



Poultry Litter Incineration: A False Solution to Factory Farm Pollution

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A reality of factory farming in the United States is the incredible amount of manure that these operations produce: 13 times more waste than the entire U.S. population each year.¹ On the Eastern Shore of Maryland, where hundreds of millions of chickens are raised annually,² the resulting mountains of manure are often applied as fertilizer in excessive quantities, which runs off fields into the Chesapeake Bay, causing enormous damage to the environment.³

Ultimately, it is taxpayers who are on the hook to pay for these impacts, not the giant poultry processors like Perdue and Tyson that profit from the factory farm model. The newest state-funded “solution” to the excess manure problem in Maryland is the construction of incinerators that burn poultry litter — manure, bedding, feathers and spilled feed — turning it into energy, fertilizer and, potentially, feed for chickens. Incinerating poultry litter has proven to be economically inefficient and environmentally damaging, and the construction of these extremely expensive facilities almost guarantees the expansion of factory farms that produce a steady supply of manure to feed the incinerators.

As of October 2015, public opposition, technical obstacles and economic realities of this failed technology have kept large-scale incinerators from gaining a foothold in Maryland, but state and federal legislators, pressured by powerful corporate interests, continue to offer government incentives for the construction of incinerators. It is time that Maryland move away from false solutions that prop up the factory farm model and instead focus on building the economic infrastructure needed to support farmers and consumers — helping to ensure that environmental sustainability and farmer livelihoods trump corporate profits.

Factory Farming in Maryland

In 2012, at any given time, there were about 29 million broiler chickens on factory farms on the Eastern Shore of Maryland — about five chickens for every person in the state.⁴ Although the chickens are grown by independent contractors, the activi-



ties on nearly all factory farms are directed by large poultry processors like Perdue and Tyson. The companies own the birds produced on these farms and use abusive contracts that dictate how farmers raise them.⁵

This contract system allows poultry processors to make large profits while farming out much of the risk and debt to independent growers — including financial and legal responsibility for managing the massive quantities of manure generated.⁶ Maryland poultry operations in four counties on the Eastern Shore produce an estimated 650 million pounds of excess manure that should not be applied as fertilizer.⁷ Maryland’s broiler chickens produce as much untreated litter as the sewage from 9.8 million humans, over one-and-a-half times greater than the state’s human population.⁸



The big companies that own the chickens should pay the costs to remove all of the excess manure produced in the Chesapeake Bay watershed. But, historically, Maryland has allowed the companies to externalize their costs on the backs of taxpayers and the environment by allowing factory farms to over-fertilize agricultural fields with poultry litter, resulting in large quantities of manure washing into the Chesapeake Bay, poisoning aquatic life, hurting the fishing industry and polluting the watershed.⁹

In 2013, the state signed a contract with a private company for the construction of a \$75 million incinerator that promised to burn 75 percent of Maryland's excess poultry waste.¹⁰ Despite being propped up by tens of millions of dollars in subsidies and government support, construction of this incinerator has not begun.¹¹

Despite this failure, the state of Maryland, like several other states around the country, continues to encourage manure-to-energy projects with a variety of incentives, including giving nearly \$1 million in taxpayer money to fund the construction of a small-scale incinerator on one factory farm.¹² Likewise, in 2008, the Maryland legislature passed a bill that classified the energy produced from poultry litter incineration facilities as a "tier 1" source of renewable energy, on par with solar and wind. The implications of this change are great because the state has a mandate for electricity suppliers to provide 20 percent of electricity from renewable sources by 2022.¹³ Maryland has other incentives in place as well, including a tax credit for each kilowatt-hour of electricity produced by qualified energy sources.¹⁴

This financial support follows significant lobbying efforts from agribusinesses and energy companies. One leading incinerator company, Fibrowatt, poured more than \$100,000 into lobbying the Maryland legislature over several years, and spent more than \$500,000 lobbying the federal government over a decade.¹⁵ When the state issued a call for proposals to construct a poultry incinerator in 2011, Fibrowatt teamed up with poultry giant Perdue on a joint bid, although the deal eventually was awarded to another company.¹⁶

Greenwashing Corporate Welfare

By 2015, the United States had only a handful of poultry incinerators in operation, most prominently a \$200 million Minnesota facility designed to process the enormous amount of waste generated by the state's large turkey industry.¹⁷ The facility began operations with a huge subsidy in place: the local utility provider, under a state mandate to source more biomass fuel, agreed to purchase energy from the incinerator at twice the rate of conventional energy prices when the contract was signed.¹⁸

But even with major government support, this facility faltered and, as of 2015, was hundreds of millions of dollars in debt and had shifted away from burning turkey litter to burning mostly wood sources.¹⁹ The incinerator's economic problems confirm two independent assessments of the potential for poultry incineration for Maryland, which found that generating electricity from poultry litter would not be economically feasible without subsidies.²⁰

Despite these economic realities, incinerator projects have been proposed or suggested in states across the country, including Alabama, Arkansas, Connecticut,²¹ Georgia, Mississippi, North Carolina, Texas²² and Virginia.²³ North Carolina, a leading poultry-producing state,²⁴ passed an energy bill mandating that utility companies obtain at least 900,000 megawatt-hours of electricity from poultry waste by 2014,²⁵ creating a major incentive for the construction of incinerators — and for the expansion of factory farms to provide their fuel.

Environmental and Health Concerns

In 2014, the Maryland Secretary of Agriculture boasted that the state's support for incinerators "improves water quality and reduces greenhouse gases — all of which will result in advanced Chesapeake Bay restoration and help farms become sustainable."²⁶ This big talk, however, is at odds with scientific research and the real-life experience with this polluting technology.

One of the nation's few operating incinerators, in Minnesota, was fined \$14,000 for air quality violations related to sulfur dioxide, nitrogen oxide and carbon monoxide emissions, as well as for incinerating more than 22,000 tons of plywood and treated wood containing chemicals like formaldehyde.²⁷

Government scientists in North Carolina determined that poultry litter combustion plants could result in higher emis-

sions of carbon monoxide, particulate matter, nitrogen oxides and carbon dioxide per unit of power generation than new coal plants.²⁸ In addition to these emissions, poultry litter incinerators have an environmental impact through the fossil fuel used to truck poultry litter to the incinerator — often more than 100 miles²⁹ — and then to truck the manure ash back to farms for use as fertilizer or feed. Incredibly, one plan is to use the ash that remains following poultry litter incineration as an ingredient in animal feed.³⁰

According to the U.S. Environmental Protection Agency, the type of particulate matter produced by incinerators is linked to higher rates of respiratory and cardiovascular disease as well as to higher mortality.³¹ Another byproduct of burning chicken litter, dioxin, is classified by the National Toxicology Program as a known human carcinogen.³² These potential public health impacts may be magnified because energy companies often propose building incinerators in poor and vulnerable communities that already have higher-than-average rates of hospitalization for conditions like cardiovascular disease.³³

The little research that has been conducted has shown that the manure ash that remains following incineration can contain unacceptably high lead, arsenic and chromium levels, prompting scientists to recommend that this ash be disposed of at a hazardous waste facility rather than used as fertilizer.³⁴

The Need for Better Alternatives

The enormous costs associated with factory farms in Maryland — the manure pollution that has greatly hurt the Chesapeake Bay, the economic damage to the fishing industry, the diminished recreational opportunities for Bay residents and tourists, and the public nuisance problems associated with

noxious odors — clearly indicate that the factory farm model is economically and environmentally unsustainable. A more responsible approach to dealing with excess poultry litter on the Eastern Shore would be to deal with the huge number of chickens that are concentrated there.

Maryland's continued support for poultry litter incinerators, egged on by corporate lobbyists, appears to be little more than a public relations effort to reduce the visibility of one of the most obvious problems associated with factory farms: excess manure production. But it should not be taxpayers who are on the hook for cleaning up the environmental damage caused by the factory farms that enrich huge poultry companies like Perdue and Tyson. Promoting — and subsidizing — litter incineration merely props up the unfair and unsafe factory farm system in Maryland.

What You Can Do

Maryland should put a stop to policies that support an industrial food system and the overwhelming amount of waste that it produces. Instead, the state must create and enforce policies that build the economic infrastructure needed for smaller, independent and diversified farmers to thrive and that do not harm communities, the environment and public health. Until a shift to a more sustainable food system happens, legislators should:

- **Eliminate financial incentives for false solutions** by, among other things, stripping incineration, including the burning of chicken waste, out of the state's Renewable Portfolio Standard. Burning chicken waste is a dirty source of energy that does not address the root of the problem: we need to diversify our highly concentrated meat production system so that it is not producing unsustainable mountains of manure. Instead of allowing Maryland to meet its renewable energy mandate with dirty technologies that rely on the excess production of manure and threaten communities, we need to advance a common vision that moves Maryland into clean energy production while creating a food economy that is good for everyone.
- **Support legislation to end the chicken industry's free ride** and to make the big poultry companies responsible for the removal and proper disposal of all of its excess manure. Over the past several decades, the Chesapeake Bay has suffered a decline as waste from factory chicken farms on the Eastern Shore has been dumped into this historic watershed. Unlike other industries, large-scale poultry companies like Perdue create an enormous amount of pollution, yet they do not take responsibility for cleaning up the mess that they create.
- **Establish a moratorium on the construction of new poultry houses** and on the expansion of existing facilities. We will never solve the existing excess waste problem — and will make it worse — if we do not stop the increased consolidation of the chicken industry.

Pollutants from poultry waste incineration include:³⁵

- Carbon monoxide
- Sulfur dioxide
- Nitrogen oxides
- Particulate matter (PM 10)
- Sulfuric acid
- Hydrochloric acid
- Volatile organic compounds
- Dioxin
- Arsenic

These often odorless and colorless pollutants have been linked to respiratory diseases, cardiovascular diseases and cancer, among other illnesses.³⁶

Endnotes

- 1 Food & Water Watch. "Factory Farm Nation: 2015 Edition." 2015 at 3.
- 2 U.S. Department of Agriculture (USDA), National Agricultural Statistics Service (NASS). "Poultry – Production and Value: 2014 Summary." April 2015.
- 3 Ator, Scott and Judy Denver. "Understanding Nutrients in the Chesapeake Bay Watershed and Implications for Management and Restoration — the Eastern Shore." U.S. Geological Survey Circular 1406. June 2015 at 27; Wheeler, Timothy. "Federal report tallies toll on Bay of Shore farmers' overuse of chicken manure on fields." *Baltimore Sun*. March 12, 2015.
- 4 Food & Water Watch analysis of data in USDA NASS. 2012 Census of Agriculture.
- 5 Leonard, Chris. (2014). *The Meat Racket*. New York: Simon & Schuster.
- 6 Moeller, David. Farmers' Legal Action Group, Inc. "Livestock Production Contracts: Risks for Family Farmers." March 22, 2003 at 4; Urbina, Ian. "In Maryland, focus on poultry industry pollution." *New York Times*. November 29, 2008.
- 7 Kovzelove, Caitlin et al. "Quantification and implications of surplus phosphorus and manure in major animal production regions of Maryland, Pennsylvania, and Virginia." *Water Stewardship*. February 2010 at 13.
- 8 Food & Water Watch analysis of data in USDA NASS. 2012 Census of Agriculture.
- 9 Wheeler, Timothy. "Hogan moves quickly to block controversial environmental regulations." *Baltimore Sun*. January 21, 2015; Urbina (2008).
- 10 Kobell, Rona. "MD manure-to-energy plant appears to be going nowhere." *Bay Journal*. February 25, 2015; Maryland Department of General Services. [Press release]. "Md. seeks proposals for renewable energy generated from animal waste." October 13, 2011.
- 11 Kobell (2015).
- 12 Maryland Department of Agriculture. [Press release]. "MDA awards \$970,000 for new manure management technology project; farm partners with Irish Co. with support from Mountaire." October 29, 2014.
- 13 Maryland Energy Administration. "Plan to Increase Maryland's Renewable Energy Portfolio by 20% RPS by 2022." March 2010 at 2; Maryland S.B. 348, Chapter 135. "Renewable Energy Portfolio Standard - Tier 1 Renewable Source - Poultry Litter." 2008 at 1.
- 14 Maryland Annotated Code of Regulations § 14.26.06.05.
- 15 Maryland State Ethics Commission. "33rd Annual Report." 2011 at Appendix A; Maryland State Ethics Commission. "30th Annual Report." 2008 at Appendix A; Food & Water Watch analysis of the Center for Responsive Politics lobby database. Accessed September 30, 2015 at www.opensecrets.org.
- 16 Kobell (2015); Maryland Department of General Services (2011); Gates, Deborah. "Delmarva biomass boiler operation proposed." *Daily Times* (Salisbury, Md.). January 8, 2012.
- 17 Energy Justice Network. Online mapping tool. Accessed September 30, 2015 at <http://www.energyjustice.net/map/searchobject.php?gsTable=facility&gsSearchtype=nationalmap>; Saulny, Susan. "Turkey-manure power plant raises stink with environmentalists." *New York Times*. June 6, 2007.
- 18 Saulny (2007).
- 19 Karnowski, Steve. "Bird flu adds to woes at Minnesota turkey litter power plant." *Associated Press*. May 13, 2015.
- 20 Lichtenberg, Erik et al. "Economic Value of Poultry Litter Supplies In Alternative Uses." (Policy Analysis Report 02-02). University of Maryland, Center for Agricultural and Natural Resource Policy. 2002 at 24 to 25; Electrotek Concepts. "Fibro-Shore Power Market Assessment: PJM/Delmarva Peninsula." Report prepared for Maryland Environmental Service. May 2001 at 10 to 11.
- 21 Macdonald, James M. et al. USDA Economic Research Service. "Manure Use for Fertilizer and for Energy." June 2009 at 35.
- 22 Fibrowatt. [Press release]. "Fibrominn, the nation's first poultry litter-fueled power plant, opens in Benson, Minnesota." October 12, 2007.
- 23 Shenandoah Valley Poultry Litter to Energy Watershed & Air Advisory Group. "Meeting Summary." Harrisonburg, Va. March 28, 2011.
- 24 USDA NASS (2015).
- 25 North Carolina General Statutes § 62-133.7 (2007).
- 26 Maryland Department of Agriculture (2014).
- 27 Friedmann, Jane. "Whistleblower: citations for pollution issues double." *Minneapolis Star-Tribune*. February 2, 2013; Marcotty, Josephine. "Benson biofuels company is fined for air pollution." *Minneapolis Star-Tribune*. November 9, 2012.
- 28 North Carolina Department of Environment and Natural Resources, Air Quality Division. "Comparison of Emissions from Controlled Coal and Biomass Combustion." Air Quality Committee Meeting, North Carolina Environmental Management Commission. March 10, 2010 at 3.
- 29 Kotrba, Ron. "Generating Poultry Power." *Biomass*. Accessed June 30, 2015 at <http://biomassmagazine.com/articles/1196/generating-poultry-power> and on file at Food & Water Watch; Thompson, Patrick. EnergyWorks. Letter to Miles McEvoy, Deputy Administrator National Organic Program. August 22, 2014 at Item B, 7.
- 30 Thompson (2014).
- 31 U.S. Environmental Protection Agency, National Center for Environmental Assessment. "Integrated Science Assessment for Particulate Matter." (EPA/600/R-08/139F). 2009 at Chapter 2, 18 to 19.
- 32 National Institutes of Health. [Press release]. "TCDD – dioxin — is listed as 'known human carcinogen' in federal government's 'Ninth Report on Carcinogens'." January 19, 2001.
- 33 Stingone, Jeanette A. and Steve Wing. "Poultry litter incineration as a source of energy: reviewing the potential for impacts on environmental health and justice." *New Solutions*. Vol. 21, No. 1. 2011 at 34 to 36.
- 34 Lynch, Deirdre et al. "Behavior of heavy metals during fluidized bed combustion of poultry litter." *Energy & Fuels*. Vol. 28. July 1, 2014.
- 35 Minnesota Pollution Control Agency. Air Emission Permit No. 15100038-004. Issue date February 9, 2005; Alternative Resources, Inc. "A Review of the Expected Air Emissions for the Proposed FibroShore 40-MW Power Plant to Be Fueled with Poultry Litter and Wood." February 2001 at 14 to 15.
- 36 U.S. Environmental Protection Agency (2009); National Institutes of Health (2001).



For more information:

web: www.foodandwaterwatch.org

email: info@fwwatch.org

phone: (202) 683-2500 (DC) • (410) 394-7650 (MD)

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