December 21, 2022

Dr. Cheryl Laskowski,

Branch Chief, Low Carbon Fuel Standard Team

California Air Resources Board

Submitted via LCFS Comments Upload Link

RE: Comments on “Potential Changes to the Low Carbon Fuel Standard”

Dear Dr. Laskowski:

Thank you for the opportunity to comment on the California Air Resources Board’s (CARB) public workshop on Potential Changes to the Low Carbon Fuel Standard (LCFS). Gevo, Inc. (Gevo) supports this highly successful program and continues to encourage CARB to be innovative in its life-cycle assessment (LCA) approach, specifically in recognizing all the carbon reductions associated with modern-day agriculture and renewable natural gas (RNG) projects. Please see our comments from September 19th that highlight Gevo’s commitment to including all of a project’s greenhouse gas (carbon) reductions in the CA-GREET LCA.

Gevo’s mission is to produce energy-dense liquid hydrocarbons for drop-in transportation fuels such as gasoline, jet fuel, and diesel. Gevo’s production process uses a combination of decarbonization technologies and sustainably-farmed feedstock to produce fuels with substantially reduced carbon intensity (CI) compared to fossil fuel equivalents. We broke ground on our first sustainable aviation fuel (SAF) production facility, “Gevo Net-Zero 1” (NZ1), in Lake Preston, SD in October 2022. This facility will use a three-part strategy to produce low-CI SAF: 1) use locally-sourced corn feedstock from farmers engaged in sustainable agriculture to both reduce on-farm greenhouse gas (GHG) emissions and sequester CO2 in the soil; 2) decarbonize the fuel production process by replacing conventional fossil fuel inputs with wind energy, renewable natural gas, and green hydrogen; and 3) use carbon capture and sequestration (CCS) technology to further reduce emissions from the production process. The Gevo approach attempts to decarbonize every step of the fuel’s life cycle.

Gevo also owns and operates Gevo NW Iowa RNG, LLC, a dairy-manure biomethane capture and upgrading facility located in northwest Iowa. This project is actively producing pipeline-quality renewable natural gas and will be seeking LCFS registration in 2023.

Based on the November 9th LCFS Workshop, Gevo offers the following comments regarding areas of support and concern for potential changes to the program.

**Gevo supports the Coalition for Renewable Natural Gas positions concerning biomethane projects under the LCFS, including:**

* Avoided methane crediting should continue under the LCFS without phase-out requirement
  + Avoided methane crediting makes agricultural RNG projects possible and incentivizes maximum greenhouse gas capture during RNG production
  + Arbitrarily phasing out avoided methane crediting risks destabilizing investor confidence in LCFS projects and GHG reduction projects more generally. The LCFS has played a critical role in strengthening the business case for low-carbon fuels, and changes to LCFS crediting should be informed by the tangible GHG benefits of low-carbon fuels projects. Phasing out credits that incentivize methane reductions sends a message of arbitrary inconsistency to project investors.
* Book and Claim accounting for biomethane projects should continue without limitation
  + Instead of limiting RNG supply, CARB should consider LCFS changes that broaden the opportunity to use renewable gases and increase the pace of decarbonization. For example, CARB could adjust the rules to expand the use of book-and-claim accounting to allow RNG to be used for process energy in biofuel production facilities serving California.[[1]](#footnote-2)

**LCFS needs to provide long-term market incentives to build capital intensive low-carbon fuels projects including advanced biofuel facilities that utilize crop-based feedstocks**

Referencing the scenarios provided in the November 9th workshop and the subsequent California Transportation Supply (CATS) Model on December 6th, Gevo strongly supports Scenario C. Scenario C achieves the quickest decarbonization without presenting the issues raised by Scenario A and B. Scenarios A and B would implement unwarranted and disruptive changes to the LCFS by altering the crediting of biomethane and imposing caps on renewable diesel and biodiesel made from vegetable oils.

While all three scenarios ultimately end at a 90% reduction in 2045, Scenario C’s reduction percentage allows for faster decarbonization beginning in 2025 compared to the other two. These early reductions are vital to the effort to moderate climate change and are significant in reducing carbon emissions over the entirety of the program. As you know, carbon dioxide persists in the atmosphere for decades. Therefore, reducing fossil carbon emissions at the earliest possible time creates an exponential benefit on long term carbon reduction. With Scenario C’s increased reduction percentage, CARB will see greater total fossil carbon reductions over the time period than Scenarios A and B. For this reason, Gevo strongly supports Scenario C.

**Potential Changes to Crop-Based Biofuels Assumptions**

Gevo has remained consistent in our opposition to limits on crop-based biofuels within clean fuel standards on the West Coast. While the potential limits on oil feedstocks do not specifically impact the fuel Gevo will produce, it does send a negative message to the sustainable aviation fuel sector that future agricultural feedstock limits could be imposed. This creates uncertainty in the biofuel market we are trying to access and will impede our ability to rapidly expand the supply of low carbon fuels. If feedstock limits on crop-based biofuels are enacted, it will have an immediate negative impact on SAF production and the ability to supply SAF into the California market.

Based on the principles of technology neutrality and scientifically-based GHG analysis, Gevo does not support mechanisms within the LCFS market that place any fuel at a disadvantage that are not grounded in life cycle analysis. The LCFS is designed to incentivize fuels based on their real and tangible greenhouse gas reductions. Restricting crop-based biofuels based on choice of feedstock rather than on greenhouse gas reductions lacks merit and stifles the substantial innovation and effort made to reduce greenhouse gas emissions in the biofuels market. Artificial barriers to innovation prevent qualifying low carbon fuels from helping California meet its carbon reduction goals.

The core structure and design of the LCFS program eliminates the need to exclude specific feedstocks. The program assesses a fuel's carbon intensity based on a complete life cycle analysis and establishes a value for the fuel based on this score, thereby disincentivizing any fuel that does not provide a significant GHG reduction. In particular, the LCFS disincentivizes feedstocks that lead to deforestation, land conversion, and negative food supply impacts by evaluating any induced land use change (iLUC) as a component of the CI score. The iLUC score currently makes up a substantial 20-30% of the CI benchmark for corn and soybean-based fuels, representing an already-significant penalty imposed on the fuel. An additional feedstock limit on top of the iLUC score essentially penalizes biofuel producers twice for an issue that is already addressed in the LCFS and is out of alignment with the best data and science pertaining to potential land use conversion from biofuels. No other clean fuels policy in the United States or internationally imposes both a feedstock limit and a punitive iLUC CI score on the same fuel.

The feedstock-agnostic approach works, and no other interventions are needed to limit biofuels in the system. Artificial and arbitrary limits on crop-based biofuels go against the market approach established a decade ago and will harm California’s access to lower carbon liquid transportation fuels, including SAF.

Gevo encourages CARB to re-affirm its commitment to technology-neutral life cycle analysis, not impose non-scientific bans or caps, and to support climate smart agriculture that directly lowers the carbon intensity of crop-based biofuels implementing on-field practices that sequester carbon and improve soil health.

Chart, line chart

Description automatically generatedThank you for the opportunity to comment on the CARB workshops on “Potential Changes to the Low Carbon Fuel Standard.” We look forward to participating in this program as Gevo grows the production of SAF and other biofuels.

Respectfully,



Kent Hartwig Karyn Jones

Director of State Government Affairs Director of Sustainability

Logo

Description automatically generated Logo

Description automatically generated

Gevo, Inc. Gevo, Inc.

1. We recommend building this option into the Tier 1 calculators. [↑](#footnote-ref-2)