345 Inverness Drive South
Building C, Suite 310
Englewood, CO 80112

T 303-858-8358
F 303-858-8431
gevo.com

August 1, 2025

SUBMITTED VIA ELECTRONIC FILING

Adam Saul
CFS Rule Lead
Department of Ecology
P.O. Box 47600
Olympia, WA 98504-7600

RE: Gevo, Inc.'s Comments on the Washington State Department of Ecology's Proposed Revisions to the Clean Fuels Program Rule – Chapter 173-424 WAC

Dear Mr. Saul –

Gevo, Inc. (Gevo) appreciates this opportunity to comment on the Department of Ecology's Proposed Revisions to the Clean Fuels Program Rule – Chapter 173-424 WAC. Gevo is a next-generation diversified energy company committed to fueling America's future with cost-effective, drop-in low carbon fuels and chemicals that contribute to energy security and strengthen rural communities to drive economic growth, a mission aligned with the Washington's Clean Fuel Standard (CFS) and Clean Fuels Program Rule. Gevo's innovative technology can be used to make a variety of cost-effective renewable products, including transportation fuels, chemicals, and other materials that provide U.S.-made solutions. Gevo either produces, or has plans to produce, fuels across the full range of CFS categories, including low-carbon conventional ethanol, corn kernel fiber cellulosic biofuel, renewable natural gas, renewable naphtha, and renewable jet fuel,[1] and Gevo's subsidiary, Net-Zero Richardton, LLC (owner of the assets formerly held by Red Trail Energy, LLC), which we colloquially refer to as "Gevo North Dakota," currently participates in the CFS with qualifying low-carbon ethanol. Thus, Gevo has a keen interest in the CFS both in terms of our current participation and also with respect to the other low carbon fuels in our product slate.

[1] Gevo's "renewable jet fuel" meets the definition of "alternative jet fuel" as set forth in the CFS regulations at WAC 173-424-110(8). Accordingly, Gevo's use of the term "alternative jet fuel" in this comment letter should be deemed to include what Gevo typically refers to as "renewable jet fuel."

I. Gevo Supports the Department of Ecology's Proposal to Add Ethanol from Corn Kernel Fiber Cellulose to the Tier 1 Pathways

Gevo appreciates and strongly supports the Department of Ecology's proposal to add ethanol from corn kernel fiber cellulose to the Tier 1 pathways. Corn kernel fiber processing technology converts the lowest value component of the corn kernel into ethanol, resulting in more ethanol from the same bushels of corn and the generation of higher-value cellulosic gallons. The Gevo North Dakota ethanol facility produces ethanol from both the corn starch and the fiber in field corn (number 2 yellow dent corn), maintaining and delivering the protein from the corn into the feed market. Recognition of the corn kernel fiber ethanol pathway under Tier 1 of the Clean Fuels Program further supports the integration of this important cellulosic pathway as means to advance the State of Washington's emissions reduction goals.

II. Gevo Urges the Department of Ecology to Revise Its Biomethane and Avoided Methane Proposals in Line with the RNG Coalition Comments

Gevo is a producer of renewable natural gas (RNG) from three dairies, for which we installed dairy-manure biomethane capture and upgrading equipment, thereby producing pipeline quality RNG rather than allowing the methane from the manure to continue to be released from the dairy lots. As methane is a potent greenhouse gas (GHG), methane capture and repurposing RNG to displace fossil fuels is a highly effective GHG emissions reduction strategy. In addition, we note that the use of dairy digesters creates synergistic environmental benefits, as farmers can generate soil amendments that provide nutrients and decrease the amount of fertilizer needed.[2]

As a member of the RNG Coalition, Gevo endorses the RNG Coalition's separate comments raising concerns regarding and opposing the Department of Ecology's proposed time limits on avoided methane crediting and geographic restrictions on book-and-claim accounting for creditable RNG. Although Gevo currently participates in the California Low Carbon Fuels Standard program with the RNG from our project, the 30-year avoided methane crediting period currently in the Clean Fuels Program Rule plus the current book-and-claim accounting provisions provide us the opportunity to supply into the Washington market with our current or potential future RNG facilities. Yet, the proposed rule would cut the available crediting period to two 7.5-year blocks and impose strict pipeline deliverability requirements that limit book-and-claim accounting for RNG to within or directly into the State of Washington. These provisions discourage investment and would be counterproductive to the State's efforts to meet its emissions

[2] See, e.g., University of California, Agriculture and Natural Resources, "California Dairy Farmers Generate Renewable Energy from Waste," (Nov. 3, 2023) available at https://ucanr.edu/News/?postnum=58234&routeName=newsstory.

reduction goals. Therefore, Gevo joins the RNG Coalition in urging the Department of Ecology to withdraw these proposed rule revisions.

At the same time, however, Gevo appreciates and supports the exception to the strict RNG deliverability requirement that the Department of Ecology has proposed that would allow broader book-and-claim accounting of RNG for alternative jet fuel production. Using book-and-claim in this way removes the need for additional equipment and transportation of RNG, which unnecessarily increases the GHG emissions of RNG projects, thus enhancing emissions savings. As the Department has recognized, the production and deployment of renewable alternative jet fuel is critical to aviation decarbonization and should be facilitated by programs such as the CFS. However, while we support the book-and-claim provision for alternative jet fuel, as noted above, we urge the Department to broadly support RNG book-and-claim accounting for the broader slate of transportation fuels under the CFS and to decline to impose the geographical limits that have been proposed.

III. The Department of Ecology Should Not Restrict Book-and-Claim Accounting for Renewable Electricity Emissions Reductions

As noted above, book-and claim accounting is an important tool for increasing emissions reductions from low-carbon transportation fuels. This extends beyond the biogas/RNG example addressed above to renewable electricity. While Gevo appreciates the Department of Ecology's intent to authorize book-and-claim accounting for renewable electricity under the CFS, we are concerned that the restrictions the Department of Ecology has proposed will be counterproductive.

Specifically, as with biogas/RNG book-and-claim provisions, the Department proposes a restrictive regionality requirement for renewable electricity book-and-claim, which would severely limit the ability of low-carbon transportation fuel producers without direct access to renewable electricity to use renewable energy certificates (RECs) to enhance emissions savings. *See* 173-424-630(5)(c). In addition, the Department has proposed a strict additionality requirement, which would further narrow the pool of eligible renewable energy projects from which producers can purchase RECs. *Id.* These restrictions would limit producers' ability to invest in the very measures the CFS intends to incentivize. Accordingly, we urge the Department of Ecology to decline to implement these restrictions and to make renewable electricity book-and-claim accounting more broadly available under the CFS.

In addition, we are concerned that the language in WAC 173-424-400(i), which states that RECs "used or claimed in any other program or jurisdiction with the exception of the federal RFS and the Climate Commitment Act" may not be credited under the CFS, implies that renewable fuel producers that use RECs under the 45Z Clean Fuels Production Credit tax incentive program could not claim those RECs under the CFS.

That would not make sense, because the GHG emissions from electricity that the State of Washington would then be "counting" under the CFS would already have been mitigated. Furthermore, although GHG emissions are used for calculations made under 45Z, as indicated in the tax credit's title, 45Z is a Clean Fuels Production Credit (emphasis added) program, generally akin to the RFS. It is not a GHG cap program. Accordingly, we respectfully request that the Department of Ecology revise WAC 173-424-400(i) to clarify that low-carbon fuels may use RECs to earn both CFS credits and the 45Z federal tax credit.

IV. Gevo Urges the Department of Ecology to Revise the Indirect Land Use Change Inputs and Credit Emissions Reductions from Climate Smart/Regenerative Agriculture Practices

Although the Department of Ecology has asserted that indirect land use change (iLUC) values are "out-of-scope" for this rulemaking, Gevo urges the Department to revisit this issue. In addition, we urge the Department to work toward crediting the emissions savings from climate smart/regenerative agriculture practices under the CFS.

Specifically, we encourage the Department of Ecology to use the authority it has under WAC 173-424-600(1) and (2) to revisit and revise the iLUC approach and calculations now in place under the WA-GREET model. Currently, WA-GREET assigns an indirect land use change (ILUC) penalty of 19.8g/MJ for cornstarch bioethanol. This number is largely based on outdated and flawed data. As several studies and technical reports have pointed out, iLUC values have historically trended downward over time as iLUC models have improved.[3,4]

Argonne National Laboratory (ANL) incorporates data based on the latest science when it issues new models. Accordingly, the most appropriate approach based on the best science would be for the Department of Ecology to adopt the ANL's iLUC factors from its 2025 issuance of the 45ZCF-GREET model (the most recent version was issued in May 2025) or, as an alternative, ANL's Greenhouse Gases, Regulated Emissions, and Energy Use in Technologies (GREET) model suite (now referred to as "R&D GREET") using CCLUB for iLUC calculations. ANL's 45ZCF-GREET model and R&D GREET are the most up-to-date and scientifically supported models, and R&D GREET is updated annually. Using this approach would be fully consistent with WAC 173-424-600(2)(d), which expressly calls for consideration of CCLUB for iLUC.

---

[3] Lee et al. (2021). Retrospective analysis of the corn ethanol industry for 2005-2019. Biofuels, Bioproducts & Biorefining.

[4] Scully et al. (2021). Carbon intensity of corn ethanol in the US: State of the science. Environmental Research Letters.

Separately, the Department should adopt provisions to recognize the emissions benefits and other ecosystem services from climate smart agriculture (CSA)/regenerative agriculture. Specifically, the Department should credit carbon intensity reductions in feedstocks that result from adoption of climate-smart agriculture practices, including: soil practices that increase soil organic carbon such as reduced, strip, or no-tillage; cover crops; application of manure; and other beneficial soil additives such as compost; as well as precision application of or enhanced-efficiency fertilizers, which are critical for reducing N2O emissions from agriculture. These practices can bring significant GHG emissions reductions to the agricultural sector, as recognized by the U.S. Department of Agriculture, the National Academy of Sciences, the IPCC, and others.[5,6,7] Moreover, these practices can simultaneously support a host of other environmental benefits, including improving water quality, reducing soil erosion and improving soil health, and improving crop resilience against climate change. Hence, they should be incentivized through CFS crediting to drive adoption of these important practices.

V. Gevo Urges the Department of Ecology to Make the Renewable Naphtha Definition Feedstock and Process Neutral

The Clean Fuels Program Rule generally includes definitions that reflect the array of feedstocks and processes that generate renewable fuels, and the Department of Ecology has made various proposals in this rulemaking to extend that practice. Unfortunately, however, the Department's proposed definition of "renewable naphtha" would do the opposite. Specifically, the Department proposes to change the definition of renewable naphtha from "naphtha that is produced from "nonpetroleum renewable resources" to one that specifies that renewable naphtha "means naphtha that is produced from hydroprocessing lipids and biocrudes, or from gasified biomass that is

[5] J. Rosenfeld, J. Lewandrowski, T. Hendrickson, K. Jaglo, K. Moffroid, and D. Pape, 2018. A Life-Cycle Analysis of the Greenhouse Gas Emissions from Corn-Based Ethanol. Report prepared by ICF under USDA Contract No. AG-3142-D-17-0161. September 5, 2018.

[6] National Academies of Sciences, Engineering, and Medicine. 2019. Negative Emissions Technologies and Reliable Sequestration: A Research Agenda. Washington, DC: The National Academies Press. doi: https://doi.org/10.17226/25259.

[7] Nabuurs, G-J., R. Mrabet, A. Abu Hatab, M. Bustamante, H. Clark, P. Havlík, J. House, C. Mbow, K.N. Ninan, A. Popp, S. Roe, B. Sohngen, S. Towprayoon, 2022: Agriculture, Forestry and Other Land Uses (AFOLU). In IPCC, 2022: Climate Change 2022: Mitigation of Climate Change. Contribution of Working Group III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change, P.R. Shukla, J. Skea, R. Slade, A. Al Khourdajie, R. van Diemen, D. McCollum, M. Pathak, S. Some, P. Vyas, R. Fradera, M. Belkacemi, A. Hasija, G. Lisboa, S. Luz, J. Malley, (eds.)]. Cambridge University Press, Cambridge, UK and New York, NY, USA. doi: 10.1017/9781009157926.009.

being converted to liquids using the Fischer-Tropsch process," stating that the definition would also include "the renewable portion of a naphtha fuel derived from co-processing biomass with a petroleum feedstock." (Proposed at WAC 173-424-110(139).

Gevo's process for producing renewable alternative jet fuel from corn starch (and other sources of starch), which is an alcohol-to-hydrocarbons conversion process, can also generate both renewable diesel and renewable naphtha as renewable hydrocarbon fuels alongside our alternative jet fuel. There is no rational reason for excluding such truly renewable naphtha from the CFS eligibility, and to do so would unnecessarily limit the effectiveness of the LCFS. Moreover, by enumerating specific technologies and feedstocks (and in this case, so few), the Department would be creating an administrative barrier to the types of innovations the State wants to encourage, as regulatory revisions would have to be made each time a new feedstock or production process (or new combination thereof) were introduced. Accordingly, as noted, we urge the Department to make this definition neutral as to non-fossil feedstocks and production processes.

VI. Conclusion

Thank you for the opportunity to comment on the Department of Ecology's rulemaking under the CFS. Please let us know if you have any questions regarding our comments. We look forward to continuing to work with you on this important program.

Respectfully,

Kent Hartwig
Director of State Government Affairs
Gevo, Inc.

Nancy N. Young
Chief Sustainability Officer
Gevo, Inc.