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3/25/2022

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Washington Department of Ecology  
300 Desmond Drive SE  
Lacey, WA 98503

*Submitted online via: [Rulemaking - Informal Public Comment Period for Chapter 173-424 WAC, Clean Fuels Program Rule \(commentinput.com\)](#)*

## **RE: Washington Clean Fuels Program Rule**

Dear Mr. Creswell:

POET, the world's largest producer of biofuels, appreciates the opportunity to submit these comments to the Washington Department of Ecology in support of the agency's Clean Fuels Program rulemaking pursuant to the Clean Fuel Standard.<sup>1</sup> POET supports the Washington Clean Fuel Standard's goal of reducing greenhouse gas ("GHG") emissions from the Washington transportation sector. Increasing renewable alternatives aligns with POET's mission and is essential to mitigating climate change and protecting human health and the environment.

### **About POET**

[POET](#)'s vision is to create a world in sync with nature. As the world's largest producer of biofuels and a global leader in sustainable bioproducts, POET creates plant-based alternatives to fossil fuels that utilize the power of agriculture and cultivate opportunities for America's farm families. Founded in 1987 and headquartered in Sioux Falls, POET operates 33 bioprocessing facilities across eight states and employs more than 2,200 team members. With a suite of bioproducts including Dakota Gold and NexPro feed, Voilà corn oil, purified alcohol, renewable CO<sub>2</sub> and JIVE asphalt rejuvenator, POET is committed to innovation and advancing solutions to some of the world's most pressing challenges. POET holds more than 80 patents and continues to break new ground in biotechnology, yielding ever-cleaner and more efficient renewable energy. In 2021, POET released its inaugural [Sustainability Report](#) pledging carbon neutrality by 2050.

### **Washington's Clean Fuels Program**

Washington's 2021 Clean Fuel Standard aims to "support the deployment of clean transportation fuel technologies" and "reduce greenhouse gas emissions associated with transportation fuels."<sup>2</sup> To that end, the legislation requires fuel suppliers to reduce the carbon intensity ("CI") of transportation fuels to 20% below 2017 levels by 2038.<sup>3</sup> It directs Ecology to "adopt rules that establish standards that reduce carbon intensity in transportation fuels used in Washington."<sup>4</sup> Under the legislation, Ecology "shall seek to adopt rules that are

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<sup>1</sup> RCWA, Transportation Fuel—Clean Fuels Program, § 70A.535 (2021).

<sup>2</sup> *Id.* at § 70A.535.005(3).

<sup>3</sup> *Id.* at § 70A.535.020(5)(a).

<sup>4</sup> *Id.* at § 70A.535.020(1).

harmonized with the regulatory standards, exemptions, reporting obligations, and other clean fuels program compliance requirements and methods” that Oregon and California have adopted.<sup>5</sup> In drafting its Clean Fuels Program rule, Ecology may deviate from Oregon and California standards when appropriate.

As directed under the Clean Fuel Standard, Ecology is drafting rules to implement a Clean Fuels Program for transportation fuels sold in Washington. Biofuels provide a crucial means for achieving Washington’s CI reduction goals from the transportation sector. POET recommends that Ecology address the issues below through its Clean Fuels Program rulemaking. There are good reasons for Ecology to deviate from existing state LCFS programs on each of these points. We understand that Ecology may be using the California LCFS program as a starting point for portions of its regulations and rulemaking. As a result, many of our suggestions are expressed in contrast to the California program. In the Clean Fuels Program regulations, Ecology should:

- Incentivize sustainable, lower-carbon farming practices by providing regulatory recognition of the benefits of low-CI feedstocks;
- Update the GREET model to reflect consensus scientific literature on land use change and make other GREET updates to:
  - (a) allow user-defined process chemical usage for bioethanol pathways and
  - (b) add electricity accounting of drying systems;
- Remove regulatory barriers related to the use of low-CI process energy;
- Expand emissions avoidance credits beyond dairy/swine manure;
- Ensure CO<sub>2</sub> generated in the bioethanol fermentation process that is sold for use in food, beverage, and other industries is not supplanted by extracted CO<sub>2</sub>;
- Allow CCS Operators to delineate responsibilities where the CO<sub>2</sub> capture facility and the geological sequestration site are controlled by separate entities.

Conventional bioethanol has the capacity to generate substantial CI reductions (and corresponding credits) under the Clean Fuels Program while reducing other harmful air pollutants such as BTEX compounds (benzene, toluene, ethylbenzene, and xylene) and PM<sub>2.5</sub>.<sup>6</sup> As detailed more fully below, POET recommends that Ecology address these issues in its Clean Fuels Program to maximize, incentivize, and accurately account for biofuel lifecycle CI reductions.

## **I. Ecology Should Incentivize Sustainable Low Carbon Farming Practices**

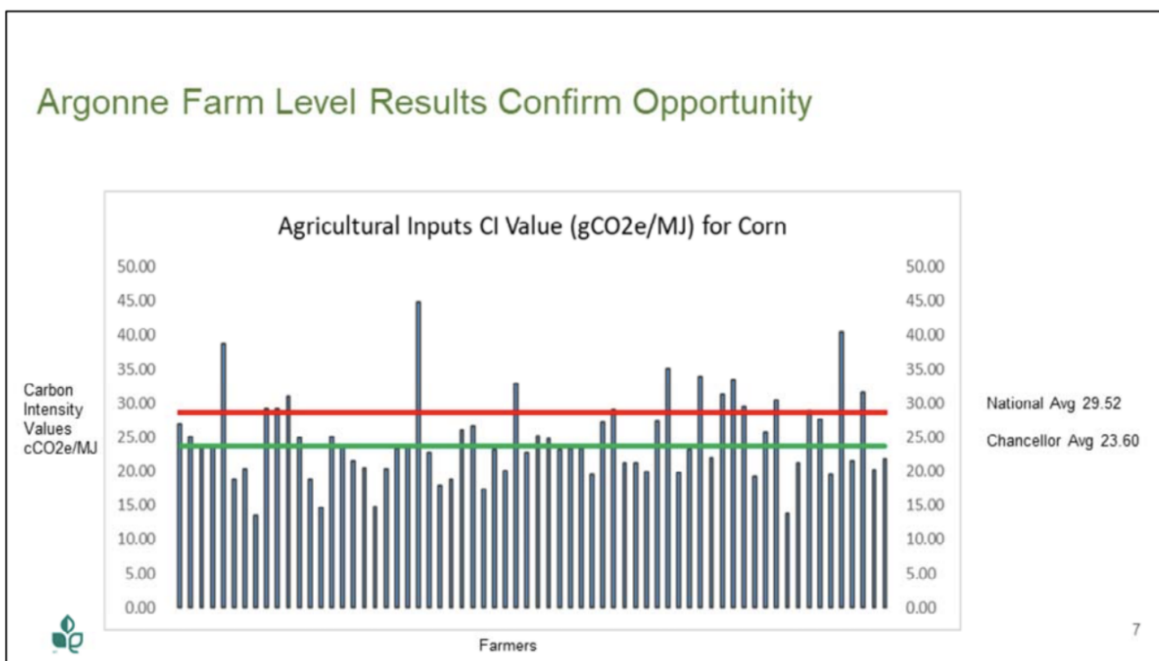
Incentivizing sustainable low-CI farming practices under Washington’s Clean Fuels Program would decrease lifecycle transportation emissions. It would encourage agricultural GHG emissions reductions through existing strategies such as better tillage practices as well as practices that are not profitable in the absence of environmental credits including nitrogen and biodiversity management. Additionally, incentivizing low-CI farming practices would support a new wave of innovations in sustainable farming.

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<sup>5</sup> *Id.* at § 70A.535.060(1).

<sup>6</sup> See Kazemiparkouhi, Fatemeh et. al, *Comprehensive US database and model for ethanol blend effects on regulated tailpipe emissions*, 2022 SCIENCE OF THE TOTAL ENVIRONMENT, Vol. 812 151426, <https://www.sciencedirect.com/science/article/pii/S0048969721065049>.

Since 1990, corn bioethanol's CI has been trending downward, in part reflecting developments in farming practices.<sup>7</sup> POET's project Gradable illustrates the potential GHG emissions reductions achievable through sustainable farming. POET worked with the Farmers Business Network and Argonne National Labs to create Gradable, a pilot program to encourage sustainable farming, validate data inputs, and calculate CI scores for agricultural inputs. Gradable illustrates that CI values for some corn starch bioethanol under the CA-GREET may be higher than what is actually achievable in the field. The inaccuracies of CA-GREET distort CI markets and incentives. Gradable's trial involving 64 area farms supplying corn to POET's Chancellor plant resulted in a 25 percent reduction in GHG emissions from corn cultivation and farm energy usage compared to the assumptions embedded in CA-GREET. The graphic below shows that Chancellor's average farm-level CI value is significantly lower than the national average:



The results from Gradable indicate a wide disparity in CI (with a delta of about 31 g/MJ) among farms in the same region providing corn to the same bioethanol plant due to the use of low-CI farming practices at some of the farms in the region. This disparity suggests that widespread adoption of low-CI farming practices could readily result in CI reductions if farmers had the incentive to engage in such practices. The prospect of extrapolating these lessons to the entire industry is worthy of Ecology's focus in this rulemaking process.

POET encourages Ecology to include a pathway for "identity-preserved" feedstocks (i.e. those used by renewable fuel producers because of their verifiably lower CI characteristics) in its Clean Fuels Program proposed rule. To the extent Ecology is using the CARB regulations as a starting point, below are amendments POET suggests could be made to that starting point to provide greater regulatory certainty

<sup>7</sup> Sully, Melissa *et al*, *Carbon intensity of corn ethanol in the United States: state of the science* 2021 Environ. Res. Lett 16 043001, 4 (2021), <https://iopscience.iop.org/article/10.1088/1748-9326/abde08>.

regarding recognizing the value of innovative lower CI farming practices. We suggest Ecology incorporate these amendments to CARB's LCFS into Washington's Clean Fuels Program:

- 17 C.C.R. § 95488.1(d)(7) – Tier 2 pathway requirements: To identify use of identity-preserved feedstocks as an innovative production method.
- 17 C.C.R. § 95488.7(a)(2) – Tier 2 pathway registration requirements: To address requirements specific to how a lifecycle analysis report should reflect low-CI feedstocks that may be subject to fluctuation year-to-year.
- 17 C.C.R. § 95488.7(d) – Certification for Tier 2 pathways: To address steps CARB must take for certification of a Tier 2 pathway that relies on low-CI feedstocks for the calculated CI score.
- 17 C.C.R. § 95488.8(g) – Specified Source Feedstocks: To include low-CI feedstocks as an enumerated specified source feedstock and to address requirements applicable to a producers' use of low-CI feedstocks, e.g., feedstock transfer documents.
- 17 C.C.R. § 95500 – Verification: To include applicable verification requirements. Verification of CI reductions associated with innovative farming practices is important both for the pathway holder/renewable fuel producer and CARB. The biofuel producer must be able to substantiate all inputs into the fuel's CI score and must have arrangements in place to ensure the practices undergirding the CI score associated with the feedstock are followed. The agency could build upon the LCFS's existing verification requirements through use of audits and farming data analytics (or other available data) to ensure the verification step appropriately extends to the feedstock level.

Finally, we expect other commenters may encourage Ecology to include assessments of soil organic carbon ("SOC") in farming-related CIs and to credit farms sequestering carbon in the form of SOC. POET agrees that SOC is a potentially tremendous reservoir to sequester CO<sub>2</sub> emissions. However, we also understand that some have pointed to technological challenges in measuring SOC and fluctuations in SOC over time. If Ecology believes that current SOC measurement methodologies are too unreliable to be included in farming CI scores, POET strongly encourages Ecology to allow for individually tailored farming CIs for other farming inputs (such as those mentioned in the above discussion of Gradable) in its rulemaking and to return to the consideration of SOC at a later date.

## **II. Update the GREET Model to Reflect Consensus Scientific Literature on Land Use Change ("LUC") and other GREET Updates**

### **A. LUC**

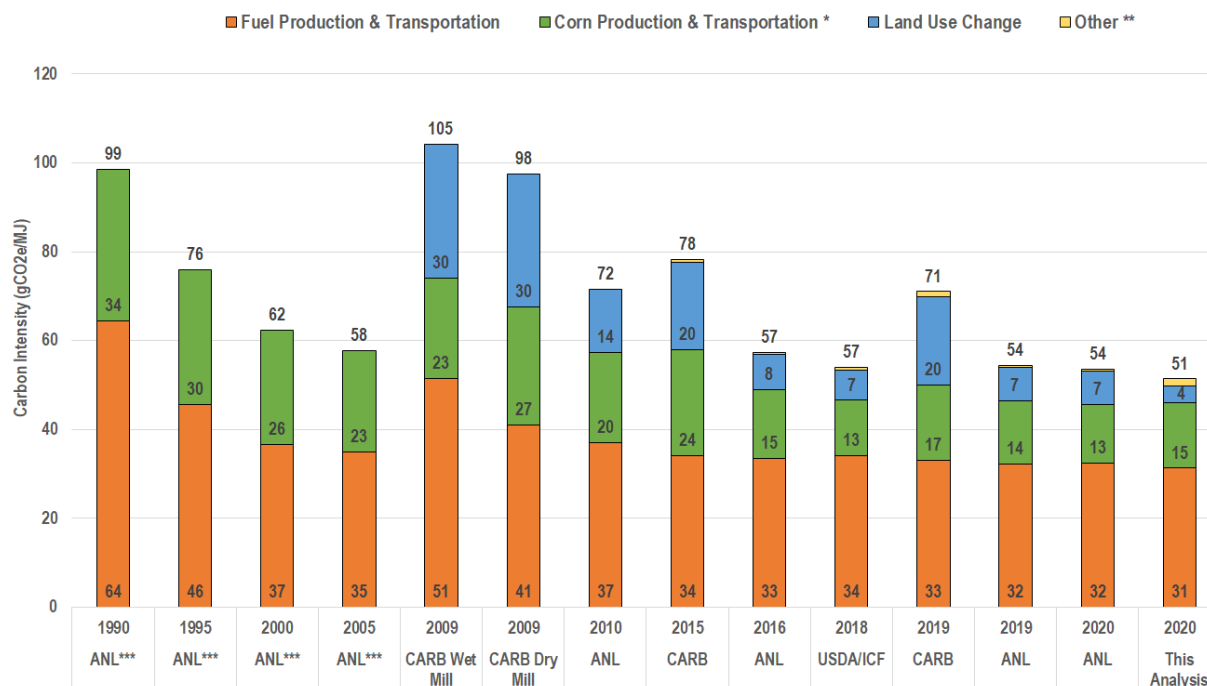
In March of 2022, Ecology put out a draft LCA model called WA-GREET. WA-GREET is largely based on CA-GREET3 with a few modifications. Ecology has looked to the Oregon Clean Fuels Program as well as the California program for guidance in its LCA model. Ecology also put out a document discussing indirect land use ("iLUC") written by Stefan Unnasch that recommends an iLUC value of 7.6 for corn starch bioethanol.<sup>8</sup> POET supports Ecology's adoption of a 7.6 iLUC value for corn bioethanol. This value is the same as the iLUC value for corn bioethanol in Oregon's Clean Fuels Program. Additionally, current scientific literature resoundingly indicates that California's LCFS 2019 iteration of GREET (CA GREET3.0) overstates

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<sup>8</sup> Unnasch, Stefan, *Indirect Land Use Conversion for Washington Clean Fuels Standard*, LIFE CYCLE ASSOCIATES, 5 (2022) [https://ecology.wa.gov/Asset-Collections/Doc-Assets/Rulemaking/AQ/WAC173-424\\_455\\_-21-04/Indirect-Land-Use-Conversion-WAC-173-424-03-08-22](https://ecology.wa.gov/Asset-Collections/Doc-Assets/Rulemaking/AQ/WAC173-424_455_-21-04/Indirect-Land-Use-Conversion-WAC-173-424-03-08-22).

CI values for LUC for corn bioethanol. While the CA GREET model incorporates a LUC value of 19.8 gCO<sub>2</sub>e/MJ, the best-available scientific literature as discussed in the attached EH&E study supports a far lower value of approximately 4 gCO<sub>2</sub>e/MJ, taking into account direct and indirect LUC (“ILUC”).<sup>9</sup> Some studies indicate biofuel production does not induce any ILUC.<sup>10</sup> Updating the technical tools that guide regulated parties’ decisions under the Clean Fuels Program is critical to incentivizing the production and use of lower-CI transportation fuel in Washington.

Since 2008, scientific assessments of LUC associated with bioethanol production have changed substantially. Most of these studies have shown downward trends in LUC carbon impacts, as illustrated in the figure below:<sup>11</sup>



\* Corn Production & Transportation includes farming, feedstock transport, and co-product credit.  
 \*\* Other less significant emission categories account for fewer than 2 gCO<sub>2</sub>e/MJ.  
 \*\*\* Models did not incorporate land use change.

Most LUC estimates are now converging on substantially lower estimates than those established through CARB’s prior analysis in the March 2015 Staff Report on ILUC values.<sup>12</sup> Reliable analyses of LUC impacts generally draw from the GTAP agro-economic model, and have consistent approaches to the economic baseline year (2004), incorporation of yield price elasticity (of approximately .25), and, significantly,

<sup>9</sup> Sully, *supra* note 7 at pg. 4 .

<sup>10</sup> Kim S, Dale BE. 2011. *Indirect land use change for biofuels: Testing predictions and improving analytical methodologies*. BIOMASS AND BIOENERGY, 35(7):3235-3240. 10.1016/j.biombioe.2011.04.039; Kline KL, Oladosu GA, Dale VH, McBride AC. *Scientific analysis is essential to assess biofuel policy effects: In response to the paper by Kim and Dale on “Indirect land-use change for biofuels: Testing predictions and improving analytical methodologies”*. (10):4488-4491. 10.1016/j.biombioe.2011.08.011.

<sup>11</sup> Sully, *supra* note 7 at pg. 6.

<sup>12</sup> California Environmental Protection Agency Air Resources Board, *Staff Report: Calculating Life Cycle Carbon Intensity Values in Transportation Fuels in California*, (March, 2015), [https://ww2.arb.ca.gov/sites/default/files/classic//fuels/lcfs/peerreview/050515staffreport\\_ca-greet.pdf](https://ww2.arb.ca.gov/sites/default/files/classic//fuels/lcfs/peerreview/050515staffreport_ca-greet.pdf).

address the concept of land intensification.<sup>13</sup> Scientific literature supports that the increasing commercial use of land intensification—defined as the production of greater volumes of a crop or multiple crops on existing land—is a key factor in appropriately assessing LUC.<sup>14</sup> Studies indicate that from 2005 to 2012, a period in which the United States experienced a significant increase in bioethanol production, the surge in harvested crop was due primarily to land intensification rather than conversion of land to agricultural uses.<sup>15</sup> Land intensification, a critical model feature reflecting actual commercial practices, is not currently addressed in CA GREET3.0.

Recent studies show that bioethanol's CI score should be approximately 51.4 gCO<sub>2</sub>e/MJ.<sup>16</sup> Accordingly, POET supports the usage of the GTAP model and encourages Ecology to continue to incorporate the best-available science in its assessment of direct and indirect LUC. Failure to do so will result in the Clean Fuels Program transmitting distorted price signals that will not optimize CI reductions and could perversely incentivize higher CI behaviors and fuels.

### **B. User-Defined Process Chemical Usage for Bioethanol Pathways**

To the extent Ecology plans to replicate the simplified calculator model found in CARB's regulations, POET recommends that Ecology modify CARB's Tier 1 simplified calculator's treatment of process chemicals used in bioethanol pathways. The current CARB calculator does not allow the pathway applicant to specify use of low-CI process chemicals, resulting in a distortion of the CI value of POET's bioethanol. Specifically, POET's patented BPX process uses a less carbon-intensive group of chemicals than most bioethanol producers. A simple change to the Tier 1 calculator to allow user-defined process chemical usage could cure this inaccuracy. This modification would be consistent with the calculator's accommodation of a variety of other user-defined inputs from denaturant to feedstock transportation distance. As with all CI inputs, verification requirements would apply to user-defined process chemical usage, allowing the verifier and Ecology to ensure claimed CI reductions are accurate.

### **C. Distinguish Electricity Usage in Wet and Dry DDGS Pathways**

Next, we recommend that Ecology implement in its Clean Fuels Program rules a minor correction to the CA GREET model's treatment of wet versus dry DDGS produced at the same facility. Specifically, the CA GREET model distinguishes between wet and dry DDGS pathways for the use of thermal energy but does not do so with regard to electricity usage. Electricity usage for production of wet DDGS is

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<sup>13</sup> See e.g., Rosenfeld J, Lewandrowski J, Hendrickson T, Jaglo K et al., *A Life-Cycle Analysis of the Greenhouse Gas Emissions from Corn-Based Ethanol*, ICF (2018) (under USDA contract No. AG-3142-D-17-0161); Taheripour F, Zhao X, Tyner WE, *The impact of considering land intensification and updated data on biofuels land use change and emissions estimates*. BIOTECHNOL. BIOFUELS, (2017) DOI: 10:191. 10.1186/s13068-017-0877-y. A recent study by Lark et al. estimates a higher LUC value for corn starch bioethanol. We are in the process of evaluating this study and preparing a response. The Department of Energy recently published a rebuttal of the Lark paper: [https://greet.es.anl.gov/publication-comment\\_environ\\_outcomes\\_us\\_rfs](https://greet.es.anl.gov/publication-comment_environ_outcomes_us_rfs). See Lark, Tyler et al., *Environmental Outcomes of the US Renewable Fuel Standard*, Proceedings of the National Academy of Sciences (PNAS) (2022), <https://doi.org/10.1073/pnas.2101084119>.

<sup>14</sup> Sully, *supra* note 7 at pg. 7.

<sup>15</sup> Babcock BA, Iqbal Z, *Using Recent Land Use Changes to Validate Land Use Change Models*, CARD Staff Reports (2014); Taheripour F, Cui H, Tyner WE, *An Exploration of agricultural land use change at the intensive and extensive margins: implications for biofuels induced land use change*, BIOENERGY AND LAND USE CHANGE:19-37 (2017a).

<sup>16</sup> Sully, *supra* note 7 at pg. 14.

demonstrably lower than that needed to produce dry DDGS. Accordingly, POET recommends that Ecology distinguish between electricity usage in wet and dry pathways as the CA GREET model does with thermal energy.

#### **D. Energy Allocation to Non-Fuel Products**

In response to the COVID-19 crisis, a number of bioethanol producers have entered the non-fuel bioethanol market, and we expect the diversity of biorefined products to increase over time. In many cases, creating alternative types of biorefined products, including technical grade bioethanol, will require additional processing steps and energy. We encourage Ecology to ensure that its CI model does not allocate the energy used to produce non-fuel biorefined products to biofuels. Doing so would discourage biofuels producers from innovating in new markets where they could supplant petroleum products and reduce GHG emissions.

### **III. Recognize Off-Site Renewable Energy Production**

In its Clean Fuels Program rules, we encourage Ecology to deviate from California's approach to off-site renewable energy sources to better encourage the use of off-site renewable energy sources in the production of lower CI fuels in Washington state. California's LCFS regulations prohibit the use of indirect accounting mechanisms to demonstrate production of fuel using low-CI process energy.<sup>17</sup> Instead, the regulations require that renewable energy generation equipment be "directly connected through a dedicated line" to the fuel producer's facility.<sup>18</sup> This is technically infeasible for many producers and stymies their use of low-CI electricity to produce lower CI fuels. Due to California's requirements, some POET plants lack an economic incentive to utilize renewable energy because they are unable to connect directly to a renewable energy source. The plants must rely on the most economically efficient energy sources, which oftentimes are not renewable. POET seeks to transition its plants to renewable energy and would do so if it were economically feasible and incentivized under LCFS programs.

To drive growth in renewable energy generation and facilitate lower-CI fuel production, POET recommends that the Washington Clean Fuels Program allow producers to demonstrate use of low-CI process energy through means such as power purchase agreements and book-and-claim accounting. During the public meeting on 3/15/2022, Ecology stated that the agency intended to allow for book-and-claim accounting for off-site renewable energy production for usage at fuel production facilities. However, the draft regulation does not explicitly allow for this. In the proposed rule and final WA-GREET, POET encourages Ecology to explicitly allow entities to demonstrate use of off-site low-CI process energy through power purchase agreements and book-and-claim accounting. Recognition of off-site renewable energy production to reduce GHG emissions is common in other carbon and renewable energy markets. Ecology should use its authority to encourage more renewable energy use in the transportation supply chain. This would incentivize the generation of low-CI energy through large-scale renewables projects thereby reducing the Washington transportation sector's lifecycle GHG emissions.

### **IV. Expand Emissions Avoidance Credits beyond Dairy/Swine Manure**

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<sup>17</sup> See 17 C.C.R. § 95488.8(h).

<sup>18</sup> *Id.* § 95488.8(h)(1)(B).



California's LCFS program offers avoidance credits for GHG emissions reductions associated with the installation of a biogas control system for manure management on dairy cattle and swine farms.<sup>19</sup> Ecology should expand this program to include other farm animals such as beef cattle. Expanding the program to additional farm animals would incentivize fuel production entities to utilize biogas from nearby farm animals as energy sources for fuel production. POET views biogas from beef cattle as an opportunity to decrease emissions from bioethanol production plants. Many POET plants are located near beef cattle farms, and POET would utilize biogas from these farms where possible if Washington's Clean Fuels Program incentivized it. Increased usage of biogas from nearby farm animals would reduce fuel production emissions in Washington, lowering lifecycle GHG emissions in Washington's transportation sector.

## **V. Ensure Bioethanol Fermentation CO<sub>2</sub> is Not Supplanted by Extracted CO<sub>2</sub>**

California's LCFS currently provides a pathway for credit generation for a variety of carbon capture and sequestration ("CCS") projects. Application of CCS at bioethanol plants has been lauded by some as one of the lowest-cost and commercially-available sequestration opportunities.<sup>20</sup> In addition, many bioethanol plants capture CO<sub>2</sub> from the bioethanol fermentation process for use in a variety of commercial products including food processing and beverage manufacturing. For example, POET is currently the fifth largest producer of commercial CO<sub>2</sub> in the country. However, California's LCFS does not provide a pathway for credit generation for carbon capture and reuse (CCR), which includes the capture and use of CO<sub>2</sub> in commercial products.

To accurately value the benefits of CCR activities such as the capture and use of fermentation CO<sub>2</sub> for commercial purposes, Washington's Clean Fuels Program should take CCR into account when establishing a fuel's CI score. Indeed, the International Sustainability & Carbon Certification system and Europe's Renewable Energy Directive recognize the carbon reduction value of CCR.<sup>21</sup> Additionally, the federal Internal Revenue Service 45Q tax credit for CCS allocates credit for CCR as well as for CCS.<sup>22</sup> A modest change to the CA GREET calculator could address this issue, integrating CCR into a fuel's CI score. Washington's Clean Fuels Program could mirror the 45Q federal tax credit, awarding CI credit to entities that obtain IRS approval under the 45Q tax credit for CCS and/or CCR.

## **VI. CCS Protocol Clarification Related to CCS Operators**

The California LCFS's CCS Protocol contains detailed regulatory requirements for parties to generate credits from CCS projects. Given the nascency of this industry, a variety of business arrangements may exist between fuel producers, those generating CO<sub>2</sub> emissions to be sequestered, and entities sequestering CO<sub>2</sub>. However, the California LCFS does not allow CCS operators to delineate responsibilities where the CO<sub>2</sub> capture facility and the geological sequestration site are controlled by separate entities. POET encourages

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<sup>19</sup> *Livestock Projects*, California Air Resources Board (last visited Nov. 18, 2021), <https://ww2.arb.ca.gov/our-work/programs/compliance-offset-program/compliance-offset-protocols/livestock-projects>.

<sup>20</sup> See, e.g., D. Sanchez et al., *Near-term deployment of carbon capture and sequestration from biorefineries in the United States*, PROCEEDINGS OF THE NAT'L ACADEMY OF SCIENCES (2018), <https://doi.org/10.1073/pnas.1719695115>.

<sup>21</sup> See ISCC 205, § 4.3.7

[https://www.iscc-system.org/wpcontent/uploads/2017/02/ISCC\\_205\\_GHG\\_Emissions\\_3.0.pdf](https://www.iscc-system.org/wpcontent/uploads/2017/02/ISCC_205_GHG_Emissions_3.0.pdf); RED, Annex V (C)(15) ("Emission saving from carbon capture and replacement, eCCR, shall be limited to emissions avoided through the capture of CO<sub>2</sub> of which the carbon originates from biomass and which is used to replace fossil-derived CO<sub>2</sub> used in commercial products and services.").

<sup>22</sup> 26. U.S.C. § 45Q(f)(5) (2021).



Ecology to apportion liability for CCS to the entity in control of the sequestration activities. For example, renewable fuel producers generating LCFS credits for CCS may partner with a CCS company to ensure permanent sequestration of emissions. In this scenario, California LCFS regulations award CCS credits only to the “alternative fuel producer,” but both parties must “jointly” file a CCS project application.<sup>23</sup> The CCS Protocol places a variety of additional regulatory requirements related to well and plume monitoring, recordkeeping, post-injection site care, etc., on the “CCS Operator.” The Protocol defines a “CCS Operator” as “the operator responsible for the CCS project,” where a “CCS project” is defined as “the overall CCS project operations, including those of the CCS capture facility and geologic sequestration site and activities.”<sup>24</sup> It would be helpful for Ecology to clarify that where separate entities control (1) the CCS capture facility and (2) the sequestration facility and activities, the party responsible for the geologic sequestration site and all related activities is liable for leakage. This regulatory clarification is consistent with the responsibilities of the CCS Project Operator under the CCS Protocol (e.g., geologic site characterization, monitoring, operation of injection wells, post-injection site care and closure). In contrast, the sole role of the fuel producer is to provide the CO<sub>2</sub> for injection.

For guidance on how to award credits to fuel producers who contract with CCS capture facilities for sequestration, Ecology should look to the federal 45Q tax credit.<sup>25</sup> Under 45Q, a taxpayer is eligible for a tax credit if the person “captures and physically or contractually ensures...the disposal” of the CO<sub>2</sub>.<sup>26</sup> 45Q lists requirements for contracts between fuel providers and CCS capture facilities that provide for the sequestration of CO<sub>2</sub>.<sup>27</sup> As stated above, POET encourages Ecology to apportion liability for CCS to the entity in control of the sequestration activities. However, if Ecology decides to apportion liability to the CO<sub>2</sub> producer, POET encourages Ecology to adopt a liability scheme similar to that under 45Q. 45Q establishes a “recapture period” during which the taxpayer is required to repay the tax credit if a leak occurs. The recapture period begins on the date of the first injection CO<sub>2</sub> for disposal in secure geological storage for which the credit was claimed and ends either (1) three years after this taxable year in which the taxpayer claimed the credit or was eligible to claim the credit or (2) on the date the monitoring requirements under 45Q end.<sup>28</sup> If Ecology decides to apportion leakage liability to the CO<sub>2</sub> producer, this liability should be limited to a few years.

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POET strongly supports the Washington Clean Fuels Program. We appreciate Ecology’s consideration of these comments and look forward to engaging in a productive dialogue with the Agency on the Clean Fuels Program and the role biofuels play in helping Washington achieve its GHG reduction goals. If you have any questions, please contact me at Matt.Haynie@POET.COM or (202) 756-5604.

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<sup>23</sup> 17 C.C.R. § 95490(a), (c).

<sup>24</sup> *Carbon Capture and Sequestration Protocol under the Low Carbon Fuel Standard*, California Air Resources Board, [https://ww2.arb.ca.gov/sites/default/files/2020-03/CCS\\_Protocol\\_Under\\_LCFS\\_8-13-18\\_ada.pdf](https://ww2.arb.ca.gov/sites/default/files/2020-03/CCS_Protocol_Under_LCFS_8-13-18_ada.pdf), 9 (emphasis added) (2018).

<sup>25</sup> *Supra* note 21.

<sup>26</sup> *Id.* at § 1.45Q—1(h)(1)(i).

<sup>27</sup> *Id.* at § 1.45—1(h)(2)(ii).

<sup>28</sup> *Id.* at § 1.45Q—5(f).

Sincerely,

A handwritten signature in black ink, appearing to read "Matt", written in a cursive style.

Matthew Haynie  
Senior Regulatory Counsel  
POET, LLC