Health Professionals for a Healthy Climate

September 13, 2025

RE: In the Matter of a Commission Investigation into a Fuel Life-Cycle Analysis Framework for Utility Compliance with Minnesota's Carbon-Free Standard. PUC Docket Number: E-999/CI-24-352

Dear Chair Sieben and Commissioners:

Health Professionals for a Healthy Climate (HPHC) appreciates the opportunity to offer additional comments on Docket 24-352, pertaining to the implementation of Minnesota's 100% Carbon Free Law. In this letter we respond to comments submitted by the Minnesota Municipal Power Agency (MMPA) and provide additional information on the impacts of subsidizing or incentivizing manure-derived renewable natural gas (RNG).

1. **Response to MMPA's comments on the life cycle assessment of RNG as a carbon-free energy source,** specifically:
   - *Statement that RNG from anaerobic digestion can be considered "carbon negative, when assessed against the GHG impacts of alternative waste management practices."*
   - *"This carbon negative effect results in a net environmental benefit that exceeds the outcome of simply avoiding carbon dioxide emissions at the point of generation."*

HPHC previously commented that RNG emits carbon and therefore, under the plain language of the law, should not receive credit or partial credit as carbon-free. Even if the counterfactual scenario is considered in a life cycle analysis, **due to incentivization of large factory farm animal production, RNG produced from manure may not deliver on promised GHG reduction benefits and causes significant harm to human and ecosystem health. RNG from manure should not be part of Minnesota's clean energy portfolio.**

Under the right circumstances RNG has the potential to reduce methane emissions which would otherwise be released into the atmosphere. RNG's climate-friendly reputation relies on the assumption that it is derived primarily from waste methane that would otherwise be emitted into the atmosphere. However, "RNG is likely to be derived from methane that is either intentionally produced or diverted from a flare, so essentially any methane leakage is climate additional."[i] A study of 23 manure-based biogas facilities found that methane leakage ranged from .04 to 14.9 %, with an average of 4.6%.[ii] Any benefit of RNG over fossil-fuel-based gas is eliminated when RNG-derived methane leaks at higher rates than fossil gas.[iii]

In addition, when methane comes from manure waste generated by industrial scale confined animal feeding operations (CAFOs), the already significant GHGs from CAFOs, will be made worse. **Allowing credit for RNG produced from animal waste will incentivize large-scale factory farms**

and increase impacts already affecting the health, quality of life, and economy of rural communities near CAFOs. Impacts include:

- Reduced quality of life from odor, degradation of water quality, air pollution, and their resulting reduced enjoyment of home environments and outdoor recreation.
- Economic decline and reduced home values. Few economic benefits of CAFO production accrue to the local community.
- Toxic pollution from ammonia, hydrogen sulfide, CO2, nitrogen oxides, sulfur dioxide, methane, VOCs and other hazardous pollutants, which have significant impacts on human health.[iv]
- Increased risks to CAFO workers due to poorer air quality and a higher number of operational accidents, including explosions and leaks.[v]
- Higher risk for water pollution and resulting harm to human and aquatic life, especially as the largest number of CAFOs in Minnesota are concentrated in the southeast region of the state which has vulnerable "karst" geology.
- Pollution from the growing of animal feed, which represents the largest source of livestock industry greenhouse gas emissions, as well as increased use of pesticides and fertilizers that pollute soil, water, & air and impact human health. Additionally, phosphate pollution from CAFOs increases the risk for algal blooms[vi] which is a growing concern due to climate change, and which exposes humans and animals to toxic bacteria.

2. Additional information on the impacts of subsidizing or incentivizing manure-derived renewable natural gas.

RNG factory farm production systems benefit fossil fuel and big agriculture companies. Food & Water Watch (F&WW) has documented five joint ventures between three Big Oil companies, three Big Ag companies, and manure biogas companies to finance up to 143 methane digesters or upgrade facilities.[vii] Big Oil companies – Shell, BP, and Chevron – are active in the factory farm biogas space along with Big Ag companies – Smithfield, Purdue and Tyson. State and federal incentives prop up these projects based on the promise of avoided emissions and clean energy. Many projects receive significant revenue from government credits. For example, one California digester received 90% of their revenue from selling credits, including some through the CA Low Carbon Fuel Standard Program. Investment in factory farm gas leads to perverse incentives to maximize manure production for financial gain, rather than targeting emissions at the source. F&WW notes, "Big Oil is using "biogas" and similar industry-backed initiatives as smoke screens for the reality that they have no plans to turn away from oil and gas production and are instead planning increased exploration and production."

Incentivizing RNG from large CAFOs keeps the fossil fuel industry entrenched in our energy system by extending the life of fossil fuel infrastructure i.e. gas pipelines, thus delaying the transition to carbon-free energy and its co-benefits for human health. Preventing premature deaths and other adverse health effects from air pollution requires the swiftest possible path to phasing out the use of fossil fuels through policies and investments supporting carbon-free resources. The Mortality Cost of Carbon (MCC) estimates the number of deaths caused by emissions of one additional

metric ton of CO_2. One study modeled lives saved through reduction in CO_2 emissions using an MCC model to project excess deaths in both optimistic (limiting global warming to 2.4°C by 2100) and business as usual (global warming at 4°C by 2100) scenarios. The optimal scenario limits cumulative excess deaths globally between 2020 and by 2100 to 9 million versus 83 million in the 4°C scenario.[viii]

In addition to saving lives by not entrenching fossil fuel infrastructure, we can prevent adverse impacts on local agriculture and communities by not adding more incentivizes to the manure-derived RNG boondoggle. While Big Oil and Big Ag benefit from revenue generated by RNG, small to medium-sized farming operations, rural and low-income communities, animal agriculture workers, and our natural ecosystems suffer egregious harm. Digesters cost over $5 million, making them viable for only mega-operations with 3,000 or more animals. Small to medium-sized farms can't compete. By incentivizing large scale CAFOs, we disadvantage sustainable operations that raise animals on pasture, which avoids generating methane to begin with. HPHC urges the PUC not to incentivize polluting CAFOs but rather incentivize climate-friendly animal agriculture that preserves ecosystems and does not generate methane waste. Finally, monetizing polluting emissions from CAFO manure by allowing credit for RNG as carbon free does not align with Minnesota's 100% Carbon Free law, the intent of which is to directly support energy sources that do not pollute.

Sincerely,

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Documents submitted for the record.

- Greger M, Koneswaran G. The Public Health Impacts of Concentrated Animal Feeding Operations on Local Communities. Fam Community Health. 2010;33(1):373-382.
- Food & Water Watch, 2024, The Big Oil and Big Ag Ponzi Scheme: Factory Farm Gas.

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[i] Grubert E. At scale, renewable natural gas systems could be climate intensive: the influence of methane feedstock and leakage rates. Envir Res Letters. 2020;15(8).

[ii] Scheutz C, Fredenslund AM. Total methane emission rates and losses from 23 biogas plants. Waste Management. 2019;97:38.

[iii] Bakkaloglu S, Cooper J, Hawkes A. Methane emissions along biomethane and biogas supply chains are underestimated. One Earth. 2022;5(6):724-736.

[iv] Greger M, Koneswaran G. The Public Health Impacts of Concentrated Animal Feeding Operations on Local Communities. Fam Community Health. 2010;33(1):373-382.

[v] Food & Water Watch, The Big Oil and Big Ag Ponzi Scheme: Factory Farm Gas. January 2024

[vi] Land Stewardship Project Fact Sheet #5, When Manure Hits Water, April 2008.

[vii] Food & Water Watch, 2024.

[viii] Bressler, R. D. (2021). The mortality cost of carbon. Nature Communications, 12(1), Article 1. https://doi.org/10.1038/s41467-021-24487-w