



July 27, 2015

United States Environmental Protection Agency
Submitted via regulations.gov

**Comments from the Clean Air Task Force on the
Environmental Protection Agency's Proposed Rule: *Renewable Fuel Standard: Standards for
2014, 2015, and 2016 and Biomass-Based Diesel for 2017***

80 Fed. Reg. 33100 (June 10, 2015); EPA-HQ-OAR-2015-0111; FRL-9927-28-OAR

The Clean Air Task Force (CATF) is a non-profit environmental organization that works to help safeguard against the worst impacts of climate change by catalyzing the rapid global development and deployment of low carbon energy and other climate-protecting technologies through research and analysis, public advocacy leadership, and partnership with the private sector.

CATF has reviewed and commented on numerous proposals concerning the Environmental Protection Agency's implementation of the Renewable Fuel Standard (RFS) since 2009, with a particular focus on the policy's impact on global climate change.¹ CATF appreciates the opportunity to comment on EPA's proposed rule concerning "Renewable Fuel Standard: Standards for 2014, 2015, and 2016 and Biomass-Based Diesel for 2017," 80 Fed. Reg. 33100 (June 10, 2015); EPA-HQ-OAR-2015-0111; FRL-9927-28-OAR.

CATF submits these comments in addition to a separate set of more general comments filed in conjunction with four other public interest organizations: Union of Concerned Scientists, Environmental Working Group, National Wildlife Federation, and ActionAid.

[I] SUMMARY OF COMMENTS

- CATF supports EPA's proposal to adjust the 2015 and 2016 RVOs below the relevant statutory target levels. In particular, EPA's proposal appropriately (1) reduces the "advanced biofuel" mandate by close to the full amount that it reduces the cellulosic mandate; and (2) reduces the implied corn ethanol mandate, a modest but beneficial response to the

¹ Previous comments by CATF on EPA's proposed rules concerning the RFS can be found here:
<http://www.catf.us/resources/filings/biofuels/>

practical constraints related to the E10 blend wall and to the negative environmental impacts associated with corn ethanol.

- CATF urges EPA to set the 2016 RVO at a level that does not require ethanol consumption to exceed the E10 blend wall and/or lead to a significant increase in the consumption of biodiesel made from vegetable oil.
- CATF notes that EPA must set the RVO for 2016 and subsequent years using the analytic criteria listed at Section 211(o)(2)(B)(ii) of the Clean Air Act. As compared to EPA's current reliance on the authority provided by Section 211(o)(7)(A)(ii) (asserting "inadequate domestic supply"), the criteria set forth at Section 211(o)(2)(B)(ii) support a more comprehensive analysis of the appropriate level to set consumption targets for different types of biofuel under the RFS.

[II] EPA's PROPOSAL TO SET THE 2015 AND 2016 RVOs BELOW THE STATUTORY VOLUME TARGETS IS ADMINISTRATIVELY NECESSARY AND ENVIRONMENTALLY BENEFICIAL

[A] EPA's Proposal Would Appropriately Reduce Advanced and Total Renewable Mandates by Nearly the Same Amount it Would Reduce Cellulosic Biofuel Mandates

Each year since 2010, EPA has reduced the annual cellulosic biofuel mandate to account for substantial shortfalls in supply, as required by CAA §211(o)(7)(D)(1). That same section authorizes EPA to "also reduce the applicable volume of renewable fuel and advanced biofuels requirement established under paragraph (2)(B) by the same or a lesser volume." EPA never availed itself of that authority, however, choosing instead to allow other kinds of advanced biofuels—mainly sugarcane ethanol imported from Brazil and biomass-based diesel—to make up for the shortfall. EPA's approach of backfilling the cellulosic shortfall by requiring additional consumption of sugarcane ethanol and biodiesel posed a set of long-term environmental threats that were detailed in the comments submitted by CATF and other organizations on previous RVO proposals.²

In light of these concerns, CATF supports EPA's proposal to reduce the 2015 and 2016 advanced biofuel RVOs by close to the full amount that it plans to reduce the cellulosic RVOs.³

² See, e.g., CATF comments on EPA's proposed RVOs for 2013 (http://www.catf.us/resources/filings/biofuels/20130405-CATF_Comments_on_EPA_RFS_2013_Volume_Adjustment_78FedReg9282.pdf)

³ EPA has proposed to reduce the RVOs for cellulosic and advanced biofuels by 2.9 billion gallons and 2.6 billion gallons, respectively. In the 2016, the proposed reductions come to 4.04 billion gallons (cellulosic) and 3.85 billion gallons (advanced).

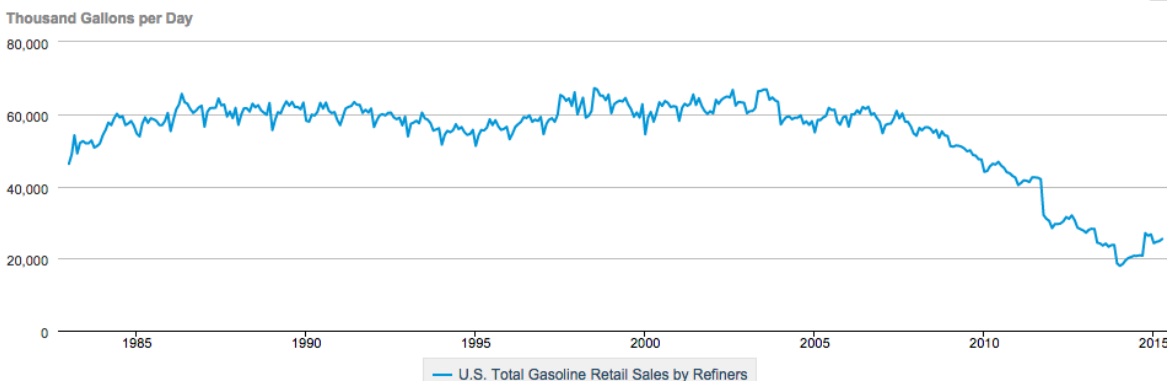
[B] EISA Targets Are Infeasible and Must Be Adjusted to Account for the Blend Wall

As part of the process for setting RVOs for 2014-2015-2016, EPA is appropriately and necessarily taking into account the E10 blend wall, a set of “[p]ractical and legal constraints on the supply of ethanol blends to the vehicles that can use them.”⁴

The total annual volume requirements that Congress wrote into Section 211(o)(2)(B) of the Clean Air Act were designed to promote rapid growth in US biofuel consumption, from 4.7 billion gallons in 2007 to 20.5 billion gallons in 2015 to 36 billion gallons in 2022. Congress may have expected that the requirement would be met by a mixture of different biofuel types, but as of 2014 ethanol was used to comply with more than 85% of the overall mandate.⁵

Congress also expected that gasoline consumption would continue to steadily increase, as it had in the decades that preceded the December 2007 enactment of the Energy Independence and Security Act (EISA). In fact, gasoline consumption in the United States peaked about a decade ago and has been mostly declining since.

U.S. Total Gasoline Retail Sales by Refiners



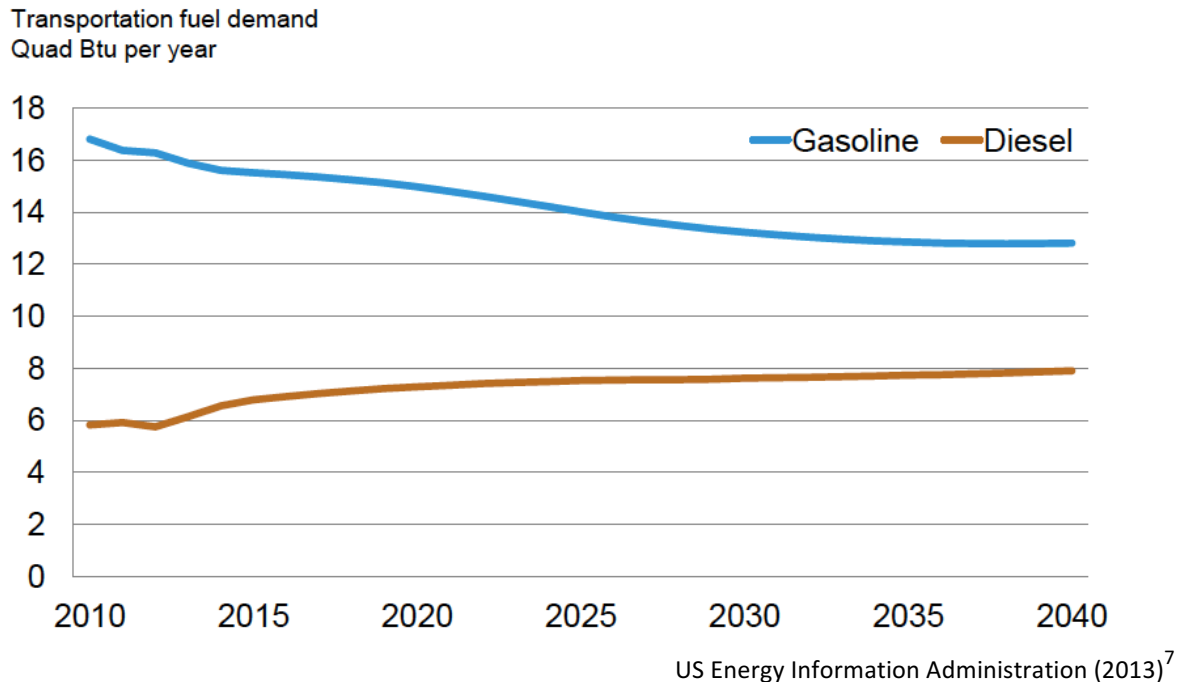
US Energy Information Administration (2015)⁶

EIA expects that US gasoline consumption will continue to decline over the next 25 years:

⁴ 80 Fed. Reg. 33100, 33104/3 (June 10, 2015).

⁵ EPA notes that the US Energy Information Administration “projected that 17.3 billion gallons of ethanol is the maximum that can be consumed in 2022 if all gasoline contained E10 and there was no E0, E15, or E85,” meaning that, “if the statutory targets were to be achieved, 17.7 billion gallons of renewable fuel [*i.e.*, the balance of the full 35 billion gallon non-diesel mandate] would need to be consumed in 2022 either as higher level ethanol blends (E11-E85), or as non-ethanol fuels.” 80 Fed. Reg. at 33118/2. According to EPA, the mathematical implications of the EISA volume targets “strongly suggest that Congress expected the RFS program to compel the industry to make dramatic changes in a relatively short period of time.” *Id.* It may be worth noting, however, that there is scant evidence that Congress discussed or was even directly aware of such implications.

⁶ <http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=A103600001&f=M>



As Americans consume fewer gallons of gasoline, gasoline refiners have fewer places to put the ethanol being mandated by the RFS. As EPA has previously noted, the US Energy Information Administration (EIA) projected in 2007 that annual demand for gasoline would reach 18.68 Quad Btu by 2014, which in turn would have allowed refiners to blend 15.43 billion gallons of ethanol into E10. By 2013, however, EIA had reduced those projections to 15.94 Quad Btu and 13.17 billion gallons, respectively.⁸

To further complicate matters, automakers have warned that the use of gasoline blends that contain more than 10% ethanol could void warranties. Moreover, many gasoline retailers have been reluctant to sell higher blends, particularly E15, due to concerns about the likelihood of misfueling, the possibility that they could be held liable for engine damage, and the cost of installing specialized tanks and pumps.⁹

In spite of these unresolved challenges, the annual volume targets set forth in EISA are, on their face, designed to push even more ethanol into a US gasoline market is ill-equipped to accommodate it. The volume of ethanol that can be safely consumed each year could grow if drivers of new-model and/or flex fuel vehicles purchase more higher-level ethanol blends (*e.g.*,

⁷ <http://www.eia.gov/biofuels/workshop/presentations/2013/pdf/presentation-02-032013.pdf>

⁸ 78 Fed. Reg. 71732, 71758/3 (November 29, 2013).

⁹ See, *e.g.*, Global Automakers Responses to House Energy and Commerce Committee's Stakeholder Questions Regarding the Renewable Fuel Standard (April 5, 2013) (<http://energycommerce.house.gov/sites/republicans.energycommerce.house.gov/files/analysis/rfs/WP1-Responses-4.pdf>); Phillips 66 Response to Committee on Energy and Commerce Questions for Stakeholders (April 5, 2013) (<http://energycommerce.house.gov/sites/republicans.energycommerce.house.gov/files/analysis/rfs/WP1-Responses-6.pdf>).

E15 and E85)—but in light of the related legal, logistical, and economic impediments, few analysts expect a quick or dramatic expansion in E15-E85 consumption.¹⁰ Unless the RFS volume requirements are adjusted either administratively or legislatively, “the evidence suggests that it will not be possible for the nation as a whole to remain in compliance with the targets in the RFS.”¹¹

[C] Setting RVOs Below the Blend Wall is Environmentally Beneficial

EPA’s RVO-setting options became significantly constrained once the United States gasoline market reached the E10 blend wall. The market cannot safely absorb the volume of ethanol that would be eligible for RINs if EPA were to pursue the full statutory target for total renewable fuel (18.15, 20.5, and 22.25 billion gallons in 2014-2016 respectively); EPA must therefore make downward adjustments to EISA’s annual targets in order to accommodate the blend wall, beginning in 2014.

As mentioned above, CATF supports EPA’s proposal to reduce the 2015 and 2016 advanced biofuel RVOs by close to the full amount that it plans to reduce the cellulosic RVOs. This important step cannot fully address the E10 blend wall problem, however. As of 2014, even if EPA made full use of the authority provided at CAA §211(o)(7)(D)(i)—*i.e.*, if it reduced the overarching advanced and total renewable volume requirements by the same amount that it reduced the cellulosic volume requirement—the level of ethanol consumption effectively mandated by the RFS would have exceeded the E10 blend wall.

In fact, the volume of corn ethanol produced and consumed in compliance with the RFS’s “implied corn ethanol mandate” would breach the E10 blend wall by itself. Thus, for the foreseeable future, EPA cannot ensure that US ethanol consumption stays below the blend wall unless it reduces the amount of corn ethanol required by the RFS.¹²

Fortunately, a reduction in the implied corn ethanol mandate can benefit the environment in two related ways. First, reduced demand for corn ethanol in the United States could result in reduced production levels, which would lessen the net negative impact that corn ethanol production and consumption have on the environment (climate change, air quality, water quality, and soil quality) and food security. Second, a reduction in the implied corn ethanol

¹⁰ See, e.g., Scott Irwin and Darrel Good, *E85 Pricing and Recent Consumption Trends*, FARMDOC DAILY (June 13, 2013) (<http://farmdocdaily.illinois.edu/2013/06/e85-pricing-recent-consumption-trends.html>).

¹¹ US House of Representatives Committee on Energy and Commerce, *Renewable Fuel Standard Assessment White Paper: Blend Wall / Fuel Compatibility Issues 1* (2013) (“House E&C Blend Wall White Paper”) (<http://energycommerce.house.gov/sites/republicans.energycommerce.house.gov/files/analysis/20130320RFSWhit ePaper1.pdf>)

¹² The implied corn ethanol mandate is the portion of the total renewable mandate in a given year that is not reserved for advanced biofuels. It reflects the assumption that due to economies of scale, regulatory exemptions, and government subsidies, corn ethanol will outcompete other types of biofuels for the compliance credits available to biofuels with the lowest acceptable level of environmental performance (D6 RINs). In 2013, for example, the total renewable mandate was 16.55 billion gallons and the advanced biofuel mandate was 2.75 billion gallons, so the implied corn ethanol mandate was 13.8 billion gallons.

mandate creates headroom under the E10 blend wall for environmentally superior types of cellulosic and other “advanced” ethanol.

[1] Reducing the Implied Corn Ethanol Mandate Will Directly Benefit the Environment and Global Food Security

Reducing the amount of corn ethanol that is produced and consumed in the United States would be environmentally beneficial as an objective matter. Corn ethanol production contributes to climate change (discussed below), as well as conventional air pollution, water pollution, the erosion and degradation of soil resources, and habitat destruction. A reduction to the implied corn ethanol mandate will also alleviate some of the pressure that RFS-driven corn ethanol production has put on global food markets.

Because the RFS has worked mainly as a corn ethanol mandate,¹³ it follows that its impact on climate can be assessed in large part by measuring the GHG emissions associated with corn ethanol. In its 2010 Renewable Fuel Standard Implementation Rule, EPA concluded that the lifecycle GHG emissions (over 30 years) from corn ethanol would be 21% lower than an energy equivalent volume of gasoline (thus just meeting the legislated requirement of a 20% reduction). That number does not give an accurate portrayal of corn ethanol’s GHG performance to-date, however, because the Agency based its determination on a lifecycle analysis of hypothetical corn ethanol production in 2022. EPA’s approach gave corn ethanol the benefit of the doubt by assuming widespread reliance of state-of-the-art production systems and techniques that were not commonly used in 2010.

In addition, the 2010 analysis conducted by EPA ignores much of the land use change impacts from current production. Indirect land use change happens when biofuel production levels ramp up; it slows and eventually ceases as production levels off. When existing farmland is used to cultivate biofuel feedstocks instead of food or feed, the resulting decrease in food and feed production causes prices to increase. Higher prices encourage farmers around the world to clear more land for agriculture, and the process of land-clearing releases soil- and plant-carbon into the atmosphere. Once a biofuel policy stops expanding, though, the incentive it creates to clear more land should taper off as well. Accordingly, EPA’s 2010 decision to determine biofuels’ GHG performance by analyzing their lifecycle emissions under hypothetical production conditions in 2022—seven years after the implied corn ethanol mandate is scheduled to plateau—has the practical consequence of ignoring much of the land use change associated with the mandated ramp-up in corn ethanol production between 2010 and 2015.¹⁴

¹³ Through 2014, corn ethanol has accounted for 90% of the gallons mandated under the RFS.

¹⁴ Under EISA, the implied corn mandate grows from 10.5 billion gallons per year in 2010 to 15 billion gallons in 2015, at which point it levels off. From 2015 to 2022, no more than 15 billion gallons of corn ethanol can be used to satisfy the RFS’s annual volume requirements. Consequently, corn ethanol produced during 2010-2015 (while production capacity is still ramping up) has higher lifecycle emissions than corn ethanol produced in 2022 (seven years after production of corn ethanol is supposed to level off).

EPA did not have to rely on its 2022 analysis, as it had also calculated the lifecycle greenhouse gas emissions for corn ethanol produced in 2012 and 2017. EPA's analysis looked at 33 different ways to produce corn ethanol and found that in 2012 all 33 pathways would result in higher lifecycle GHG emissions than an energy-equivalent volume of gasoline. In 2017, 15 of the pathways were projected to produce higher lifecycle emissions than gasoline, and another nine failed to achieve the 20% reduction threshold that EISA requires of non-grandfathered producers of renewable fuel.¹⁵

Given that EPA had conducted lifecycle GHG emission analyses that were much more relevant to the issue of corn ethanol's actual (rather than hypothetical) environmental performance, CATF and other environmental organizations questioned the Agency's decision to rely on the 2022 analysis, as did the National Research Council (NRC) in a 2011 report. According to the NRC,

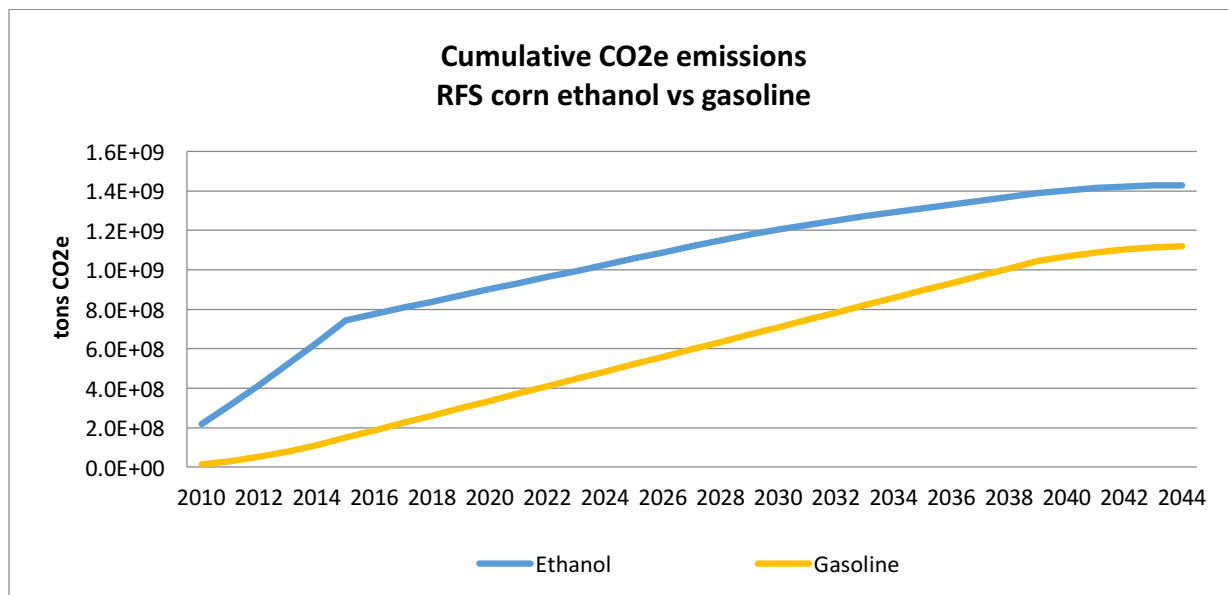
EPA found corn-grain ethanol, regardless of whether the coproduct is sold wet or dry, to have life-cycle GHG emissions higher than gasoline in 2012 or 2017 unless it is produced in a biorefinery that uses biomass as a heat source. EPA calculated its 21-percent GHG reduction as a weighted average of projected biorefinery and corn production efficiencies that could be realized in 2022. Thus, according to EPA's own estimates, corn-grain ethanol produced in 2011, which is almost exclusively made in biorefineries using natural gas as a heat source, is a higher emitter of GHG than gasoline. Nevertheless, corn-grain ethanol produced at the time this report was written still qualified for RFS2 based upon EPA's industry-weighted average of projected 2022 industry. The discrepancy between how RFS2 is implemented (under the assumption of 21-percent reduction of GHG emissions by corn-grain ethanol compared to gasoline) and EPA's own analysis suggests that RFS2 might not achieve the intended GHG reductions.¹⁶

In fact, the RFS does *not* achieve the intended GHG reductions. Using the 30-year lifecycle analysis that EPA conducted for corn ethanol produced in 2012 (instead of the analysis for 2022), CATF calculated the cumulative lifecycle GHG emissions from corn ethanol produced during the ramp-up period (2010-2015). CATF carried its analysis through 2044 to capture a full 30 years of emissions from each year-class of new ethanol (*i.e.*, the 30-year lifecycle for ethanol added in 2015 ends in 2044). In 2044, cumulative GHG emissions from corn ethanol equal about 1.4 billion tons; the emissions from an energy equivalent amount of gasoline equal 1.1 billion

¹⁵ The comparative emissions data, which come directly from an EPA chart in Docket No. EPA-HQ-OAR-2005-0161-3173.5, are discussed in more detail in CATF's comments on EPA's 2013 RFS volume adjustment proposal. CATF, Comments on Environmental Protection Agency Regulation of Fuels and Fuel Additives: 2013 Renewable Fuel Standards—Proposed Rule, 78 Fed. Reg. 9282 (Filed April 5, 2013) at 22-25 ("CATF Comments on RFS 2013 Volume Proposal") (http://www.catf.us/resources/filings/biofuels/20130405-CATF_Comments_on_EPA_RFS_2013_Volume_Adjustment_78FedReg9282.pdf).

¹⁶ See Lester Lave, *et al.* 2011. *Renewable Fuel Standard: Potential Economic and Environmental Effects of U.S. Biofuel Policy* 221 (Report by the National Research Council Committee on Economic and Environmental Impacts of Increasing Biofuels Production) (internal citations omitted). (http://www.nap.edu/openbook.php?record_id=13105)

tons. In other words, the cumulative lifecycle GHG emissions from corn ethanol are 28% higher than those from gasoline.¹⁷



[2] Reducing the Implied Corn Ethanol Mandate Preserves Market Space for Environmentally Beneficial Biofuels

A reduction in the implied corn ethanol mandate creates headroom under the E10 blend wall for environmentally superior types of ethanol, including cellulosic ethanol, that fall within EISA’s “advanced biofuel” category. By ensuring there is space for advanced biofuels in the US fuel mix, EPA’s proposal to reduce the implied corn ethanol mandate in 2014-2016 is consistent with the environmental and market development objectives that Congress identified when it passed EISA. Congress wanted to reduce the negative environmental impacts associated with the transportation sector; as noted above, analyses conducted by EPA and others indicate that the production and consumption of corn ethanol exacerbates those impacts. Consequently, like EPA, “we believe that a focus on growth in advanced biofuel is appropriate.”¹⁸

We disagree, however, with Agency’s view that it is also “appropriate to provide continued growth of conventional renewable fuels at this time.”¹⁹ Allowing the implied corn ethanol mandate to expand will aggravate the environmental and social harms to which it contributes,

¹⁷ A fuller description of CATF’s analysis of EPA’s lifecycle GHG emissions data can be found in a 2013 white paper titled “Corn Ethanol GHG Emissions Under Various RFS Implementation Scenarios,” as well as in CATF’s “Comments on Environmental Protection Agency Regulation of Fuels and Fuel Additives: 2013 Renewable Fuel Standards – Proposed Rule.” <http://www.catf.us/resources/whitepapers/files/20130405-CATF%20White%20Paper-Corn%20GHG%20Emissions%20Under%20Various%20RFS%20Scenarios.pdf>.

¹⁸ 80 Fed. Reg. 33123/2.

¹⁹ *Id.*

while also complicating the difficult task of achieving the various goals of the RFS within the constrained context of the E10 blend wall. In its previously proposed 2014 RVO, EPA correctly determined that reductions to the implied corn ethanol mandate must “play a role in addressing the ethanol blendwall,” and that reductions to EISA’s implied corn ethanol mandate is both reasonable and consistent with “Congress’s goal in the RFS program of continued growth in the advanced biofuel category.”²⁰

Within the context of a blend wall-constrained market for ethanol, corn ethanol competes for market share against other types of ethanol that, for the most part, are environmentally superior. The competition is not being conducted on a level playing field, however. First, virtually all corn ethanol is produced by facilities that are exempt from the GHG reductions set forth in EISA. (And, as explained above, any corn ethanol that is subject to EISA’s base 20% GHG reduction requirement benefits from EPA’s decision to assess the fuel’s lifecycle GHG emissions based on optimistic assumptions about how the fuel might be produced in 2022 rather than how it is produced currently.) Second, EPA’s highly negligent “aggregate compliance” approach has effectively nullified the provision in EISA that prohibits the use of biomass feedstocks grown on land cleared or cultivated after December 2007.²¹ As a result, the internalized cost of corn ethanol production is artificially low.

As a result, advanced biofuels are not yet able to outcompete corn ethanol for base level D6 RINs. As the availability of environmentally beneficial ethanol (including some ethanol made from cellulosic material) increases, EPA must create room for such fuels under the E10 blend wall by reducing the implied corn ethanol mandate. Doing so might represent a departure from the long history of direct and indirect subsidies bestowed on corn ethanol, but it would be consistent with EISA’s intersecting interests in reducing GHG emissions and promoting the deployment of innovative technologies.

²⁰ 78 Fed. Reg. at 71754/2.

²¹ See CAA §211(o)(1)(I)(i). See also comments on EPA’s June 2015 RVO proposal submitted jointly by the Union of Concerned Scientists, Environmental Working Group, National Wildlife Federation, Clean Air Task Force, and ActionAid (“We also urge EPA to improve its implementation of the RFS’s habitat-conversion and soil carbon-loss protections and its accounting for the carbon emissions from domestic land use change. Expanding on regional assessment of landuse change driven by cropland expansion by Wright (2013) and others, Lark and colleagues (2015) conducted the first national-level analysis of land use change in the RFS era, using a variety of data sources and methods to reduce errors, and found that 7.3 million acres of land was converted to cropland, with a net cropland expansion of 2.9 million acres. Lark and colleagues estimated that the carbon emissions from converting 1.6 million acres of unimproved grasslands amounted to ~87 million metric tons of carbon dioxide-equivalent emissions. Moreover, EPA estimated in 2010 that by 2022 only 30,000 acres of forest would be converted to cropland, but Lark and colleagues found that 190,000 acres forestland were converted to cropland by 2012—over six times higher than EPA’s estimate, and in a shorter time period.”).

[III] EPA MUST NOT SET 2016 RVO AT A LEVEL THAT WOULD REQUIRE ETHANOL CONSUMPTION TO EXCEED THE BLEND WALL AND/OR A SIGNIFICANT INCREASE IN THE CONSUMPTION OF VEGETABLE OIL-BASED BIODIESEL

The proposed 2016 RVO, EPA explains, “includes volumes of renewable fuel that will require either ethanol use at levels significantly beyond the level of the E10 blendwall, or significantly greater than the use of non-ethanol renewable fuels than has occurred to date, depending on how the market responds to the standards we set.”²² Elsewhere, EPA writes, “In the near term we expect that increases in E85 and biodiesel will dominate efforts to increase the use of renewable fuel.”²³

Between the two compliance scenarios posited by EPA—one dominated by E85 and the other dominated by biomass-based diesel (BBD)—the Agency appears to be betting on the former. As EPA notes, the amount of BBD that would be necessary under a biodiesel-led compliance scenario for EPA’s proposed 2016 RVO would easily exhaust projected supplies; moreover, even assuming that the requisite volume of BBD were to somehow become available in short order, using it would exceed the B5 blend wall that applies to “the majority of highway and nonroad diesel engines that are in use today.”²⁴

That leaves the E85-led compliance scenario, but EPA has not adequately justified or supported its belief that the establishment of an annual target above the blend wall might spur the requisite expansion in E85’s market share. If, as is likely, E85 production and consumption fails to increase dramatically between the finalization of this rule and the 2016 compliance period, EPA’s proposed 2016 standard would necessitate a significant increase in the consumption of BBD—an outcome that, should it come to pass, could result in substantial environmental harm.

EPA suggests that one of the reasons the statutory volume targets set down in EISA have proven so unrealistic is that “there was an implicit assumption [by Congress] that the market would respond appropriately to overcome those obstacles to significant growth that might exist.”²⁵ But the assumption behind EPA’s proposed 2016 standard—*i.e.*, that higher-than-blend-wall standards “would drive growth in renewable fuels by providing appropriate incentives to overcome current constraints and challenges”²⁶—is similarly problematic. With its proposed 2016 standard, EPA is repeating the mistake that Congress made in 2007: the Agency would require a level of biofuel consumption that is currently unattainable, based on the expectation that by setting a stretch goal it will spur dramatic changes in consumer demand, production technology, and product distribution.

EPA’s expectation—or hope—that an E85-led compliance scenario will succeed is plainly unrealistic and surprisingly uninformed by the challenges that have undermined the RFS since

²² 80 Fed. Reg. at 33102/2.

²³ *Id.* at 33118/3.

²⁴ *Id.* at 33116/1.

²⁵ *Id.* at 33118/2.

²⁶ *Id.* at 33102/2.

2010—challenges that EPA itself has had to grapple with constantly. EPA describes how, “by increasing the potential profitability of blending renewable fuels, higher RIN prices can incentivize the build out the infrastructure necessary to blend and distribute renewable fuel blends as parties seek to enter or expand their position within this market.”²⁷ According to the Agency, “[T]he RIN system should increase the consumption of renewable fuels by decreasing the cost of renewable fuel blends,” so that “transportation fuel containing a greater percentage of renewable fuels should be priced lower than transportation fuel containing a lesser percentage of renewable fuel.”²⁸ As a result, consumers *should* prefer high-ethanol blends like E85 to low-ethanol blends like E10, and they *should* be motivated to purchase flex fuel vehicles.²⁹

EPA acknowledges, however, that this scenario “is dependent on the market working efficiently,”³⁰ by which the Agency seems to mean, among other things, that new production capacity, “which may take years to construct and bring online,” will appear; that new distribution infrastructure will be built; and that consumers will reverse course on years of pronounced indifference toward E85 and flex fuel vehicles.³¹ Regardless of how “efficiently” the market works over the next 18 months, it is unrealistic to believe that these developments will occur in soon enough to allow safe “ethanol use at levels significantly beyond the level of the E10 blendwall” in 2016.

In the absence of a plausible E85-led compliance scenario, EPA’s proposed 2016 standard would necessitate a significant increase in BBD consumption. Scott Irwin and Darrel Good of the University of Illinois reviewed EPA’s strategy for pushing through the E10 blend wall and, projecting that strategy forward, determined that “[t]he end result would likely be larger quantities of biodiesel.”³² As noted above, EPA appears to have strong doubts about the feasibility of a BBD-led compliance scenario,³³ but if BBD consumption were to increase dramatically, the negative environmental consequences could be significant.

Increased demand for soy biodiesel would indirectly increase the overall demand for vegetable oil, which in turn would expand the market for palm oil. An increase in the production of Southeast Asian palm oil is likely to have a range of negative environmental and social consequences. The Clean Air Task Force and other organizations have explained this concern in previous comments to EPA:

²⁷ *Id.* at 33119/2.

²⁸ *Id.* at 33119/3.

²⁹ *See id.*

³⁰ *Id.*

³¹ *Id.* at 33119-33120.

³² Scott Irwin and Darrel Good. FarmDoc Daily. *Implementing the RFS with a “Push” Strategy: What Happens after 2016?* June 17, 2015 (available at <http://farmdocdaily.illinois.edu/2015/06/implementing-rfs-with-push-strategy.html>).

³³ *See id.* at 33116/1.

Because palm oil is the fastest growing and least expensive vegetable oil, future expansion of the biodiesel mandate will tend to expand demand for palm oil, regardless of whether the biodiesel is directly produced from soybean oil, rapeseed oil or chicken fat. EPA should conduct further work to assess the level of substitutability and fungibility in the global vegetable oil market, and if this supports a conclusion that the existing analyses have underestimated the effect of demand for other biodiesels on palm oil markets, the analysis of biodiesel from soy, canola etc. should be updated with a more complete inclusion of palm oil land use effects.³⁴

Ninety percent of palm oil production operations occur in countries with land critical to global biodiversity, including the peat forests of Indonesia and Malaysia. According to a literature review conducted by a handful of organizations (including CATF) for comments submitted to EPA in 2012, at least one-third of new palm oil plantations in Indonesia and Malaysia are expected to be located on peat soils. Conversion of peat soils poses significant climate change-related threats and damages the environment in a host of other ways.³⁵

To the extent that carbon dioxide releases from palm oil production are attributable to an RFS-driven increase in total demand for vegetable oil, the releases would constitute “lifecycle greenhouse gas emissions” as defined by CAA §211(o)(1)(H) and must be accounted for within the context of the RFS’s GHG reduction requirements.³⁶ Consequently, EPA cannot rely on the lifecycle analyses it performed in 2010 to allow soy-based biodiesel and other biofuels to generate RINs if those fuels are being produced and/or imported in volumes that differ substantially from what the Agency modeled. EPA has a duty to ensure that the biofuels used to comply with the RFS meet the lifecycle GHG reduction requirements established in EISA. Specifically, the Agency must ensure that biomass-based diesels and other non-cellulosic “advanced biofuels” used to comply with the RFS have lifecycle GHG emissions “that are at least 50 percent less than baseline lifecycle greenhouse gas emissions.”³⁷ EPA must therefore avoid compliance scenarios that directly or indirectly cause the production and use of palm biodiesel to increase.

³⁴ Union of Concerned Scientists, *et al. Joint Science and Environmental Stakeholder Comments on Docket No. EPA–HQ–OAR–2011–0542: EPA’s analyses of palm oil used as a feedstock under the Renewable Fuel Standard (RFS) program* 5 (April 27, 2012) (“Joint Palm Comments 2012”) (http://www.ucsusa.org/assets/documents/global_warming/EPA-palm-oil-comments-final.pdf).

³⁵ See CATF, *Leaping Before They Looked: Lessons from Europe’s Experience with the 2003 Biofuels Directive* 16-17 (2007) (http://www.catf.us/resources/publications/files/Leaping_Before_They_Looked.pdf).

³⁶ As EPA knows, volume is a key parameter in lifecycle emissions modeling of biofuels. If an underlying assumption about the production/consumption levels for a particular fuel turn out to be incorrect—for example, if biodiesel use exceeds projected levels—“there is a real risk that [indirect land use change] could undermine the environmental viability of biofuels,” write Perrihan Al-Riffai and others. “Non-linear effects, in terms of biofuels volumes and behavioural parameters, pose a risk.” Perrihan Al-Riffai, *et al. Global Trade and Environmental Impact Study of the EU Biofuels Mandate* 71 (2010) (study carried out for the Directorate General for Trade of the European Commission) (http://trade.ec.europa.eu/doclib/docs/2010/march/tradoc_145954.pdf).

³⁷ CAA §211(o)(1)(B).

For these reasons, CATF urges EPA to set RVOs for 2016 that do not effectively require (a) ethanol consumption to exceed the E10 blend wall, or (b) vegetable oil-based biodiesel consumption to increase significantly, or (c) some combination of both outcomes. Instead, EPA should set the 2016 RVOs at levels that reflect both the realities of the E10 blend wall and the deliberate pace of E85 uptake.

[IV] EPA MUST UTILIZE SECTION 211(o)(2)(B)(ii) CRITERIA WHEN SETTING RVOs FOR 2016 AND BEYOND

After 2015, EPA must make adjustments to the annual volume requirements in accordance with a multi-criteria analysis that Congress detailed at Clean Air Act sections 211(o)(7)(F) and 211(o)(2)(B)(ii). The benefits of this approach are described at length in CATF's comments on EPA's 2013 volume proposal,³⁸ and are summarized here.

In its proposed RVO, EPA does not expressly commit to the multi-criteria volume adjustment analysis required by sections 211(o)(7)(F) and 211(o)(2)(B)(ii), even though (a) the statutory requirement plainly applies to volume obligations beginning in 2016 and (b) the Agency will trigger that requirement when it finalizes the proposed RVOs.³⁹ Because EPA appears to plan on using its analysis of "inadequate domestic supply" to set RVOs for 2016,⁴⁰ we are concerned that EPA's proposed approach is inconsistent with both EPA's legal obligations under sections 211(o)(7)(F) and 211(o)(2)(B)(ii) as well as the pressing need to recalibrate the RFS volume requirements in order to improve the program's environmental performance and its administrability.

Per section 211(o)(7)(F), excerpted below, the RVO adjustments that EPA plans to make (and will have to continue making) to the annual volume requirements are triggering a requirement that the Agency promulgate revised volume standards for 2016 and beyond:

For any of the tables in paragraph (2)(B), if the Administrator waives—

- (i) at least 20 percent of the applicable volume requirement set forth in any such table for 2 consecutive years; or
- (ii) at least 50 percent of such volume requirement for a single year,

the Administrator shall promulgate a rule (within 1 year after issuing such waiver) that modifies the applicable volumes set forth in the table concerned for all years following the final year to which the waiver applies, except that no such modification in applicable volumes shall be made for any year before 2016. In

³⁸ CATF Comments on RFS 2013 Volume Proposal, at 26-29

(http://www.catf.us/resources/filings/biofuels/20130405-CATF_Comments_on_EPA_RFS_2013_Volume_Adjustment_78FedReg9282.pdf).

³⁹ EPA makes no reference to the volume adjustment requirement at CAA §211(o)(7)(F) in its proposal.

⁴⁰ 80 Fed. Reg. at 33115/1.

promulgating such a rule, the Administrator shall comply with the processes, criteria, and standards set forth in paragraph (2)(B)(ii).⁴¹

EPA has already triggered the volume modification requirement (sometimes referred to as the RFS “reset provision”) repeatedly as it relates to the cellulosic biofuel mandates.⁴² Assuming the the Agency finalizes the volume adjustments set forth in the proposal, it will trigger the volume modification requirement for advanced biofuels in 2015⁴³ and for total renewable fuels in 2016.⁴⁴ Given the rapid rate at which EISA’s annual volume targets increase through 2022 and the slow rate at which cellulosic biofuel production is projected to expand during that period, it appears that EPA will continue to trigger the section 211(o)(7)(F) volume adjustment requirement each year through 2022.

Once the volume modification requirement has been triggered, section 211(o)(2)(B)(ii) directs EPA (in coordination with USDOE and USDA) to make the modifications “based on a review of the implementation of the program during calendar years specified in the tables and an analysis” of the following criteria:

- (I) 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;
- (II) the impact of renewable fuels on the energy security of the United States;
- (III) the expected annual rate of future commercial production of renewable fuels, including advanced biofuels in each category (cellulosic biofuel and biomass-based diesel);
- (IV) the impact of renewable fuels on the infrastructure of the United States, including deliverability of materials, goods, and products other than renewable fuel, and the sufficiency of infrastructure to deliver and use renewable fuel;
- (V) the impact of the use of renewable fuels on the cost to consumers of transportation fuel and on the cost to transport goods; and
- (VI) the impact of the use of renewable fuels on other factors, including job creation, the price and supply of agricultural commodities, rural economic development, and food prices.

CAA §211(o)(2)(B)(ii).⁴⁵

⁴¹ CAA §211(o)(7)(F).

⁴² The cellulosic biofuel mandate was reduced by 94% in 2010, 97% in 2011, 98% in 2012, and 99% in 2013; EPA has proposed to reduce it by 98% in 2014, 96% in 2015, and 95% in 2016.

⁴³ EPA has proposed to reduce the advanced biofuel mandate by 29% in 2014, 47% in 2015, and 53% in 2016.

⁴⁴ EPA has proposed to reduce the total renewable fuel mandate by 21% in 2015 and 22% in 2016.

⁴⁵ CAA §211(o)(2)(B)(ii) also governs the process by which EPA sets the annual volumes requirements for biomass-based diesel after 2012 and for all renewable fuels after 2022.

The criteria set forth at section 211(o)(2)(B)(ii) create a sensible and comprehensive framework for adjusting volume requirements. As described in CATF’s comments on EPA’s 2013 volume proposal, using the criteria will produce adjustment decisions that are better and more fully reasoned.⁴⁶ Two of the criteria—I and (IV)—are particularly relevant to two important challenges that EPA faces in this rulemaking: addressing the E10 blend wall and improving the environmental performance of the RFS as a program. A third criterion—(VI)—provides EPA with an opportunity to consider RFS consumption volumes in light of the program’s impact on food policy, an issue that has dogged the RFS since its expansion in 2007.⁴⁷

The first criterion in section 211(o)(2)(B)(ii) details the environmental impacts that EPA must consider when analyzing the increased production of biofuels, including the impacts “on air quality, climate change, conversion of wetlands, ecosystems, wildlife habitat, water quality, and water supply.” Many of these impacts were examined in EPA’s 2011 Triennial Review, but an updated environmental analysis—one that accounts for the revised projections on the types and amounts of biofuels that may be used to comply with the RFS—would be necessary, especially with respect to climate impacts.

The fourth criterion addresses the blend wall by focusing on “the impact of renewable fuels on the infrastructure of the United States, including deliverability of materials, goods, and products other than renewable fuel, and the sufficiency of infrastructure to deliver and use renewable fuel.” As EPA has acknowledged, a key aspect of the blend wall challenge is that the “infrastructure to deliver and use” higher blends like E15 is insufficient in most parts of the United States, and will likely remain so for some time.⁴⁸

EPA is legally obligated to “promulgate a rule ... that modifies the applicable volumes [*i.e.*, for cellulosic biofuels, advanced biofuels, and total renewable fuel]” for 2016 and 2017, based on an assessment of the criteria set forth in section 211(o)(2)(B)(ii). In the proposal, however, EPA makes no mention of this obligation. Instead, the Agency indicates that it plans “to use both the cellulosic biofuel waiver authority and the general waiver authority waiver”—rather than the reset provision in section 211(o)(7)(F)—“to reduce the statutory volumes of both advanced biofuel and total renewable fuel ... in 2016.”⁴⁹

At a congressional hearing earlier this year Acting Assistant Administrator Janet McCabe reportedly “suggested that resetting the volumes was a possibility but that the agency had no

⁴⁶ CATF Comments on RFS 2013 Volume Proposal at 28-29.

⁴⁷ For additional information about the impact of RFS volume determinations on global food security, please see comments from ActionAid USA on the proposed 2014-2017 RVO.

⁴⁸ See, e.g., 78 Fed. Reg. at 71755/1 (“With regard to the ethanol blendwall, a decrease in total gasoline consumption since EISA was enacted in 2007, coupled with limitations in the number and geographic distribution of retail stations that offer higher ethanol blends such as E85 and the number of FFVs that have access to E85, as well as other market factors, combine to place significant restrictions on the volume of ethanol that can be supplied to and consumed in the transportation sector.”)

⁴⁹ 80 Fed. Reg. at 33115/1

concrete plans yet.”⁵⁰ CATF respectfully notes that post-2015 volume adjustments conducted pursuant to sections 211(o)(7)(F) and 211(o)(2)(B)(ii) are not a “possibility” but rather a duty. CATF urges EPA to begin developing 2016-2022 volume adjustments as soon as possible consistent with the requirement of section 211(o)(7)(F), and to make full use of the opportunity offered by the reset provision for reshaping the RFS into a more manageable and more environmentally protective policy. We look forward to working with EPA as it utilizes the analytic criteria set forth at section 211(o)(2)(B)(ii) to address “the impact of the production and use of renewable fuels on ... climate change, ... the sufficiency of infrastructure to deliver and use renewable fuel ... and food prices,” as well as other factors.

[V] CONCLUSION

CATF appreciates this opportunity to comment on EPA’s RVO proposal for 2014-2017. We support the proposed reduction to the implied corn ethanol mandate as a modest but appropriate response to the practical constraints related to the E10 blend wall, the negative environmental impacts associated with corn ethanol, and the need to preserve market space for environmentally superior advanced ethanol. CATF also supports EPA’s proposal to reduce the advanced biofuel mandate by close to the full amount that it must reduce the cellulosic mandate.

CATF urges EPA to set the 2016 RVO at a level that does not require ethanol consumption to exceed the E10 blend wall and/or lead to a significant increase in the consumption of biodiesel made from vegetable oil. The analytic criteria listed at section 211(o)(2)(B)(ii) of the Clean Air Act will usefully guide EPA as it establishes more appropriate consumption targets in 2016 and subsequent years for different types of biofuel under the RFS.

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⁵⁰ Amanda Peterka. ENVIRONMENT & ENERGY. *‘Pivotal moment’ arrives for U.S. bioenergy—White House official* (June 26, 2015).