschle, Co-Sponsor, ("Clean air benefits cannot be understated. In 2002 alone—just last year—ethanol use in the United States reduced greenhouse gas emissions by 4.3 million tons, which is the equivalent of removing more than 636,000 vehicles from the road. That is a remarkable achievement."); *id.* at S6048, Statement of George Voinovich, Co-Sponsor, ("Importantly, renewable fuels help to reduce greenhouse gases emitted from vehicles. Including carbon dioxide, methane, and other gases that contribute to global warming—another answer to the problem of carbons.").

[75] NPRM at 80,638 (noting "Congress' goals of reducing GHGs and increasing energy security"); *Renewable Fuel Standard Program (RFS2) Summary and Analysis of Comments*, EPA (Feb. 2010) at 1-1, https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P1007GC4.pdf ("As our analysis in support of the rulemaking demonstrates, we believe that the increase[d] use of renewable fuels in place of petroleum fuels will provide both greenhouse gas and energy benefits to our nation, as well as significant economic benefits to our agricultural sector.").

[76] NPRM at 80,623.

[77] *Climate Change 2022: Mitigation of Climate Change,* IPCC (Apr. 2022) at v, https://www.ipcc.ch/report/ar6/wg3/.

transportation energy and environmental landscape in unprecedented ways."[78] EPA thus has an opportunity to use this new phase of the RFS program to address climate change to the full extent of the agency's authority under the Set framework.

2. A robust biofuels industry is crucial to achieving U.S. decarbonization goals for the transportation sector

The transportation sector is responsible for one-third of U.S. emissions—the largest of any sector. The largest portion (49%) of those emissions arises from light duty vehicles (LDVs), and today more than 99% of LDVs rely on gasoline.[79] With the majority of LDVs on the road in 2035, and a significant share of LDVs on the road in 2050, powered by liquid fuels, the most immediate pathway to meaningfully reduce GHG emissions in the transportation sector is to decarbonize liquid fuels. And immediate climate action is necessary—if the U.S. is to meet its climate commitments, it must decarbonize the liquid fuel that 99% of vehicles currently rely on by replacing petroleum gasoline with ethanol and other low-carbon biofuels. 2020–2030 will be the "decisive decade" for actions to put the world on track to reach Paris Agreement climate goals,[80] and biofuels have the greatest potential to reduce GHG emissions in the transportation sector this decade.[81]

Biofuels will also be crucial in decarbonizing medium- and heavy-duty vehicles (MHDVs), aviation, and maritime transportation. Together, these hard-to-electrify transportation modes account for 35% of U.S. transportation sector emissions.[82] "Virtually all" MHDVs today rely on liquid fuels, and with a slower fleet turnover time than LDVs, will continue to rely on

[78] NPRM at 80,586.

[79] *U.S. National Blueprint for Transportation Decarbonization*, U.S. DOE, DOT, EPA & HUD Joint Report (Jan. 2023) at 57-58, https://www.energy.gov/sites/default/files/2023-01/the-us-national-blueprint-for-transportation-decarbonization.pdf ("*National Blueprint*").

[80] Remarks by President Biden, Address at COP26 (Nov. 1, 2021), https://www.whitehouse.gov/briefing-room/speeches-remarks/2021/11/01/remarks-by-president-biden-at-the-cop26-leaders-statement/; *see also Climate Change 2022: Mitigation of Climate Change*, IPCC (Apr. 2022) at 217 (noting that the cumulative CO_2 emissions of the previous decade 2010-2019 are equal to the entire remaining carbon budget for keeping warming to 1.5°C.).

[81] Indeed, ethanol consumption has already been a primary driver of transportation sector GHG emissions reductions in the United States. Argonne National Laboratory estimates that from 2005-2019, ethanol consumption has avoided roughly 544 million metric tons of CO_2e emissions. Uisung Lee et al. *Retrospective Analysis of the U.S. Corn Ethanol Industry for 2005–2019: Implications for Greenhouse Gas Emission Reductions* (May 4, 2021), https://doi.org/10.1002/bbb.2225. This is the equivalent of taking 8.5 million passenger vehicles off the road each year. *Greenhouse Gas Equivalencies Calculator*, EPA (Mar. 2022), https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator.

[82] *National Blueprint* at 9.

liquid fuels for many years.[83] Similarly, biofuels and biofuel blends "offer the most substantial immediate GHG emissions reductions" in maritime transportation.[84] And in aviation, "there is no realistic option that could replace liquid fuels in the commercial aircraft fleet in the coming decades."[85] As a result, sustainable aviation fuels are the only pathway available to replace petroleum for medium- and long-haul flights, which generate the majority of aviation sector emissions.[86] U.S. climate goals for the aviation sector therefore call for SAF production to rapidly increase from 4.5 million gallons today to 3 billion gallons by 2030 and 35 billion gallons by 2050.[87]

To support decarbonization across all of these applications, it is crucial for the U.S. to build an even more robust biofuels industry with the economic flexibility necessary to invest in capacity expansion, low-carbon technologies such as CCUS and precision agriculture, and research and development, including for new SAF pathways. Congress created the RFS program to drive growth in biofuels, but EPA has long undermined the program through the use of waivers and exemptions to set volumes that simply mirrored the existing market rather than driving increased demand. We are encouraged that EPA's current proposal is an incremental step to bring the RFS back on track, but EPA's proposed volumes for 2023–25 still fall well short of the maximum reasonably achievable by the industry. Continued failure to harness the full GHG-reduction potential of the RFS program is a missed opportunity that jeopardizes the U.S.' ability to keep ambitious climate goals within reach.

3. EPA continues to undervalue ethanol's lifecycle GHG reductions

Throughout the history of the RFS program, EPA has consistently underestimated the GHG benefits of ethanol replacing petroleum in the fuel supply. This continues in the proposal, with EPA's tepid acknowledgement of "some GHG reductions,"[88] while downplaying the body of scientific literature demonstrating GHG reductions of at least 40% as compared to

[83] *Id*. at 62.

[84] *Id*. at 69.

[85] *U.S. Aviation Climate Action Plan*, U.S. FAA (2021) at 18, https://www.faa.gov/sites/faa.gov/files/2021-11/Aviation_Climate_Action_Plan.pdf.

[86] *National Blueprint* at 72.

[87] *Biden Administration Advances the Future of Sustainable Fuels in American Aviation*, White House Briefing Room (Sep. 9, 2021), https://www.whitehouse.gov/briefing-room/statements-releases/2021/09/09/fact-sheet-biden-administration-advances-the-future-of-sustainable-fuels-in-american-aviation/.

[88] NPRM at 80,626.

petroleum.[89] As discussed at length in our previous comments, EPA's 2010 LCA estimate for ethanol is flawed, outdated, and has been empirically demonstrated to be incorrect.[90]

Growth Energy is encouraged that EPA has *finally* committed to updating this 13-year-old estimate.[91] In doing so, EPA must ensure that it adheres to the best available science.[92] Evaluating the best available science requires more than simply running statistical analysis on the full literature of published LCA estimates—it requires critical evaluation of the credibility of each data point. Studies which have been repeatedly and thoroughly discredited[93] should <u>*not*</u> be given equal weight as robust analyses from highly credible sources, such as Argonne National Laboratory.

It is paramount that EPA produce an accurate LCA value for ethanol. Not only will this value allow accurate assessment of ethanol's benefits in RFS rulemakings, it will inform sound policymaking decisions on a range of other potential rulemakings involving use of SAF, E15, flex fuel vehicles, high octane midlevel ethanol blends, and higher-level ethanol blends like E85. For SAF in particular, the Biden Administration's goals of 3 billion gallons of production by 2030 and 35 billion gallons by 2050 will not be possible without the use of ethanol, which

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[89] *See*, e.g. *See* Scully, et al., *Carbon intensity of corn ethanol in the United States: state of the science* (2021) (showing reduction of 46%); Lee, et al., *Retrospective analysis of the U.S. corn ethanol industry for 2005–2019: implications for greenhouse gas emission reductions* (2021) (showing reduction of 44%).

[90] *See* Growth Energy Comments on EPA's Renewable Fuel Standard (RFS) Program: RFS Annual Rules, EPA-HQ-OAR-2021-0324-0521 (Feb. 4, 2022), Section II.B and Attachments 1-3; Growth Energy Comments on EPA's Workshop on Biofuel Greenhouse Gas Modeling, EPA-HQ-OAR-2021-0324-0580 (Apr. 20, 2022).

[91] NPRM at 80,610.

[92] *Physicians for Soc. Resp. v. Wheeler*, 956 F.3d 634, 639, 647 (D.C. Cir. 2020); *Our Mission and What We Do*, EPA (Jun. 13, 2022), https://www.epa.gov/aboutepa/our-mission-and-what-we-do (EPA must ensure that national "efforts to reduce environmental risks are based on the best available scientific information."); Exec. Order No. 13990 (Jan. 20, 2021) ("the Federal Government must be guided by the best science").

[93] For example, the fundamentally flawed paper by Tyler Lark et al., *Environmental outcomes of the US Renewable Fuel Standard* (2022) which has been twice rebutted by Argonne National Laboratory and more recently rejected by the U.S. Department of Agriculture. *See* Taheripour, et al., *Comments on "Environmental Outcomes of the US Renewable Fuel Standard*" (Mar. 21, 2022) (identifying "extreme" and "difficult to rationalize" inconsistencies); Taheripour et al., *Response to comments from Lark et al. regarding Taheripour et al. March 2022 comments on Lark et al. original PNAS paper* (May 25, 2022) (reaffirming "major deficiencies, problematic assessments, and misinterpretation" and determining that "the Lark et al. paper is more problematic than what we initially evaluated"); *Review of Recent PNAS Publication on GHG Impacts of Corn Ethanol,* USDA (Dec. 14, 2022) (noting "major methodological flaws" and observing that Lark's findings "cannot be corroborated with USDA site level, modeled, or national datasets.").

accounts for 81% of biofuel production capacity in the U.S.[94] EPA asks how the RFS can better "support the development of sustainable aviation fuel;"[95] an immediate and substantial way to provide such support is through updating the LCA of ethanol. An inaccurate LCA for ethanol fuels risks improperly excluding many alcohol-to-jet fuel pathways from the RFS program, which would hamstring this novel industry.

EPA promises to "present the results of a model comparison exercise in the final rulemaking as an initial step in this update to our modeling framework."[96] Due to the importance of this LCA determination, EPA should solicit public comments *before* it finalizes the results of its model comparison exercise. In any event, EPA has ample information in the record, as it currently exists, to conclude that ethanol's lifecycle GHG benefits were substantially understated in its initial 2009 and 2010 reviews.[97]

4. EPA must rely on the best available science to update the LCA for ethanol

Growth Energy is encouraged that EPA has now "acknowledge[d]" what Growth Energy and others in the renewable fuels industry have been saying for some time – i.e., "that the biofuel GHG modeling framework EPA has previously relied upon is old, and that an updated framework is needed."[98] Below, we provide technical comments on the model comparison exercise EPA outlined in this proposal and responses to EPA's questions on LCA modeling. These comments are supported by expert analysis provided by EH&E attached to this comment as Exhibit 2. EPA should proceed by critically evaluating the literature to give the greatest weight to methodologies that are accepted, refined and transparent; and to discount or discard studies that fail to meet minimum standards of scientific credibility. The attached report by EH&E demonstrates that this approach would produce a lifecycle GHG value for an average U.S. dry mill corn ethanol that is *substantially* below EPA's 2010 estimate, with the best available science in the current literature indicating a reduction of 39-46% below the petroleum baseline, and a central credible estimate of approximately 51 gCO2e/MJ.[99]

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[94] *Most U.S. fuel ethanol production capacity at the start of 2022 was in the Midwest*, U.S. EIA, (Aug. 22, 2022), https://www.eia.gov/todayinenergy/detail.php?id=53539.

[95] NPRM at 80,587.

[96] *Id*. at 80,610.

[97] *Id*. ("We intend to present the results of a model comparison exercise in the final rulemaking as an initial step in this update to our modeling framework.").

[98] *Id*.

[99] *See* Environmental Health & Engineering, *Response to Proposed Renewable Fuel Standard (RFS) Program Standards for 2023-2025*, Part II (February 10, 2023) ("EH&E Report") [Ex. 2]; Scully, et al., *Carbon intensity of corn ethanol in the United States: state of the science* (2021) (showing reduction of 46%); Lee, et al., *Retrospective analysis of the U.S. corn ethanol industry for 2005–2019: implications for greenhouse gas emission reductions* (2021) (showing reduction of 44%%); Rosenfeld, et al. *A Life-Cycle Analysis of the Greenhouse Gas Emissions from Corn-Based Ethanol* (Sep. 5, 2018) (showing reduction of 39%).

In particular, EPA should ensure that its analysis critically evaluates estimates of iLUC, which cannot be directly measured yet accounts for a significant portion of EPA's 2010 carbon intensity value for ethanol. Empirical data show that iLUC is far lower than the range predicted by agroeconomic models from more than a decade ago and is substantially overstated in those models. A recent International Energy Agency report, for example, evaluated real-world data from 2005–2015 and found "no link" between increased U.S. biofuel production and corn production or deforestation in Brazil.[100] Instead, the report casts doubt on any causal relationship between biofuel production and corn prices or animal production.[101] In evaluating agroeconomic models, EPA must take into account such empirical results that demonstrate its 2010 modeling outputs substantially overstate iLUC.

a. Indirect land use change modeling is converging around a range that is substantially lower than EPA's 2010 estimate for ethanol, even when utilizing differing models and differing inputs

EPA asserts that land use change remains the "largest source of variation across [LCA] studies."[102] However, through a multitude of refinements to model design and model inputs since 2010, *estimates for iLUC for ethanol are converging around the relatively narrow range that is approximately two to four times lower than EPA's 2010 estimate, even when differing models and differing model inputs are considered.*[103] As EH&E describes in greater detail in Part I of its report (Exhibit 2), this cross-model convergence is observed in both American and European analyses, and is particularly highlighted by comparing studies which have published updates to their initial analysis using otherwise similar methodology. For example, EPA itself refined its modeling methodology between 2009 and 2010, resulting in more than 50% reduction in iLUC. Key adjustments included the introduction of the yield-price elasticity ("YDEL") factor to measure the relationship between price and crop yields, consideration of distillers grain with solubles (DDGS) as a replacement for corn demand for animal feed, and improvements to land use data. iLUC models did not suddenly stop improving in 2010 but rather have continued to adjust, refine, update, and calibrate their methodologies, resulting in a downward trend of estimates and convergence around -1.0 to 8.7 gCO2e/MJ.

EPA highlights the particular uncertainty regarding iLUC resulting from the fact that "[i]ndirect emissions, by definition, cannot be directly measured in the way that direct emissions can be calculated."[104] Indeed, there is some inherent uncertainty in iLUC models, which assume direct relationships between agricultural production, economics, and land conversion, when in reality a wide range of factors affect land use decisions, including international and national policies, weather events, energy commodity prices, urbanization, development, and

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[100] *Towards an improved assessment of indirect land-use change*, IEA Bioenergy (Oct. 2022), https://task43.ieabioenergy.com/wp-content/uploads/sites/11/2022/10/IEA-Bioenergy-iLUC-report_Final.pdf.

[101] *Id*.

[102] DRIA at 175.

[103] EH&E Report at Part I.

[104] DRIA at 116.

immigration/emigration trends. Yet as the convergence of iLUC values illustrates, uncertainty can be reduced by utilizing newer, refined modeling methodologies. Ample scientific evidence currently exists for EPA to promulgate an updated LCA for ethanol that incorporates this reduced range of iLUC values observed across the recent scientific literature.

b. EPA should critically evaluate the existing literature and give greatest weight to studies that satisfy fundamental criteria of scientific credibility

To produce a credible and scientific update to ethanol's lifecycle analysis in a timely manner, EPA should rely on existing studies within the scientific literature. In the proposal, EPA has taken the initial step of identifying the breadth of existing literature available.[105] EPA presents "biofuel LCA estimates from the range of published values from the scientific/technical literature"[106] with little commentary on the validity or veracity of the information presented. Indeed, while EPA "intentionally do[es] not calculate or present any statistics" from its literature review, as doing so would not be "meaningful or appropriate,"[107] the agency goes on to conduct its GHG analyses in terms of the range between the minimum and maximum values in its literature review.[108] However, EPA's charge is not merely to compile the full range of available data points on ethanol's LCA; rather, it must identify the "best available biofuel GHG modeling to inform the final rule."[109] As the necessary next step in its analysis, EPA must critically evaluate the studies included in the proposed rule to identify the best, most credible foundations on which to base its analysis.

In the DRIA, EPA references "significant uncertainty" in land use change emissions attributable to biofuel use.[110] However, for uncertainty to justify EPA lowering volumes, the uncertainty must be so "unusually profound" at that juncture that the agency "could not form" a reasoned judgment about the evidence.[111] Here, the uncertainty is neither unusually profound nor prevents EPA from forming reasoned judgment on the LCA of ethanol. EPA is far too quick to cite uncertainty and downplay the weight of the climate change factor's support for increasing the candidate volumes without first engaging in analysis to manage this uncertainty. By producing a framework for analyzing the extent to which various LCA approaches are consistent with the principles of the best available science, EPA can reasonably manage the uncertainty

[105] *Id*. at Figure 4.2.3.3-1.

[106] NPRM at 80,610.

[107] DRIA at 164.

[108] *Id*. at Table 4.2.3.13-1.

[109] *Id*. at 163. EPA itself acknowledges that it should "evaluate which models and estimates align best with available science and data." *Id.* at 117.

[110] *Id*. at 117.

[111] *Murray Energy Corp. v. EPA*, 936 F.3d 597, 620 (D.C. Cir. 2019); *see also Motor Vehicle Mfrs. Ass'n of U.S., Inc. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 52 (1983).

associated with LCA modeling and produce an updated LCA value that is an improvement from EPA's outdated 2010 estimate.

In its report, EH&E provides a thoughtful framework on how to critically evaluate LCA methodologies using four fundamental criteria of scientific credibility: 1) general acceptance in the scientific community, 2) refinement in modeling techniques, 3) completeness of the underlying data, and 4) transparency. These criteria consider and incorporate certain recommendations from the recent National Academy of Sciences consensus report, *Current Methods for Life Cycle Analyses of Low-Carbon Transportation Fuels in the United States*.[112] We agree with EPA that this report "provides useful insights into estimations of GHG emissions over each part of the lifecycle of a given fuel, indirect GHG emissions, and data quality and quantity."[113] Evaluating the LCA literature identified by EPA against these four fundamental criteria, EH&E found that methodologies scoring positively on all four criteria produced LCA estimates for ethanol in the range of 38 to 67 gCO_2e/MJ, which a best credible estimate of approximately 51 gCO_2e/MJ. This is consistent with the credible estimate previously identified in Scully, et al. 2021.[114]

c. Critical evaluation of the literature would exclude works that rely on erroneous and unrealistic model assumptions and gravely distort the carbon intensity of ethanol, such as Lark, et al. 2022.

One study cited by EPA in the DRIA, Lark et al. 2022, relies on particularly flawed and oversimplified economic analysis that fails to comport with best available science and the criteria above for scientific credibility. This study has already been thoroughly discredited by both the Department of Energy's Argonne National Laboratory (twice) and the U.S. Department of Agriculture, which have described the Lark study as filled with "extreme CI values" and "difficult to rationalize inconsistencies,"[115] "major deficiencies, problematic assessments, and misinterpretation,"[116] and "major methodological flaws."[117]

Economists with Ramboll examined the economic assumptions, principles, and models underlying Lark et al.'s assertion of a 90gCO2e/MJ CI for ethanol and identified additional

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[112] *Current Methods for Life Cycle Analyses of Low-Carbon Transportation Fuels in the United State,* Nat'l Acads. of Sci., Eng'g, Med. (Oct. 2022).

[113] DRIA at 115.

[114] Scully, et al., *Carbon intensity of corn ethanol in the United States: state of the science* (2021).

[115] Taheripour, et al., *Comments on "Environmental Outcomes of the US Renewable Fuel Standard"* (Mar. 21, 2022).

[116] *Response to comments from Lark et al. regarding Taheripour et al. March 2022 comments on Lark et al. original PNAS paper* (May 25, 2022).

[117] *Review of Recent PNAS Publication on GHG Impacts of Corn Ethanol,* USDA, (Dec. 14, 2022).

fundamental flaws that simply "do not correspond with observed data."[118] Lark et al. claim, for example, that the RFS program raised corn prices by 30% and spurred a 2.8 million hectare expansion in U.S. corn cultivation between 2008 and 2016. However, average annual corn spot prices actually *decreased* during this time period, as did prices for soybeans and wheat. Regression analyses conducted by Ramboll confirm that the relationship between RFS volumes and corn prices is "either non-existent or very weak."[119] Without an increase to corn prices, market-mediated effects such as land use change would not be expected to occur, and this is confirmed by empirical USDA data, which shows that from 1926 to 2022, "there has not been a significant increase in corn production acres, but rather a decrease in total acres of corn planted across the US."[120]

Facially, the large disparity between observed data and Lark et al.'s results seems "difficult to understand"; Ramboll's analysis as well as other investigators, however, identify several methodological flaws that appear to explain Lark et al.'s extreme results, at least in part. For one, Lark et al. selects an unrealistically low baseline, assuming that in the absence of the RFS program, ethanol production would not exceed the 3.5 to 4.5 billion gallons needed to replace MTBE.[121] This contradicts EPA's more realistic assessment that 13.75 billion gallons of ethanol would continue to be blended into gasoline without the RFS program.[122] The erroneous baseline also ignores the reality that significant quantities of ethanol are exported and also used in a variety of non-fuel applications. Indeed, U.S. ethanol production consistently substantially exceeds implied conventional volumes in the RFS program.[123] In addition, Lark fails to account for the impact of DDGS as an animal feed replacement for corn, and further fails to account for the effect of increased corn yield, which both have substantial impacts on cropland demand for corn production.[124] Analysis by Taheripour et al. demonstrates that when taking into account such offsetting impacts, there is a resultant net land area *reduction* of more than 4.3 million acres of cropland demand associated with ethanol production.[125] Instead, Taheripour et al. suggest other factors such as urban development are responsible for observed LUC.[126]

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[118] Ramboll & Net Gain Ecological Services, *Review of Environmental Effects and Economic Analysis of Corn Prices: EPA's Proposed RFS Standards for 2023-2025*, Section 3.2.1 (February 2023) ("Ramboll Report") [Ex. 3].

[119] *Id*. at Figure 3-5.

[120] *Id*. at Section 3.2.1.

[121] *Id*.

[122] DRIA at 2.1.5-1.

[123] Ramboll Report at Section 3.1.

[124] *Id*.

[125] Ramboll Report at Table 3-2; Taheripour, et al. *Comments on "Environmental Outcomes of the U.S. Renewable Fuel Standard*" (Mar. 2022), https://erc.uic.edu/wp-content/uploads/sites/633/2022/03/Comments-on-Paper-on-Environmental-Outcomes-of-the-U.S.-Renewable-Fuel-Standard-final.pdf.

[126] *Id.*

In sum, Lark et al. combines simplistic modeling assumptions (i.e. attributing all increases in corn acres planted since 2007 solely to the RFS) with highly granular modeling outputs (i.e. attempting to predict decisions of individual landowners) and fails to address major inconsistencies between their model's results and both economic and USDA data for the time period.[127] EPA should cease giving credence to these results and join its sister agencies in critically evaluating this study rather than relying on tit. A criteria-based analytical framework, such as that discussed above in Section III.B.2.b and in EH&E's report, can assist EPA in identifying and excluding methodologies and studies with pervasive and disqualifying flaws.

C. There Is No Credible Evidence That The Proposed RFS Volumes Will Cause Adverse Impacts To Wetlands, Ecosystems, Wildlife Habitat, Water Quality/Supply, Or Soils

EPA's analysis of other potential environmental impacts supports that the proposed volumes will not result in material environmental harm, much less significant environmental harm. The U.S. ethanol industry has for years produced ethanol volumes well-above the implied conventional volumes in the proposal. Indeed, ethanol production has exceeded implied conventional volumes in all but four years (2012, 2013, 2014 and 2020) due to demand for ethanol as an economical octane additive following the phase-out of MTBE, demand for ethanol exports, and demand for non-fuel applications of ethanol, including pharmaceuticals, cosmetics, and beverages.[128] Therefore, as EPA notes, several scenarios "may be more likely" than assuming that U.S. crop acreage and production would decrease in the absence of the RFS program.[129] For example, "in the absence of the RFS program, it is possible that biofuel exports would increase, and the market would see little to no change in domestic biofuel production or biofuel feedstock crop production."[130]

As a threshold matter, EPA correctly suggests that no causal link between the RFS volumes and land use change has been established in the scientific literature. For example, EPA states:

> at this time we cannot quantify the amount of land with increased intensity of cultivation nor confidently estimate the portion of crop land expansion that is due to the market for biofuels. (*see* Second Triennial Report to Congress on Biofuels Sections 2 and 4.2). Often these changes are ascribed to agricultural expansion for biofuel production, and in some cases even to the RFS program itself, *but, in reality,*

[127] Ramboll Report at Section 3.2.1.

[128] *Id*. at Section 3-1.

[129] DRIA at 48.

[130] *Id*.

such a causal connection is difficult to make with confidence (*see* Second Triennial Report to Congress on Biofuels Section 2)."[131]

Similarly, EPA states it "cannot confidently estimate the impacts to date on wildlife from biofuels generally nor from the candidate volumes, specifically. *Attributing such impacts to the RFS program generally, let alone the specific candidate volumes being analyzed in this action, is even more difficult.*"[132]

Notwithstanding these assertions, the DRIA still includes a number of statements that imply evidence of adverse impacts; these statements should be corrected. In many instances, EPA makes highly speculative claims regarding environmental impacts allegedly stemming from land use conversion, despite acknowledging an inability to identify any causal connection between land use conversion and the RFS program as quoted above. As the proposed volumes can be met without any increase in U.S. ethanol production and even if ethanol production did increase could be met on existing corn acreage as Stillwater finds in its recent report, these purported impacts are illusory. In the final RIA, EPA should clarify that the absence of a causal connection between the RFS and land use conversion inherently indicates the absence of any causal connection between the RFS and downstream impacts of land use conversion, such as species harms or habitat loss. Empirical data supports such conclusions. Total corn acreage has remained stable over time despite substantial increases in ethanol production.[133] Demand increases have been consistently met with increases in corn yield and the demand-offsetting effects of dry distillers grain solubles (DDGS), without any need for land extensification.[134]

Studies that claim to connect land use conversion to biofuel production generally rely on simplistic concepts of supply and demand that fail to incorporate the multitude of factors which influence corn planting decisions, let alone the multitude of factors that influence any decision to clear new land. For example, farmers' decisions are influenced by available corn storage, futures prices, fertilizer, fuel, and insurance costs, government policies including both domestic incentives and international trade relations, weather, pests, soil health and crop rotations.[135] The

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[131] DRIA at 240 (emphasis added). Growth Energy does not consider the Draft Third Triennial Report, which "has not been formally disseminated by EPA" and "does not represent and should not be construed to represent any Agency determination or policy" to be within the scope of this rulemaking. *Biofuels and the Environment: Third Triennial Report to Congress (External Review Draft)*, EPA (2022), https://ordspub.epa.gov/ords/eims/eimscomm.getfile?p_download_id=545876.

[132] *Id*. at 244 (citing the Second Triennial Report) (emphasis added); *id.* at 243 (evaluating wetlands impacts, noting the USDA NRI "does not provide the information needed to determine the portion of wetland acres lost in order to grow feedstocks for biofuels, nor does it attempt to identify the portion of lost wetland acres attributable to the RFS program." and Wright et al. "does not demonstrate a connection to the RFS program specifically.").

[133] Ramboll Report at Figure 3.2; s*ee also* Net Gain Report at 9; 2019 Stillwater Report at 7–10; 2022 Stillwater Report at 2.

[134] Ramboll Report at Section 3.2.

[135] *Id*. at Figure 3-1.

price of ethanol is but one of these factors, and even this factor is not necessarily causally linked to RFS volumes.[136] Any connection between the RFS program and land use change is extremely attenuated at best, and most likely non-existent.

Attached in Section 3 of its report, economic analysis by Ramboll explores the relationship between the RFS program and corn prices and determines that "the statistical dependency between corn prices and RFS volumes is *either non-existent or very weak*."[137] Similarly, "the statistical dependency between corn prices and ethanol plant production is either non-existent or very weak."[138] Instead, corn prices are primarily driven by corn stocks and available storage.[139] Fundamentally, the absence of a causal relationship between the RFS program and corn prices undermines any potential causal relationship between the RFS program and price-mediated impacts, such as land use conversion.

1. Conversion of wetlands, ecosystems and wildlife habitat

The DRIA repeatedly and correctly acknowledges that no available studies have demonstrated a causal connection between the RFS program and any loss of wetlands or other ecosystems.[140] Despite this, the DRIA alludes to a variety of speculative theories of potential impact; these statements should be corrected in the final RIA. For example, EPA posits that "one *might* infer a causal connection between proximity to an ethanol biorefinery and loss of wetlands," despite acknowledging that the referenced study, Wright et al. 2017, neither investigated this question directly, nor demonstrated a causal connection to the RFS.[141] This statement warrants correction as inferring causation from proximity alone is conjecture, which EPA should not rely on. Further, as elaborated in Ramboll's report, the cited Wright paper suffers from "critical methodological flaws."[142] Wright et al. relies on the Cropland Data Layer ("CDL"), which a multitude of studies have deemed to be an unreliable source to use in

[136] DRIA at 42 (noting that "EPA found no correlation between D6 RIN prices and ethanol prices from 2010-2022").

[137] Ramboll Report at Figure 3-5 (emphasis added).

[138] *Id.* at Figure 3-6.

[139] *Id.* at Figure 3-7.

[140] DRIA at 242-249.

[141] *Id*. at 243 (emphasis added).

[142] Ramboll Report at Section 4.1.

estimating land use change.[143] The CDL "vastly overestimate[s] LUC" in certain regions,[144] is lacking in sufficient granularity,[145] and performs poorly when verified against manual classification of satellite imagery.[146] EPA cites Wright repeatedly in the DRIA, yet fails to acknowledge the many known flaws in Wright's methodologies. Additionally, Wright et al. implies that an individual farmer's decision to extend agricultural land is based largely on increased corn prices driven by the RFS; however, as shown by Ramboll's economic analysis discussed above, the RFS program is not a statistically significant factor impacting corn prices.[147]

EPA also notes that "total wetland acres in the contiguous U.S. have been decreasing since 2007."[148] EPA fails to acknowledge, however, that total wetland acres have been decreasing since long before the RFS program was enacted in 2005. Since 1983, U.S. Fish and Wildlife has published five National Wetlands Status and Trends Reports, and all five observed decreasing total wetland acres.[149] This context undermines the DRIA's implication that the RFS program may be driving decreases in wetlands acreage.

EPA also must acknowledge that various federal policies discourage cropland expansion into wetland areas. For example, the Food Security Act of 1985 prevents farmers from accessing certain USDA benefits such as subsidies, loans, and crop insurance for commodities grown on converted wetlands.[150] The Clean Water Act's extensive permitting requirements provide another strong disincentive to converting wetland into cropland.[151] With these policies in place,

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[143] Copenhaver, *Combining Tabular and Satellite-Based Datasets to Better Understand Cropland Change* (2022), https:// doi.org/10.3390/land11050714; Dunn et al., *Measured extent of agricultural expansion depends on analysis technique* (2017), https://doi.org/10.1002/bbb.1750; Pritsolas and Pearson, *Critical Review of Supporting Literature on Land Use Change in the EPA's Second Triennial Report to Congress*, RFA (2019), https://d35t1syewk4d42.cloudfront.net/file/1834/SIUE-Review-of-Land-Use-Change-Literature-07-2019.pdf; Shrestha DS, et al., *Biofuel impact on food prices index and land use change*, doi:10.1016/j.biombioe.2019.03.003; Taheripour et al. *Comments on "Environmental Outcomes of the U.S. Renewable Fuel Standard"*, (Mar. 2022); Technical Memorandum: *Review of Recent PNAS Publication on GHG Impacts of Corn Ethanol*, USDA (Dec. 2022).

[144] Dunn, et al. (2017).

[145] Copenhaver (2022).

[146] Shrestha, et al. (2019).

[147] Ramboll Report at Section 3.

[148] DRIA at 244.

[149] *Wetlands Status and Trends - National*, U.S. Fish & Wildlife Service, https://www.fws.gov/library/collections/wetlands-status-and-trends-national (studying the time periods of the 1950s to 1970s, mid-1970s to mid-1980s, 1986 to 1997, 1998 to 2004, and 2004 to 2009).

[150] *See* 16 U.S.C. § 3821.

[151] *See* 33 U.S.C. § 1344.

wetlands would be unlikely to be the marginal land placed into production even if demand for cropland increased.

Similarly, the comprehensive scientific literature reviewed in the DRIA does not establish a causal link between the RFS program and impacts to ecosystems. EPA nonetheless discusses at-length studies and data exploring reductions in rangeland and grassland that have no identifiable link to the RFS program or the proposed volumes, without devoting any attention to explaining the many complex reasons why attribution is not possible and is not supported by the scientific literature. Again, EPA improperly relies on studies using the CDL, including Wright et al. 2017 and Lark et al. 2015, without acknowledging the abundance of scientific literature that is critical of approaches employed by these investigators.[152]

With respect to wildlife, EPA notes that "[t]here are many subsequent potential impacts to wildlife from these changes in wetlands and other ecosystems," yet EPA never established, or purported to establish, that the RFS program or the proposed standards cause wetland or ecosystem version.[153] The entirety of Section 4.3.3 of the DRIA is therefore unmoored from EPA's set factor analysis on impacts of the proposed volumes. After a lengthy discussion of losses to bird species and insect pollinators, EPA concludes that it "cannot confidently estimate the impacts to date on wildlife from biofuels generally nor from the candidate volumes, specifically."[154] EPA should acknowledge that the scientific literature does not support that there is *any* established relationship between the RFS program and adverse wildlife impacts, rather than leaving readers with the impression that there *are* some impacts to bird species and bees, even if they are not quantifiable or "confidently" estimable. Studies cited by EPA in this section include Gleason et al. 2011, which is entirely unrelated to agricultural production, and Evans and Potts 2015, which includes important caveats where the study authors admit simplification and likely overestimation of the relationship between biofuel demand and land use change which EPA neglects to mention.[155] The weaknesses of these studies should be addressed in the final RIA to the extent EPA continues to rely on them. In addition, pesticide application on corn crops has decreased since the 1980s and is likely to decrease further during the period of the proposed standards in response to recent EPA policies designed to protect pollinators.[156] EPA should review the expected impact of these new policies in its discussion of pollinators in the final RIA.

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[152] Ramboll Report at Section 4.

[153] DRIA at 249.

[154] *Id*. at 252.

[155] Ramboll Report at Section 4.

[156] *Id*.; Fernandez-Cornejo, et al. *Pesticide Use in U.S. Agriculture: 21 Selected Crops, 1960-2008*, USDA, (May 2014), https://www.ers.usda.gov/webdocs/publications/43854/46734_eib124.pdf?v=3178.4; *Fertilizer Use and Price*, USDA, (2018), https://www.ers.usda.gov/data-products/fertilizer-use-and-price.aspx; *Environmental Protection Agency's Policy to Mitigate the Acute Risk to Bees from Pesticide Products*, EPA, (2017); *EPA Actions to Protect Pollinators*, EPA (2022), https://www.epa.gov/pollinator-protection/epa-actions-protect-pollinators.

In addition, claims by third parties (e.g., Lark, Center for Biological Diversity) that have sought to tie the RFS to impacts to wildlife have been thoroughly disproven. As we noted in previous comments:

- There is no evidence that the whooping crane is affected by annual RFS rules. The population has been increasing over time and has grown at an accelerated rate after the RFS was implemented.

- There is no evidence that the Black-footed ferret is affected by annual RFS rules. Populations have been rapidly increasing since 2000, with no dip apparent in the years after the RFS was implemented.

- There is no evidence that annual RFS rules are impacting Gulf Sturgeon by exacerbating the Gulf of Mexico dead zone. The Gulf Sturgeon's critical habitat is located east of the Mississippi River delta, while the Gulf of Mexico hypoxic zone is exclusively to the west. Moreover, as addressed below, there is no evidence that land use tied to the RFS has impacted nutrient loading in the Gulf of Mexico because nutrient loading has remained relatively constant from 1980 through present day.[157]

2. Water and soil quality

EPA's analysis again misses the mark with respect to water and soil quality. The question is: what are likely impacts of the proposed volumes on water and soil quality given that EPA is maintaining the conventional implied standard at 15 billion gallons for 2023 and is only slightly raising volumes in 2024 and 2025 to a level *well below* total domestic production (inclusive of exported volumes) over the last 7–10 years? EPA gratuitously references a host of water and soil quality impacts that are ubiquitous to many human activities and have not been causally linked to biofuels production generally, let alone to the RFS program or the proposed volumes. Again, the DRIA does not identify a single study that demonstrates a causal connection between the RFS program and adverse impacts to water or soil quality. According to analysis conducted by Ramboll in Section 5 of its report (Exhibit 3), "no studies establishing such a quantitative causal link between the RFS and soil and water quality" exist.[158] These factors are also significantly tied to land use conversion, since extensification can be expected to have greater negative water and soil quality effects than intensification.[159] Yet EPA's discussion of extensification again relies on a few flawed studies, including Lark et al. 2015, and does not

[157] Ramboll, *Supplemental Analysis Regarding Allegations of Potential Impacts of The RFS On Species Listed Under The Endangered Species Act* (Nov. 29, 2019) at 7–12, https://growthenergy.org/wp-content/uploads/2019/11/Attachment3_EPA-HQ-OAR-2019-0136-Growth-Energy-ESA-Comments-Attachment-B-Ramboll-Supplemental-Memo-November-2019.pdf. Ramboll's 2019 Report was previously submitted in Exhibit 3 to EPA-HQ-OAR-2021-0324-0521, and should be incorporated here by reference.

[158] Ramboll Report at Section 5.

[159] DRIA at 254.

establish any causal connection between extensification and the RFS program, let alone the particular 2023-2025 candidate volumes.[160]

Indeed, for some impacts mentioned in the DRIA, empirical data belies any relationship to the RFS. For example, EPA references hypoxia from fertilizer runoff in the Gulf of Mexico, but nitrogen loading in the Gulf of Mexico has been stable since the 1990s and has even decreased in recent years.[161]

In addition, modern agriculture practices including precision agriculture, conservation tilling, reduced fertilizer use, and reduced water use, are increasingly being adopted and can significantly reduce water and soil quality impacts from agriculture generally.[162] For example, use of slow-release fertilizers can improve nutrient efficiency and "greatly reduce leaching of nutrients."[163] Fertigation (alternate partial root-zone drip irrigation) has also been shown to improve nitrogen uptake and water-use-efficiency. The use of bio-reactors, such as redirecting water through wood chips where nitrate is removed by microorganisms, can reduce nitrogen pollution in run-off by 15 to 90%.[164] And conservation tilling—which is already practiced by the majority of corn and soybean farmers—has substantial benefits to prevent soil erosion and other soil quality impacts.[165] Analysis of any nutrient-based impacts for future years should consider the mitigation potential of next-generation agricultural practices.

In the final RIA, EPA should emphasize its central conclusions that 1) the proposed volumes will not result in identifiable or quantifiable impacts to water and soil quality;[166] and 2) there are many effective management practices that counterbalance any negative impacts from corn for ethanol.[167] The agency should remove or appropriately clarify the tangential discussion of water and soil quality impacts from general agricultural and other human activities unrelated to biofuel production.

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[160] Ramboll Report at Section 5.

[161] *Cf*. DRIA at 260; Ramboll Report at Figure 5-1.

[162] Ramboll Report at Section 5; Vuran et al., *Internet of underground things: Sensing and communications on the field for precision agriculture* (2018), https://doi.org/10.1109/WF-IoT.2018.8355096; *Precision Agriculture in Crop Production*, USDA (2023), https://www.nifa.usda.gov/grants/programs/precision-geospatial-sensor-technologies-programs/precision-agriculture-crop-production.

[163] Ramboll Report at Section 6.5.

[164] *Id*.

[165] DRIA at 257.

[166] *Id*. at 267 ("The magnitude of effects depends on the feedstocks planted, the types of land used, and management practices, all of which are not directly determined by the RFS standards.").

[167] *Id*. at 256.

3. Water supply

EPA's discussion of water quantity and availability suffers from the same flaws as its analysis of the environmental media discussed above. Specifically, EPA fails to meaningfully distinguish between potential impacts to water availability that are tied to the RFS and the proposed standards and potential impacts associated with biofuel production at any volumes and due to any number of drivers (e.g., export demand, demand for ethanol for E10 blending), or agricultural impacts more generally. The wide body of scientific literature on water quantity does not support a causal nexus between the RFS and strained water resources.[168]

In particular, EPA's analysis of the High Plains Aquifer ("HPA") in Nebraska overstates the impact of corn production on the aquifer's water levels. Most corn in the U.S. today is non-irrigated in part because the pumping of groundwater for irrigation reduces profitability. As a result, corn production tends to congregate in areas of naturally high annual precipitation. This is seen in Nebraska, where the vast majority of ethanol production capacity is located in the wetter, eastern portion of the state.[169] In contrast, the areas of greatest groundwater depletion in the HPA are occurring in drier regions in the west and south.[170]

In sum, there is no evidence the proposed volumes will strain domestic water supply for either irrigated or non-irrigated row crops. Indeed, "recent advancement in technology in agriculture practices have increased the crop yield without changes in the water usage."[171] For example, conservation tillage methods and rotation of crops between corn and soybean have been shown to cause a 9.6% increase in yield.[172]

D. Increasing the Proposed Volumes Will Drive Improvements in Air Quality

The DRIA concludes that the overall impact of the proposed standards on air quality is expected to be "relatively minor" and so provides "little basis in favor of higher or lower volumes."[173] This largely overlooks the myriad air quality benefits of displacing more petroleum in gasoline with ethanol and increased consumption of higher-level ethanol blends. When these benefits are properly taken into account, consideration of air quality set supports higher implied volumes for conventional renewable fuel.

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[168] Ramboll Report at Section 6.

[169] *Id*.

[170] *Id.*

[171] *Id*. at Section 6.5.

[172] *Id.*

[173] DRIA at 93. EPA focuses on pollutants from stationary sources such as ethanol plants; however, the proposed volumes represent no changes in pollutants associated with stationary sources as the domestic ethanol industry has already produced well-above these volumes pursuant to valid air permits that appropriately limit emissions consistent with the Clean Air Act and state law.

Ethanol boosts octane in fuel without the harmful impacts of alternative octane-boosting fuel additives, including methyl tert-butyl ether (MTBE), lead, and aromatics (including benzene, toluene, ethylbenzene, and xylene). Indeed, the level of aromatics in fuel decreases by about 7% for every 10% by volume increase in ethanol content.[174] Decreasing aromatics in fuel has direct impacts on tailpipe emissions, with higher-ethanol fuels resulting in lower emissions of particulate matter (PM), black carbon (BC), particle number (PN), benzene, toluene, ethylbenzene, m/p-xylene and o-xylene (BTEX), and 1-3 butadiene as compared to higher-aromatic fuels.[175]

For PM emissions in particular, recent studies have demonstrated substantial benefits from higher blends of ethanol in fuel. For example, a 2022 study by EH&E observed 15-18% decreases in PM emissions for each 10% increase in ethanol content.[176] California Air Resources Board (CARB) found even greater benefits, concluding that the 5% increase in ethanol content between E10 and E15 fuels reduced PM emissions by 18% and cold-start emissions by 17%.[177]

In Part 3 of EH&E's report, analysis of the available scientific literature conducted finds that "higher ethanol fuel blends reduce emission for PM, BTEX, 1-3 butadiene, BC, and PN with no concomitant increase in emissions for carbon monoxide (CO), total hydrocarbons (THC), nitrogen oxides (NOx), or acrolein." Further, EH&E found "*considerable support* from the emissions and epidemiological literature that substitution of ethanol for aromatics in automobile fuel may yield *net public health benefits*."[178]

In the final DRIA, EPA should acknowledge the net air quality benefits of ethanol as compared to alternative octane-boosting fuel additives, and recognize that air quality supports higher implied conventional volumes in EPA's set factor analysis.

IV. HIGHER RFS STANDARDS HAVE POSITIVE ECONOMIC EFFECTS

Higher RFS standards have positive economic effects. They increase energy security and independence and promote rural economic health, without increasing food prices.

A. Increasing the Use of Ethanol Promotes Energy Security and Independence

Growth Energy agrees with EPA that raising RFS standards helps promotes U.S. energy security and independence by reducing reliance on imports of petroleum.[179] Growth Energy also

[174] Kazemiparkouhi et al. 2022a.

[175] Badrawada and Susastriawan 2019; Clark et al. 2021; Gunst 2013; Karavalakis 2018; Karavalakis et al. 2012, 2022; Kazemiparkouhi et al. 2022c; Mourad and Mahmoud 2019; ORNL et al. 2016; NREL 2013; Roso et al. 2019; Theiss 2016; Wayson 2016.

[176] Kazemiparkouhi et al. 2022c.

[177] Karavalakis et al. 2022.

[178] EH&E Report at Part III.

[179] NPRM at 80,611.

applauds EPA's efforts to quantify these benefits with respect to its proposed 2023-2025 standards—which amount to a combined $653 million.[180]

EPA's analysis is buttressed by a 2018 report prepared by Chupka, Hagerty and Verleger. They explain that U.S. energy independence and security are not realistically achieved by cutting off energy imports or otherwise isolating U.S. energy production and consumption from the rest of the world.[181] The United States unavoidably participates in global energy markets. Domestic prices for crude oil and petroleum products, for example, "will rise or fall as global market conditions dictate, including shifts in U.S. commodity futures markets that translate directly to movements in the price of crude, gasoline, and diesel."[182] Similarly, because "retail prices closely follow futures prices, disruptions in supply any place in the world will directly affect prices paid by U.S. consumers."[183]

In this environment, energy independence and security are primarily characterized by a decreased reliance on energy imports, robust energy exports, and greater balance between domestic energy production and domestic energy consumption.[184] U.S. energy markets should also seek a "resilience" against "the adverse economic effects of oil price shocks that will continue to occur periodically."[185] And domestic production of raw energy and "value-added products," i.e., refined and manufactured goods, should support domestic economic growth.[186]

Consistent with these principles, increased ethanol has helps improve energy security and independence by rebalancing energy trade in the United States' favor. The Chupka Report found the expansion of domestic fuel-ethanol production between 2000 and 2018 had altered the energy trade balance in important ways.[187] More ethanol was consumed domestically, yet more ethanol was exported. The increase in ethanol production thus both "expanded the overall domestic supply of fuel" and helped the U.S. become a net exporter of ethanol.[188]

Rather than "crowd[ing] out some other source of petroleum supply," this expansion also strengthened the country's position with respect to petroleum markets by supporting the reduction of imports and the increase of exports of petroleum products and crude oil.[189] Whereas

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[180] *Id.* at 80,612-80,613 (Table IV.B-1).

[181] Marc Chupka, J. Michael Hagerty & Phillip K. Verleger, *Blending In: The Role of Renewable Fuel in Achieving Energy Policy Goals – 2018 Updated Edition*, at 18 (Aug. 17, 2018) ("Chupka Report") [Ex. 10].

[182] *Id.*

[183] *Id.*

[184] *Id.*

[185] *Id.* at 19.

[186] *Id.* at 20.

[187] Chupka Report at 3-4.

[188] *Id.* at 4-5, 7-8.

[189] *Id.* at 4-5, 7.

in 2007 gasoline imports were about six times as large as exports, by 2016 the United States had "bec[o]me a net exporter of gasoline (for the first time since 1961)."[190] During the same period, the United States also became a net exporter of other petroleum products, by an even wider margin.[191] These developments coincided with a period in which U.S. crude oil production increased markedly, exports of crude oil increased, and imports of crude oil decreased.[192] Although these markets are complex and the causes of these changes are varied, it is significant that they occurred during this period of such substantial increase in U.S. ethanol production.

The availability of increased ethanol can also soften the economic blow to the United States of oil price spikes. For example, when global crude oil and petroleum product markets were tight a few years ago, the increased availability of ethanol "moderat[ed] the world crude oil price."[193] Even when the global petroleum supply is not as tight, high availability of ethanol can mitigate the effect of occasional oil price shocks: when consumers have greater access to higher-ethanol blends, they can "take advantage of relative prices between E10 and E15 or E85 … by purchasing more E15 or E85."[194]

Moreover, "[m]uch of the ethanol and renewable diesel imports are explained by a policy completely unrelated to the RFS program, namely, California's state-level Low Carbon Fuel Standard Program (LCFS)."[195]

B. The Proposed RFS Standards Will Not Raise Food Prices

EPA finds that "the projected impact [of the proposed standards] on food prices is relatively modest."[196] Still, EPA's analysis with respect to the effect of the proposed standards on corn are greatly overstated.[197]

As discussed above, Stillwater estimates that 16.147 billion gallons of ethanol could be produced annually in 2023-2025,[198] without adversely affecting the supply of corn available for

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[190] *Id*. at 7.

[191] *Id.* at 8-9.

[192] *Id.* at 9-11.

[193] *Id.* at 18.

[194] *Id.* at 19.

[195] Marc Chupka and J. Michael Hagerty, the Brattle Group, and Philip K. Verleger, Verleger LLC, *Blending In: The Role of Renewable Fuel in Achieving Energy Policy Goals* 13 (Aug. 31, 2017) [Ex. 11].

[196] DRIA at 415; *see* DRIA at 418 (Table 8.5-2 & Table 8.5-3).

[197] *See* DRIA at 417 (Table 8.5-1); *see also* NPRM at 80,617.

[198] U.S. Energy Information Administration data further show that, in 2022, annual U.S. production capacity for ethanol exceeded 17.3 billion gallons. EIA, *U.S. Fuel Ethanol Plant Production Capacity* (Aug. 8, 2022), https://www.eia.gov/petroleum/ethanolcapacity/.

non-ethanol uses.[199] To make that computation, Stillwater determined the demand for non-ethanol uses of corn in 2007, before RFS2 began, increased that demand for 2023 proportionally to population growth over that period, and then used only the remaining corn to determine the maximum ethanol production.[200] Working further back in the production chain, Stillwater also estimates that 16.147 billion gallons of ethanol could be produced annually in 2023-2025 without increasing the planted corn acreage above the 2007, pre-RFS2 level.[201] These achievements are possible because of advancements in the efficiency of corn harvesting and conversion to ethanol.[202] In fact, those technologically driven gains are so great that these volumes could be achieved while continuing to export ethanol at the 2007 level, even though such ethanol could easily be consumed domestically if RFS standards required that, thereby allowing even higher RFS volumes to be met without extending planted corn acreage or diverting corn from food and other non-ethanol uses.[203] Of course, 16.147 billion gallons of ethanol is more than 1 billion gallons greater than EPA projects would be consumed under its proposed RFS standards.[204] Therefore, all the ethanol that EPA projects—and then some—could be produced without reducing the supply of corn for food and other non-ethanol uses relative to a No RFS baseline—or, more significantly, a pre-RFS baseline. That means that EPA's proposed RFS standards—and even much higher ones—would not cause food prices to rise at all.

That the proposed RFS standards will not adversely affect food prices is corroborated by Stillwater's recent analysis of food-price impacts, which shows clearly that there is no connection between ethanol production and food prices.[205] That conclusion is also supported by an econometric analysis by Ramboll which is discussed further above.[206] In short, based on its multivariate regression analysis, Ramboll concluded that "the RFS implied conventional renewable fuel volume … has minimal to no effect on corn prices or acres of corn planted."[207] Rather, Stillwater and Ramboll explain that planting decisions and food prices are driven by myriad more significant factors than the RFS requirements.[208]

Finally, EPA's assertion that "demand for food is very inelastic" may be overstated.[209] EPA offers no evidence showing consumers do not substitute for less expensive food. The very study EPA cites stresses that "[m]any … 'healthy' and 'unhealthy' foods show statistically

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[199] Stillwater Report at 3.

[200] Stillwater Report at 6-10.

[201] Stillwater Report at 10-11.

[202] Stillwater Report at 3-6, 14.

[203] Stillwater Report at 10-11.

[204] NPRM at 80,603.

[205] Stillwater Report at 12-14.

[206] *Supra* at Part III.B.4.

[207] Ramboll Report at 1.

[208] Stillwater Report at 13-14; Ramboll Report at 29-30.

[209] DRIA at 416.

significant substitution and complementary relationships …—a finding that complicates any analysis trying to predict the effects of policy-induced price changes on food demands."[210]

C. Increasing the Use of Ethanol Promotes Rural Economic Health

Growth Energy appreciates EPA's recognition of the economic "importance of ongoing support for ethanol generally and for an implied conventional renewable fuel volume requirement that helps to incentivize the domestic consumption of corn ethanol."[211] As EPA notes, increasing ethanol use provides "economic advantages to the agricultural sector, most notably for corn farmers," to those who work "at ethanol production facilities and related ethanol blending and distribution activities," and to the "rural economies surrounding these industries."[212] Other analyses confirm those conclusions, showing that the ethanol industry supported 407,000 jobs, created nearly $29 billion in household income, and contributed over $52 billion in GDP in 2021.[213] That was a 50% increase from 2020's GDP contribution and nearly 22% above pre-pandemic 2019 levels.[214]

EPA notes that it is unable to quantify the RFS's effects on rural economic development compared to a No-RFS baseline.[215] Nonetheless, empirical evidence strongly indicates that rural economies could grow significantly if EPA used the RFS to accelerate the transition to year-round, nationwide E15. A recent study by ABF Economics found that "[i]ncreasing the blend level of ethanol from E10 to E15 nationwide" would add $17.8 billion to U.S. GDP, "[s]upport more than 182,600 [additional] jobs in all sectors of the economy," and increase U.S. household incomes by $10.5 billion.[216]

V. RFS IMPLEMENTATION POLICIES

A. EPA Must Set Volume Requirements High Enough to Draw Down the RIN Bank

According to EPA, there will be about 1.83 billion carryover RINs available for compliance the 2022-2025 RFS standards.[217] Even if carryover RINs were used to meet all of the supplemental obligations adopted to cure the *ACE* error, that would leave a bank of 1.33

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[210] Okrent, Abigail M., and Julian M. Alston, *The Demand for Disaggregated Food-Away-From-Home and Food-at-Home Products in the United States* iv, ERR-139, USDA, Economic Research Service (August 2012) [Ex. 12].

[211] NPRM at 80,626.

[212] *Id.*; *see also id.* at 80,627.

[213] John M. Urbanchuk, ABF Economics, *Contribution of the Ethanol Industry to the Economy of the United States in 2021*, 8-10 (Feb. 3, 2022) [Ex. 13].

[214] *Id.* at 8.

[215] NPRM at 80,615.

[216] ABF Economics, *Economic Impact of Nationwide E15 Use*, 1-2 (June 10, 2021) [Ex. 14].

[217] NPRM at 80,605.

billion RINs for compliance in these years. Yet, EPA proposes to disregard those RINs when setting the 2023-2025 volume requirements, so that it does not "intentionally draw[] down the carryover RIN bank."[218] EPA's proposed treatment of the bank is irrational and contrary to Congress's intent. It stunts future renewable fuel use—and worse, gives obligated parties the benefit of the prior unwarranted SREs that inflated the bank in the first place. The only appropriate treatment of the bank is to do what EPA refuses: set higher volume requirements designed to intentionally draw down the carryover RINs. In fact, this three-year rulemaking affords EPA an opportunity to do so gradually. Like its volumetric analysis, EPA's approach to the RIN bank reveals that EPA actually views its role under the RFS as managing the fuels market by maintaining RIN prices within a narrow, undisclosed band that EPA, in its inscrutable judgment, deems appropriate. EPA cannot do that.

Setting volume requirements without regard to the available carryover RINs undermines Congress's intent for the RFS program to drive increased renewable fuel use. Each carryover RIN represents a gallon of renewable fuel that the market does not need to be generated and used. Consequently, the binding effect of the volume requirements EPA sets is reduced by the number of available carryover RINs. Economically, having a large RIN bank lowers the marginal cost of compliance and thereby discourages the market from making the very investments Congress intended the RFS to incentivize. EPA itself acknowledges this relationship, noting that "SREs granted in 2018 … reduced the total number of D6 RINs needed for compliance," which in turn led to a "large number of carryover RINs" that "lower[ed] D6 RIN prices."[219] That directly undermines the RFS's effect because, as the D.C. Circuit explained, "high RIN prices … incentivize precisely the sorts of technology and infrastructure investments and fuel supply diversification that the RFS program was intended to promote."[220]

EPA's rationale for intentionally maintaining a large RIN bank through 2025 is thoroughly unsound. First, EPA says that "a bank of carryover RINs is extremely important in providing a liquid … RIN market."[221] That is plainly incorrect. What creates liquidity is the *tradability* of RINs, not the fact that they have been *carried over* from a prior year. The tradability of RINs enables obligated parties to shuffle their RINs—including within the compliance year in which they were generated—enabling efficient compliance with RFS obligations. To put it concretely, if obligated party A separates an extra RIN in 2023 and obligated party B believes it is too expensive to separate a RIN needed for compliance with its 2023 obligation, B could buy A's extra RIN and use it to meet B's *2023* obligations; thus, the RIN's tradability created market liquidity even though it was not carried over.

EPA mentions the "uneven holding of carryover RINs among obligated parties" as a liquidity concern.[222] That does not hold water. It is uneven holdings that *make* a market, and the RIN market in particular. If every obligated party had an "even" amount, i.e., an amount needed

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[218] *Id.*

[219] DRIA at 42.

[220] *Monroe Energy*, 750 F.3d at 919.

[221] NPRM at 80,605.

[222] *Id*.

to meet their obligations, there would be no reason for any RIN trading. Moreover, the possibility that a party with a long RIN position might resist selling to a party with a short RIN position is again inherent to any market and to the functioning of the RFS in particular. The potential buyer will have to offer more for the RIN; eventually, the price might become so high that the potential buyer may decide it is more cost-effective to invest in separating RINs itself, thereby expanding the market's ability to use more renewable fuel as Congress intended.

Second, EPA asserts that maintaining a large RIN bank provides "compliance flexibility in the face of … uncertainties in the transportation fuel marketplace."[223] That is not a valid justification for the bank given all the *textual* flexibilities Congress already provided: percentage standards that reduce obligations in proportion to the actual volume of transportation fuel use, deficit carryforwards, a waiver if there is inadequate domestic supply of renewable fuel to meet the standard, and a waiver if meeting the standard would cause severe harm to a state, regional, or national economy. In any event, EPA's position was seriously undermined after EPA went out of its way to retroactively reduce the 2020 obligations in order to avoid any need for obligated parties to rely on the RIN bank for compliance after the demand for transportation fuel declined dramatically as a result of the Covid-19 pandemic.[224] That was the epitome of an unforeseen market shock and thus precisely the moment when the bank—according to EPA's own position—should have been relied upon. That EPA instead acted to *preserve* the bank belies its stated rationale.

Third, even if EPA's rationales supported maintaining *some* carryover RINs, EPA must—but fails to—"articulate a satisfactory explanation" as to why 1.83 billion carryover RINs are needed or why a lower amount would not fulfill its policy goals.[225] EPA acknowledges that it should evaluate the size of the RIN bank "case-by-case," but it does not engage in that analysis.[226] Nor does EPA explain why it could not use the current three-year rulemaking to gradually draw down the RIN bank, given that doing so would allow obligated parties ample time to plan and would leave some buffer in place in the meantime.

Finally, EPA's insistence on maintaining the bank at its current level is especially problematic given that the RIN bank's size is the direct result of the wave of retroactive small-refinery exemptions that EPA now admits were "impermissible under CAA section 211(o)(9)."[227] Preserving the bank thus not only undermines the RFS's market-driving force, but also allows obligated parties to benefit from past illegal compliance windfalls.

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[223] *Id*.

[224] *See* Renewable Fuel Standard (RFS) Program: RFS Annual Rules, Proposed Rule, 86 Fed. Reg. 72,436, 72,454 (Dec. 21, 2021).

[225] *Motor Vehicle Mfrs. Ass'n of U.S., Inc. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983).

[226] NPRM at 80,605.

[227] *June 2022 Alternative RFS Compliance Demonstration Approach for Certain Small Refineries*, EPA-420-R-22-012, *noticed at* 87 Fed. Reg. 34872 (June 8, 2022); DRIA at 39, 42.

B. EPA's Projection of Zero SREs Is Sound

EPA's Proposal "project[s] that no gasoline or diesel produced by small refineries will be exempt from RFS requirements pursuant to CAA section 211(o)(9) for 2023–2025."[228] Growth Energy agrees that this is a sound projection.

EPA's projection follows from the legal and empirical analysis adopted by EPA in its April and June 2022 SRE Denials. There, EPA interpreted the CAA, consistent with the Tenth Circuit's decision in *Renewable Fuels Association v. EPA*, to mean that SREs can be granted "only … if a small refinery demonstrates disproportionate economic hardship ['DEH'] caused by compliance with the RFS program requirements and not other factors."[229] Further, EPA concluded, based on extensive empirical analysis, that "obligated parties, including small refineries, are able to pass through the costs of their RFS compliance (i.e., RIN costs) to their customers in the form of higher sales prices for gasoline and diesel fuel."[230] Consequently, EPA determined that none of the SRE petitioners had made the requisite showing that their RFS compliance would cause them DEH.[231] As Growth Energy explained in its comments on the proposed April and June 2022 SRE Denials, EPA's legal interpretation was correct, its empirical findings were well-founded, and the resulting denials were justified.[232]

EPA now proposes to project that zero SRE petitions will be granted for 2023-2025, given that it expects to evaluate such petitions under the same legal and empirical analysis it used in the April and June 2022 SRE Denials.[233] EPA's proposed approach is sound. Although the legal and factual bases of the April and June 2022 SRE Denials are the subject of pending lawsuits, EPA is likely to prevail in those suits, and in any event EPA should base its projections on its view of the best legal interpretation and empirical evidence, not on a prediction or fear that the court will disagree with those judgments. Further, there is no reason to believe that petitioners seeking SREs for 2023-2025 will adduce materially different evidence regarding their internalized RFS compliance costs and thus be able to show the requisite DEH.

The GAO's recent report criticizing EPA's analysis of small refineries' RIN costs does not undermine EPA's analysis or proposed projection of zero SREs for 2023-2025.[234] As EPA

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[228] NPRM at 80,631.

[229] *Id.* (citing *April 2022 Denial of Petitions for RFS Small Refinery Exemptions*, EPA–420–R–22–005 (Apr. 2022); *June 2022 Denial of Petitions for RFS Small Refinery Exemptions*, EPA–420–R–22–011 (June 2022).

[230] *Id.*

[231] *Id.*

[232] Growth Energy, *Comments on EPA's Proposed RFS Small Refinery Exemption Decision* (Feb. 7, 2022) [Ex. 15]; Growth Energy, *Supplemental Comments on EPA's Proposed RFS Small Refinery Exemption Decision* (Mar. 9, 2022) [Ex. 16].

[233] NPRM at 80,631.

[234] *See* GAO, *Renewable Fuel Standard: Actions Needed to Improve Decision-Making in the Small Refinery Exemption Program* (Nov. 2022), GAO-23-104273 ("GAO Report").

has noted, its subsequent analysis, completed in December 2022, uses a far more extensive and relevant data set than the GAO's analysis.[235] (Moreover, the data set relied on by EPA in rendering the April and June 2022 SRE Denials was itself substantial, the best available data at the time, and sufficient to justify EPA's findings, especially since it reflected whatever data the small refineries themselves wished to provide via the notice-and-comment process.[236]) And, as EPA's response to the GAO Report and EPA's December analysis show, the GAO Report suffered from several fundamental methodological flaws.[237]

Even insofar as EPA's December 2021 analysis suggests that, on average, some small refineries buy RINs above average market prices and sell below average market prices, that still does not vitiate EPA's projection of zero SREs for 2023-2025 (or its April and June 2022 SRE Denials). The differences found between small refineries' buying and selling prices are so small that they might be illusory, likely "simply reflect[ing] noise in the data."[238] And, as EPA recognizes, even if those differences are legitimate, they are far too small to constitute the "economic hardship" that small refineries must incur to qualify for an SRE.[239]

C. EPA's Proposed 2023 Supplemental Volume Is Necessary and Appropriate on Remand From *ACE*

Growth Energy supports EPA's proposal to impose a second 250 million RIN supplemental volume in 2023 to complete its remedy for the unlawful general waiver of the 2016 standards on remand from the D.C. Circuit in *ACE*.[240]

Two legal duties require EPA to adjust the standards to fully remedy the unlawful 2016 waiver. First, *ACE* held that EPA lacked authority to waive the 500 million gallons, and on remand EPA is "without power to do anything which is contrary to either the letter or spirit of the [court's] mandate construed in the light of the opinion" rendered in *ACE*.[241] "The necessary consequence of vacating the [2016 general waiver] … would be some kind of corrective EPA action strictly implementing" the unwaived statutory volumes.[242] Second, the CAA directs EPA

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[235] EPA, *An Analysis of the Price of Renewable Identification Numbers (RINs) and Small Refineries* 1-2, 10 (Dec. 2022) ("RIN Price Analysis"), EPA-420-R-22-038.

[236] *See* GAO Report, Appx. IV, at 55-56.

[237] *See* RIN Price Analysis at 9-10; GAO Report, Appx. IV, at 54-60.

[238] GAO Report, Appx. IV, at 61; *see* RIN Price Analysis at 3-4, 8.

[239] GAO Report, Appx. IV, at 60; *see* 42 U.S.C. § 7545(*o*)(9)(B)(i).

[240] 864 F.3d 691 (D.C. Cir. 2017).

[241] *City of Cleveland v. Federal Power Comm'n*, 561 F.2d 344, 346 (D.C. Cir. 1977) (quotation marks omitted); *accord U.S. Postal Serv. v. Postal Regulatory Comm'n*, 747 F.3d 906, 910 (D.C. Cir. 2014).

[242] *WildEarth Guardians v. EPA*, 830 F.3d 529, 535 (D.C. Cir. 2016); *see also Multicultural Media, Telecom & Internet Council v. FCC*, 873 F.3d 932, 936 (D.C. Cir. 2017) (A "decision that the agency's action was substantively unreasonable generally means that, on remand, the

to "ensure" that the statutory volume requirements are met absent a valid waiver; that duty does not vanish just because of EPA's prior *invalid* waiver.[243] Thus, EPA must impose obligations equal to the 500 million gallons unlawfully waived. Because EPA already did so for half the waived volume, it remains to set an additional 250-million gallon obligation to complete its cure of its unlawful waiver on remand from *ACE*.

Further, EPA has the power to remedy its prior error by setting future supplemental standards, as it has proposed for 2023. Even before last year's supplemental obligation to begin curing the unlawful 2016 waiver, EPA had on two prior occasions made up a prior year's requirements by adding it to, or supplementing, a future year's requirements—and the D.C. Circuit upheld both actions.[244] EPA can use this power again to impose the proposed remedial supplemental obligation.

EPA's proposal describes the supplemental obligation as a "late standard, with partially retroactive effects."[245] That is incorrect for several reasons. First, the "normal" rules governing "retroactive" rulemaking do not apply when an agency is "correct[ing] its own legal mistakes," especially when the agency is "rectify[ing] legal mistakes identified by a federal court."[246] Precluding EPA from remedying its error out of concern for the remedy's "retroactive" effect "merely because [EPA] bungled [the standard] the first time around … would make a mockery of the error-correcting function of appellate review."[247] This is particularly true in the context of RFS volume obligations: because they apply to only one calendar year and are not set until shortly before that year begins (assuming they are set on time), it is impossible for judicial review to conclude and for EPA to take remedial action on remand before the period covered by the obligation is already past. Consequently, treating corrective action on remand as retroactive rulemaking would allow EPA to "effectively nullif[y]" any judicial decision that an RFS standard is "invalid"—something EPA clearly lacks authority to do.[248] This situation thus differs materially from *ACE*, where the court called for a balancing of benefits and burdens of late RFS standards only because EPA was setting those standards for the first time after failing to do so by

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agency must exercise its discretion differently and reach a different bottom-line decision."); *Chicago & S. Air Lines, Inc. v. Waterman S.S. Corp.*, 333 U.S. 103, 113 (1948) ("Judgments, within the powers vested in courts by the Judiciary Article of the Constitution, may not lawfully be revised, overturned or refused faith and credit by another Department of Government.").

[243] 42 U.S.C. § 7545(*o*)(2)(A)(i); *see also ACE*, 864 F.3d at 698-699 (quoting 42 U.S.C. § 7545(*o*)(3)(B)(i)).

[244] *National Petrochemical & Refiners Ass'n v. EPA* ("*NPRA*"), 630 F.3d 145, 156-157, 163 (D.C. Cir. 2010); *Monroe Energy, LLC*, 750 F.3d at 919-921.

[245] NPRM at 80,619.

[246] *Verizon Tel. Companies v. FCC*, 269 F.3d 1098, 1111 (D.C. Cir. 2001).

[247] *Id.*

[248] *In re Core Commc'ns, Inc.*, 531 F.3d 849, 856 (D.C. Cir. 2008); *accord In re People's Mojahedin Org. of Iran*, 680 F.3d 832, 837-838 (D.C. Cir. 2012).

the statutory deadline.[249] Here, the court *invalidated* EPA's original standard and now EPA must correct that error.

Second, the supplemental obligation here would not be retroactive at all. A retroactive rule "attaches new legal consequences to events completed before its enactment."[250] That is, it "imposes new sanctions on past conduct" or "render[s] past actions illegal or otherwise sanctionable," as opposed to "merely upset[ting] expectations."[251] Although the supplemental obligation would remedy an error with respect to the 2016 standard, it would not be retroactive with respect to 2016 conduct (or any other prior conduct) because it would impose no legal consequences or sanctions for obligated parties' actions *in 2016* but rather would "ha[ve] only future effect."[252] That is true even with respect to 2023 conduct because the obligation will presumably issue "during the compliance year, well before the compliance demonstration deadline, so the [obligation would] not change the legal effect of a completed course of conduct."[253] EPA's proposal will afford obligated parties ample time to adjust their 2023 conduct to meet the obligation, whether by using more renewable fuel or by acquiring more RINs.

Moreover, the supplemental obligation would not even upset settled expectations. First, obligated parties could not have had a legitimate expectation in an ultra vires agency action, and but for the unlawful waiver, they would have been obligated to use 500 million additional gallons of renewable fuel.[254] This is especially so because the waiver was under serious legal cloud from the moment it was proposed, as Growth Energy (and others) argued it was unlawful in their comments on the proposal in 2015[255] and then challenged its legality in court just days after it took effect.[256] As the D.C. Circuit has repeatedly held, it is "unreasonable" for regulated parties to "rely" on an agency's statutory interpretation once they have been "put on notice" that the interpretation is "in dispute," whether through administrative or judicial challenges.[257] Second, once *ACE* invalidated the 2016 waiver, obligated parties should have expected, if not *known*, that EPA would at some point impose a curative obligation consistent with its duty to comply with the court's mandate (as discussed above), and obligated parties accordingly "could

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[249] *See ACE*, 864 F.3d at 712, 718; *Monroe Energy*, 750 F.3d at 920; *NPRA*, 630 F.3d at 166.

[250] *Landgraf v. USI Film Prods.*, 511 U.S. 244, 269-270 (1994).

[251] *NPRA*, 630 F.3d at 159, 161.

[252] *Id.* at 161.

[253] *Monroe Energy*, 750 F.3d at 920.

[254] *See NPRA*, 630 F.3d at 162.

[255] Growth Energy, *Comment on* EPA's *Proposed Renewable Fuel Standard Program: Standards for 2014, 2015, and 2016 and Biomass-Based Diesel Volume for 2017*, at 17-28 (July 27, 2015) [Ex. 17].

[256] Pet. for Review of Americans for Clean Energy et al., *ACE*, No. 16-1005, ECF No. 1593082 (D.C. Cir. Jan. 8, 2016); *see also ACE*, 864 F.3d at 707.

[257] *Verizon*, 269 F.3d at 1111 (citing *Public Serv. Co. of Colorado v. FERC*, 91 F.3d 1478, 1488-1491 (D.C. Cir. 1996)).

readily have estimated their respective obligations."[258] Not only that, but in 2018 EPA announced that it might respond to the *ACE* remand by requiring obligated parties to meet a supplemental obligation using future RINs.[259] And third, EPA specifically alerted obligated parties back in December *2021* that it "intend[ed]" to impose a 250 million gallon supplemental obligation for 2023.[260] That afforded obligated parties more than enough "fair notice" of their future obligations.[261]

Accordingly, contrary to EPA's suggestion, there is no occasion or authority to "balance" "the benefits and burdens" of the supplemental standard.[262] But even if there were, EPA's proposed standard would plainly be sound. For all the reasons just discussed, the supplemental obligation would not impose any undue burden on obligated parties. In any event, with about 1.83 billion carryover RINs expected to be available for compliance with the 2023 standards, obligated parties should easily be able to avoid compliance penalties even if they are unable to increase their renewable fuel usage in 2023 to fully meet the supplemental obligation (and a substantial volume of carryover RINs could be available even if EPA were to finalize markedly higher standards for 2023 than it has proposed).[263] On the other side of the ledger, the supplemental obligation has the benefits of fulfilling EPA's legal duties (discussed above) and furthering Congress's "inten[t]" that the RFS program would "forc[e]" the market "to increase consumption of renewable fuel," which in turn furthers Congress's ultimate objective of "mov[ing] the United States toward greater energy independence and … reduc[ing] greenhouse gas emissions."[264]

Lastly, none of the alternatives that have been proposed to EPA are superior, and many are not even permissible. "[R]eopening 2016 compliance and applying a supplemental standard to the 2016 compliance year" would be more burdensome administratively, and could raise retroactivity questions that the proposed supplemental 2023 obligation avoids.[265] Such alternatives are especially inadvisable now that EPA has "already … impos[ed] a 250-million-gallon supplemental standard in 2022."[266] Simply readopting the 2016 standard as unlawfully waived would amount to sticking a finger in the D.C. Circuit's eye, violating both *ACE*'s mandate and the statutory duty recognized in *ACE* to ensure that the volume requirements are

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[258] *Monroe Energy*, 750 F.3d at 920.

[259] EnviroFlash Announcements about EPA Fuel Programs, *RFS Annual Compliance Deadline* (Jan. 12, 2018), https://19january2021snapshot.epa.gov/fuels-registration-reporting-and-compliance-help/enviroflash-announcements-about-epa-fuel-programs_.html#compliance-deadline.

[260] 86 Fed. Reg. 72,436, 72,437 (Dec. 21, 2021) ("2020-2022 NPRM").

[261] *NPRA*, 630 F.3d at 160.

[262] NPRM at 80,619.

[263] *Id.* at 80,606, 80,620.

[264] *ACE*, 864 F.3d at 696, 705; *see also id.* at 710.

[265] NPRM at 80,620; 2020-2022 NPRM at 72,459-72,460.

[266] NPRM at 80,618.

met except to the extent *lawfully* waived. On remand from a judicial decision holding its action unlawful, EPA may not "reinstat[e] the preexisting … rule[]," [267] which is what readopting the original 2016 standard would amount to. Rather, EPA must now "reach a different bottom-line decision" from its invalidated 2016 rule. [268] In particular, EPA's duty on remand is to take "corrective … action strictly implementing" the statute as interpreted by the D.C. Circuit. [269]

Nor would it be appropriate now to retroactively issue a cellulosic waiver to reduce (but not fully eliminate) the size of the unlawful waiver to remedy. When EPA initially set the 2016 standards, it determined that there was no basis for a greater cellulosic waiver; those standards already reflected the "greate[st] [reduction] tha[t] can be achieved using the cellulosic waiver authority." [270] And none of the relevant facts have changed. Therefore, EPA has no factual basis to increase the cellulosic waiver.

EPA cannot use the cellulosic waiver authority to reduce the total standard by a greater amount than it reduced the advanced standard. The cellulosic waiver can be used to remedy only a shortfall in cellulosic biofuel production, and again, the original cellulosic waiver already did that fully. The Clean Air Act labels the waiver authority "Cellulosic biofuel." [271] The statute states that the waiver authority is triggered by a shortfall in cellulosic biofuel production: when "the projected volume of cellulosic biofuel production is less than the minimum applicable volume" specified in the statutory table. [272] And the statute states that the shortfall in cellulosic biofuel production defines the extent to which EPA may reduce the advanced and total standards: after reducing the cellulosic standard to the level of cellulosic production, "the Administrator may also reduce the applicable volume of [total] renewable fuel and advanced biofuels requirement[s] established under paragraph (2)(B) by the same or a lesser volume." [273] As the D.C. Circuit has recognized, the authority to reduce the advanced and total standards upon a cellulosic production shortfall merely "reflects the nested nature of the renewable fuel categories: Because cellulosic biofuel is a subcategory of advanced biofuel, a reduction to the cellulosic biofuel volume requirement leaves a gap in the supply of advanced biofuel available to satisfy the advanced biofuel volume requirement," and in turn the nesting of the advanced standard within the total standard means that a reduction for a cellulosic shortfall could also leave a gap in the supply of total renewable fuel. [274] Thus, once EPA determines the appropriate level of advanced biofuel and exercises its cellulosic waiver authority to reduce the advanced standard to that level—as EPA did in originally setting the 2016 advanced standard—EPA has *fully* remedied the shortfall in cellulosic biofuel that triggered its cellulosic waiver authority and

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[267] *WildEarth Guardians*, 830 F.3d at 535.

[268] *Multicultural Media, Telecom & Internet Council*, 873 F.3d at 936.

[269] *WildEarth Guardians*, 830 F.3d at 535.

[270] *See* 80 Fed. Reg. 77,420, 77,434, 77,439, 77,443 (Dec. 14, 2015).

[271] 42 U.S.C. § 7545(*o*)(7)(D).

[272] *Id.* § 7545(*o*)(7)(D)(i).

[273] *Id.*

[274] *ACE*, 864 F.3d at 731.

exhausted the extent to which it can use that authority to reduce the total standard. Any further reduction of the total standard at that point would not remedy the cellulosic shortfall and therefore could not be accomplished under the cellulosic waiver authority.

EPA has no authority to convert a power that is narrowly drawn for a specific purpose into a general authority to discretionarily pursue whatever policy preferences it might have.[275] That is particularly so given that Congress expressly provided EPA with other authorities for reducing the total volume requirement: a general waiver if there is "inadequate domestic supply" of renewable fuel or if the "implementation of the requirement would severely harm the economy or environment of a State, a region, or the United States."[276] Congress thus carefully constructed a system in which EPA could reduce volume requirements, but "only" in the "limited circumstances" it expressly identified in those statutory provisions.[277] The statute cannot, therefore, be interpreted to authorize EPA to waive the total volume requirement where the statutory preconditions are not met.[278] (And, to be clear, there is no basis for EPA to exercise its general-waiver power to reduce the 2016 total volume requirement; it is undisputed that there was adequate domestic supply of renewable fuel,[279] and there is no reason to think that meeting an additional 250-million-gallon requirement in 2023 would severely harm the economy of a state, a region, or the country.)

D. Cellulosic Biofuel

1. Guidelines for setting cellulosic volumes

Growth Energy appreciates the challenge of setting cellulosic standards into the future when certain subcategories—eRINs and other potential pathways—are nascent. Growth Energy recommends that EPA adhere to several guidelines in this context.

First, although EPA must set the cellulosic volume requirement "based on the assumption that the Administrator will not need to issue a waiver"[280] and the cellulosic waiver standard has

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[275] *Whitman v. American Trucking Ass'n*, 531 U.S. 457, 468 (2001) ("Congress … does not alter the fundamental details of a regulatory scheme in vague terms or ancillary provisions—it does not, one might say, hide elephants in mouseholes."); *ACE*, 864 F.3d at 713; *Utility Air Regulatory Grp. v. EPA*, 573 U.S. 302, 325 (2014) ("An agency has no power to 'tailor' legislation to bureaucratic policy goals by rewriting unambiguous statutory terms."); *Friends of Earth, Inc. v. EPA*, 446 F.3d 140, 145 (D.C. Cir. 2006).

[276] 42 U.S.C. § 7545(*o*)(7)(A).

[277] *NPRA*, 630 F.3d at 149.

[278] *ACE*, 864 F.3d at 712 (rejecting statutory interpretation that would have "allow[ed] waiver under the inadequate-supply provision based on lesser degrees of economic harm" than needed to satisfy "the severe-harm waiver standard" (quotation marks omitted)).

[279] *See* 80 Fed. Reg. at 77,438.

[280] 42 U.S.C. § 7545(*o*)(2)(B)(iv).

been interpreted to require that EPA "take a 'neutral aim at accuracy,'"[281] it does not follow that EPA must take a neutral aim at accuracy when *setting* the cellulosic requirement. Rather, EPA can set the requirement based on the assumption that no waiver will be needed by targeting the highest achievable volume that likely will not trigger the cellulosic waiver power (or the general waiver power). And EPA *should* take that approach because it best accords with the purposes of the RFS program and the general principles governing the Set process described above. In particular, setting standards at the highest levels that are likely to avoid the need for later revision accounts for the duty to use the RFS to press the market to increase its use of renewable fuel, as well as for the need to treat the standards as fixed and binding so that their market-forcing power is not undercut by signals that EPA will rescue underperforming obligated parties or by general market uncertainty.

Consideration of the possible mechanisms for later revising the standards also shows it is better for EPA to over-project cellulosic volumes than to under-project them when it initially sets the standards. It is unclear whether EPA has an inherent power of reconsideration to raise or lower the RFS standards once it has set them. The exercise of such a reconsideration power not only would signal the market that the RFS standards are not actually binding, but also would cast a cloud over the *revised* standards by inviting legal challenge to EPA's action. And any reconsideration of a "Set" standard could require an elaborate, protracted rulemaking to consider all the statutorily specified Set factors. Although waivers are also undesirable because they, too, can diminish the binding force and certainty of RFS standards, they partially avoid some of the problems with reconsideration.[282] Waivers can be used "only" in the "limited circumstances" specified in the statute, reducing the likelihood they will be used.[283] And, correspondingly, they entail a streamlined adjustment process; EPA would not have to go back to the drawing board under the statutory Set standard but rather would only have to evaluate the discrete circumstances that could trigger a waiver. Because waivers are unidirectional, permitting only *reductions* to volume requirements, over-projection is preferable to under-projection, although, again, EPA should set the standards at the highest level that it believes is likely to avoid triggering a waiver.

EPA notes concerns regarding the effects on the RIN market of over- and under-projection, particularly of eRINs.[284] Those concerns, properly assessed, again favor the approach espoused by Growth Energy. If EPA over-projects eRINs, that might raise cellulosic RIN prices, incentivizing greater production and use of other types of cellulosic biofuel and thus furthering Congress's goals. And if the eRIN over-projection in turn results in over-projection of the entire cellulosic category beyond the market's capacity to meet it within the compliance year, obligated parties could not only rely on extant carryover RINs as a cushion but also carry forward their RIN deficits into the next year, again incentivizing greater use of cellulosic biofuel overall while giving obligated parties a longer lead-time to achieve that goal. If, however, EPA under-projects eRINs, the market might be flooded with RINs, lowering their prices and thereby

[281] *Growth Energy v. EPA*, 5 F.4th 1, 15 (D.C. Cir. 2021).

[282] *See* NPRM at 80,624.

[283] *NPRA*, 630 F.3d at 149.

[284] NPRM at 80,624.

diminishing the RFS's incentives to increase production and use of renewable fuel. Moreover, as EPA notes, to the extent the flooding leads to carryover RINs in excess of 20% of the next year's volume requirements, those excess RINs will become worthless.[285]

Second, if EPA does adjust standards after they have been set, it should strive to do so before they take effect, to still give the market some degree of certainty for the compliance year. Indeed, the cellulosic waiver authority must be exercised for a given year "not later than November 30 of the preceding calendar year."[286]

Third, if EPA raises a cellulosic standard after this rulemaking is finalized, it must raise the advanced and total standards for the same year by corresponding amounts. Otherwise, the adjustment to the cellulosic standard would simply shift usage to cellulosic from other categories rather than increasing usage, consistent with the purpose of the RFS program and with the availability of more cellulosic biofuel than initially expected.

And fourth, EPA cannot and should not adopt the approach of "includ[ing] a formula in the Set rule" that would automatically "adjust the cellulosic … requirement" to match updated eRIN production projections.[287] An automatic, dynamically set standard would only amplify the serious problems raised by reconsideration just discussed. Above all, a standard that is automatically adjusted downward to match actual volumes would nullify the standard and the RFS program more broadly, stripping it of any market-forcing power and converting it into an accounting program that merely ascertains the amount of renewable fuel actually produced and used. Moreover, such an approach would exceed EPA's statutory authority. It would violate EPA's statutory duty to "determine[]" "the applicable volumes,"[288] to "promulgate rules establishing the applicable volumes … no later than 14 months before the first year for which such applicable volume will apply,"[289] and to establish standards that "'ensure[]' that [the volume] requirements are met."[290] The dynamic approach would not entail the *determination* or *establishment* of a *volume* at all before the compliance year ended and eRINs were tallied, and the standards would not ensure that any particular volume is met (rather, the standard would be adjusted to match whatever volume happened to be used). Further, EPA's duty to set cellulosic standards "based on the assumption that the Administrator will not need to issue a waiver" would be pointless if EPA did not need to set fixed cellulosic standards in advance.[291]

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[285] *Id.* at 80,624.

[286] 42 U.S.C. § 7545(*o*)(7)(D)(i).

[287] NPRM at 80,624.

[288] 42 U.S.C. § 7545(*o*)(2)(B)(ii).

[289] *Id*.

[290] *ACE*, 864 F.3d at 699 (quoting 42 U.S.C. § 7545(*o*)(3)(B)(i)).

[291] 42 U.S.C. § 7545(*o*)(2)(B)(iv).

2. eRINs should be subject to the same procedures and safeguards as other types of RINs

It is imperative that eRINs be treated like other RINs, with adequate compliance procedures set in place to prevent double-counting and other forms of fraud. Growth Energy shares EPA's concern that its "proposed allowance for use of biogas … for multiple purposes under the RFS" due to the new eRIN program "create[s] an increased risk for the multiple counting of the biogas for RIN generation resulting in invalid and fraudulent RINs."[292] Growth Energy applauds the Proposal's attention to this issue, and agrees with EPA's suite of proposed "biogas regulatory reforms" that are intended to ensure RINs generated from biogas are not double-counted.[293] Moreover, Growth energy agrees that, if EPA's proposed reforms turn out to be inadequate, EPA must take further necessary steps "includ[ing], for instance, limiting the number of parties involved in the generation of a specific quantity of eRINs, holding all directly regulated parties in the eRIN generation/disposition chain liable for transmitting or using invalid RINs, and/or leveraging third-party oversight mechanisms (i.e., third-party engineering reviews, RFS QAP, and annual attest engagements) to help identify, verify, and correct potential issues related to invalid RIN generation."[294]

3. Pathways

Growth Energy urges EPA to act speedily to approve the numerous pending registration applications for simultaneous production of starch and cellulosic ethanol from corn kernel feedstock. Ethanol plants have invested in and are producing cellulosic ethanol that meets California's Low Carbon Fuel Standard, but after many years have yet to receive EPA approval. While we appreciate the additional clarity provided by the October 2022 guidance, progress on kernel fiber registrations should not be further delayed by EPA prioritization of eRINs registrations. Through the RFS program, Congress especially sought to encourage the production of cellulosic biofuel, which achieves the greatest reduction in GHG emissions relative to gasoline. This Administration has underscored the importance of advanced and cellulosic biofuels in helping the United States to achieve its ambitious and necessary GHG reduction goals. Removal of regulatory barriers and prompt approval of the pending kernel fiber registrations is important to encourage and reward investment in technology to convert cellulose to ethanol.

Additionally, to further producer innovation and the production of advanced biofuels, we urge EPA to prioritize and expedite pathways that include CCUS, such as ethanol produced for use in SAF and from sorghum with CCUS. We also urge EPA to expedite approval of the pending petition from the Corn Refiners Association to allow biodiesel and renewable diesel facilities to utilize corn oil produced from corn wet mills as a feedstock.

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[292] NPRM at 80,636 n.202; *see also Id.* at 80,643.

[293] NPRM at 80,693; *see also Id.* at 80,696-80,698 (describing specific proposed reforms).

[294] *Id.* at 80,643.

VI. INCREASING RENEWABLE FUEL VOLUMES BENEFITS COMMUNITIES WITH ENVIRONMENTAL JUSTICE CONCERNS

Growth Energy supports EPA's consideration of environmental justice in the "set" rulemaking process.[295] As part of this analysis, EPA should continue to recognize the important role biofuels play in mitigating disproportionate impacts of climate change on low-income and vulnerable communities, as well as the air quality benefits of ethanol-blended fuels for these communities. In its discussion of environmental justice, however, EPA misstates the impacts of the proposed rule on fuel prices, food prices, water quality and soil quality. Rather than causing an increase in fuel prices, increased availability of higher-volume ethanol blends, such as E15, provide consumers with the opportunity to save on fuel costs when E15 is priced below E10, as is nearly always the case and was the case by a particularly wide margin in summer 2022 where we saw prices nearly a dollar less per gallon.[296] Further, as discussed in Stillwater and Ramboll's reports, the RFS implied conventional volume has not had a statistically significant impact on corn prices.[297] Further, in the DRIA, EPA has not identified any studies that demonstrate a causal connection between the RFS and water or soil quality impacts.[298] In the final RIA, EPA should adjust its analysis on economic impacts and water and soil quality and give full recognition to the environmental justice benefits of higher implied conventional volumes in 2023-25.

A. Climate Change

Growth Energy strongly agrees with EPA that higher volumes of ethanol consumption will reduce GHG emissions and therefore "would benefit communities with environmental justice concerns who are disproportionately impacted by climate change."[299] As addressed above in Section III.B, biofuels such as corn ethanol contribute substantially to reducing GHG emissions in the transportation sector. For example, recent analysis finds that nationwide use of E15 in lieu of E10 could reduce U.S. GHG emissions by over 17 million tons per year, the equivalent of removing 3.85 million vehicles from the roads.[300] Although it may be difficult to quantify with precision the benefits to vulnerable communities associated with reductions in GHG emissions, EPA is correct to acknowledge these benefits in its environmental justice analysis.

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[295] NPRM at 80,588.

[296] *This Summer, E15 Helped Americans Save Up to $1 Per Gallon*, Growth Energy (2022), https://growthenergy.org/wp-content/uploads/2022/10/One-Sheeter_DigitalB.pdf.

[297] Ramboll Report at Figure 3-5; Stillwater Report at 12-14.

[298] Ramboll Report at Section 5.

[299] NPRM at 80,585.

[300] *GHG Benefits of 15% Ethanol (E15) Use in the United States*, Air Improvement Res., Inc. (Nov. 30, 2020) at 2, http://www.airimprovement.com/reports/national-e15-analysis-final.pdf.

B. Economic Impacts

EPA correctly notes that food and fuel expenditures are proportionately higher for lower income populations. However, EPA's assertion that increased renewable fuel consumption will increase food and fuel costs is faulty and unsupported by empirical evidence. In fact, ethanol contributes to lower gasoline prices, and there is no causal relationship between RFS volumes and food prices.

Higher concentrations of ethanol reduce fuel costs for consumers. E15 consistently sells up to $0.10/gallon below E10 prices in most markets.[301] Further, domestic renewable fuel production decreases the volatility of fuel prices—which can cause particular hardship to lower income communities. A prominent example of this volatility came in 2022, as summer fuel prices skyrocketed in response to the Russian invasion of Ukraine, inflation, and other factors. During this period, E15 provided consumers with a significantly lower cost fuel option at the pump, with savings of $0.16/gallon[302] nationwide and up to $0.96/gallon[303] in certain locations. If E15 were to replace E10 on a nationwide basis, consumer spending on motor fuel would decrease by $20.6 billion,[304] with a disproportionate amount of these savings benefitting lower income populations.

With regards to food, EPA has not demonstrated any causal link between RFS Program volumes and food prices. Not only are RFS volumes not correlated with ethanol prices, but ethanol prices are also not correlated with corn prices.[305] Instead, corn prices are driven by a wide range of factors, including available storage, soybean futures prices, oil prices, weather events, and export markets.[306] As EPA admits, decreases in ethanol consumption may have "little to no net change in domestic corn demand, and thus corn prices."[307] In short, in its environmental justice analysis, EPA must be careful to avoid overstating the potential economic impacts for low income communities and should emphasize the environmental and economic benefits of increasing renewable fuel volumes, including the potential benefits of lower fuel prices.

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[301] *New EPA ruling expands sale of 15% ethanol blended motor gasoline*, U.S. EIA (Jul. 16, 2019), https://www.eia.gov/todayinenergy/detail.php?id=40095

[302] *Consumer Savings from Year-Round Nationwide E15 Use*, ABF Econ. (Oct. 13, 2022) at Table 1, https://growthenergy.org/wp-content/uploads/2022/10/ABF-E15-Consumer-Savings-101322.pdf.

[303] *This Summer, E15 Helped Americans Save Up to $1 Per Gallon*, Growth Energy (2022), https://growthenergy.org/wp-content/uploads/2022/10/One-Sheeter_DigitalB.pdf.

[304] *Consumer Savings from Year-Round Nationwide E15 Use, ABF Econ. (Oct. 13, 2022)* at 2.

[305] Ramboll Report at Figure 3-5; Net Gain, Analysis of EPA's Proposed Rulemaking for 2020, 2021, and 2022 RVOs, Regarding Land Use Change, Wetlands, Ecosystems, Wildlife Habitat, Water Resource Availability, and Water Quality (Feb. 3, 2022).

[306] *Id*.

[307] DRIA at 411.

C. Air Quality

Growth Energy strongly agrees with EPA's conclusions that ethanol production is unlikely to have adverse impacts on disadvantaged communities because the 2023-2025 volumes do "not require greater production of corn ethanol" and ethanol facilities are "lower risk" due to the fact that the facilities are located "in sparsely populated areas or have lower impacts on air quality."[308] However, EPA's discussion overlooks the extent to which these communities may experience improvements in local air quality associated with combustion of gasoline-ethanol blends, especially at higher concentrations. As discussed above in Section III.D, ethanol consumption results in various net air quality and public health benefits. Combustion of the fossil fuel component of gasoline and diesel results in harmful primary particulates and toxic aromatics like benzene and toluene. As EPA notes, low income, minority, and vulnerable communities are often proximate to major roadways where these pollutants are more concentrated.[309] Increased biofuel-blending can mitigate these emissions. In particular, a recent study conducted by the University of California, Riverside found that greater use of ethanol-blended fuels can reduce carbon monoxide, ozone, and primary particulate matter levels relative to the use of gasoline-only fuels.[310] In addition, as discussed above, primary $PM_{2.5}$ emissions from gasoline-ethanol blends are lower than non-blended fuels. Primary $PM_{2.5}$ emissions have substantial human health impacts, and have been shown to disproportionately impact racial and ethnic minorities, which are often located in urban areas where cold-start conditions are most common.[311] Ethanol blends are particularly effective at reducing cold-start PM and VOC emissions, with a 15-18% decrease in PM emissions for each 10% increase in ethanol content by volume.[312] Using New York City as a case study of high-density urban areas, EH&E estimates that a switch from E10 to E30 fuel would result in a 2% reduction in premature deaths associated with motor vehicle emissions.[313] We encourage EPA's environmental justice analysis to take into account the ability of increased biofuel-blending to ease the pollution burdens disadvantaged communities bear, including through reductions in primary particulates and the toxic constituents in gasoline.

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[308] NPRM at 80,617.

[309] *Id*.

[310] Yang, et al. *Emissions from a flex fuel GDI vehicle operating on ethanol fuels show marked contrasts in chemical, physical and toxicological characteristics as a function of ethanol content*, 683 Sci. of the Total Env't 749 (Sep. 2019), https://doi.org/10.1016/j.scitotenv.2019.05.279.

[311] Tessum, et al., *PM2.5 polluters disproportionately and systemically affect people of color in the United States*, Sci. Advances (2021) at 7, https://doi.org/10.1126/sciadv.abf4491; Colmer, et al., *Disparities in PM2.5 air pollution in the United States*, 369 Science 6503 (2020) at 575, https://doi.org/10.1126/science.aaz9353.

[312] EH&E Report at Part III.

[313] *Id.*

D. Water/Soil Impacts

As discussed in greater detail in Section III.C., the proposed volumes will result in no material adverse impacts to water or soil quality. As an initial matter, there is no causal link between RFS Program volumes and land use change.[314] In addition, there is no causal link between RFS Program volumes and increased nutrients, oxygen, sediment, or chemical loadings in the water supply.[315] EPA's discussion of potential hypoxia[316] is speculative and unsupported by empirical evidence.[317] In contrast, the RFS program "in fact incentivizes the collection of [human, animal, and solid waste] products, improving local soil and water quality."[318] Finally, the increased adoption of precision agriculture techniques is reducing the potential impact of agriculture in general.[319]

VII. ENDANGERED SPECIES ACT

A. EPA Should Promptly Finalize the Ongoing Endangered Species Act Section 7 Consultation, Concluding that the 2020–2022 Rule and the 2023–2025 Proposed Rule have "No Effect" or are "Not Likely to Adversely Affect" Threatened and Endangered Species or Critical Habitat

1. Endangered Species Act statutory and regulatory background

Under Section 7(a)(2) of the ESA, EPA must "insure," in consultation with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service (together, "Services"), that any action it "authorize[s], fund[s], or carrie[s] out … is not likely to jeopardize the continued existence" of any species listed as endangered or threatened or to "result in the destruction or adverse modification of" any such species' "critical" habitat.[320] Under the Services' implementing regulations, if an agency's "proposed action '*may affect* listed species or critical habitat' …, then the agency must engage in either formal or informal consultation" with the Services.[321] The "may effect" standard "purposefully sets a low bar" for triggering consultation: "actions that have any chance of affecting listed species or critical habitat," "whether beneficial, benign, adverse or of an undetermined character, … require at least some consultation under the

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[314] Ramboll Report at Section 3; *id.* at Section 4.1; DRIA at 240.

[315] *The RFS and Ethanol Production: Lack of Proven Impacts to Land and Water*, Ramboll (Aug. 18, 2019), https://growthenergy.org/wp-content/uploads/2019/09/Ramboll_RFS_Reset_Document_Final_08_18_2019.pdf ("Ramboll 2019).

[316] DRIA at 430.

[317] Ramboll Report at Figure 5-1.

[318] DRIA at 431.

[319] Ramboll 2019.

[320] 16 U.S.C. § 1536(a)(2).

[321] *Growth Energy*, 5 F.4th at 26; *see* 50 C.F.R. § 402.14(a)-(b).

ESA."[322] An agency's duty to consult terminates whenever it determines, with the Services' "written concurrence, … that the proposed action is not likely to adversely affect any listed species or critical habitat."[323]

An agency need not conduct formal consultation before reaching a "not likely to adversely affect" finding and terminating consultation; it "may forego formal consultation" if it "find[s] that the proposed action is 'not likely' to harm listed species or critical habitat" based on either the agency's "informal consultation" with the Services or on the agency's own "biological assessment."[324] If an agency does that, it then requests the Services' concurrence, after which the Services have 60 days (extendable to 120 days) to respond with their written concurrence or non-concurrence.[325] Informal consultation is "all discussions, correspondence, etc., between the Service and the Federal agency … prior to formal consultation, if required."[326]

Should it be necessary, *formal* consultation "commences" with the agency's "written request for consultation" to the Services and "concludes" with the Services' "issuance of [a] biological opinion."[327] Once commenced, formal consultation must be completed within 90 days, but that deadline can be extended by agreement of the agency and the Services.[328]

A biological opinion "states the opinion" of the Services "as to whether or not the Federal action is likely to jeopardize" a listed species or critical habitat, and if it finds "jeopardy," also identifies "reasonable and prudent alternatives, if any."[329] Such alternative measures are available only if they "can be implemented in a manner consistent with the intended purpose of the action, … can be implemented consistent with the scope of the Federal agency's legal authority and jurisdiction, [are] economically and technologically feasible, and … would avoid the likelihood of jeopard[y]."[330]

Finally, Section 7(d) of the ESA provides that "[a]fter initiation of consultation," the agency "shall not make any irreversible or irretrievable commitment of resources with respect to the agency action which has the effect of foreclosing the formulation or implementation of any reasonable and prudent alternative measures which would not violate subsection (a)(2) of this

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[322] *Growth Energy*, 5 F.4th at 30.

[323] 50 C.F.R. § 402.14(b).

[324] *Growth Energy*, 5 F.4th at 33; 50 C.F.R. § 402.14(a)-(b); *see also id.* § 402.12; 16 U.S.C. § 1536(c)(1).

[325] 50 C.F.R. § 402.13(c).

[326] 50 C.F.R. § 402.02.

[327] *Id*.

[328] 16 U.S.C. § 1536(b)(1); 50 C.F.R. § 402.14(e).

[329] *Id*.; *id*. § 402.14(h).

[330] *Id.* § 402.02.

section,"[331] i.e., measures that would enable the agency to "insure" that the action "is not likely to jeopardize the continued existence of" a listed species or critical habitat.[332]

2. Status of ESA Section 7 Consultation for the 2020–2022 Rule

Beginning in March 2021, EPA sought technical assistance from the Services to help fulfill its responsibilities under Section 7(a)(2) with respect to the 2020–2022 Rule.[333] Around September 30, 2021, EPA initiated informal consultation to determine whether the 2020–2022 Rule is "likely" or "not likely" to adversely affect listed species or critical habitat.[334] That process continues.

On December 21, 2021, EPA issued the proposed 2020–2022 Rule.[335] On June 1, 2022, EPA issued an Endangered Species Act Section 7(d) Determination with Respect to the Issuance of the 2020–2022 Renewable Fuel Standard (RFS) Final Rule (the "Section 7(d) Determination"). EPA explained that it had "conducted preliminary assessments that … do not indicate impacts of concern on listed species or their critical habitats during the interim period while consultation is being completed."[336] EPA also determined that finalizing the rule would not foreclose reasonable alternative measures because, among other things, EPA "retain[s] sufficient available authorities to reconsider the … Rule to address any consultation outcomes."[337] EPA issued the final 2020–2022 Rule on July 1, 2022.[338]

On July 20, 2022, the Center for Biological Diversity ("CBD") filed a petition for review challenging the 2020–2022 Rule arguing that EPA's Section 7 analysis did not comport with the ESA.[339] EPA and CBD jointly moved to sever the ESA claims from the remaining challenges to the 2020–2022 Rule and hold the case in abeyance.[340] The motion was granted and the abeyance extended to March 15, 2023. The 2020–2022 Rule remains in effect during the pending litigation.

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[331] 16 U.S.C. § 1536(d).

[332] *Id.* § 1536(a)(2).

[333] 7(d) Memo at 3.

[334] 7(d) Memo at 2; *see also* 50 C.F.R. § 402.13–14.

[335] NPRM at 72,436.

[336] 7(d) Memo at 3.

[337] *Id*.

[338] Final Rule, 87 Fed. Reg. 39,600 (Jul. 1, 2022).

[339] *Ctr. for Biological Diversity v. EPA*, No. 22-1164 (U.S. App. D.C. Cir.).

[340] *See Ctr. for Biological Diversity v. EPA*, J. Mot. of CBD and EPA to Sever and Hold *CBD v. EPA*, Case No. 22-1164 in Abeyance (Nov. 18, 2022); *id.*, Order (Nov. 29, 2022).

3. Status of ESA Section 7 Consultation for the 2023–2025 Rule

EPA has provided limited information on its steps to comply with Section 7 of the ESA for the proposed rule. EPA states it "is in the process of conducting a Biological Evaluation which will evaluate impacts on endangered species from the RFS Program," and notes that the agency will provide additional information on this analysis when the consultation concludes.[341] EPA confirms that "for approximately two years, EPA has been engaged in informal consultation including technical assistance discussions with the Services regarding this rule."[342]

4. EPA should complete the ongoing Section 7 Consultation for both the 2020–2022 and 2023–2025 Rules before it finalizes the latter Rule in June 2023

The proposal's reference to the consultation process that has been underway for two years suggests that that consultation process covers not only the 2020–2022 Rule but also the 2023–2025 Rule.[343] But if that is not already the case, EPA and the Services should consider combining and streamlining their ESA analysis into a single consultation for both rules. The similarity between annually recurring RFS obligations makes it feasible to combine these analyses. Further, EPA should address the 2018 and 2019 RFS rules in its analysis to resolve the agency's outstanding obligations on remand.[344] And doing so would be the most efficient and expedient way for EPA to fulfill its ESA obligations, provide predictability for the transportation-fuels market, and minimize future litigation risk.

Given the lack of causal connection between RFS standards and impacts to listed species or critical habitat (as discussed more fully below), EPA should easily conclude that the proposal (as well as the 2020–2022 Rule) has "no effect" on listed species or critical habitat for listed species or critical habitat. For any species for which EPA cannot conclude the standards have "no effect," EPA should find, based on further analysis, that the proposed rule (as well as the 2020–2022 Rule) is "not likely to adversely affect" listed species or critical habitat.[345] Either of these findings (the latter with the Services' concurrence), would terminate consultation and fully

[341] DRIA at 252.

[342] Proposed Rule, 87 Fed. Reg. 80,582, 80,587 (Dec. 30, 2022).

[343] *Id*.

[344] *See Am. Fuel*, 937 F.3d at 598 (remanding to EPA "to make an appropriate effects determination" for the 2018 RFS rule); *Growth Energy*, 5 F.4th at 32 (remanding to EPA to "develop the record" on the potential impact of the 2019 RFS rule on listed species and critical habitat).

[345] *See* Ramboll*, Supplemental Analysis Regarding Allegations of Potential Impacts of The RFS On Species Listed Under The Endangered Species Act* (Nov. 29, 2019) at 18, ("Assertions that RFS-driven land use change has resulted in impacts to particular ESA listed species are without foundation."); *see also infra* Part V.C-D.

discharge EPA's duties under the ESA.[346] EPA should ensure that the Section 7 consultation process and its findings are well supported in the administrative record.

In terms of timing, EPA is legally required to finalize the proposed rule by the June 2023 deadline specified in the consent decree, and EPA and the Services should make every effort to conclude the Section 7 consultation prior to issuing the final rule.[347] In light of the length of time that EPA and the Services have been studying these issues, there can be no excuse for failing to complete the consultation process by then, particularly when the facts in the record so clearly indicate that the RFS standards will have no effect on listed species or critical habitat.[348] Moreover, EPA cannot use the ongoing Section 7 consultation as an excuse for missing its deadline to finalize the rule under the consent decree.[349] There has been no change, and certainly no significant change, to EPA's ESA obligations since the consent decree was entered in July 2022. *See Rufo v. Inmates of Suffolk Cnty. Jail*, 502 U.S. 367, 393 (1992). (holding that party seeking modification must establish "a significant change in facts or law").

In short, after nearly two years of study, the agencies can surely now identify whatever small number of species "may be" adversely affected and either terminate consultation or issue a biological opinion in a timely fashion.[350]

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[346] *See* 50 C.F.R. § 402.14(b).

[347] Order Granting Joint Mot. to Enter Consent Decree, *Growth Energy v. Regan*, No. 1:22-cv-01191-RC (D.D.C. Jul. 26, 2022).

[348] *See supra* Part IV.B; Ramboll*, Supplemental Analysis Regarding Allegations of Potential Impacts of The RFS On Species Listed Under The Endangered Species Act* (Nov. 29, 2019).

[349] *See* Order Granting Joint Mot. to Enter Consent Decree, *Growth Energy v. Regan*, No. 1:22-cv-01191-RC (D.D.C. Jul. 26, 2022).

[350] As noted above, EPA recently issued a draft of the Third Triennial Report which we do not review here because it is not part of the rulemaking record for the 2023–2025 Rule, is only a draft released for purposes of peer review, "has not been formally disseminated by EPA," and "does not represent and should not be construed to represent any Agency determination or policy." *Biofuels and the Environment: Third Triennial Report to Congress (External Review Draft)*, EPA (2022), https://ordspub.epa.gov/ords/eims/eimscomm.getfile?p_download_id=545876. Growth Energy intends to separately respond to the analysis in the draft Third Triennial Report by the close of that separate comment period and reserves the right to supplement its comments in this rulemaking docket, as appropriate. We note, however, that it appears from the draft Report that EPA has winnowed down the number of species it is analyzing. For example, EPA states that it has identified only six terrestrial listed species having an estimated 10 or more acres of perennial cover converted to corn in their critical habitat (relying on Lark's data set that evaluated land conversion to corn for the years 2008 through 2016 – we note the problems and deficiencies that have been identified with Lark's analysis elsewhere in this paper). *See id.* at 12-14 through 12–18. Even for these six species, EPA states that "RFS-attributable-conversion may or may not have occurred within the critical habitat of [the six] species." *Id.* at 12-20.

5. EPA should pursue a programmatic consultation for the RFS program to streamline the analysis for the Rules that have been and will be proposed

EPA's failure to complete informal consultation with the Services on the 2020–2022 Rule has bogged the agency down in serial litigation for years and caused persistent uncertainty in the RFS marketplace. EPA's statutory requirement to continually promulgate new RFS standards means that, until EPA establishes an efficient ESA consultation approach, this harmful cycle of uncertainty will continue.

The ESA and its implementing regulations provide a means to develop programmatic and alternative consultation processes with the Services under Section 7 for just this scenario.[351] If EPA and the Services are unable to reach a "no effect" determination for a particular species, the agencies should engage in a "framework programmatic action" that memorializes the findings of the current consultation and documents all the species for which they *do* find that there will be no effect from the prior or any future RFS standards so that the agencies can simply focus on the species (if any) that might be affected adversely.[352]

There are numerous examples EPA and the Services could use to design an effective and efficient approach to managing EPA's ESA obligations for the RFS program.[353] For example, EPA recently issued a roadmap for addressing its ESA obligations under the federal Insecticide,

[351] "*Programmatic consultation*" is defined as "a consultation addressing an agency's multiple actions on a program, region, or other basis" that "allow[s] the Services to consult on … [a] proposed program … providing a framework for future proposed actions." 50 C.F.R. § 402.02.

[352] "*Framework programmatic action* means, for purposes of an incidental take statement, a Federal action that approves a framework for the development of future action(s) that are … carried out at a later time, and any take of a listed species would not occur unless and until those future action(s) are … carried out and subject to further section 7 consultation." 50 C.F.R. § 402.02.

[353] *See Interagency Task Force Report on Improving Coordination of ESA Section 7 Consultation with the FERC Licensing Process*, FERC (Dec. 8, 2000), https://www.ferc.gov/sites/default/files/2020-04/ImprovingCoordinationofEndangeredSpeciesActSection7ConsultationwiththeFERCLicensingProcess.pdf; *Memorandum Between the Department of the Army (Civil Works) and the National Oceanic and Atmospheric Administration* (Jan. 5, 2022), https://www.noaa.gov/sites/default/files/2022-01/NOAA%20and%20Army%20Civil%20Works%27%20joint%20memorandum%20to%20advance%20Endangered%20Species%20Act%20Consultations_0.pdf; *Endangered and Threatened Wildlife and Plants; Guidance on Streamlining Section 7 Consultation on Hazardous Fuels Treatment Projects*, 68 Fed. Reg. 1628 (Jan. 2003); *Memorandum of Agreement Between the Environmental Protection Agency, Fish and Wildlife Service and National Marine Fisheries Service Regarding Enhanced Coordination Under the Clean Water Act and Endangered Species Act*, 66 Fed. Reg. 11,202 (Feb. 22, 2001).

Fungicide, and Rodenticide Act ("FIFRA").[354] In this roadmap, EPA outlined each of the pesticides that required new or additional ESA consultation, outlined a schedule for completion, and set forth strategies for reaching the planned deadlines.[355]

The Services favor programmatic consultations[356] and have explained that by undertaking a programmatic approach to consultation, "subsequent 'stepped-down' consultations, where more specific effects on species can be determined …, can be done more expediently."[357] This format would allow for EPA and the Services to significantly narrow any need for consultation prior to the promulgation of each subsequent RFS rule.

Ideally, the analysis developed as part of EPA and the Services' ongoing consultation could be utilized as the basis for a programmatic consultation to address EPA's ESA obligations in future RFS rulemakings and stop the cycle of serial litigation over this issue.

6. EPA should avoid using Section 7(d) as a means of further delaying completion of the ongoing Section 7 consultation

EPA should not use Section 7(d) to proceed with promulgating the final Rule while the consultation is pending unless absolutely necessary. EPA cannot afford to promulgate another RFS rule before completing its consultation obligations without triggering further litigation and thus risk for the proposed rule. Growth Energy applauds EPA's effort to achieve certainty for the industry by promulgating a three-year rule, but such certainty would be undermined if EPA's authority to finalize it hinges on the validity of a 7(d) determination, as the pending ESA challenge to the 2020–2022 Rule shows.

In addition, should the EPA and the Services determine that a Biological Opinion is required for a particular species (which we do not believe is necessary given the relevant evidence, as discussed below), EPA should minimize any impacts to the RFS program, and to implementation of the proposal, to the greatest extent possible. In particular, EPA should delineate the particular geographic areas (if any) where there is clearly an overlap between the listed species or critical habitat and perennial crop production that could be used as feedstock for renewable fuels. EPA should then consider whether it can implement temporary mitigation measures in those areas, such as mechanisms to ensure that there is no new conversion of

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[354] *Balancing Wildlife Protection and Responsible Pesticide Use: How EPA's Pesticide Program Will Meet its Endangered Species Act Obligations*, EPA (2022), https://www.epa.gov/system/files/documents/2022-04/balancing-wildlife-protection-and-responsible-pesticide-use_final.pdf.

[355] *See id.*, Appendix A.

[356] *ESA Consultation Handbook* (Mar. 1998) ("Handbook") at 2-5, ("Whenever practical, consideration should be given to programmatic or ecoregion consultation with Federal agencies …."), https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf.

[357] Handbook at 5-1.

croplands for use as feedstock for renewable fuels.[358] Those measures could be implemented on a provisional or temporary basis until the Biological Opinion is finalized (within the 90-day period).

B. EPA Should Conclude Consultation With a "No Effect" or "Not Likely to Adversely Affect" Determination

1. Any causal connection between the RFS standards and any species or habitat impacts is too attenuated to support a finding other than "no effect" or "not likely to adversely affect"

"To be considered an effect of a proposed action [for ESA purposes], a consequence must be caused by the proposed action (i.e., the consequence would not occur *but for the proposed action and is reasonably certain to occur*)."[359] One factor that EPA must consider is whether "[t]he consequence is only reached through a lengthy causal chain that involves so many steps as to make the consequence not reasonably certain to occur."[360] That is the case here, and this lack of a causal connection counsels strongly for a "no effect" finding, or at a minimum, a "not likely to adversely affect" finding.

The effects of concern, if any, would stem from agricultural decisions related to the feedstock for renewable fuel—which crops to plant, how much to plant, where to plant, and how to tend to the crops. As explained in greater depth elsewhere in these comments,[361] these are complex agricultural decisions driven by a host of other economic factors independent from RFS volumes, including domestic and international crop prices, non-fuel demand for crops, the size of export and import crop markets, government agricultural policies, crop rotation schedules, weather, pests and disease, financing and lending practices, and access to crop-specific machinery and infrastructure.[362] As a result, the economic analysis attached to these comments shows that "the statistical dependency between corn prices and RFS volumes is either non-existent or very weak."[363] Due to the complexity of agricultural decision-making and the multitude of intervening independent factors, any particular farmer's decision to plant more feedstock crops cannot be traced to EPA's adjustment of RFS volumes.[364]

Furthermore, even if a causal connection between RFS standards and *ethanol production* could be ascertained, there would be serious questions about whether ethanol production raises

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[358] 42 U.S.C. § 7575(o)(1)(I)(i).

[359] 50 C.F.R. § 402.17(b) (emphasis added); *see also id*. § 402.02 (requiring causal link between effects of proposed action and "consequences to listed species or critical habitat").

[360] *Id*. § 402.17(b)(3).

[361] *See supra* Part III.C.1.

[362] Ramboll Report at Figure 3-1.

[363] *Id*. at Figure 3-6.

[364] *Id.* at Section 3.4.

corn prices.[365] Then there would be serious questions about the extent to which corn prices affect agricultural decisions.[366] Next, there would be serious questions regarding whether and how myriad agricultural practices that may be unrelated to the RFS Program might affect the environment—and then, finally, about whether and how those environmental effects might affect listed species or critical habitat.[367]

In prior litigation challenging the 2019 RFS rule, the D.C. Circuit held that EPA's "no effects" finding in connection with that rule was arbitrary and capricious because "EPA failed to explain why its assessment regarding the cumulative weight of the evidence had changed" from its prior assessment.[368] That decision, however, does not constrain EPA's ability to make a "no effect" finding now, provide EPA engages in the rational and reasoned decisionmaking that is always required. Moreover, there certainly is nothing in the D.C. Circuit decision that would preclude EPA from finding that, even if the 2023-2025 RFS rule may have *some* effect—which, as noted above, is a very low bar—it is "not *likely* to *adversely* affect" listed species or habitat. The only issue in the 2019 RFS case was the validity of EPA's "no effect" determination; the question whether EPA could make a "not likely to adversely affect" finding after engaging in consultation was simply not presented or addressed by the Court.

In sum, the record compels EPA to conclude that the proposed rule will have "no effect," or at a minimum, is "not likely to adversely affect," because any connection between the Proposed Rule and potential impacts to listed species or critical habitat is too attenuated. The D.C. Circuit case does not foreclose either conclusion, but the agency must provide a thorough explanation, including explaining why prior analyses suggesting otherwise do control.[369]

2. The volumes set in the 2023–2025 Rule are unlikely to lead to land conversion, which is the primary underpinning for the concern that setting volumes impacts listed species

In addition to the lack of any discernable causal connection between RFS standards and farmers' planting decisions, there is similarly no basis for concluding that the proposed rule will lead to land use conversion. In considering the 2023–2025 Rule, EPA correctly notes that a causal connection between biofuel production and crop land expansion "is difficult to make with

[365] *Id*. at Figure 3-6 (finding that the "statistical dependency between corn prices and ethanol plant production is either non-existent or very weak").

[366] *Id*. at Figure 3-1.

[367] *See* EPA-HQ-OAR-2021-0324-0521, Exhibit 2 of Exhibit 3.

[368] *Growth Energy*, 5 F.4th at 33; *cf. Am. Fuel*, 937 F.3d at 598 (remanding 2018 RFS rule to EPA because it failed to make a "no effects" finding).

[369] *See Growth Energy*, 5 F.4th at 31 (explaining EPA's position that its 2018 Triennial "Report did not purport to establish a causal relationship between the RFS annual rules and land use changes, conducted a flawed proportional analysis, and was primarily a retrospective review." (cleaned up)).

confidence."[370] Historically, rising demand for corn has been met not through land conversion, but by increases in corn harvest yields achieved through a variety of methods, such as planting more crops on the same land (intensification), switching to feedstock crops from other crops on already cultivated land, or diverting feedstock crops from other uses such as exports.[371] Moreover, since 2015, the United States has exported an average of over 2 billion bushels of corn per year—far more than would be needed to accommodate any increased corn demand from biofuels as a result of the proposed rule.[372] And for many years (with the exception of the pandemic years) the ethanol industry has produced well in excess of the maximum amount that could have been used to meet RFS obligations, regularly exporting over a billion gallons to non-domestic markets annually.[373] More fundamentally, as Stillwater's expert reports have shown, pre-RFS levels of corn acreage can yield substantially more ethanol than is called for by EPA's proposed standards.[374] And even under EPA's proposal, the RFS would drive only a small amount of corn ethanol use (at most, a few hundred million gallons), which is plainly too little to materially affect agriculture or, in turn, listed species or critical habitat.

Moreover, economic research and regression analyses from Ramboll demonstrate that over the course of the RFS Program, implied conventional renewable fuel volumes have had minimal to no effect on corn prices or acres of corn planted.[375] As a result, the proposed standards are unlikely to result in land conversion or adverse impacts to wetlands, ecosystems, wildlife habitat, water availability, or water quality.[376] With no measurable connection between the RFS and land conversion—and therefore no measurable connection between the RFS and environmental impacts associated with land conversion—the proposed standards cannot be considered likely to adversely affect listed species or critical habitat.

Accordingly, as discussed here and in Section IV.B.2, EPA's proposed volumes in the 2023–2025 Rule will not trigger land use conversion or any resulting impacts on listed species or critical habitat; EPA should therefore conclude its ongoing Section 7 consultation process with a

[370] DRIA at 240 (citing Second Triennial Report to Congress on Biofuels Section 2).

[371] *See* Ramboll Report at Section 3.2; *see also* EPA-HQ-OAR-2021-0324-0521, Exhibit 3 at 9, Figure 4; *id.*, Exhibit 1 at 11-12.

[372] EPA-HQ-OAR-2021-0324-0521, Exhibit 1 at 13, Table 6.

[373] 87 Fed. Reg. at 80,599 ("in reality there is an excess of production capacity in comparison to the ethanol volumes that we estimate will be consumed in the near future"); *see also* EPA-HQ-OAR-2021-0324-0521, Exhibit 1 at 12, Table 5.

[374] Stillwater Report at 10-11.

[375] Ramboll Report at Sections 1.1, 3.

[376] *Id*. at Sections 1.2, 4.2.

"no effect" finding, or at a minimum, a "not likely to adversely affect" finding. For all the same reasons, EPA should reach the same conclusions with respect to the 2020–2022 Rule.[377]

[377] In addition, there is no possibility that the Proposed Rule's 2023 volumes (which will be finalized halfway through 2023) could cause any meaningful increase in feedstock production. This is because any decisions to plant or not plant a particular crop that can be used as feedstock for 2023 will be made long before EPA finalizes the proposed rule.