November 4, 2026

Lauren Sanner
Washington State Department of Ecology
Climate Pollution Reduction Program

Re: Informal Comments on WA-GREET 4.0

Dear Ms. Sanner and Department of Ecology,

Please accept these comments from the Friends of Toppenish Creek regarding updates to the proposed WA-GREET modeling and simplified calculators for use in the Clean Fuel Standard.

FOTC is a 501 C (3) non-profit group from the Yakima Valley that addresses the impact of industrial agriculture on the environment and public health. A foundational premise for FOTC is that serious negative impacts from concentrated animal feeding operations (CAFOs) in the Yakima Valley would not exist if there were fewer dairy cows (a reasonable number of cows) per square mile. Currently there is no limit on the number of cows that a dairy can house in a small area, and this leads to concentration of nitrates in groundwater and concentration of pollutants in the surrounding air.

But that is beside the point of this comment letter. It appears that WA lawmakers are trying to adapt to a difficult situation by capturing part (less than half) of the methane produced by dairy cows in our state and refining it into renewable natural gas. This gas is renewable because cows produce methane all day, every day.

There are many complicating factors involved in using negative Carbon Intensity (CI) Scores when calculating benefits from avoided methane. Please consider these scenarios:

1. A Simplified Model:

An average milk cow emits about 150 to 260 pounds of methane per year from burping and farting – enteric emissions.

Storing manure in anaerobic lagoons creates approximately an additional 150 to 260 pounds of methane per year per cow.

Currently there is no methodology for capturing enteric methane. Methane from manure lagoons can be captured by covering the lagoons and diverting that methane to manure biodigesters.

Suppose there is a county with 100,000 milk cows. And each cow produces 200 pounds of methane per year. This means that 100,000 cows produce 20,000,000 pounds of methane per year or 10,000 tons of methane per year from enteric fermentation. (0.1 ton per cow)

The dairies in this area also produce about 10,000 tons of capturable methane per year in anaerobic manure lagoons.

Suppose that officials want to reduce the methane in the atmosphere by capturing methane from lagoons and using it as renewable natural gas (RNG). Suppose officials have access to large amounts of green money from a climate commitment act. They decide to pay dairies $10.00 for each ton of methane that is captured and refined into RNG. This project would cost $100,000 per year from public funds.

A 1,000 cow dairy could make $1,000 per year from manure methane. And there would be 100 tons less methane in the ambient air every year from this dairy.

Number of cows	Enteric Emissions	Lagoon Methane	Captured Methane	Final Methane	Cost
1,000	100 tons	100 tons	0	200 tons	0

Number of cows	Enteric Emissions	Lagoon Methane	Captured Methane	Final Methane	Cost
1,000	100 tons	100 tons	0	200 tons	0
1,000	100 tons	100 tons	100 tons	100 tons	$1,000

Suppose the dairyman decides to increase his herd size

Number of cows	Enteric Emissions	Lagoon Methane	Captured Methane	Final Methane	Cost
1,000	100 tons	100 tons	0	200 tons	0
1,000	100 tons	100 tons	100 tons	100 tons	$1,000
2,000	200 tons	200 tons	200 tons	200 tons	$2,000

The dairy is $2,000 richer. Tax payers are $2,000 poorer. And the amount of methane in the ambient air is the same as before the intervention.

2. It is well established that methane is created when manure is stored in anaerobic manure lagoons that are part of the process when dairies employ liquid manure management as opposed to dry manure management.

There are two primary methods of removing manure from dairy barns when animals are kept on concrete and under cover rather than in open pens and corrals. Dairies may use flush systems that wash manure out of the barns and into lagoons. Or dairies may use scrape systems that involve mechanical removal of manure and storage of solid manure in stacks or compost yards. There are significant advantages and disadvantages to both. Dairies employ both systems in milk parlors as well.

One of the big disadvantages of flush systems is that more water is required in flush systems. At this time FOTC estimates that water requirements may be as low as 45 gallons per cow per day using scrape systems and over 85 gallons per cow per day using flush systems. This is very important in the Yakima Valley where dairies pump millions of gallons of groundwater per day from falling aquifers and everyone is forced to deal with frequent periods of drought.

To our understanding there are progressive dairymen who would be willing to convert flush systems to scrape systems, but the costs for conversion can run into millions of dollars.

We wonder how the one-time costs of conversion compare to the ongoing costs of managing methane from anaerobic lagoons far into the future.

3. Washington is currently allocating large amounts of CCA monies toward construction of manure methane biodigesters. This leads to a market for renewable natural gas (RNG) that is only possible when there are massive subsidies for research, development and construction. The presumption is that new practices will be economically sustainable after subsidies stop. There are no guarantees of sustainability.

To entice energy producers and sellers to purchase and use RNG, the current GREET model assigns negative Carbon Intensity (CI) Scores to RNG created from animal manure. In California some dairies have obtained negative CI scores as low as -700 for manure methane from digesters. It appears that the sole purpose of negative CI scores is to change behaviors; to employ carrots as opposed to sticks; to convince dairies to use digesters. And it appears that negative CI scores only apply to dairies that chose practices that unnecessarily create methane.

In California one dairy has obtained CI scores of -1,887.35 when manure methane is used to eventually produce hydrogen fuel. See this post from Hydrogen Fuel News, available at Hydrogen Fuel News

> ***H2B2 Electrolysis Technologies*** *just got the green light from the* ***California Air Resources Board*** *for its innovative SoHyCal pathway at* ***Bar 20 Dairy*** *in the San Joaquin Valley. With a remarkable carbon-intensity score of -1,887.35 gCO_2e/MJ, it's making*

*waves under the state's **Low Carbon Fuel Standard**. This facility is not just your average setup; it's utilizing biogas from one of Fresno County's largest dairies to create electricity and then using that electricity for electrolysis to produce green hydrogen for California's refueling stations. It's a unique hybrid system that integrates covered lagoon digestion, biogas-to-electricity conversion, and electrolysis, and it's sparking some heated policy discussions.*

To be very blunt, this raises multiple red flags. How can a clean energy project possibly reduce greenhouse gas emissions to such a degree that it deserves a negative CI of -1,887.35?

From a LYV perspective this sort of project in our community would see substantial profits only if a dairy expanded and produced more manure methane, not less. And this sort of project would increase rather than decrease enteric fermentation.

With these scenarios in mind, FOTC respectfully and firmly asks Ecology to considering removing all negative CI scores from the GREET calculations. The benefits would be significant:

- Washingtonians would experience increased confidence in our policy makers to actually protect our environment and public health because the assignment of CI scores would more accurately reflect what is happening in the real world.
- Ecology staff would be relieved of the work of calculating and justifying complex formulas that do not reflect what is happening in the real world. Ecology staff is overworked and this simplification would free them to work on more important topics.
- This would reduce complaints from the public when we see CCA monies diverted to projects that are speculative and only beneficial on paper. Please see comments submitted yesterday from Methane Action, Front and Centered, Center for a Sustainable Economy, 350 Seattle, Northwest Animal Rights Network, the Humane League, Pasado's Safe Haven, government Accountability Project, and FOTC to understand why we complain.

The State of New Mexico is already looking at this alternative way of addressing manure methane emissions by reducing or eliminating negative CI scores. Washington should do the same.

Sincerely,

Jean Mendoza

Jean Mendoza

Executive Director, Friends of Toppenish Creek
3142 Signal Peak Road
White Swan, WA 98952