

Factory Farms and Maryland's Methane Emergency

With every day that the status quo continues, the chance of keeping global temperature rise below the 1.5-degree Celsius tipping point slips further and further away.¹ Much focus remains on cutting carbon dioxide (CO₂) emissions, the largest source of greenhouse gas emissions and warming.² But reducing its more insidious counterpart, methane, is even more essential in stabilizing global climate and reducing short-term warming. Banning the largest source of methane emissions — industrial poultry production — is the quickest and only way to secure Maryland's future.

Methane's Importance

Since the Industrial Revolution, greenhouse gas emissions have skyrocketed, filling the air with an overabundance of gases and amplifying the Earth's natural warming effect.³ Methane is responsible for a third of total warming since then,⁴ with a warming effect 86 times stronger than CO₂ on a 20-year timescale.⁵ A short-term pollutant, methane stays in the atmosphere for only around 12 years.⁶ Despite this shorter lifespan, it traps significantly more atmospheric heat than CO₂ and contributes to the formation of other greenhouse gases, giving it a higher global warming potential than CO₂.⁷ This means that reducing the rate of emissions is essential to stabilizing long-term temperature rises,⁸ while providing more immediate climate-cooling effects.⁹

Poultry Production

Maryland is home to a massive, industrialized poultry industry that harms nearby residents, small producers, and the climate. In 2022, Maryland factory broiler operations generated an estimated 548 million pounds of poultry litter.¹⁰ The manure content alone was enough to fill an Olympic-sized swimming pool every day.¹¹ The average number of broilers per factory operation has expanded over the past 20 years to 175,000 — a 30 percent increase.¹² Meanwhile, the state has lost nearly 200 family-scale broiler farms over the same period, with 45 percent of that loss occurring in the last five years alone.¹³ These harrowing numbers indicate small producers being squeezed out of the industry.

Maryland produced over 270 million broiler chickens in 2022,¹⁴ with an estimated 71 percent¹⁵ of these living on factory farms.^a Next to dairy cattle and swine, poultry produce the largest amount of manure methane emissions nationally.¹⁶ Food & Water Watch (FWW) estimates that Maryland's

^a In this analysis, factory farm refers to operations producing 500,000+ broiler sales per year.

factory farm broiler chickens produced up to 71,900 metric tons of manure management methane in 2022.¹⁷ This is equivalent to 1.47 million vehicles driven for a year.¹⁸

A small share of Maryland's broiler emissions comes from enteric fermentation (digestive processes), which is minor compared to livestock like cattle.¹⁹ The bulk of the broiler emissions are from poultry litter.²⁰ Most boiler chickens in Maryland are raised on litter systems,²¹ confined in buildings lined with absorbent bedding like chopped straw or wood shavings. Manure drops onto this material and combines with loose feathers or other waste products to produce the dry poultry litter.²² Decomposing litter releases methane, at levels that vary based on environmental factors like water content, pH level, or oxygen.²³ Litter produces several other hazardous air pollutants as well, including ammonia, volatile organic compounds, and nitrate.²⁴

Instead of addressing methane by scaling back industrial production, Maryland has instead begun to look to Big Ag's new greenwashing scheme: anaerobic digestion. "Biogas" or "renewable natural gas (RNG)" refers to the mixture of gases that are produced after organic materials like factory farm manure are broken down in a process called anaerobic digestion.²⁵ Waste goes into an oxygen-free space called a digester, and even more waste and gas (mostly methane and CO₂) come out.²⁶ Once upgraded, this gas is often interchangeable with fossil or fracked natural gas, used primarily for vehicle fuel.²⁷

Chesapeake Utilities, which boasts 100,000 customers across Maryland and Delaware, acquired Planet Found Energy Development (PFED) in 2022.²⁸ PFED operates an anaerobic digester, claiming that the system generates factory farm gas from 1,200 tons of poultry litter, and Chesapeake Utilities intends to develop a further site in Maryland.²⁹ Chesapeake Utilities has also teamed up with Bioenergy DevCo in the Delmarva region, planning to use poultry waste from corporations like Perdue to produce factory farm gas.³⁰ In late 2023, Delaware agencies approved Bioenergy DevCo's facility's permits, allowing factory farm gas construction to begin. The facility claims to have capacity for processing 250,000 tons of waste in digesters annually, later injecting the factory farm gas produced into Chesapeake Utilities' pipelines.³¹

These projects, however, create more problems than they solve. Dry poultry systems are not conducive to anaerobic digestion,³² hindering byproduct use in broiler operations. When poultry digesters are used, they can be incredibly inefficient at reducing emissions. In one poultry litter study, because the digester was so ineffective at creating electricity, the system required over 4,300 gallons of propane annually to heat it. This obliterated any claims of climate benefits, instead generating over 1,100 percent of the climate change impacts that simply transporting unprocessed litter would have created.³³

Poultry litter can also be particularly dangerous in a digester, given its low moisture content and high ammonia and nitrogen levels. One poultry litter digester was found to be nearly unusable due to high hydrogen sulfide contamination, with the system flaring over 70 percent of the internal gas.³⁴ When excess leftover digestate is applied to land afterwards, ammonia and nitrous oxide can evaporate into the air as well.³⁵ All of this only serves to endanger communities and fails to address the critical threat that methane poses to Maryland's people and climate.

Urgent Need to Reduce Methane

To protect Marylanders and their climate, the state must take immediate action to end the destructive industries perpetuating the climate crisis.

Food & Water Watch recommends Maryland:

- Enact an immediate moratorium on new and expanding factory farms, particularly dangerous poultry operations on the Eastern Shore.
- Stop supporting and incentivizing factory farm gas, a dangerous industry scam which will only allow the climate crisis to worsen and methane emissions to continue.

Endnotes

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