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November 10, 2021

Re: Rulemaking – Informal Comment Period for Chapter 173-424 WAC, Clean Fuels
To: Abby Brown, Debebe Derieri – Washington State Department of Ecology

Thank you for the opportunity to submit comments on behalf of Pacific Ag and its subsidiary, Pacific Ag Renewables (PAR) to the Department on its development of the Clean Fuels Standard (CFS).

Pacific Ag is a 23-year-old Oregon company operating as the largest crop residue harvest and supply company in North America. Its subsidiary PAR is developing a large scale renewable natural gas (RNG) project in the Yakima Valley of SE Washington utilizing dairy manure and crop residue as feedstock. We expect the RNG biofuel production from this facility to begin in the 2nd Quarter of 2023. In addition, we are actively developing a 2nd RNG project in the Yakima Valley. Both plants would add significantly to the low carbon intensity, cellulosic biofuel production capacity in Washington State.

PAR's comments for the Department's consideration center on three topics:

1. Bioenergy Carbon Capture and Sequestration (BECCS)

To meet Washington's ambitious goals for achieving 45% of 1990 levels by 2030 and net zero by 2050 it is critical for the CFS to incorporate bioenergy with carbon capture and sequestration technology as enabled by Section 6 of HB 1091.

We ask that the Department permit all forms of measurable and verifiable BECCS technology to participate in the CFS. Technology related to carbon sequestration is advancing quickly and like the CFS's performance-based standard for fuel technology, we ask that this same approach be applied to BECCS.

In HB 1091, which formalized the creation of the Clean Fuel Standard (CFS), Section 6 states that:

"The rules adopted under sections 3 and 4 of this act may allow the generation of credits from activities that support the reduction of greenhouse gas emissions associated with transportation in Washington, including but not limited to:

(a) Carbon capture and sequestration projects, including but not limited to:



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- (i) Innovative crude oil production projects that include carbon capture and sequestration:
- (ii) Project-based refinery greenhouse gas mitigation including, but not limited to, process improvements, renewable hydrogen use, and carbon capture and sequestration; or
- (iii) Direct air capture projects;"

Further, we feel that measurable and verifiable carbon capture and sequestration, when resulting from the production of a biofuel like RNG, should be considered as part of the carbon intensity (CI) scoring for said biofuel production facility.

When measurable and verifiable, BECCS is a valid and essential tool to support the State's Clean Fuels goals.

2. Recognition of the Potential Avoided Emissions from Permitted Field Burning

Washington State in 2020 was the 4th largest wheat producing state in the US adding nearly \$1 Billion to the state's economy, and roughly 11,000 jobs for the people living in the south central and southeastern part of the state, where wheat is grown.

The Department of Ecology administers a crop residue field burning program with no statutory limit on acres burned that for the last 5 years has averaged issuing permits for around of 100,000 acres annually that in 2020 emitted 23,998 kg/CO₂e MT Methane (CH₄) and 6,452 kg/CO₂e MT Nitrous Oxide (N₂O).

RNG production via anaerobic digestion provides a valuable avoided emissions opportunity to the existing practice of permitting the open field burning of agricultural residue. Biofuel production using agricultural residues such as wheat straw, provides significant benefits in the form of avoided GHG emissions. As well, this alternative use of waste material provides substantial health and safety co-benefits by reducing criteria pollutant emissions, including PM_{2.5}, which is associated with significant human health impacts, and may be exacerbating those health impacts associated with COVID19. Given the approximate 10-year outlook for high wildfire risk in the PNW, the combined benefits of reducing GHG and other criteria pollutant emissions associated with human health risks should not be ignored. (Please see attached the Life Cycle Associates Memo on potential avoided emissions)

We ask that the Department permit the recognition of avoided greenhouse gas emissions from crop burning in the use of crop residues as a feedstock for RNG. In addition to the avoided emissions, health and safety benefits related to reduction of criteria pollutants and



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wildfire risk, recognizing the benefits of crop residue feedstock provides an economic incentive for more in-state biofuels production in the south central and southeastern part of the state, where wheat is grown.

3. Determining the Carbon Intensity of Electricity -- Utility-Specific CI

The Oregon Clean Fuels Program allows the option for a utility-specific carbon intensity. An electric utility may apply to obtain a utility-specific carbon intensity under OAR 340-253-0470 (3) that reflects the average carbon intensity of electricity served in that utility district.

We ask that the Department follow the Oregon CFS example and allow for a utility-specific carbon intensity for electricity that will serve a biofuels plant.

Thank you for considering our Initial comments as you proceed with the rulemaking. We look forward to continuing to work with you to advance low-carbon biofuels In Washington state.

Sincerely,

Harrison Pettit

Harrison Pettit
Pacific Ag/Pacific Ag Renewables
Vice President/Partner