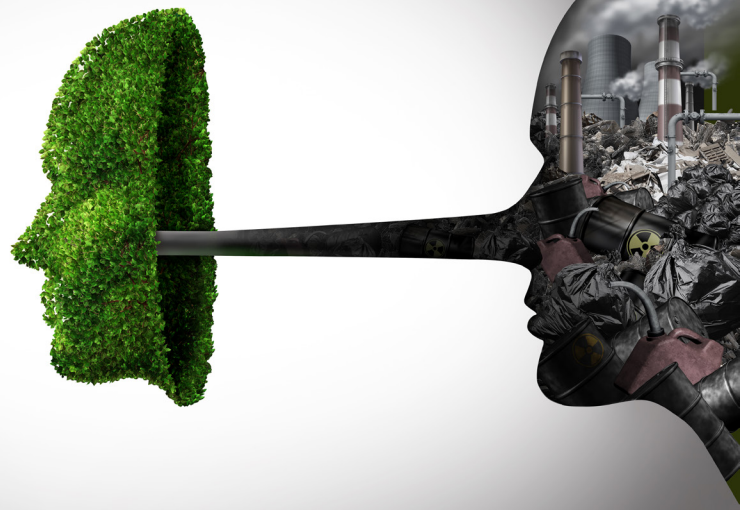


ENVIRONMENTAL FRAUD

FACTS SELDOM TOLD ABOUT THE RISKS & DANGERS OF ANAEROBIC DIGESTION & BIOGAS PRODUCTION

SAY NO
SAVE
CAERNARVON
TOWNSHIP'S
FUTURE!



FAMILY FARM TO WASTE TREATMENT PLANT?

WHEN DOES THE FAMILY FARM CEASE TO BE A FARM & BECOME AN INDUSTRIAL WASTE TREATMENT FACILITY?

Is it when fields of crops are replaced by large waste-processing units, or is it when the breeze begins to carry the stench of toxic chemicals instead of fresh air? Perhaps it's when the purpose of the land shifts from nurturing life to managing waste, fundamentally altering the peaceful rural landscape and the community's way of life?

Ninety percent of the waste required to produce biogas for the Kurtland Farm project will be trucked in from industrial food waste sources, with only the projection of a mere 10 percent being manure supplied by the farm. You may think "food waste" means expired ice cream and stale lollipops; however, outdated food is only one of the many EPA defined categories of waste that falls under that label. It is a catch-all term for the waste management and recycling industry to hide the less appetizing sources of feedstock for digesters - such as, slaughterhouse waste, brewery waste, fats and greases, and wastewater from food processing and production.¹ These sources can include hazardous chemicals and antibiotic resistant pathogens, some of which survive the anaerobic process and are prone to multiply in the lagoons after processing. The output of this industrial waste by-product will need disposal beyond the family farm and onto fields in our township and beyond. More importantly, our children attending the three local Twin Valley Schools - 2,363 of them all under 5,000 feet from this project - will be particularly vulnerable to any accidental waste or chemical spills, to well water contamination, or to a toxic combustion.

Does a family farm's identity change when its primary function shifts from producing food to managing waste? When does a family's right to earn an income trump a community's right to health and safety? At what point does the balance tip, transforming a place of growth and sustainability into a center for processing and pollution? Will this be our destiny?

FROM RURAL TO LANDFILL

Anaerobic digesters are often promoted as being a sustainable solution for waste management. They are mostly used to produce biogas or biomethane (refined biogas) from animal waste, waste in landfills, or wastewater treatment plants.² Over the past decade, biogas production has increased on farms which have much less stringent environmental regulations in terms of how they treat and manage their waste.³ The biogas, recycling, and waste management industry is increasingly approaching farmers to operate co-digesters - digesters that combine several different types of waste (such as food waste, human waste, and/or animal waste) on or around their farms.

SOIL CONTAMINATION

Industry has successfully sold the narrative that these types of waste can be transformed into a safe and healthy fertilizer that can be spread on farmland. However, the industry is moving faster than science has been able to understand the risks on environmental and human health. Since this waste is spread on fields, it could result in the contamination of soils on agricultural land.

Perfluoroalkyl & Polyfluoroalkyl Substances (PFAS): PFAS, also called "forever chemicals" because of their inability to break down in the environment or in human bodies, was widely used in consumer products for decades, including food packaging and manufacturing. PFAS from packaging and other unknown sources seeps into food and remains even after the packaging is removed.⁴ The human health impacts

of PFAS in packaging are still understudied.⁵ In their study of the prevalence of PFAS in food packaging, Phelps et al (2024) found at least 68 types of PFAS yet was only able to find data on potential hazards for 57% of them.⁶ Researchers in New England, where all of the existing Vanguard digesters are located, found that over half (56%) of food waste tested was positive for PFAS.⁷ In Fremont, MI, the digestate solids from a food waste and manure co-digester was found to have 11 different types of PFAS.

Micro/Nanoplastics: Because plastic has a highly stable chemical structure, it does not break down in the environment. Instead, it fractures into smaller and smaller pieces called microplastics. Microplastics can break down even further to nanoplastics. Over time, these plastics release chemical additives into the environment that pose risks to environmental and human health.⁸ Despite efforts to separate food waste from packaging, early research suggests that the food itself absorbs microplastics and transfers plastic contamination to agricultural soils where it is spread as a soil amendment.⁹ Studies of wastewater treatment plants have shown that even under high temperatures, digesters could not eliminate microplastics before sewage sludge was applied to agricultural land.¹⁰

WATER CONTAMINATION

Anaerobic digesters do not reduce the volume of the waste nor the amount of nutrients in the waste that comes out of the digester, called digestate. Digestate creates new risks for water pollution when spread on fields because the chemical composition is different from raw manure. The chemical process concentrates agricultural nutrients such as nitrogen and phosphorus and makes them more water soluble – meaning more prone to entering waterways such as surface and groundwater – compared to raw manure.¹¹ Other contaminants, such as PFAS and microplastics, can also leach from agricultural soils into sources of surface water and groundwater, which is concerning due to the high number of residents that depend on well water in the Twin Valley community.

AIR POLLUTION AND ODORS

Biogas production releases toxic air pollutants like carbon monoxide (CO), nitrogen oxides (NOx), sulfur dioxide (SO2), ammonia (NH3), and volatile organic compounds (VOCs), all of which can cause negative health impacts.

Improperly managed digesters, especially co-digesters using food waste, are prone to noxious odors that have generated complaints from neighbors all worldwide.

- ‘It is like living next to a giant poop plant,’ said Katie Terwedo, the closest neighbor to the Hometown BioEnergy plant.¹²
- In Murrow, United Kingdom, “...it can be overpowering, eye watering and liable to make one feel physically sick...in a rural area one should expect to be subjected to occasional manure smells. The digestate in my view is far worse than manure.”¹³
- “...residents not unfamiliar with run-of-the-mill agricultural smells. This smell was worse, they said. One resident described it as ‘scorched manure’ to Colorado Public Radio.”¹⁴
- “Facing continuing complaints about raunchy odors stemming from environmental violations, Renergy has agreed to permanently close down its organic waste treatment facility in Greene County – a victory for the facility’s neighbors and the state as a whole.”¹⁵

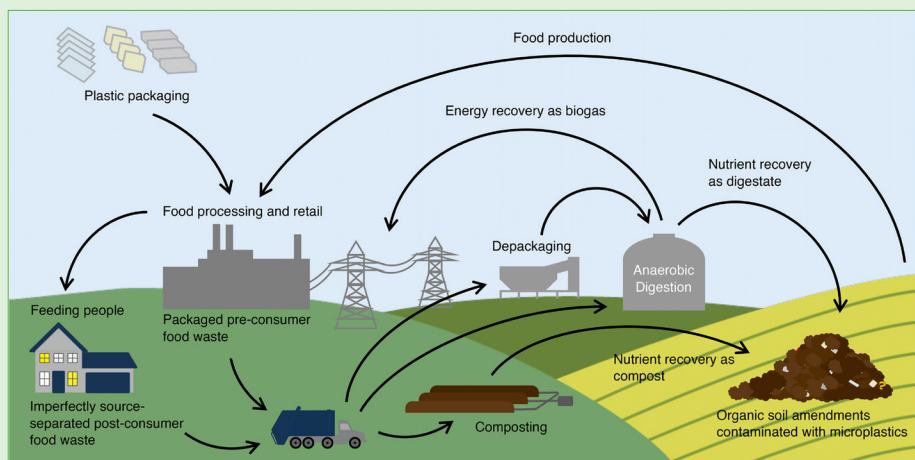


Image Source: Porterfield, Katherine K., Sarah A. Hobson, Deborah A. Neher, Meredith T. Niles, and Eric D. Roy. 2023. "Microplastics in composts, digestates, and food wastes: A review." *Journal of Environmental Quality* 52(2): 225-240. <https://doi.org/10.1002/jeq2.20450>

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DON'T BELIEVE US

DO YOUR OWN RESEARCH

Follow us on Facebook at "[Stop the Twin Valley BioDump](#)" for additional information on the risks and dangers associated with co-digestion specific to our local area.

Keep up to date on the Kurtland Farm-Vanguard Elverson AD1 project on the [Caernarvon Township web site](#) at www.caernarvon.org/zoning.html where official plans are available and where you can submit your own "Right to Know" form to the township.

Go to www.nodigester.com for valuable information from the "Citizens Protecting Rural Wisconsin," who have walked before us in the fight against a digester in their own area.

Our efforts (including marketing, postage, and legal/research fees) are all funded by our group members and community. Please consider donating to the cause at "[Stop the Twin Valley BioDump](#)" on [GoFundMe](#).