RENEWABLE FUELS ASSOCIATION

July 22, 2016

Sam Wilson
Washington Department of Ecology
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Submitted via email: AQComments@ecy.wa.gov

RE: Comments of the Renewable Fuels Association in response to Proposed "Clean Air Rule" (Chapter 173-442 WAC) and Amendments to Chapter 173-441 WAC ("Reporting of Emissions of Greenhouse Gases").

Dear Mr. Wilson,

The Renewable Fuels Association (RFA) is pleased to submit these comments in response to the Washington Department of Ecology's proposed rule establishing a Clean Air Rule (CAR) (Chapter 173-442 WAC), as well as proposed amendments to the existing Greenhouse Gas Reporting Rule (Chapter 173-441 WAC).

RFA is the leading trade association for America's ethanol industry. Its mission is to advance the development, production, and use of fuel ethanol by strengthening America's ethanol industry and raising awareness about the benefits of renewable fuels. Founded in 1981, RFA serves as the premier meeting ground for industry leaders and supporters. RFA's 300-plus members are working to help America become cleaner, safer, more energy secure, and economically vibrant.

I. Executive Summary

RFA supports responsible, science-based policies and regulations that compel carbon emissions reductions from the transportation sector. Emissions of carbon from fossil fuels must be greatly reduced as quickly as possible to avoid changes to earth's climate and ocean systems. These changes present threats to our social, economic and environmental systems.

Biofuels like ethanol are part of the climate solution. Passenger cars are one of the largest sources of carbon emissions in Washington, and ethanol is already providing a climate-friendly alternative to fossil fuels for the state's motorists. Analyses from the California Air Resources Board, Oregon Department of Environmental Quality, and U.S. Department of Energy show that first-generation ethanol is reducing greenhouse gas (GHG) emissions by 30-60% compared to petroleum, while second-generation ethanol can reduce GHG emissions by 80% or more.

Unfortunately, the proposed CAR entirely fails to recognize the climate benefits associated with biofuels, and in fact penalizes their use. Therefore, we are greatly concerned that the proposed

rule will have the perverse and unintended effect of substantially reducing—or even eliminating—the production and use of liquid biofuels in Washington. Rather than embracing biofuels as a tool for reducing emissions under the CAR, the proposal unbelievably assumes biofuels offer no carbon benefit relative to fossil fuels and would subject certain ethanol producers and importers to the same compliance obligation faced by fossil fuel producers.[1]

This predicament stems from the proposed rule's utter failure to recognize the fundamental differences between the carbon cycles of biofuels and petroleum fuels. The proposed CAR treats biofuels and fossil fuels identically, which sets a dangerous carbon accounting precedent with potentially far-reaching impacts. Other GHG cap-and-trade programs exempt biofuels from a compliance obligation because it is broadly understood that bioenergy combustion emissions are "carbon neutral" (i.e., the biomass recently removed an amount of atmospheric carbon through photosynthesis that is equivalent to emissions from combustion). Yet, the CAR proposal eschews globally accepted bioenergy carbon accounting methods out of fear that properly recognizing the carbon benefits associated with biofuels would trigger the so-called "poison pill" legislative provision that would shift funding from climate-friendly transportation investments to road and highway construction projects.

However, the simple act of exempting biofuels emissions from coverage under the CAR would *not* trigger the "poison pill." Proper treatment of biofuels emissions under the CAR in no way makes the program synonymous with a "low carbon fuel standard" or "clean fuel standard," which clearly take a full lifecycle carbon intensity approach to carbon accounting.

Our request to remedy the proposal's fatal flaws regarding biofuels is simple: we ask that the final CAR exclude biofuels from coverage. Doing so would:

1. recognize that emissions from biofuels are intrinsically different than emissions from burning fossil fuels;
2. hold biofuels harmless instead of the current approach which will deter the biofuels industry from investing in Washington; and
3. eliminate the current draft's inconsistency with virtually every other GHG reporting and regulatory system across the globe.

Implementing the CAR as proposed would set a perilous regulatory precedent, deter investment in the state's biofuels market, and compel reduced consumption of low-carbon biofuels. For these reasons, and those set forth more fully in the comments below, we strongly urge the Department of Ecology to exempt biofuels from compliance obligation in the final CAR.

II. Carbon Emissions from Biofuels Combustion Do Not Contribute to Climate Change

Biomass crops used to produce energy (e.g., electricity or liquid biofuels) act as temporary carbon sinks. During growth, they quickly absorb CO_2 that was just in the atmosphere. The same amount of CO_2 is then returned to the atmosphere when the carbon in the crop is

[1] Washington Dept. of Ecology's most recent list of "Potentially Eligible Parties" identifies a number of companies whose primary business function is producing and/or marketing biofuels, including ethanol. http://www.ecy.wa.gov/climatechange/docs/CARcoveredparties0516.pdf

combusted for energy. In this way, the use of biomass for energy recycles atmospheric carbon as part of a relatively rapid cycle. In contrast, the use of fossil fuels adds to atmospheric CO_2 by emitting carbon that was previously sequestered deep underground for millions of years.[2]

Thus, carbon emitted from burning biofuels does not introduce "new" carbon into the atmosphere. Rather, burning biofuels emits the same carbon that was recently removed from the atmosphere and sequestered in the plants utilized to create the biofuel. This carbon was already present in the global atmospheric system, moving periodically from the atmosphere into the oceans, into plants, into soils, etc., and then back into the atmosphere. This is in stark contrast to carbon emissions resulting from burning fossil fuels. When coal, oil, natural gas or other fossil fuels are burned, "new" carbon is introduced into the atmosphere. It is this new carbon that is changing fundamentally our planet's climate.

Of course, there are GHG emissions associated with the *production* of biofuels. Energy inputs are used to plant, grow, harvest, and transport biomass, as well as to convert the biomass into liquid fuel and transport it to the user. The emissions associated with this supply-chain energy use are the subject of "lifecycle analysis." When considered on a full lifecycle basis, scientists generally agree that first-generation ethanol reduces GHG emissions by 30-60% compared to petroleum, while second-generation ethanol offers reductions of 80% or more.

But these "lifecycle" emissions, which are the result of energy input during the biofuels production process, are not the focus of the CAR. Rather, the rule focuses on the carbon embedded in the fuel itself and the emissions when this carbon is combusted. Therefore, it is appropriate to consider the origin of the carbon in the fuel itself. In the case of biofuels, this carbon was recently in the atmosphere, was removed from the atmosphere via photosynthesis, and is being returned to the atmosphere via combustion. Thus, looking only at the flow of carbon embedded in the biofuel itself, there is no net impact whatsoever on atmospheric carbon levels.

III. Exempting Biofuels from the CAR is Consistent with Accepted Carbon Accounting Protocols, as Well as Policies and Programs in Other Jurisdictions Seeking to Reduce Carbon Emissions

Recognizing the inherent carbon benefits of bioenergy, national and international scientific and regulatory bodies have adopted GHG accounting protocols that appropriately account for the CO_2 uptake associated with biomass. Failure to exempt biofuels in the CAR would run afoul of

[2] See Parish et al. (2012). "Comparing Scales of Environmental Effects from Gasoline and Ethanol Production." *Environmental Management*, 50 (6): 979-1246. "A critical temporal distinction exists when comparing ethanol and gasoline life-cycles. Oil deposits were established millions of years in the past. The use of oil transfers into today's atmosphere GHGs that had been sequestered and secured for millennia and would have remained out of Earth's atmosphere if not for human intervention. While the production and use of bioenergy also releases GHGs, there is an intrinsic difference between the two fuels, for GHG emissions associated with biofuels occur at temporal scales that would occur naturally, with or without human intervention. …Hence, a bioenergy cycle can be managed while maintaining atmospheric conditions similar to those that allowed humans to evolve and thrive on Earth. In contrast, massive release of fossil fuel carbon alters this balance, and the resulting changes to atmospheric concentrations of GHGs will impact Earth's climate for eons."

globally accepted carbon accounting practices and protocols, while at same time contradicting treatment of biofuels in carbon reduction policies and programs in other jurisdictions. In fact, the CAR's proposed treatment of biomass-derived liquid fuels is also wholly contradictory to the proposal's treatment of biomass-derived electricity.

a. National and International Accounting Protocols

Guidance issued to national governments by the United Nations International Panel on Climate Change (IPCC) specifies that emissions from the combustion of biomass are not to be included in national inventories of energy-related fuel combustion CO_2 emissions. Similarly, the World Resource Institute's Greenhouse Gas Protocol Initiative states:

> *Due to the biogenic differences between fossil fuels and biomass, they are categorized differently in national inventories. Emissions of CO_2 from the combustion of biomass are reported for informational purposes, but not included in national totals. This is because any net additions of CO_2 to the atmosphere resulting from biomass combustion should be captured by analyzing land-use, land-use change activities and their associated effects on terrestrial biomass carbon stocks.*[3]

Thus, if the use of biomass for bioenergy had no impact on land use or land use change, emissions from biomass combustion are assumed to be offset by CO_2 uptake.

The U.S. Environmental Protection Agency (EPA), which follows the IPCC protocol, states that "[b]illions of tons of carbon in the form of CO2 are absorbed by oceans and living biomass (i.e., sinks) and are emitted to the atmosphere annually through natural processes (i.e., sources). When in equilibrium, carbon fluxes among these various reservoirs are roughly balanced."[4]

Further, U.S. EPA's annual GHG inventory treats biomass emissions in the following manner:

> *The combustion of biomass and biomass-based fuels also emits greenhouse gases. CO_2 emissions from these activities, however, are not included in national emissions totals because biomass fuels are of biogenic origin. It is assumed that the carbon (C) released during the consumption of biomass is recycled as U.S. forests and crops regenerate, causing no net addition of CO_2 to the atmosphere.*[5]

Washington's proposal to include emissions from the combustion of biomass-derived fuels clearly contradicts these globally and nationally accepted accounting methods.

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[3] See World Resources Institute. Greenhouse Gas Protocol. "Calculation Tools: Frequently Asked Questions." http://www.ghgprotocol.org/calculation-tools/faq

[4] U.S. EPA. Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2014, at ES-8. https://www3.epa.gov/climatechange/Downloads/ghgemissions/US-GHG-Inventory-2016-Main-Text.pdf

[5] U.S. EPA. Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2014, at 3-1. https://www3.epa.gov/climatechange/Downloads/ghgemissions/508_Complete_GHG_1990_2008.pdf

b. Other GHG Cap-and-Trade Programs

Similarly, other jurisdictions with existing or proposed cap-and-trade programs correctly exempt producers and importers of biofuels from having a compliance obligation for biofuels combustion. Some of these existing programs may ultimately be linked with the Washington CAR, which would create discord and inconsistency related to the treatment of biofuels.

Under the California cap and trade regulation, emissions from biomass and biofuel combustion are reported but *exempted from a covered entity's compliance obligation*.[6] CO_2 emissions from the combustion of biodiesel, renewable diesel, and fuel ethanol are specifically identified as "emissions without a compliance obligation," along with emissions from the combustion of wood, wood waste, biomethane, biogas, and a number of other biogenic GHG sources.

Quebec's program covers emissions from combustion of "automotive gasoline, diesel fuels, propane, natural gas and heating fuel, *except…the biomass and biomass fuel component of such fuel*," meaning biofuels are exempted from a compliance obligation.[7] The regulations further specify that, "[c]ombustion emissions are the emissions resulting from the exothermic reaction of any fuel, except CO_2 emissions attributable to the combustion of biomass or biomass fuels."

Ontario's pending cap and trade regulation is also expected to exempt biofuels and biomass emissions from a compliance obligation, and may even allow emissions reductions resulting from biomass/biofuels use to count as emissions offsets.

c. The CAR proposal exempts emissions from biomass-derived electricity

Incredibly, the CAR's proposed approach to regulating emissions from biofuels combustion in mobile sources is wholly inconsistent with the proposed approach to emissions from biomass combustion in stationary sources (e.g., use of woody biomass to generate electricity). The proposal completely exempted "[e]missions of carbon dioxide from industrial combustion of biomass in the form of fuel wood, wood waste, wood by-products, and wood residuals…" due to the Revised Code of Washington's (RCW) correct understanding that "…emissions of carbon dioxide from industrial combustion of biomass in the form of fuel wood, wood waste, wood by-products, and wood residuals *shall not be considered a greenhouse gas* as long as the region's silvicultural sequestration capacity is maintained or increased." It is perplexing that this approach would be (properly) applied to stationary emissions from bioenergy production from biomass combustion, but not to emissions from liquid biofuel combustion.

IV. Exempting Biofuels from the CAR Does Not Trigger the "Poison Pill" Provision

In 2015, the Washington legislature enacted a Transportation budget, ESSB 5987, which dedicated several new revenue streams for a wide array of transportation projects. Three of these new revenue streams – Vehicle Weight Fees, Commercial Driver's License fees and the Enhanced Driver's License fee – fund the so-called Highway Safety Fund, which provides much

[6] See California Code of Regulations, Title 17, Section 95852.2.
[7] See Quebec Environment Quality Act, Chapter Q-2, r. 46.1. Regulation respecting a cap-and-trade system for greenhouse gas emission allowances.

needed funding to a number of climate friendly transportation solutions like transit, Commute Trip Reduction Programs, HOV lanes, bike lanes, etc.

This revenue, anticipated to raise $2 billion for these critical climate friendly transportation solutions, shifts over to the Connecting Washington Account, which funds primarily road and highway projects, in the event that:

> *(5) …prior to July 1, 2023, …(a) Any state agency files a notice of rule-making under chapter 39 34.05 RCW for a rule regarding a fuel standard based upon or defined by the carbon intensity of fuel, including a low carbon fuel standard or clean fuel standard. (b) Any state agency otherwise enacts, adopts, orders, or in any way implements a fuel standard based upon or defined by the carbon intensity of fuel, including a low carbon fuel standard or clean fuel standard.*

This provision became known as the "poison pill" and was designed to provide a strong disincentive to the adoption of a "clean fuel standard," a "low carbon fuel standard," or any other standard "based on the carbon intensity of fuel." The transportation budget was signed by the Governor and the language quoted above is now the law of the land.

We understand that one of the reasons the state is proposing to include biofuels in the Clean Air Rule is a concern that if they are excluded, the rule will be challenged as triggering the poison pill, potentially shifting hundreds of millions of dollars from transit and other climate friendly transportation investments to road and highway construction.

Whether this concern is well founded rests on the question of whether an exclusion of biofuels from coverage under the Clean Air Rule amounts to a "clean fuel standard," a "low carbon fuel standard," or a "standard based on the carbon intensity of fuel." None of these terms are defined in the bill or anywhere else in state law.

Turning to other sources, a low carbon fuel standard is a standard that limits the "carbon intensity" of fuels.[8] The term "clean fuel standard," which is used less frequently than "low carbon fuel standard," is a synonym for a low carbon fuel standard. California was the first jurisdiction in the world to adopt a low carbon fuel standard. It does not provide a definition of "low carbon fuel standard," but it states the standard's purpose as follows:

[8] Compare to a "renewable fuel standard," which designates certain minimum quantities (usually described as a minimum volume or percentage of annual total sales of transportation fuels) of biofuels in the total annual sales of transportation fuels. A renewable fuel standard focuses on volumes of biofuels, while a low carbon fuel standard imposes an overall carbon intensity standard applicable to all fuels. The former can only be met by the use of biofuels, while the latter can be met by using lower carbon fossil fuels like natural gas.

> *The purpose of this regulation is to implement a low carbon fuel standard, which will reduce the full fuel-cycle, carbon intensity of the transportation fuel pool used in California….*[9]

The California regulation defines "carbon intensity" as follows:

> *the amount of life cycle greenhouse gas emissions, per unit of fuel energy, expressed in grams of carbon dioxide equivalent per megajoule (gCO2e/MJ).*[10]

Additionally, Oregon recently adopted a low carbon fuel standard, which it refers to as its "clean fuel standard." It defines "clean fuel standard" as follows:

> "*Clean fuel standard" means the annual average carbon intensity a regulated party must comply with, as listed in Table 1 under OAR 340-253-8010 for gasoline and gasoline substitutes and in Table 2 under 340-253-8020 for diesel fuel and diesel substitutes.*[11]

Oregon defines "carbon intensity" as follows:

> *"Carbon intensity" or "CI" means the amount of lifecycle greenhouse gas emissions per unity of energy of fuel expressed in grams of carbon dioxide equivalent per megajoule (gCO2e/MJ).*[12]

British Columbia has also adopted a low carbon fuel standard. Like California, BC does not define "low carbon fuel standard" but it defines the standard's purpose as decreasing the carbon intensity of transportation fuels over time and they define "carbon intensity" in a manner very similar to California's and Oregon's definitions.

The proposed Clean Air Rule is clearly not a low carbon fuel standard, even if biofuels are exempted from coverage. It is a greenhouse gas emission standard, imposing ever reducing limits on greenhouse gas emissions at covered stationary sources and on combustion of transportation fuels. The Department of Ecology describes the rule's purpose as follows:

> *Chapter 173-442 WAC will establish **emission standards for greenhouse gas (GHG) emissions** from certain stationary sources located in Washington State, petroleum product producers or importers, and natural gas distributors in Washington State. Parties covered under this program will reduce their GHG emissions over time.*[13]

[9] CA Code Title 17§ 95480. Purpose Statement
[10] CA Code Title 17 § 95481(a) 20. Definitions and Acronyms
[11] OAR 340-253-0040 Definitions (22)
[12] OAR 340-253-0040 Definitions (17)
[13] Washington Form CR-105. Proposed Rule. May 31, 2016. (emphasis added)

The proposed rule does not limit or otherwise set a standard based on the "carbon intensity" of fuels. It does apply to producers and distributors of transportation fuels, but it does so by applying a limit on carbon emissions resulting from the combustion of the carbon embedded in those fuels, not by limiting or setting a lifecycle carbon intensity standard or attempting to address supply-chain energy use and emissions.

Likewise, a provision excluding biofuels from the rule would not establish a carbon intensity standard. Such an exclusion would simply relieve biofuel producers from an obligation to meet a GHG emission standard. For all the reasons outlined above, such an exemption is appropriate given the role biofuels play in providing a largely climate neutral alternative to fossil fuels.

And, equally importantly, such an exclusion would not trigger the poison pill. Only a "low carbon fuel standard", a "clean fuel standard" or a standard based on "carbon intensity" would do so, and an exclusion from the rule's emission standard would, in no way, contain such a provision.

Other jurisdictions provide further proof that exempting biofuels from the Clean Air Rule is not in any way synonymous or redundant with a low carbon fuel standard. California has both a system-wide cap and trade program (similar to Washington's proposed Clean Air Rule) and a separate low carbon fuel standard. British Columbia has both a system-wide carbon tax and a separate low carbon fuel standard. Biofuels emissions are exempted from both California's cap and trade regulation and British Columbia's carbon tax; clearly the simple act of exempting biofuels from these programs does not obviate the distinctly separate purpose of a low carbon fuel standard.

V. Failure to Exempt Biofuels from the CAR Conflicts with State and Federal Renewable Fuel Standards, Leads to Decreased Consumption of Low-Carbon Fuels, and Deters Investment in Clean Energy Technologies

Failure to rectify the proposed rule's mistaken approach to biofuels would not only result in a final rule that is scientifically indefensible and legally questionable, but it would also have devastating impacts on the nascent biofuels industry.

Under the proposal, a number of biofuel producers and importers who currently do business in Washington would be classified as "covered entities." These businesses would thus be forced to reduce over time the GHG emissions associated with the combustion of biofuels they supply to the state. However, because the CAR excludes upstream carbon cycle impacts and focuses only on emissions at the point of combustion (i.e., the tailpipe), the biofuel supplier has absolutely no ability to reduce the CO_2 emissions associated with biofuels use. That is, while the supplier may be able to reduce the emissions associated with producing and transporting the fuel, it cannot reasonably reduce the actual carbon content of the fuel. Thus, the most likely alternative available to covered suppliers to reduce the GHG emissions associated with biofuel combustion is to reduce the volume of biofuel that is combusted (i.e., reduce the amount of fuel sold to Washington consumers).

This compliance strategy would not only increase fuel prices for consumers, but it would also shrink the market for biofuels in Washington. Thus, biofuel producers, suppliers, and clean energy investors would focus their financial resources in other markets where the carbon

benefits of biofuels are properly recognized. Specifically, developers of next-generation advanced biofuel technologies would avoid the Washington market and instead opt to direct their investments to adjacent markets like California, Oregon, and British Columbia where GHG reduction from the transportation sector is clearly incentivized.

Further, the CAR presents a substantial dilemma for companies obligated to comply with state and federal Renewable Fuel Standards (RFS). Washington, like many other states and the U.S. EPA, has promulgated an RFS program that requires fossil fuel suppliers to include certain quantities of biofuels in their product mix. However, the failure to exempt biofuels emissions from the CAR would run counter to these policies and will, in our view, result in the failure of the biofuels industry in Washington. On one hand, state and federal RFS programs compel fuel suppliers to increase the volume of biofuels they supply to the Washington market; but on the other hand, the CAR encourages suppliers to reduce the volume of biofuels supplied to Washington in order to reduce covered emissions.

VI. Conclusion

In closing, RFA believes that biofuels provide an important part of the climate change solution—in Washington, nationally, and around the world. To continue to be part of the climate solution, however, it is critically important that biofuels be exempted from compliance obligations under the final CAR. Doing so will properly recognize the carbon benefits associated with biofuels, ensure adherence to national and international carbon accounting methods, and ensure consistency with other existing and pending GHG cap-and-trade programs. Further, exemption of biofuels under the final CAR would not trigger the so-called "poison pill" provision because such an exclusion would not establish a "low carbon standard", "clean fuel standard", or standard based on "carbon intensity."

We look forward to working with the Department of Ecology to establish a path forward to a final CAR that meaningfully combats climate change and ensures a continued role for biofuels in Washington.

Sincerely,

Bob Dinneen
President & CEO