Amp Americas

December 13, 2024

Adam Saul
Washington Department of Ecology
300 Desmond Drive SE
Lacey, Washington

Re: Comments on Proposed Update to Clean Fuel Standard Program Rules (173-424 WAC)

Dear Mr. Saul:

Amp Ampericas ("Amp") appreciates the opportunity to comment as during the Clean Fuel Standard ("CFS") Informal Comment Period #4 regarding the November 2024 CFS draft rule language. Amp appreciates Washington's leadership in reducing greenhouse gas ("GHG") emissions from the transportation sector and promoting investment in low-carbon fuels, and strongly supports the CFS.

We endorse comments submitted by the Renewable Natural Gas Coalition, and among other observations, emphasize in these informal comments that avoided methane crediting and book-and-claim accounting mechanisms are absolutely critical to supporting renewable natural gas ("RNG") projects, associated methane emission reductions, and the program's overall objectives. In particular, Amp:

- Opposes the proposed limits on avoided methane crediting
- Opposes deliverability requirements on RNG
- Supports establishing a "true-up" mechanism
- Supports development for RNG pathways to electric vehicle ("EV") charging, or to produce hydrogen, alternative jet fuel, alternative marine fuel, or renewable diesel.

About Amp

Founded in 2011, Amp develops, owns, and operates RNG facilities that convert dairy waste into renewable energy. Over our history, Amp's projects have prevented over 2 million metric tons of carbon equivalent emissions, and we plan to rapidly expand our impact over the next several years.

As a pioneer in the dairy RNG industry, Amp registered the first 5 dairy RNG-to-CNG pathways in California's Low Carbon Fuel Standard ("LCFS") program and supplied RNG for the first 11 dairy RNG-to-hydrogen pathways. Our experience developing, operating, and reporting on these and other assets gives us a unique perspective on the impact CFS policies have on investment and

project development activity related to low carbon fuels. Our projects and resulting methane and carbon dioxide reductions have been made possible by clean fuel policies, and we encourage Washington maintain a technology-neutral, performance-based policy framework that will allow the CFS to continue driving emissions reductions.

Rapidly Reducing Potent Methane Emissions Critical to Addressing Climate Change

Methane is a potent GHG, with a global warming potential over 80 times greater than carbon dioxide ("CO_2") over a 20-year period, and it is responsible for an estimated 25-30% of current warming effects. However, it is also short-lived in the atmosphere – existing for about a decade, compared to over a century for CO_2 and other long-lived gasses – which means that reducing methane emissions in the near-term presents a tremendous opportunity to rapidly reduce the impacts of climate change *and may be the most important action we can take to do so*.

Per the United Nations, "if the world is to achieve the 1.5°C temperature target, it must make deep methane emission reductions."[1] The UN Environment Programme's 2021 *Global Methane Assessment: Benefits and Costs of Mitigating Methane Emissions* states:

> *Reducing human-caused methane emissions is one of the most cost-effective strategies to rapidly reduce the rate of warming and contribute significantly to global efforts to limit temperature rise to 1.5°C. Available targeted methane measures, together with additional measures that contribute to priority development goals, can simultaneously reduce human-caused methane emissions by as much as 45 per cent, or 180 million tonnes a year Mt/yr, by 2030.*[2]

Avoided Methane Crediting to Supporting RNG Project Development

Dairy biogas projects are low cost in terms of GHG reductions, but high cost in terms of energy production. In order to sustain investment in these projects and continued methane reductions, the GHG reductions from these projects (that is, avoided methane) need to be accounted for and valued. That's why clean fuel standards have succeeded in scaling dairy digester and RNG development, when other approaches have not—lifecycle accounting explicitly values avoided methane emissions, which supports low-cost climate mitigation where energy-only markets cannot.

<u>Continuing avoided methane crediting under the CFS is absolutely critical to maintaining the viability of existing projects and development of new ones.</u> Dairy digester projects cost tens to hundreds of millions of dollars and take 2-3 years to develop and construct. Financing, and

[1] https://news.un.org/en/story/2021/10/1104492

[2] UN Environment Programme, *Global Methane Assessment: Benefits and Costs of Mitigating Methane Emissions, dated 2021 (*https://www.unep.org/resources/report/global-methane-assessment-benefits-and-costs-mitigating-methane-emissions)

therefore total project costs, are tied to ongoing revenue streams, and limiting the availability of methane crediting will significantly increase costs, even for those projects that still may be developed, as returns would significantly diminish over an expected 20+ year project life. Dairy digester projects also have real and significant operating and maintenance costs, including significant capital investments required to periodically replace the digesters themselves. They rely on continuous revenue streams to remain viable, and it is incorrect to assume that once a digester is built, it will continue operating and avoiding methane emissions in perpetuity. The simple fact is that when costs exceed revenues, digesters will cease to operate, and the associated methane and carbon reductions will cease to materialize. That is the condition that clearly existed before policies began valuing avoided methane emissions.

In Amp's December 21, 2022 public comment letter to California Air Resource Board on the LCFS November 2022 Workshop, Amp provided the economics behind a dairy digester, which concluded that dairy RNG projects will never be economical compared to natural gas and power without avoided methane credits.[3] So long as we wish to prevent methane emissions from agriculture, we need to reward methane avoidance.

Ultimately, avoided methane crediting provides the source of revenue for these projects that allows developers to invest. If in the future, farm methane emissions are regulated directly, milk buyers will foot the bill for reducing emissions through milk prices or government will directly subsidize digesters. But until then, avoided methane crediting is the only proven way to support the development, ongoing operations, and associated emissions reductions that dairy digesters provide.[4]

Amp opposes arbitrary limits on avoided methane crediting

Avoided methane crediting is both scientifically accurate and proven successful at supporting project development and significant methane reductions. Amp strongly opposes the proposed restrictions on avoided methane crediting, which would arbitrarily restrict crediting opportunities for dairy RNG projects compared to other pathways, limit new project development and likely lead to removal of existing digester projects—and increased methane and carbon emissions—once avoided methane crediting periods end.

Amp opposes adding new deliverability requirements for RNG projects

Washington imports nearly all of its natural gas from Canada. Any biomethane injected into the pipeline system under the CFS displaces fossil natural gas that would otherwise be imported. Unlike the fragmented and isolated electricity markets in the western U.S., the North American natural gas system is deeply interconnected. This system has moved away from point-to-point

[3] https://www.arb.ca.gov/lists/com-attach/125-lcfs-wkshp-nov22-ws-VzZcN1EgAg5QOghr.pdf
[4] https://onlinelibrary.wiley.com/doi/10.1111/gcbb.13101

delivery models, adopting trading hubs and flexible receipt and delivery points to provide customers with a variety of market options.

The North American natural gas market operates similarly to a book-and-claim system, where buyers do not physically receive the exact molecules of gas injected by their supplier. Instead, they receive an agreed-upon amount of gas based on a mass-balance that corresponds to the supplier's injection elsewhere in the system. This approach has proven efficient for managing natural gas supplies across the continent. It should continue to be leveraged to decarbonize gas end uses effectively and affordably. Under the CFS, RNG should be treated on equal footing with fossil natural gas—the CFS should utilize book-and-claim for RNG pathways and avoid imposing deliverability requirements.

Amp supports developing RNG for stationary sources and EV charging

The proposed phaseout of avoided methane crediting and book-and-claim deliverability is counter-productive and not supported by science. Still, we appreciate that Washington is moving towards EV charging, or to produce hydrogen, alternative jet fuel, alternative marine fuel, or renewable diesel with renewable gas supplies to help decarbonize stationary sources and other low carbon fuels. Amp supports Washington's overall decarbonization goals and its efforts to develop RNG supplies to decarbonize stationary sources in all sectors of the economy. Provisions in the proposed amendments help support transitioning RNG to ZEV fuels and stationary sources, but we encourage additional steps to further assist the transition, specifically:

- **Do not phase out avoided methane crediting and book-and-claim eligibility for all RNG pathways**.
- **Allow RNG book-and-claim eligibility for electricity production at power plants** to charge EVs.
- **Allow RNG book-and-claim eligibility for process energy for any transportation fuel pathway,** in order to begin to shift RNG away from transportation to stationary sources.

Enabling book-and-claim delivery for RNG sourced from projects in North America to be eligible for both electricity generation, hydrogen production *and* other low carbon fuel production would align with state goals. We recommend making a similar change to Section 173-424-600(7) to expressly allow book-and-claim delivery for biomethane used for process energy (e.g., in all fuel production). This will serve as another mechanism to promote shifting RNG from transportation to stationary applications.

A significant portion of the CFS value generated from RNG flows to the stations that distribute fuel, and this same dynamic would apply to RNG-to-electricity-to-EV pathways, accelerating EV adoption by injecting additional CFS value into the EV ecosystem.

Amp supports establishing a "true up" mechanism

Finally, Amp strongly supports creating a "true up" mechanism is Section 173-424-610(9)(m). RNG pathways encompass living, biological systems, and several parameters beyond the control of a pathway holder can affect the carbon intensity of a pathway (for example, temperature, herd count, changes to the manure volatile solid content, unplanned equipment downtime, evolving energy efficiency due to equipment age, force majeure events, manure collection practices, water usage, dairy feed and others). Due to these unpredictable and uncontrollable factors, verified pathways may deviate from provisional pathways through no fault of the project developer. A true up mechanism will protect the environmental integrity of the program and maintain rigorous accounting and verification, while allowing flexibility to accommodate reasonable uncertainties.

Closing

Thank you again for the opportunity to comment on proposed changes to the CFS during this informal comment period. The program is a critical tool to help decarbonize Washington's transportation sector, and robust avoided methane crediting and book-and-claim accounting are critical to its success. By avoiding limits on avoided methane crediting or requirements for physical delivery of RNG, the state will best support existing and new projects to reduce methane emissions and deliver low carbon fuels.

We appreciate your consideration of these recommendations and welcome continued engagement as the rulemaking process progresses. Please do not hesitate to contact us for further information or clarification.

Sincerely,

Cassandra Farrant

Cassandra Farrant
Head of Environmental Credit Compliance
Amp Americas