



January 10, 2022

Joel Creswell  
Manager, Climate Policy Section  
Washington Department of Ecology  
Electronic submittal only via: <https://aq.ecology.commentinput.com/?id=DpgZ3>

Re: RPMG Comments on materials presented at November 16, 2021 CFP workshop

Dear Joel,

RPMG Inc. (RPMG) is a biofuel marketing company active in the Washington fuels marketplace, representing our owner and marketing partner ethanol facilities located throughout the Midwest. We would like to thank the Department of Ecology (Department) for giving us the opportunity to submit comment on this new and important rulemaking (CFP or Program). We are supportive of the Department's efforts to develop a scientifically robust and sustainable program that promotes and rewards innovation in the transportation fuel industry.

It is important to get this regulation correct and workable from the beginning. Setting up a fuels carbon market sets in motion a variety of real-world financial and logistical decisions. Renewable fuel facilities across the United States are diligently working to bring low (and lower in the future) CI fuels to the domestic market, including Washington state. These efforts have led to liquid renewable fuel being the number one aggregate credit contributor in all carbon reduction transportation programs to date. In that spirit, RPMG would like to focus our comments on several key areas of interest to the Department with both policy and practical considerations.

#### **Initial Compliance Curve**

The compliance curve for the program should include a CI reduction target for Year 1. Ensuring there is a 'pull' for lower-CI fuels from the program start is very important to incent proper market dynamics. In order to facilitate a smooth transition to compliance, RPMG would support a combined Year 1 and Year 2 compliance demonstration deadline or a combined initial compliance period. This is preferable to Year 1 being a reporting year only and not providing any tangible benefit toward reducing emissions.

#### **Recognition of Reduction Types and Technologies Approved in Other Jurisdictions**

The Program should recognize available carbon reduction technologies adopted in other similar programs. These reduction opportunities can come in a variety of forms, including Carbon Capture and Storage (CCS), Sustainable Aviation Fuel (SAF) and Cellulosic ethanol. Washington should recognize the benefits of CI reductions quantified in other authorized domestic programs without having to develop duplicate regulatory structures, i.e. a CCS protocol. Permissively allowing for quantified reductions to be credited in Washington's program can serve the basic goal of incenting low-carbon fuels to be sent to the State.

### **Opt-In Provisions**

As currently drafted<sup>1</sup>, the regulation is not explicitly clear that a biofuel producer or owner of a fuel in the chain of custody prior to a fuel importer can participate directly in the program as a registered reporting entity. There are many advantages to the program and market with this distinction, including in regard to credit liability, credit banking and accounting and mitigation of risk of enforcement. Therefore, RPMG recommends that there should be a clear ability for out-of-state producers and entities in the supply chain to be able to fully opt-in to the Program.

The following additional definition and regulatory language to the draft is needed:

Definition section (WAC 173-424-110)- “Opt-in Fuel Reporting Entity” means an entity that meets the requirements of section XXX and voluntarily opts in to be a fuel reporting entity and is therefore subject to the requirements set forth in this rule.

Regulatory section (WAC173-424-xxx) –

Modeled after LCFS section 95483.1(a)(1)<sup>2</sup>

(1) Opt-in Fuel Reporting Entity. An entity meeting any of the following criteria can opt into the LCFS program in a capacity of fuel reporting entity.

(B) An out-of-state producer of oxygenate for blending with CARBOB or gasoline, or biomass-based diesel for blending with CARB diesel, who is not otherwise already subject to the LCFS regulation as an importer. An out-of-state producer under this subsection may retain the ability to generate credits or deficits, for a specific quantity of fuel or blendstock, only if it opts in as a first fuel reporting entity and meets the requirements of section 95483, wherever applicable.

### **Indirect Land Use**

The Program’s view of indirect land use (ILUC) should be based on the most recent science which indicates a Low or No ILUC value is appropriate. The Department has an opportunity to select either Oregon’s value, California’s value, or realize that at this stage of low-carbon fuel production that there is no additional indirect land use impact of this program.

RPMG cites recent studies that show ILUC values have been overestimated in the past<sup>3,4,5</sup>. We also incorporate the Renewable Fuels Association letter to the Puget Sound Clean Air Agency’s Clean Fuel Standard dated July 8, 2019 (see Attachment #1).

Regardless of how ILUC is treated in the new CFP Program, there should not be any ILUC value added when determining whether a biofuel is scored under the Department’s developing Cap and Invest Program obligation scoring. The basis of the Cap and Invest program is tailpipe emissions and not a life-cycle

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<sup>1</sup> <https://ecology.wa.gov/DOE/files/93/93ebc011-e698-4b51-8a2b-8b4213265a4d.pdf> (section 2 on page 4)

<sup>2</sup> [https://ww2.arb.ca.gov/sites/default/files/2020-07/2020\\_lcfs\\_fro\\_oal-approved\\_unofficial\\_06302020.pdf](https://ww2.arb.ca.gov/sites/default/files/2020-07/2020_lcfs_fro_oal-approved_unofficial_06302020.pdf)

<sup>3</sup> <https://iopscience.iop.org/article/10.1088/1748-9326/abde08/pdf>

<sup>4</sup> <https://onlinelibrary.wiley.com/doi/10.1002/bbb.2225?af=R>

<sup>5</sup> <https://ethanolrfa.org/media-and-news/category/news-releases/article/2021/06/new-reports-correct-the-record-on-faulty-land-use-change-assertions>

assessment (LCA), and given ILUC is strictly an LCA input, it is inappropriate to include. RPMG understands that other agency staff are developing the Cap and Invest program, but that CI scoring technical issues will most likely fall to CFP staff.

### **Renewable Energy Accounting**

The Program should recognize and allow 'Book and Claim' accounting for renewable energy associated with process energy at biofuel facilities. An important aspect of reducing the carbon intensity of biofuels is the incentive to use renewable process energy. Allowing 'Book and Claim' will promote the use of a variety of carbon reduction investments without the need to build dedicated (and additional) pipeline and/or electrical grid infrastructure. Having a requirement that any renewable energy be connected to its supply source through 'dedicated' infrastructure is a significant obstacle to lower CI investment.

Book and Claim accounting is recognized in the LCFS for Hydrogen, electricity used for charging and critically for RNG as a transportation fuel. It is an example of policy being consistently applied to allow this accounting methodology to occur in all fuel production pathways.

### **In Closing**

RPMG looks forward to continuing work and dialogue with agency staff to improve the adoption and implementation of this important regulation.

Sincerely,



Jessica W. Hoffmann  
Regulatory and Compliance Manager  
RPMG Inc.



***VIA EMAIL (craigk@pscleanair.org)***

July 8, 2019

Mr. Craig Kenworthy  
Executive Director  
Puget Sound Clean Air Agency  
1904 Third Avenue, Suite 105  
Seattle, WA 98101

RE: Comments in support of a scientifically based Clean Fuel Standard for the Puget Sound region

Dear Mr. Kenworthy:

The Renewable Fuels Association (RFA) is a national trade association representing the ethanol industry. Our membership includes ethanol producers and marketers, vendors to the ethanol industry, agricultural organizations, and other groups dedicated to the continued expansion and promotion of fuel ethanol. The RFA would like to take this opportunity to provide comments for consideration by the Puget Sound Clean Air Agency (PSCAA) in advance of its expected August publication of a draft rule establishing a regional Clean Fuel Standard (CFS).

The RFA has enthusiastically supported low-carbon fuel programs that use fair, consistent, and scientifically robust methods for evaluating the lifecycle carbon intensity (CI) of all transportation fuel options. A critical aspect of a program's ability to meet these criteria is whether and how it incorporates theoretical greenhouse gas (GHG) emissions from indirect land use change (ILUC). Although estimates of ILUC-related emissions have been reduced significantly over the last decade, there remains substantial uncertainty inherent in the methods used to quantify them.

Although we believe that indirect effects should be excluded from low-carbon fuel programs until there is scientific agreement on methodology, it is our understanding that the PSCAA intends to include such effects. Accordingly, we would strongly recommend that the PSCAA adopt the most up-to-date estimates of indirect emissions in its CI scoring for the CFS.

A benefit of incorporating the latest estimates is that it will facilitate regulated parties' compliance with the CFS. According to the California Air Resources Board (CARB), the use of ethanol was responsible for reducing GHG emissions from the



transportation sector by 18.8 million metric tons from 2011 to 2018. Ethanol accounted for 40% of the GHG reductions achieved under the Low Carbon Fuel Standard (LCFS) over that time period—more than any other low-carbon fuel. Moreover, the success of a Puget Sound regional CFS ultimately depends on having strong support and backing from affected industries and stakeholder groups.

As discussed in the attached comments, recent scientifically robust analyses conducted by the U.S. Department of Energy's Argonne National Laboratory, the University of Illinois-Chicago, and Purdue University have produced ILUC emissions estimates for corn-based ethanol that are well below those incorporated into low-carbon fuel programs in the past. For its Clean Fuels Program, the State of Oregon chose to utilize the corn ethanol ILUC estimate contained in the Argonne model, and we would recommend that the PSCAA take a similar approach.

Thank you in advance for your consideration of these comments.

Sincerely,

A handwritten signature in blue ink, appearing to read "Scott Richman". The signature is fluid and cursive, with a long horizontal stroke at the end.

Scott Richman  
Chief Economist

## **COMMENTS OF THE RENEWABLE FUELS ASSOCIATION REGARDING A PUGET SOUND CLEAN FUEL STANDARD**

The Puget Sound Clean Air Agency (PSCAA) expects to issue a draft rule for a regional Clean Fuel Standard (CFS) in August 2019. The Renewable Fuels Association (RFA) offers the following comments for the PSCAA's consideration as it develops the draft rule.

***I. Recent analyses at the global and U.S. levels demonstrate that models often have not adequately accounted for the role of intensification of land use and have overstated the amount of crop expansion attributable to ethanol.***

An independent analysis of empirical land use change data at the global level by Babcock & Iqbal (2014)<sup>1</sup> indicates the following:

- "...the primary land use change response of the world's farmers in the last 10 years has been to use available land resources more efficiently rather than to expand the amount of land brought into production."
- "The pattern of recent land use changes suggests that existing estimates of greenhouse gas emissions caused by land conversions due to biofuel production are too high because they are based on models that do not allow for increases in non-yield intensification of land use."

As a result, Babcock & Iqbal concluded that key models used at the time did "not capture intensive margin land use changes so they will tend to overstate land use change at the extensive margin and resulting emissions."

Additionally, a study by Li *et al.* (2019)<sup>2</sup> focusing on the U.S. determined:

- "Our results show that corn acreage and total acreage are fairly inelastic with respect to both changes in ethanol capacity in the vicinity, as well as changes in crop prices. Our estimates of acreage elasticity with respect to corn ethanol production are smaller than those obtained by previous studies that disregard the price effect on crop acreage."
- "...the effect of changes in corn price on land use was largely at the intensive margin rather than at the extensive margin. Moreover, the effect of crop prices

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<sup>1</sup> Babcock BA, Iqbal Z (2014) Using recent land use changes to validate land use change models. Staff Report 14-SR 109, Center for Agricultural and Rural Development (CARD) at Iowa State University. Available at <https://www.card.iastate.edu/products/publications/pdf/14sr109.pdf>

<sup>2</sup> Li Y, Miao R and Khanna M (2019) Effects of ethanol plant proximity and crop prices on land-use change in the United States. *Am. J. Agric. Econ.* 101 467–91. Available at <https://doi.org/10.1093/ajae/aay080>

on land use was largely reversed by the downturn in prices after 2012, and close to negligible by 2014 relative to 2008.”

- “By decomposing the various causes of land use change over the 2007–2014 period, we show that ... the indirect land use change due to higher crop prices has been transitory due to the volatility in crop prices.”

Thus, both studies demonstrate the difficulty that models have had in estimating indirect land use change (ILUC) associated with the production of biofuels, which has resulted in the overstatement of such effects.

***II. If PSCAA proceeds with inclusion of ILUC, it should use factors recently developed by the U.S. Department of Energy’s Argonne National Laboratory.***

The ethanol industry has generally supported low-carbon fuel standard (LCFS) and CFS programs that are based on fair and symmetrical carbon intensity (CI) scoring principles. More than a decade after the concept of ILUC emissions was introduced in Searchinger *et al.*, there is still no scientific consensus on the best methods for estimating ILUC or other indirect effects. While published estimates of ILUC emissions have trended downward since then, the latest estimates still exhibit a wide range and high level of uncertainty. Accordingly, ethanol producers have cited British Columbia’s Low Carbon Fuel Requirement Regulation as an example of an “LCFS Policy Done Right,” since the program has, to date, based CI scoring for all fuels on verifiable direct emissions only.

However, if the PSCAA decides to incorporate ILUC into the scoring for the regional CFS, we recommend that it follow the example of the Oregon Department of Environmental Quality (DEQ). In connection with the full implementation of Oregon’s Clean Fuels Program in 2016, the DEQ adopted the ILUC estimate that was contained in the Argonne National Laboratory GREET (Greenhouse gases, Regulated Emissions and Energy Use in Transportation) model at the time for scoring the CI of corn ethanol.

GREET contains the most recent and scientifically robust model-derived estimates of potential corn ethanol ILUC emissions. It represents a significant advance in corn ethanol ILUC analysis over the latest CARB analysis. Additionally, it reflects the expertise and collaboration of a broad group of experts and institutions.

In 2012, Wang *et al.* published a new version of GREET that, for the first time ever, integrated a Carbon Calculator for Land Use Change from Biofuels Production (CCLUB) to estimate ILUC emissions for corn ethanol. The current GREET/GTAP/CCLUB modeling array represents a marked advancement over the CARB CA-GREET/GTAP/AEZ-EF model array for the following reasons:

- The land use change data entered into CCLUB comes from the latest version of Purdue's Global Trade Analysis Project (GTAP) model, with elasticity values recommended by Purdue, Iowa State University, North Carolina State University, and others (vs. elasticity values arbitrarily chosen by CARB staff);
- CCLUB treats LUC emissions with a much higher spatial resolution than CARB's AE-ZEF approach (e.g., county-level vs. broad regional); and
- CCLUB emission factors are based on actual field measurements of carbon fluxes via the CENTURY/DAYCENT tools, which are recognized as the "gold standard" for measuring site-level carbon fluxes.

The Argonne GREET/GTAP/CCLUB framework, which incorporates the version of CCLUB released in 2018, estimates indirect/international LUC emissions associated with corn ethanol at 5.4 g CO<sub>2</sub>e/MJ.<sup>3</sup>

In summary, we do not believe the PSCAA should include ILUC or other indirect effects in its CI scoring mechanism for the CFS; however, if the agency does decide to include ILUC we recommend that the Argonne GREET values be used for corn ethanol.

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<sup>3</sup> Dunn J, Qin Z, Mueller S, Kwon H-Y, Wander M, Wang M (2017) Carbon Calculator for Land Use Change from Biofuels Production: Users' Manual and Technical Documentation. Available at <https://greet.es.anl.gov/publication-cclub-manual-r4>