



1616 P Street, NW
Suite 300
Washington, DC 20036
T +202.683.2500
F +202.683.2501
foodandwaterwatch.org

Rebecca Wolf
Food Policy Analyst
rwolf@fwwatch.org

Committee: Education, Energy, and the Environment
Testimony on: SB590
Position: Favorable
Hearing Date: February 28, 2023

Chair Feldman, Vice Chair Kagan and members of the committee. My name is Rebecca Wolf and I am writing in support of SB590 on behalf of the nonprofit Food & Water Watch and our 40,000 Maryland members.

The Renewable Portfolio Standard (RPS) is an important tool to help Maryland meet ambitious climate goals, but it has been hijacked as a waste management subsidy on behalf of Maryland ratepayers. The RPS was established for the purpose of speeding our transition to renewable energy with both “long-term decreased emissions and a healthier environment to the public at large”.¹ Currently, the RPS has subsidies for sources that produce more carbon than fossil fuels per unit, and also threaten the health of Marylanders.² These dirty sources increasingly occupy space that can and should be filled with clean renewable energy like wind, solar, and geothermal.³

It is time to clean up the RPS by removing definitions that bring more waste into communities, like methane generation from anaerobic digestion. In the anaerobic digestion of factory farm waste, animal waste, fats, solids, oils, and other materials are fed into a digester where it is broken down by microorganisms that can only thrive in the absence of oxygen.⁴ Since factory farms produce unmanageable volumes of waste, digester facilities are often touted as a solution to the environmental issues that waste creates. However, this is a false promise - sending animal waste to a large, regional digestion plant creates methane, but does nothing to mitigate the significant air and water quality issues associated with factory farms.⁵

Digesters do not get rid of waste, in fact, they concentrate it.⁶ They do not stop nutrient pollution like phosphorus run-off, in fact they could make it worse.⁷ They guarantee the continued production of waste - because they must be fed to operate.⁸ They bring waste into communities. And no matter the source, methane combustion utilizes leaky infrastructure and releases CO₂ into the atmosphere.^{9, 10}

Leaving biogas in the RPS has real, immediate consequences for our climate goals and communities across the region. Although opponents of this bill tout biogas as a “win-win” to waste and energy problems, biogas in the RPS increases emissions and waste in residential neighborhoods. There are real threats to not passing SB590 this year:

1. **Generating new methane and CO² emissions:** Poultry manure does not inherently produce methane, management systems and digesters generate it.¹¹ Anaerobic digesters must be fed with waste to first produce biogas, and then refine it into methane and CO₂. In the proposed Bioenergy project in Sussex County Delaware, the company plans to import waste from DE, MD, VA and PA to feed a large, expensive regional digester in a residential community. They hope to take processing facility fats, oils, grease and other solids (all of which is very high in nutrient loads and biochemical oxygen demand), wood materials, and hatchery waste in addition to poultry litter. They also plan to **directly release CO₂ into the atmosphere** as part of the methane refining process.¹²
2. **Relying on methane, guaranteeing ammonia pollution:** The prefix “bio” before biogas doesn’t make it clean — it’s still composed of methane (the primary constituent of fracked gas) and other pollutants.¹³ Methane is nearly 90 times more powerful a greenhouse gas than carbon dioxide over a 20-year period.¹⁴ Plus, burning biogas releases CO₂ and other poisonous gases, including nitrogen oxides, ammonia and hydrogen sulfide.¹⁵ On top of this, the transport of biogas and materials to and from digesters still uses massive amounts of toxic diesel fuel.¹⁶ In fact, recent studies show that composting digested material results in increased ammonia emissions when compared with composting undigested material.¹⁷ Alarming, ammonia emission from livestock operations alone account for over 12,000 premature deaths each year in the United States.¹⁸
3. **Promoting new gas infrastructure:** To keep biogas in the RPS would promote new gas infrastructure. The production of methane from organic matter through anaerobic digestion has been used as an excuse for expanding and entrenching liquified natural gas (LNG) infrastructure.¹⁹ During a MD Board of Public Works meeting on July 1, 2020, several witnesses used the increasing availability of so-called renewable natural gas (RNG) as reason why the Eastern Shore Pipeline should be permitted despite concerns from advocates.²⁰ In the proposed Bioenergy project in Sussex County Delaware, the company expects up to 199 gas tanker trucks trips a day to carry the biomethane to the 500-mile Eastern Shore Natural Gas pipeline network in Maryland.²¹
4. **Relying on a system that leaks methane:** Studies show that in 2015, leaks along the natural gas supply chain were approximately 60% higher than the U.S. Environmental Protection Agency inventory estimate.²² On the Eastern Shore, a 2-15% leak rate from the major directed biogas projects could release up to 5,187 metric tons of methane –

comparable to the greenhouse gas emissions from almost 100,000 gas-powered cars on the road all year.²³

5. **Intentionally tying waste production to energy:** Research shows that renewable natural gas could be even more climate intensive than fossil natural gas, “particularly if a wave of facility buildouts encourages ‘intentional’ waste production”.²⁴ While opponents of this bill have denied this possibility in the past, it’s a fact that once a large digester is built, it must be fed constantly.²⁵ In Northern Ireland, the introduction of digester subsidies was an intentional facilitation of the expansion of poultry factory farms.²⁶
6. **Stranding assets for Maryland ratepayers to bail out:** The Maryland Office of Public Council released a report last year cautioning that the replacement and expansion of gas infrastructure will cause gas delivery costs to skyrocket in Maryland. They note, “Because we need to address climate change, to which fossil gas contributes, gas utilities themselves face the possibility that their investments will become obsolete and uneconomic. If that happens, the public may be asked to bail them out.”²⁷ Since the construction of biogas facilities is extremely costly, they are generally not profitable without taxpayer or ratepayer supported subsidies and incentives.²⁸ The inclusion of biogas in the RPS provides an unwanted financial incentive to add new greenhouse gas emitting technology to our grid under the guise of renewable energy - all on the public’s dime and at the public’s risk.

Currently, the Maryland RPS only supports two biogas facilities in Ohio. One was sued by the state in 2016 after numerous Ohio EPA inspections and over 250 citizens complaints.²⁹ There are currently no facilities in Maryland that receive Maryland RPS RECs, but that could change. The aforementioned proposed facility in Delaware would be eligible for support from the Maryland RPS.

Luckily, the question before us today is simple - factory farm biogas is not a Tier 1 definition of renewable energy. It does not contribute to a healthier environment or long-term decreased emissions. We are at the same point now with looming entrenchment in the RPS that trash incineration was 10 -15 years ago. Inaction on this bill has consequences and we have the opportunity to remove waste management from entanglement with energy subsidies. I urge favorable support of SB590 and thank you for your thoughtful consideration.

References

1. The Maryland General Assembly. (2004, April 10). *HOUSE BILL 1308*. [mgaleg.maryland.gov. \(7\) https://mgaleg.maryland.gov/2004rs/bills/hb/hb1308e.pdf](https://mgaleg.maryland.gov/2004rs/bills/hb/hb1308e.pdf)
2. Sargent, S. (2023, January 31). *Report: Maryland Clean Energy Report 2022*. Public Employees for Environmental Responsibility. Retrieved from <https://peer.org/maryland-clean-energy-report-2022-pdf/>
3. Sargent, S.
4. Environmental Protection Agency. (n.d.). *How Does Anaerobic Digestion Work?* EPA. <https://www.epa.gov/agstar/how-does-anaerobic-digestion-work>
5. Michael A. Holly et al., (Feb. 2017) Greenhouse Gas and Ammonia Emissions from Digested and Separated Dairy Manure During Storage and After Land Application, 239 *AGRIC., ECOSYSTEMS, & ENV'T* 410, <https://www.sciencedirect.com/science/article/pii/S0167880917300701>
6. United States Department of Agriculture. (n.d.). *Effects of NRCS conservation practices - national anaerobic digester*. https://www.nrcs.usda.gov/sites/default/files/2022-08/Anaerobic_Digester_366_CPPE.pdf
7. United States Department of Agriculture. (n.d.). *Code 366 (no.) - nrcs.usda.gov*. https://www.nrcs.usda.gov/sites/default/files/2022-08/Anaerobic_Digester_366_CPS_Oct_2017.pdf
8. Ettinger, P. (n.d.). *Anaerobic Digestion and Renewable Energy Solutions*. <https://drive.google.com/file/d/1eixdfTb5IT2mzBSw5qJ1rtPcOtfy7VZb/view>
9. Bakkaloglu, S., et.al. (2022) *Methane emissions along biomethane and biogas supply chains are underestimated*, *One Earth*, 5(6) <https://doi.org/10.1016/j.oneear.2022.05.012>.
10. Grubert, E. (August 2020). *At scale, renewable natural gas systems could be climate intensive: the influence of methane feedstock and leakage rates*. *Environmental Research Letters*. 15(8) DOI:[10.1088/1748-9326/ab9335](https://doi.org/10.1088/1748-9326/ab9335).
11. Dunkley, C. (November 2011). *Global Warming: How Does It Relate to Poultry?* University of Georgia Extension. <https://extension.uga.edu/publications/detail.html?number=B1382>
12. Lobdell, T. et.al. (December 2022). *Opposition Comments to Bioenergy Innovation Center Project*. Food & Water Watch. https://www.foodandwaterwatch.org/wp-content/uploads/2022/12/2022.12.02_BDC-comments_final-for-filing.pdf
13. USDA et al. (August 2014). *Biogas Opportunities Roadmap*; Jørgensen, P.. (2009). *Biogas — Green Energy. Denmark: Faculty of Agricultural Sciences*. Aarhus University.
14. Jackson, Robert B. et al. (July 2015). *The depths of hydraulic fracturing and accompanying water use across the United States*. *Environmental Science & Technology*. 49(15).
15. Kuo, Jeff. (February 2015). *Air Quality Issues Related to Using Biogas From Anaerobic Digestion of Food Waste*. California State University, Fullerton.; Sharvelle, S. and L. Loetscher. (May 2011). *Anaerobic Digestion of Animal Wastes in Colorado*. Colorado State University.; Whiting, Andrew and Adisa Azapagic. (2014) *Life cycle environmental impacts of generating electricity and heat from biogas produced by anaerobic digestion*. *Energy*. (70.) 2014
16. California Environmental Protection Agency (March 2010). *Central Valley Dairy and Co-digester PEIR — Notice of Preparation/Initial Study*. ESA/209481.
17. Holly, M. & Larson, R. & Powell, J. et.al. (2017). *Greenhouse gas and ammonia emissions from digested and separated dairy manure during storage and after land application*. *Agriculture, Ecosystems & Environment*. 239. [10.1016/j.agee.2017.02.007](https://doi.org/10.1016/j.agee.2017.02.007).

18. Domingo N. (2021). *Air Quality-Related Health Damages of Food*, 118 PNAS, <https://www.pnas.org/doi/pdf/10.1073/pnas.2013637118>.
19. *Gas utilities push RNG and hydrogen to expand fossil fuel infrastructure*. Energy and Policy Institute. <https://www.energyandpolicy.org/gas-utilities-greenwashing-to-expand-fossil-fuels-rng-hydrogen/>; *Green gas without the hot air*. (September 2020). Feedback Global. 57-61. <https://feedbackglobal.org/research/bad-energy-defining-the-true-role-of-biogas-in-a-net-zero-future/>
20. Maryland Board of Public Works (July 2020). Video 1:35 and 1:43. <https://www.youtube.com/watch?v=PRbIXbB6MaA>
21. Lobdell, T.
22. Alvarez, R. et al. (June 2018). *Assessment of methane emissions from the U.S. oil and gas supply chain*. Science. 361(6398). 186-188.; Saadat, Sasan, et al. (July 2020). *Rhetoric vs. Reality: The Myth of “Renewable Natural Gas” for Building Decarbonization*. Earthjustice.
23. Dunham, K. Ross, G. (January 2023). *Directed Biogas in Delmarva*. Environmental Integrity Project, Assateague Coastkeeper.
24. Grubert, E.
25. Ettinger, P.
26. Feedback Global. 57-61.
27. Sears, L. (October 2022). *Business as Usual Means Gas Delivery Costs Will Skyrocket, OPC Analysis Finds*. Maryland Office of People’s Counsel. <https://opc.maryland.gov/Portals/0/Files/Press-Releases/2022/Gas%20Infrastructure%20Report%20press%20release%2010062022%20rev.pdf?ver=HLQMYe5JSkFB1M81PsbRNw%3D%3D>
28. *Renewable Natural Gas: Same Ol’ Climate Polluting Methane, Cleaner-Sounding Name*. (February 2021). Food & Water Watch. https://foodandwaterwatch.org/wp-content/uploads/2021/03/fs_2102_renewablenaturalgas-web_1.pdf
29. *The State of Ohio vs. Buckeye Biogas et.al.* (July 2016). Wayne County, Ohio. <https://www.courthousenews.com/wp-content/uploads/2017/05/QuasarSuit.pdf>.

Further Resources

- *Rethinking Manure Biogas: Policy Considerations to Promote Equity and Protect the Climate and Environment*. Lazenby, Ruthie. Vermont Law & Graduate School. August 2022.
- *The False Promises of Biogas: Why Biogas Is an Environmental Justice Issue*. Gittelson, Phoebe et. all. 2021.
- *Biogas From Factory Farm Waste Has No Place in a Clean Energy Future*. (2019). https://foodandwaterwatch.org/wp-content/uploads/2021/03/ib_1906_biogas_manure-2019-web.pdf
- *Dirty Delaware Project to Turn Poultry Slaughterhouse Waste into Pipeline Grade Methane*. (2022). https://www.foodandwaterwatch.org/wp-content/uploads/2021/04/delaware_fact_sheet_letterhead.pdf