

**Clean Air Task Force * Environment America * Environmental Working Group
Friends of the Earth * National Wildlife Federation
Natural Resources Defense Council * Sierra Club * Union of Concerned Scientists
The Wilderness Society * World Resources Institute**

The Honorable Lisa Jackson
Administrator
United States Environmental Protection Agency
1200 Pennsylvania Ave., NW
Washington, DC 20460

September 25, 2009

RE: Environmental Community Comments on the Proposed Rule for the Expanded Renewable Fuel Standard (Docket ID No. EPA-HQ-OAR-2005-016)

Dear Administrator Jackson,

We thank you for the opportunity to comment on the draft rule for the expanded Renewable Fuel Standard (RFS2) published by the Environmental Protection Agency (EPA) last spring. It is clear that the Agency put an enormous amount of hard work into this proposal, and we thank you for your diligence to comply with the law, despite vocal opposition. Your process has been open and you have done an admirable job soliciting input from a wide range of stakeholders. Overall, we found that the general outline of how you would administer the RFS2 aligns well with our own interpretation of the law.

The RFS2 was passed as part of the Energy Independence and Security Act (EISA) in December 2007 in order to expand the production of home-grown biofuels. There are tremendous opportunities for agriculture and forestry to contribute to sustainable climate solutions, but these solutions must be based on a sound scientific process. Biofuels can pose a unique threat to the environment as a result of their need for large expanses of land to produce biomass. Because legislators wanted to ensure that expanded biofuels production would not cause unnecessary ecological damage, a specific set of environmental sustainability criteria were tied to the expanded mandate, including protections for natural habitats and limits on greenhouse gas (GHG) emissions. Without strict enforcement of these standards, biofuels mandated by the RFS2 could cause more environmental harm than good.

Since the passage of this law, EPA has been working to implement the increased mandate under the new environmental standards as passed by Congress. Overall, two years will have passed before the EPA will be able to implement the new regulations as a result of several delays from releasing of the draft rules as well as an extended comment deadline. Already, the mandate has continued to increase without the new environmental regulations, under the assumption that increasing amounts of corn ethanol used to fulfill the mandate are exempted from the standards. We look forward to the correct implementation of the RFS2's environmental sustainability standards. It is worth noting, however, that we believe it would be of questionable legality for EPA to continue to increase the RFS2 volumes as mandated by the law until this rule is finalized.

While the science of evaluating GHG emissions from biofuels continues to evolve, we believe that EPA has drawn on the best available information, subjected the proposed methods to rigorous peer review, and developed a workable and defensible proposal to implement the law. However, there are a few areas of concern that we hope will be addressed prior to the final rule making, and we think it is important to openly acknowledge that even the best available science around biofuels is relatively nascent. We hope you will also commit to an ongoing process to update and improve the science used in this rule, and to this end, we have identified a number of issues that we urge you to commit to working on after this rule is finalized. Additional detail about the recommendations set forth in this letter can be found in comments submitted separately by several of the undersigned groups.

Definition of Renewable Biomass

The way in which "Renewable Biomass" is defined could have an enormous impact on natural ecosystems and wildlife habitat globally. We have divided our comments into three areas: 1) renewable biomass from forests, 2) renewable biomass from agriculture, and 3) renewable biomass from waste.

Renewable Biomass from Forests

Congress mandated that only materials from actively managed tree plantations that were created prior to enactment of EISA, and slash and pre-commercial thinnings from non-federal forestland would be considered to be renewable biomass and thus eligible for credit under the RFS. It is clear that the Congressional intent of these restrictions was to limit the potential for conversion of native forest ecosystems to less diverse plantations, and to restrict the removal of material from native, privately-owned forests to residue from harvesting operations and thinnings.

When determining what forest areas are in compliance with the definition of renewable biomass, it is critical that EPA uses the correct interpretations in order to ensure that the RFS2 has a minimum impact on land and wildlife. For this reason, we recommend that the Agency should not rely solely on state natural heritage programs to identify ecologically sensitive lands. Databases of sensitive lands maintained by non-profit organizations, such as NatureServe, should also be consulted in determining what ecologically-sensitive lands should not be eligible to provide biomass.

We encourage the Agency to modify the definition of “planted trees” to ensure that this definition does not encourage the conversion of natural forests to plantations. The proposed definition of “planted trees”, which includes “not only trees that were established by human intervention such as planting saplings and artificial seeding, but also trees established from natural seeding by mature trees left undisturbed for such a purpose”, is overly broad and could be interpreted to include all naturally regenerated managed forests. We urge the agency to limit the definition of “planted trees” to those that were established by human intervention.

We also urge the Agency to allow materials from stands planted to restore rare or historic native forest types within their historic range, as many of these forest types benefit from the incentive for active management created by the market for renewable biomass. We recommend that the Agency verify forests as being “continuously actively managed” using the mechanisms listed in the proposed rule, and in addition consider income tax treatment of revenue from the property or enrollment in use value property tax programs.

EISA restricts the wood that can be removed from privately owned, non-plantation forestlands to slash and pre-commercial thinnings. We have a few recommendations about how EPA can improve the definitions it uses for slash and pre-commercial thinnings. First, EPA should not use maximum tree diameter as a basis to define pre-commercial thinning, as this maximum tree diameter would need to vary greatly between forest type and location and thus one maximum diameter would not be accurate for all locations. Instead, we recommend that EPA modify its definition of pre-commercial thinnings to include criteria which require biomass facilities to meet minimum on-site retention of a basal area along with maximum tree diameters appropriate to the forest type as determined by the United States Forest Service (USFS) silvicultural stock guidelines. EPA should work with the USFS and the U.S. Fish and Wildlife Service (FWS) to establish basal area retention rates for different forest types and regions and develop Memorandums of Understanding as appropriate with states that have developed rigorous biomass harvesting standards or forest management practices. As currently constructed, the definition of pre-commercial thinning does not provide adequate guidance to ensure that thinning is conducted in a manner that promotes forest health.

EPA should not use a single age of 200 years to define old growth and late-successional forests as this would not be appropriate for all locations and ecosystems. Rather, research funding should be provided to accomplish nation-wide mapping of these ecosystems in order to exclude old growth and late-successional forest harvests from the definition of renewable biomass. We recognize that this is a significant undertaking, and in the interim we suggest that EPA require any material harvested from forests over 100 years old to be positively identified as not being harvested from an old growth forest. Verification that a forest is not old growth, and therefore eligible, should be done in partnership with the FWS. Finally, the Agency should use Community Wildfire Protection Plans and Wildland Urban Interfaces in order to decide which materials should be removed and used to reduce wildfire instead of assessing distance to vegetated land to determine eligible areas.

Definition of Agricultural Lands

In order to prevent expansion of crop land in to grasslands and the conversion of naturalized ecosystems, we recommend that agricultural land should be defined as “cleared or cultivated at any time” prior to December 19, 2007, if it was actively managed as agricultural land or fallow (and non-forested) during the 5 years prior to December 19, 2007 and has, since December 19, 2007, been actively managed as agricultural land or fallow (and non-forested). We have several recommendations about how this definition should be interpreted.

EPA is correct to define fallow land as land that is “intentionally left idle to regenerate for future agricultural purposes” and not simply land abandoned from agricultural production. While a managed fallow period could vary from region to region, it would not likely be longer than five years. We recommend that EPA set a time limit for land to qualify as fallow to reflect this. EPA should also revise the definition of fallow land to include land that has been planted to cover crops for the purpose of erosion control or soil improvement, in accordance with USDA definitions of idle cropland.

EPA should expand the definition of actively-managed existing agricultural land to include land that has recently come out of a contract for the Conservation Reserve Program (CRP), rather than placing CRP in the definition of fallow as they have done. Landowners who sign up for CRP have a good faith understanding that their land will retain the cropping history it had prior to enrollment. Since land enrolled in CRP must have been farmed in order to be eligible for enrollment, all such land should qualify as “actively managed” when its contract expires.

We strongly support EPA’s exclusion of rangeland from its definition of agricultural land. The statute uses the term “pastureland,” which should not be confused with rangeland. Allowing the inclusion of even some portion of rangeland could lead to great losses of carbon, soil and

water quality, and biodiversity. Additionally, making some portion of rangeland eligible would pose enormous enforcement difficulties.

Generally, land use and cropping history data will be needed to verify land eligibility. U.S. Department of Agriculture (USDA) can verify this land use and cropping history for EPA or for the renewable biomass purchaser without violating producer privacy by implementing a system similar to the one USDA has proposed to use with IRS to verify producer compliance with the adjusted gross income requirements in the Farm Bill: EPA or the renewable biomass purchaser can provide USDA with the list of producers and parcels of land, and USDA can then inform EPA whether they have records indicating that the land is in compliance with cropping history requirements. If USDA determines that it cannot share the needed information with EPA due to data privacy concerns, then EPA must require all landowners who wish to produce renewable biomass to sign a limited data privacy release waiver to allow EPA or the renewable biomass purchaser access to only the data needed to determine eligibility.

We support EPA's proposal to make row or close-grown annual feedstocks on pastureland ineligible in order to preserve soil carbon in such systems. EPA should also include additional safeguards to limit the amount of crop residue that can be considered renewable biomass to only that amount that can be removed without damage to soil and water resources. We also support EPA's proposed definition of "planted crops", which makes eligible long-standing mixed natives, eliminating a perverse incentive for land-owners to rip up mixed grasslands to grow specific crops, such as on restored grasslands and expired CRP property. Lastly, we support including as eligible renewable biomass, plant materials removed for the purposes of invasive species control or fire management as long as they are harvested under terms of a conservation plan designed to protect natural resources and the environment.

Renewable Biomass from Waste

In order to meet RFS mandate levels with minimal impact on land use patterns, it is important to take advantage of biomass resources from urban wastes that would otherwise be landfilled. We ask EPA to consider making post-recycling residues such as the biomass portion of the waste material left over at material recovery facilities eligible as renewable biomass feedstocks. We believe that these residues from recycling programs, separated out in the recycling process, fit within the letter and spirit of the definition of renewable biomass.

Lifecycle Greenhouse Gas Emission Assessment

The EPA's lifecycle assessment (LCA) of the GHG emissions associated with biofuels, including those emissions from indirect land use change (ILUC), is an enormous undertaking. Overall, we

find that the basic structure of EPA’s GHG lifecycle assessment as well as the assessment of ILUC is reasonable and workable.

The 2007 Energy Bill, EISA, defines lifecycle analysis to include “significant indirect emissions such as significant emissions from land use changes”. It is therefore legally necessary for EPA to include ILUC in its lifecycle assessment and we support them in doing so. Furthermore, scientific research continues to demonstrate that biofuel policies, like the Renewable Fuel Standard (RFS), could accelerate global warming and cause ecological damage if the policy shifts cropland or forests from food and fiber production to biofuels feedstock production. We agree with EPA that, “[a]though uncertainties are associated with [estimates of effects and extent of RFS-related land use change], it would be far less scientifically credible to ignore the potentially significant effects of land use change altogether than it is to use the best approach available to assess these known emissions.” Specifically, EISA requires EPA to account for GHG emissions from land-use change in the context of the RFS, so long as those emissions are “significant” and are “related to the full lifecycle”. EPA’s own modeling together with that of the California Air Resource Board confirms that these emissions can indeed be significant. And, the emissions from these types of land-use change are related to the full lifecycle because the increased demand for biofuels as a consequence of the RFS2 will indirectly result in land-use changes both domestically and internationally. EPA’s proposed general approach to analyzing the lifecycle GHG emissions of biofuels is legally proper.

Nonetheless, we recommend some improvements that should be made in the final rule. First, we feel that it is inappropriate for EPA to set the starting point it uses for the period of the analysis of GHG emissions from biofuels in 2022 – the year that the RFS ends – given that the GHGs are emitted in the present as the feedstock and fuel is produced and combusted. We ask that the EPA shift the baseline year for analysis from 2022 to a year that better reflects the average performance of the RFS, such as 2012, with a commitment to update the analysis regularly to reflect documented changes in technologies and practices as well as better information on trends in land-use and associated emissions. Second, we are also supportive of including all direct emissions and indirect emissions that are shown to be significant in the baseline for gasoline and diesel fuel. These potential emissions should also be a focus of further ongoing research by EPA to be included in future updates as discussed below. Third, we request that EPA increase the level of transparency of the entire analysis as quickly as possible.

In addition, we agree with EPA that periodic review is necessary to ensure a continuously robust and state-of-the-art lifecycle GHG emissions analysis. The final rule should clarify that periodic review and assessment of the lifecycle GHG emissions analysis and resulting fuel-specific GHG emissions estimates is mandatory and should occur every three years. To that

end, EPA must insert a new section in the final rule's regulatory text setting forth the review requirements.

Finally, with respect to the level of uncertainty associated with the EPA's modeling approach, many aspects of the analysis have the effect of *lowering* the estimate of ILUC. Aspects of the proposal that have the effect of lowering ILUC estimates include, but are not limited to: the lack of forestry data in FASOM; the difference in the amounts of land conversion projected by FASOM and FAPRI; the tendency of MODIS to underestimate the amount of forest and wetland conversion, and the resulting use of generally low emissions factors; the use of a future year baseline along with the expected but as of yet unrealized improvements for the analysis; and the decision to sum emission flows rather than consider radiative forcing (thus ignoring the residence time of climate-forcing pollutants). The net effect of these elements may result in an underestimate of the total lifecycle emissions.

We have more specific recommendations outlined below for three basic areas: 1) the modeling of agricultural markets, 2) the modeling of international land use changes, and 3) the use of discounting and timelines for assessing emissions.

Modeling of Agricultural Markets

Our recommendation on the modeling of agricultural markets is to follow the guidance of the peer reviewers. A clear message from the peer review process was that the basic modeling approach pursued by EPA is appropriate. EPA proposes to use partial equilibrium model analysis to estimate changes in crop acreage in different countries or regions as a result of increased biofuel production. The agency then proposes to use historical data of the sources of new cropland by country or region to determine the sources of that cropland. This approach is generally sound because partial equilibrium models can incorporate greater detail in the agricultural sector than general equilibrium models. Historical sources of cropland conversion also provide an empirical basis for estimating likely new cropland that reflects not merely economic factors but political and social constraints. For this reason, it reflects factors that traditional economic models have difficulty incorporating. As EPA continues to review this issue, we recommend that they update their analysis based on actual data on US and international land-use changes.

Consistent with the basic approach, it is important that EPA heed peer review comments regarding improvements to its analysis. In particular, peer reviewers raised concerns about potential inconsistencies from the dual use of FAPRI and FASOM models. At present those models are run separately, with FAPRI estimating international changes spurred by domestic agricultural changes. Then, FASOM model results, which are domestic alone, are used for the domestic emissions. Wang and Searchinger pointed to potential and apparent actual

inconsistencies in this approach. Banse pointed out that it is logically possible to meld models but only if they are used iteratively: in other words, only if domestic FASOM model results were used to drive FAPRI international results or visa versa. We recommend that EPA explore the viability of this approach even though it may be challenging to make the model coefficients and inputs consistent. On the other hand, the FAPRI model contains both domestic as well as international results, and could therefore be extended to cover domestic emissions as well. EPA specifically asked for comments on this consistency issue. Adopting FAPRI as a single model would be an appropriate way to resolve the inconsistencies.

In general, the transparency and documentation of FAPRI, FASOM and any other models used should be improved. In particular, the fact that FASOM's forest sector was not available when the proposed rule was released left a significant gap in the public record. We suggest that EPA have an extended comment period in order for the public to access this information when it becomes available. There are also a number of specific inputs, assumptions, and modeling constraints that need to be explained or better justified. For example, while we agree with the peer reviewers that EPA's overall assumptions about the performance of agriculture internationally are “a good first approximation” on this topic, we also support the reviewers that recommend that the data be improved by fixing errors, filling gaps and adding crop and country specific data where possible.¹ Another example is the restriction in FASOM that limits to 10% the conversion of the pasture land in any region to crops based purely on “professional judgment.”² Also, there appears to be at least one technical error in terms of how N₂O emissions are calculated³ and one error on how the energy use of crop lands is calculated.⁴

Modeling of International Land Use Changes

We generally agree that the approach used by EPA to model indirect land use change outside of the US – which combines projections of the total amount of RFS-driven international land

¹ “Peer Review Report: Peer Review of International Agriculture Greenhouse Gas Emissions and Factors as provided to EPA to support its RFS2 rulemaking” prepared by Ross & Associates Environmental Consulting, Ltd. for USEPA, July 30, 2009, p. 4-5.

² Beach, R. H., B. McCarl, et al. (2008). Agricultural Impacts of the Energy Independence and Security Act: FASOM Results and Model Description. Research Triangle Park, NC, RTI International, See footnote 42.

³ Page A-49 in the FASOM documentation (Beach et al 2008) indicates that the fraction of N that volatilizes is subtracted from the total N before applying the IPCC emission factor. However, the 2006 guidelines for National GHG Inventories indicates that this approach is incorrect: “adjusting the amount of N input for volatilisation before multiplying it with the emission factor would in fact underestimate total N₂O emissions.” (IPCC (2006). 2006 IPCC Guidelines for National Greenhouse Gas Inventories, Volume 4: Agriculture, Forestry and Other Land Use. See footnote 11, p. 11.12.)

⁴ EPA’s analysis assumes that emissions from agricultural activities on newly converted land are the same as the average for all of agriculture in each country, i.e. all agricultural sector emissions / all agricultural land. This treats pasture land and cropland the same, although commercial crop production surely uses more fuel and electricity than does the cattle sector. In some countries there is vastly more pasture area than crop area. In the Summary sheet of docket item EPA-HQ-OAR-2005-0161-0947.1 country-specific dataset on CO₂ emissions from energy inputs in the agriculture sector, the average factor used by EPA for “Agriculture” is applied to “Crop expansion”, but this energy factor is diluted by huge pasture areas with lower energy requirements.

use change generated by FAPRI with Winrock's analysis of remotely observed historical land conversions trends to predict the amount and type of land that will be converted internationally due to the expansion of the RFS – is scientifically and legally appropriate in light of the data and modeling tools currently available to EPA.

Winrock's analysis of the 1km x 1km MODIS data from 2001 and 2004 provides EPA with a reasonable starting basis for projecting future land use changes, but EPA must supplement that analysis with other datasets and additional methodologies that would improve the Agency's ability to determine RFS-related ILUC emissions. We are concerned that the Winrock/MODIS approach underestimates the amount of forest and wetlands that has been and will be cleared. We recommend that EPA bolster its analysis for the international land use change patterns – especially for carbon-rich ecosystems – through the use of a longer and more representative comparison period and finer resolution satellite imaging.

Finally, EPA has requested comment on the length of foregone forest sequestration that should be accounted for when determining the net GHG impact of biofuel production. There is a solid basis for assuming forest sequestration will continue through whatever analytical period EPA chooses. In its DRIA, EPA acknowledges that long sequestration periods are reasonable, writing: "Studies have estimated that new forests grow for 90 years to over 120 years. More recent estimates suggest that old growth forests accumulate carbon for up to 800 years."⁵ And finally, in her peer review submission, Gibbs wrote: "I believe [the assumption that foregone forest sequestration continues for 80 years after forest clearing] is likely an underestimation of foregone forest sequestration and a longer time period should be included here."⁶ EPA should assume a sequestration period of greater than 80 years, based on the estimated age of forests that are predicted to be cleared.

Time Frames and the Use of Discounting

The EPA's LCA proposal specifically examines a 30 year approach without discounting and a 100 year approach with a 2% discount rate on emissions and discusses other options as well. Of the two approaches that EPA described, we recommend the 30 year timeframe without discounting.

The timeframe over which reduced emissions from substituting biofuels for gasoline are credited should be no longer than 30 years and perhaps even shorter. A 100 year time frame as proposed is impossible to justify. A 30-year time frame is more appropriate for the following reasons:

⁵ EPA, Draft Regulatory Impact Analysis: Changes to the Renewable Fuel Standard, at 388.

⁶ ICF International, Emissions from Land Use Change due to Increased Biofuel Production: Satellite Imagery and Emissions Factor Analysis -- Peer Review Report (July 31, 2009), at B-13.

- The certainty of the numerous assumptions and predictions that underlie the analysis diminish drastically for projections out further than 20-30 years.
- The damage already being done by climate change and the potential tipping points in the near future require immediate action, and emissions reductions that accrue more than 20-30 years in the future will not occur in time to address these concerns, while near-term land use emissions may exacerbate them.
- Between 20 and 30 years is consistent with typical lifecycle analysis based on projected facility lifetime.

While discounting is an essential part of long term cost benefit analysis, it is not necessary in the context of the physical aggregation called for in the RFS, especially over a relatively short time frame. Longer timeframes introduce a great deal of unnecessary complexity and uncertainty, without meaningfully improving the accuracy or completeness of the result. Unfortunately, there is no technical consensus or guidance in the law on the appropriate social cost of carbon to use in the regulation in the place of these physical units. Finally, the discounting method proposed by EPA is inadequate because the proposed 2% discounting rate is a risk free rate that does not reflect, among other things, the significant risk that future climate benefits through avoided emissions may fail to materialize. Thus, the use of discounting is hard to justify in this context. The 30 year timeframe without discounting is simple and adequate to achieve the goals of EISA.

Grandfathering and Greenhouse Gas Standards

The RFS2 does not require conventional ethanol produced in facilities where construction was commenced prior to December 19, 2007 to achieve a 20% reduction in lifecycle GHG emissions when compared with baseline lifecycle GHG emissions. The purpose of the this grandfathering provision seems to have been to protect investments already made in corn ethanol facilities that would not be able to achieve the emissions reduction standard. We believe that Congress expected that the GHG standards would drive reductions in lifecycle GHG emissions in any further biofuel production beyond what was already at capacity. The GHG standards can only effectively drive these emissions reductions if all facilities that actually commenced construction after the enactment of EISA are subject to these standards.

EPA states that “based on our survey of ethanol plants in operation, as well as those not yet in operation but which commenced construction prior to December 19, 2007, it is likely that production capacity of ethanol from all such facilities will reach 15 billion gallons.” It would be an incorrect assessment of the law for EPA to assume based on this survey that all 15 billion gallons of conventional ethanol required under the RFS2 are from facilities that existed or had

commenced construction by December 19, 2007. Instead, EPA should require evidence of each exempted facility's eligibility for grandfathered status.

Defining “New Facility” and “Commenced Construction”

Facilities that wish to produce renewable fuel that complies with the RFS2, and do not have to comply with the GHG standards, are obligated to have commenced construction prior to the enactment of EISA. This means that new facilities must comply with the GHG standards, whereas those that had commenced construction prior to enactment are “grandfathered”. We recommend that “new facility” for purposes of the RFS be defined as any renewable fuel production plant or renewable fuel production unit at any stationary source, including any renewable fuel production unit at an existing renewable fuel production plant, for which construction or reconstruction commenced after December 19, 2007. A “stationary source” is defined at CAA § 111(a)(3) as “any building, structure, facility, or installation which emits or may emit any air pollutant.”

In order to be considered “grandfathered”, facilities must prove that actual construction, not mere site selection or pre-construction engineering and planning, must have begun prior to EISA's enactment. For example, we recommend that such facilities must have all necessary preconstruction approvals completed and begun a continuous program of actual on-site construction that goes beyond land-clearing. For multi-phased projects, we suggest that the commencement of construction of one phase does not constitute commencement of construction of any later phase, unless each phase is “*mutually dependent*” on the other as a technical matter (not just economically).

The EPA must also put some limitations on the definition of construction. For example, the EPA should establish a concrete obligation to begin or complete actual construction within a reasonable time frame, such as five years. Additionally, EPA should stipulate that if a proposed facility's pre-construction approval lapses or is withdrawn, it loses its existing source status.

EPA suggests in the NPRM that the EISA allows the agency to permanently exempt natural gas/biomass fired renewable fuel plants which commence construction in 2008 and 2009, from the otherwise applicable 20% GHG reduction requirement for new facilities. Nothing in the Act can be reasonably read to support this conclusion. It is clear both from the unambiguous language of EISA § 210(a)(1), and from the context of the legislative discussion, that the intent with respect to natural gas fired units was to deem them as in compliance for calendar years 2008-2009 *only*. The statement is clear – the sentence starts “For calendar years 2008 and 2009,” clearly indicating that the qualifications that follow apply “for” those two years. A reasonably constrained interpretation of the grandfather provision in EISA

would help spur the development of new and more environmentally-beneficial biofuels and production practices, and would provide innovative market entrants with a level playing field – something EPA acknowledges “is fair and consistent with the provisions of EISA.”

Waiver Authority

EPA has the authority under the Clean Air Act to reduce the amount of ethanol that is grandfathered from the GHG reduction standards, or to mitigate the adverse air and water quality consequences of the grandfathering.

Waiver Based on Severe Economic or Environmental Harm

EPA has the authority under Section 211(o) of the Clean Air Act to issue a waiver that decreases the volume of renewable fuels required under the RFS in order to avoid severe environmental harm. The production of renewable fuel can be harmful to water quality, water quantity, biodiversity, soil health, and the climate, but it can also be done in a way that is beneficial to these natural resources.

If it can be demonstrated that the RFS mandate is driving increased production of biofuels in a way that damages these resources, this would provide a basis for granting a waiver from the RFS. The Administrator could also target of the use of the waiver authority by decreasing the quantity of environmentally damaging conventional biofuels, such as corn ethanol, that is required under the RFS2, without reducing the volumes those types of biofuels that are not found to cause the same level of environmental damage. Significantly, the Administrator’s waiver authority under Section 211(o) could be exercised even if Congress delays the consideration of ILUC in determining the compliance of biofuels with the EISA’s GHG reduction standards.

We are particularly concerned with environmental harm because a significant amount of ethanol will be grandfathered in this rule and will not have to comply with the GHG reduction requirement. Even if EPA adopts an appropriately narrow interpretation of the EISA’s grandfathering provisions, approximately 13 billion gallons of corn ethanol will still be grandfathered under the RFS2, which could result in the adverse climate and water quality effects. Both of the major environmental problems associated with corn ethanol –nitrogen pollution and GHG emissions – would provide bases for granting a waiver from the RFS. EPA’s own analysis demonstrates both the relatively high carbon intensity of some corn ethanol and its adverse implications for water quality.

“Control and Prohibit” based on Environmental Impacts

EPA has the authority under Section 211(c) of the Clean Air Act to “control or prohibit” the manufacture and sale of biofuels based on its adverse environmental impacts. One option for addressing the adverse environmental implications of some biofuels would be for EPA to exercise its authority under Section 211(c). That section grants EPA the broad authority to

control or prohibit the manufacture, introduction into commerce, offering for sale, or sale of any fuel or fuel additive for use in a motor vehicle... if, in the judgment of the Administrator, any fuel or fuel additive or any emission product of such fuel or fuel additive causes, or contributes, to air pollution or water pollution (including any degradation in the quality of groundwater) that may reasonably be anticipated to endanger the public health or welfare...

EPA has specifically requested comments on the potential use of its authority under Section 211(c) to require “manufacturers of a biofuel [to] use, or certify that they used, only corn feedstocks grown using farming practices designed to reduce nutrient water pollution.” We believe that EPA should exercise its authority under Section 211(c) to protect against water pollution that threatens public health or welfare. We do not see a rationale for singling out corn ethanol however, but support applying such authority to all biofuels produced under the RFS2. EPA could use this authority in combination with restrictions on the volume of environmentally damaging biofuels that are produced under the RFS2, pursuant to either its waiver authority under Section 211(o) of the Clean Air Act or its “control or prohibit” authority under Section 211(c) of the CAA.

EPA suggests that one approach to implementing this option would be to “require a program similar to the one used for compliance with the restrictions in the definition of renewable biomass on previously cleared agricultural lands.” We support EPA’s suggestion to impose restrictions on farming practices used in the production of biofuels that cause, or contribute to water pollution (including any degradation in the quality of groundwater) that may reasonably be anticipated to endanger the public health or welfare. We suggest that EPA impose eligibility requirements on feedstock production for fuels that ensure the following conditions are met:

- No current violations of the Clean Water Act or Swampbuster have been identified on the land;
- The land used to grow crops is not eroding in excess of tolerable levels -- soil is eroding faster than new soil is naturally produced; and

- A soil and water conservation plan is in place and being implemented for the land, or alternatively, a certain score could be required on the USDA’s Soil and Water Evaluation tool or EPA could adapt this tool for this specific purpose.

In addition, EPA could exercise its Section 211(c) authority on the basis that some biofuels are exempted from the GHG reduction standards contributes to air pollution reasonably anticipated to endanger the public health and welfare. EPA has recently found that the mix of six key GHGs, including carbon dioxide, constitutes “air pollution” that “endanger[s] the public health and welfare of current and future generations” and that emissions of those greenhouse gases from mobile sources contribute to that air pollution.⁷

When making this determination, EPA explicitly concluded that expected emissions reductions resulting from the implementation of EISA would not alter its determination that mobile source emissions constitute an endangerment.⁸ Depending on how biofuels are produced, lifecycle GHG emissions can exceed those of the baseline fuels. There can be little doubt that the GHGs associated with billions of gallons of the highest-carbon biofuels will “contribute” to the already elevated atmospheric concentrations of greenhouse gases. We therefore suggest that EPA exercise its waiver authority on this basis, to provide improvements in the performance of biofuels or any other fuels with exceptionally high greenhouse gas emissions.

Reducing Mandate Levels under Technology Constraints

EPA should exercise its authority under Section 202(e) of EISA to reduce the total volume required under the renewable fuel standard if it determines that reduced volumes of cellulosic biofuel are projected to be available, so as to match the required volume to the projected volume available. Section 202(e) of EISA provides that for any calendar year in which the projected volume of cellulosic biofuel production is less than the minimum applicable volume required by the statute, EPA will waive a portion of the cellulosic biofuel standard by using the projected volume as the basis for setting the applicable standard. We suggest that the EPA adjust the total renewable standard, and not only the advanced biofuel standard, downwards in every event of projected shortfall in the volumes of cellulosic biofuels, and to make that downward adjustment of equal or greater amount. EPA must not allow for a fuel that achieves less GHG emissions reductions below baseline levels than the cellulosic or advanced biofuel that has fallen short of projected volume levels to be allowed to fill the deficit left by this shortfall.

⁷ Proposed Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act, 74 Fed. Reg. 18886, 18898 (April 24, 2009).

⁸ *Id.* at 18906.

RIN and Technology Pathways

One of the main benefits of a RIN-like system should be that it can be used to record emissions specific to each batch or even each gallon. However, the RIN and pathway system as proposed by EPA will make it virtually impossible to track the emissions of specific gallons. This will greatly reduce the usefulness of the RIN system in encouraging market differentiation. EPA should strive to incorporate more specificity in the RIN system, aiming to assign more refined point-assessments of emissions associated with each batch of renewables fuels and tracking that rather than just pathways in the RIN. Simply expanding the number of digits in the RIN code will remove the current constraint, which limits tracking to just pathway letters. Second, the pathway system needs to include a better way for novel and better pathways to be recognized in a timely fashion. As proposed if a technology is similar to an existing pathway, it can use that label, but it defaults to unqualified fuel if EPA does not act in a year. This is not sufficient to encourage innovation. While we recognize that EPA needs to be careful not to establish a system that will overwhelm its resources, we urge the agency to develop an improved system as quickly as possible that does more to encourage innovation.

Conclusion

Clean, low-carbon biofuels can play a critical role in helping the country face the threat of climate change and enhance its energy security. EPA's proposed rule for the expanded RFS2 will help develop these fuels. However, it is critical that the final rule address key issues in order to ensure that the program not only reduces oil consumption, but also cuts global warming emissions and avoids unintended environmental damage.

Specifically, EPA must address six key issues: 1) account for the full lifecycle impact of biofuels, using the best available science, in order to ensure emissions reductions, 2) define renewable biomass in a manner that steers the industry to the most sustainable sources of biomass, 3) ensure that the lifecycle assessment is transparent and based on the best available assessments of agricultural markets and land-use change, 4) confine the timeframe of the analysis to no more than 30 years, 5) limit the grandfathering provisions to the language of the statute, and 6) ensure that the waiver provisions are used to avoid unintended economic or environmental harm.

We applaud the EPA for its work so far on this program and look forward to working with the agency to finalize a strong second phase of the RFS2 based on sound science and clear environmental goals.

Sincerely,

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