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Committee: House Economic Matters

Testimony on: HB 11

Position: FAVORABLE

Hearing Date: March 4, 2022

Dear Chairman Wilson and members of the committee,

Food & Water Watch, on behalf of its 40,000 members in Maryland, urges a favorable report on HB 11, the Reclaim Renewable Energy Act.

Maryland's Renewable Energy Portfolio Standard was established for the purpose of speeding our transition to renewable energy. However, the current structure of the RPS institutionalizes subsidies for energy sources that not only produce more carbon than fossil fuels per unit of energy, but also threaten the health of Marylanders. These are not the objectives that the state's clean energy plan is meant to achieve. Yet the incentive created by including these dirty sources as "renewable" in our RPS allows them to increasingly occupy space that can and should be filled with clean renewable energy like wind, solar, and geothermal.

Energy produced from the incineration of poultry litter and trash, factory farm biogas, landfill methane, and wood should not count towards our renewable energy goals. It is time to clean up the RPS by removing all technologies that create greenhouse gasses from tier-1 of the program by passing the Reclaim Renewable Energy Act.

This includes the removal of methane from anaerobic digestion. No matter the source, burning methane produces CO₂. Furthermore, it is an even more potent greenhouse gas in and of itself when it leaks into the atmosphere. 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. [[Earthjustice paper](#), page 5, [research paper](#)]

However, energy companies and the agricultural industry promote any non-fossil-fuel methane as "renewable" despite its climate impacts. Since the construction of biogas facilities is extremely costly, they are generally not profitable without taxpayer or ratepayer supported subsidies and incentives. ([FWW Fact Sheet](#)) Its inclusion in our 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.

In the anaerobic digestion of factory farm waste, animal waste and other materials are fed into a digester where it is broken down by specialized methane-producing microorganisms that can only thrive in the absence of oxygen. 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 digester creates methane but does nothing to mitigate the significant air quality issues associated with factory farms. Additionally, the anaerobic digestion process leaves behind a digestate that must still be disposed of. Problematically, the nutrients in this digestate can be rendered more water soluble than those in unprocessed chicken litter, and yet it is often spread on fields as fertilizer, where it runs off into the Chesapeake Bay. ([FWW Issue Brief](#)).

In addition to not solving the problem of excess waste, the production of methane from organic matter through anaerobic digestion has been used as an excuse for expanding and entrenching dangerous LNG infrastructure ([Energy and Policy Institute](#)). 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 environmental advocates ([Video Recording 1:35, and 1:43](#)).

Maryland ratepayer dollars earmarked for renewable energy should not be flowing to industries that threaten the health of the bay, the climate, and our public health. Please support a healthy green energy future for Maryland by supporting the Reclaim Renewable Energy Act,

Sincerely,

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Renewable Natural Gas: Same Ol' Climate Polluting Methane, Cleaner-Sounding Name

As corporations seize more control of our food and energy systems, our planet gets increasingly saturated with their toxic byproducts. Increasingly worried about their image as people demand meaningful climate action, corporations have tried to assuage the public with technological Band-Aid fixes like “renewable” natural gas. In reality, this is just a greenwashed, cleaner-sounding name for biomethane, or processed biogas that can be delivered in pipelines.¹ In this way, “renewable” natural gas is a symptom of the systems that are forcing climate change.

Biomethane is being misleadingly touted as a clean source of energy, and its supporters market it as renewable. By relying on symptoms for climate change to be the cure, we simply perpetuate the underlying problem. For one, biogas is primarily comprised of methane (the same greenhouse gas that makes up fracked natural gas). It includes waste methane from landfills, sewage treatment plants and factory farm livestock manure.²

Biomethane proponents include natural gas companies, investor-owned utilities, industry trade groups like the American Gas Association, and Big Ag.³ These champions have an incentive to invest in and support biomethane because it can utilize existing fossil-fueled gas infrastructure while propping up factory farms.⁴ This is a win-win for energy companies because biomethane could either diversify their portfolios or keep their assets from becoming stranded. Concerningly, biomethane encourages the continued buildout of leaky gas infrastructure that locks in climate chaos.

Debunking “Pro-Climate” Claims

Supporters claim that the primary benefit of biomethane is that it reduces fossil fuel consumption and helps allay climate change.⁵ But for biomethane to provide meaningful change, it relies on the improbable condition that no methane will be emitted to the atmosphere during the conversion of biogas to biomethane.⁶ And a 2020 study determined that “renewable” natural gas systems are prone to leakage.⁷

Studies have shown that methane can be released at biogas facilities through the process of “upgrading” it to biomethane, pressure relief valves, ventilation processes, leaky infrastructure, and more.⁸ A 2019 study looked at 23 manure-based agricultural biogas plants in Denmark — eight of which manufactured biomethane — and found that 0.4 to 14.9 percent of the production total (methane) leaked from their systems. The average plant lost 4.6 percent.⁹

A 2018 Food & Water Watch report found that although biogas is literally comprised of methane, every state with a Renewable Portfolio Standard considers waste gas from landfills and sewage treatment plants to be renewable energy; 25 states classify biogas from factory farms as renewable.¹⁰ Biomethane simply replaces one form of the climate pollutant for another.

“Renewable” Natural Gas is Way Too Expensive

The cumulative costs associated with treating biogas, bringing it to market and all the necessary interconnected facilities pose challenges to the economic viability of these projects.¹¹ Research has indicated that replacing fossil fuels with biomethane is “not likely to be commercially feasible without large subsidies.”¹² Likewise, anaerobic digestors (the infrastructure that converts waste into biogas) cost millions. These expensive facilities are dependent upon significant public funding and incentives.¹³ Some costs are offset by taxpayer-subsidized handouts; others are simply passed down to utility ratepayers.¹⁴ In 2018, California invested over \$70 million toward 42 new dairy biogas digester projects.¹⁵ These grants, coupled with other incentives,¹⁶ encouraged the construction of dairy digesters across the state.

Digestors produce neither clean nor safe energy because of methane combustion emissions, leaks, accidental manure spills and explosions.¹⁷ It would make more sense to actually decarbonize the grid by moving to wind and solar. For one, biomethane is significantly more expensive to fuel homes and businesses than traditional fossil fuel gas.¹⁸ Secondly, technology exists to support a transition to 100 percent clean, renewable energy, backed up by storage and transmission, at prices lower than current energy costs.¹⁹

The Factory Farm Nexus

Biomethane from anaerobic digesters props up factory farms that produce a colossal amount of manure due to the large concentrations of animals. The technology converts gas from factory farm manure (and other wastes like sewage sludge or food waste) into biogas, which is promoted for onsite electricity generation or for being sold to the grid.²⁰ Some leaders are championing for anaerobic digesters as a remedy for managing factory farm waste.²¹ But digesters do not solve animal waste problems, and they do not reduce phosphorus or nitrogen levels in manure. Manure still needs to be managed through practices such as field application.²²

Smaller, pasture-based dairies can manage manure onsite by applying it as fertilizer on their cropland at sustainable rates. However, factory farms typically produce more manure than can be used onsite. Overapplication of dairy manure can cause runoff, polluting waterways with nutrients like nitrogen and phosphorus.²³

Increasingly, Big Ag is partnering with energy companies, locking us into two polluting business models. For example, in August 2018 SoCalGas began accepting biomethane that originated from an anaerobic digestion facility (which was already used to fuel roughly 400 waste hauling trucks). And in February 2019, SoCalGas announced that it had begun to inject biomethane from a dairy digester into its natural gas system.²⁴



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Anaerobic digestion facilities support factory farms that produce a colossal amount of manure due to large concentrations of animals.

Oregon's first anaerobic digester began operating in 2019; it is one of the largest in the nation, and feeds gas into the grid.²⁵ That same year Dominion entered into a \$500 million joint venture with pork producer conglomerate Smithfield to turn manure into biomethane; (Dominion's natural gas transmission and storage assets have since been acquired by a Warren Buffet company in a nearly \$10 billion deal.)²⁶ Dominion also partnered with Vanguard Renewables in a \$200 million nationwide effort to convert dairy manure into biomethane. Projects have also been planned for New Mexico, Colorado, Nevada, Utah and Georgia.²⁷

In Delaware, Biogas Dev Co (BDC) entered into a 20-year contract with Perdue Farms to construct a \$7 million anaerobic digestion system for biomethane.²⁸ BDC, a global company backed by private equity, also teamed up with Chesapeake Utilities to flood its natural gas system with "renewable" natural gas.²⁹ This is the first time Chesapeake Utilities has looked to add biomethane to their network.³⁰ The plan also includes pouring millions of dollars into gas tanker trucks to carry the biomethane to the 500-mile Eastern Shore Natural Gas pipeline network in Maryland.³¹

Other Sources of So-Called "Renewable" Natural Gas

Waste methane from landfills is another primary source of "renewable" natural gas. Like dairy biogas, landfill gas can be used onsite (or close by) for direct heating, or it can be processed and upgraded into biomethane to be used in transportation or injected directly into the pipeline network.³² Landfills are the leading source of biomethane in the U.S., and about 560 operational landfill gas projects are spread throughout the country.³³

At landfills, natural anaerobic decomposition happens as waste breaks down, which releases methane. Its reuse is being promoted because any infrastructure that uses fossil fuel natural gas, can also use landfill gas. To tap it, punctured pipe wells are drilled into the garbage every acre or so. The wells connect to a header pipe that has a vacuum that sucks gas out. Unused landfill gas is burned off (flared).³⁴

While landfills pose the problem of fugitive methane emitted into the atmosphere during trash decomposition, repurposing it into pipeline-grade combustible gas isn't the solution. In fact, it further entrenches us into more dirty infrastructure and continued fossil fuel reliance.

For example, in California, the proposed Glendale Biogas Renewable Generation Project is a biogas generation project that Glendale Water & Power (GWP) has been plotting



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The Scholl Canyon Landfill near Eagle Rock — a Los Angeles community beset by a history of poor air quality and pollution-related health problems and casualties — is the target site of the Glendale Biogas Renewable Generation Project. As part of a larger plan to repower and upgrade the city's Grayson Power Plant, the Glendale Project would help lock Angelenos into climate-destroying infrastructure.

to build at the city-owned Scholl Canyon Landfill near Eagle Rock — a Los Angeles community beset by a history of poor air quality and pollution-related health problems and casualties.³⁵ The Glendale Project is part of a larger plan to repower and upgrade the city's Grayson Power Plant,³⁶ locking Angelenos into climate-destroying infrastructure.

"Renewable" natural gas can likewise originate from municipal solid waste, sludge from wastewater treatment plants, food waste³⁷ or be manmade. Power-to-gas and artificial photosynthesis processes can create biomethane. These processes involve transforming water into hydrogen, then combining hydrogen with carbon dioxide. Absurdly, these technologies rely on renewables.³⁸ (Though, when power-to-gas doesn't use real renewable energy — like wind and solar — it typically utilizes dirty energy sources under the guise of "renewable.")

Conclusion: We Need Real Solutions and Real Renewables

Biomethane is indistinguishable from fossil methane and fracked gas. States must strengthen and eliminate dirty energy sources like biomethane from their renewable portfolios. Counting waste methane from factory farms, landfills, sewage treatment plants and more as "renewable" simply bolsters the natural gas industry and maintains the nation's leaky gas infrastructure — a major emitter of methane. Expensive "renewable" natural gas will simply help prolong fossil fuel dependence and delay the shift to genuinely clean, renewable energy needed to reduce greenhouse gas emissions, while propping up polluting factory farms.

A real solution would be transitioning to 100 percent clean, renewable energy by 2030 through an investment in a New Deal-scale green energy public works program that fosters a rapid transition to real zero-emission clean energy (like solar and wind) accompanied by widescale deployment of energy efficiency. Technology for a large-scale transition to renewables has existed for over 20 years and is cheaply available now³⁹ — we just need the political will to see it through.

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Biogas From Factory Farm Waste Has No Place in a Clean Energy Future

As the threats of global climate change and fossil fuel dependence are increasingly being felt worldwide, countries are turning to biogas as a part of a transition to renewable energy. Biogas is being boasted as a “renewable” energy solution, designed to help mitigate climate change. The process of anaerobic digestion converts organic material into biogas, which can be used to produce electricity on-site, for heating, or as vehicle fuel.¹

Despite claims of environmental benefits, biogas is primarily made up of methane, a potent greenhouse gas. And the focus on the supposedly renewable nature of biogas ignores the many environmental and health threats posed by a major source of this gas: manure from massive factory farms. Biogas has no place in the world’s clean energy future.

Proponents are promoting biogas as a means to abate the environmental consequences associated with large-scale livestock operations, often referred to as factory farms or concentrated animal feeding operations (CAFOs). These facilities raise large numbers of animals in intensive confinement, concentrating the animals and their manure.

Biogas digesters are among the new wave of “green” manure management solutions being used on livestock operations all over the world. But these digesters simply prop up factory farms that threaten human health, contribute to global warming and put workers, communities and farmers at risk.

Biogas Is Dirty Energy

Despite claims that digesters reduce greenhouse gas emissions⁷, burning biogas actually releases carbon dioxide and other pollutants including smog-forming nitrogen oxides, ammonia and hydrogen sulfide⁸, potentially offsetting other



What Is Biogas?

Biogas is a mixture of gases that are produced after plant and animal material are broken down by microorganisms in a process called anaerobic digestion.² Anaerobic digestion — which occurs in a closed, oxygen-free space called a digester — takes substances like manure from factory farms, sewage sludge or food waste and “eats” the material, leaving mostly methane and carbon dioxide, among other gases. The material left over is called digestate.³

Biogas can be converted into biomethane through the removal of hydrogen sulfide, carbon dioxide and moisture.⁴ It also can be treated and made into compressed natural gas (CNG) or liquefied natural gas (LNG)⁵, with the removal of siloxanes and hydrogen sulfide⁶, to be used to generate power or distributed through pipelines to homes and businesses.

greenhouse gas reductions. Additionally, biogas is composed of roughly 50-70 percent methane, 30-45 percent carbon dioxide and trace amounts of other gases.⁹ Biomethane typically contains more than 95 percent methane.¹⁰ Methane is a potent greenhouse gas, nearly 90 times more powerful than carbon dioxide over a 20-year time period.¹¹

Data have shown that biogas digesters are responsible for both systemic and accidental methane emissions.¹² Plants that store digestate — the byproduct of anaerobic digestion — in open tanks emit a steady flow of methane. Accidental leaks can occur in over-pressured digesters, which can lead to explosions.¹³ In a review of several studies, researchers estimated that the leakage from “renewable” methane production is actually similar to that of fossil fuel gas production.¹⁴ On top of this, the transport of biogas and materials to and from digesters still uses massive amounts of toxic diesel fuel.¹⁵

Releases of harmful contaminants are also associated with biogas plant operation and infrastructure such as pipelines, the end use of the gas and digestate management.¹⁶ These releases can destroy the Earth’s protective ozone layer, warming the atmosphere and changing the global climate.¹⁷ Biogas purification technology exists to reduce methane leakage, but it is costly and faces major challenges in terms of efficiency and energy consumption.¹⁸

The high costs of factory farm manure

Worldwide, factory farms produce millions of tons of manure a day. Many pig and dairy cow factory farms flush untreated waste into large cesspools called lagoons,

where it is stored until it is applied as fertilizer on fields. However, waste from lagoons is routinely overapplied to crop land as fertilizer, leading to runoff into surface waters and leaching into groundwater, which impacts human health and nearby communities. And unlike human sewage, which is treated at wastewater treatment plants, such treatment facilities for livestock waste are nonexistent.¹⁹

Because they produce so much waste, large-scale factory farms are also dangerous sources of methane. Methane emissions from agriculture in the United States have gradually risen by 14 percent in the past few decades and steadily continue to rise.²⁰ From 1990 to 2017, manure management was the largest cause of the increase in methane emissions in the U.S. agricultural sector.²¹ The majority of this observed increase was predominately from pig and dairy cattle manure, with emissions increasing 29 percent and 134 percent, respectively.²²

Studies have claimed that the use of biogas technology offers a way to avoid the negative impacts of methane emissions and toxic gases from manure.²³ The multinational meat giant Smithfield Foods not only plans to push the U.S. factory farms that raise their animals to construct digesters, but also intends on building new factory farms specifically to tap into the potential to generate biogas.²⁴

Biogas digesters are a false solution that do nothing to actually mitigate emissions from agriculture. On-farm digesters can cost anywhere from an estimated \$400,000 to \$5 million to construct depending on the size, design and features.²⁵ The money being funneled into digesters is wasted capital that should instead be invested in zero-emission renewable energy sources, like solar and wind.

And the looming spread of factory farms — driven in part by the promotion of biogas digesters — can be dangerous, compounding the already existing threats to farmers, workers and local residents.

Biogas in the United States

The energy crisis in the 1970s propelled the United States to consider the feasibility of biogas as an alternative energy source.²⁶ Once fully developed as usable technology, digesters were put on larger livestock operations. But this first generation of biogas digesters suffered from high capital costs and substantial operational hurdles.²⁷ By the 1980s, 85 percent of existing digester facilities were shut down, due in part to poor technological designs, bad management and a lack of knowledge needed to operate them.²⁸

In actuality, some farmers were finding that the costs to run biogas operations were exceeding the money earned from generating electricity.²⁹ A drastic decline in electricity prices in the past decade has made selling the electricity to the grid less profitable.³⁰ This, coupled with the changing landscape of environmental regulations and legal challenges from neighboring communities, has resulted in the expansion of methane digesters used to produce “renewable” natural gas (RNG).³¹ RNG production has created an incentive for constructing even more digesters — and the pipeline infrastructure needed to move the gas — across the country.³²

According to the U.S. Environmental Protection Agency (EPA), as of January 2019 at least 282 anaerobic digesters were in construction or currently operating on livestock farms in the United States.³³ The EPA estimates that biogas technology can be employed on at least 8,000 additional large dairy and pig operations.³⁴ So far, the U.S. Department of Agriculture has invested more than \$10 million in biogas research and use.³⁵ State governments also incentivize digesters by promoting biogas as renewable energy in their Renewable Portfolio Standard policies.³⁶

Environmental injustices stemming from digesters

Across the country, the presence of factory farms and increased promotion of biogas are threatening low-income communities and communities of color. In the Central Valley of California, biogas digesters could impose disparate health impacts on already vulnerable populations. Pig farms in eastern North Carolina are disproportion-

The Case of Smithfield Foods

Rural communities across the United States are being targeted for new digesters. In late 2018, Smithfield Foods announced its plans to build “manure-to-energy” projects at 90 percent of the facilities raising its pigs — in Missouri, Utah and North Carolina — with the goal of achieving greenhouse gas emission reductions.³⁷ This \$250 million joint venture with Dominion Energy will convert existing anaerobic lagoons into covered digesters, which will capture biogas that will then be transported to processing facilities around the country to be turned into natural gas.³⁸

The partnership claims “to promote cleaner energy, sustainable family farms, and a brighter future for rural communities.”³⁹ But the creation of even more dirty natural gas through anaerobic digestion at large factory farms will do nothing for independent family-scale farms because digesters require such large quantities of manure. This amount of manure can only be produced on farms that confine thousands of animals.

On top of this, Smithfield’s greenwashing attempts are not surprising given the company’s egregious track record in North Carolina. In 2018, Smithfield lost three lawsuits filed by a group of North Carolinians who live near its pig farms. The plaintiffs were awarded nearly \$550 million after testifying about terrible odors, adverse health impacts and property destruction. After Hurricane Florence, conditions worsened as pig waste lagoons around the state overflowed — some breaching entirely — resulting in the release of millions of gallons of untreated pig manure into floodwater and people’s homes.⁴⁰

Smithfield’s newfound interest in biogas digesters comes right on the heels of these lawsuits, which emphasized just how dangerous pig manure lagoons and sprayfield systems have been for nearby communities.⁴¹ But this plan does nothing to solve the problem of Smithfield’s polluting factory farms — instead, Smithfield will not only maintain its factory farms, but also employ dirty biogas infrastructure under the guise of being “renewable.”



The Case of California's Central Valley

Before 2002 in the Central Valley of California, there were less than five dairies that operated manure digesters.⁴² By 2015, five dairy factory farms had been awarded millions of dollars in grants to build new biogas digesters that would be located in disadvantaged communities in the Central Valley. The California Department of Food and Agriculture claims that these digesters will mitigate global warming by cutting methane emissions through the production of renewable energy.⁴³

But the Central Valley is a region already plagued by pollution and terrible environmental conditions, and digesters may only make things worse. The increased presence of factory farms to promote biogas, the use of diesel trucks to cart manure to and from digesters, and the invasive construction of pipelines to move biogas across the country pose major risks to an already polluted Central Valley.

The valley is surrounded by mountains that trap air pollutants, resulting in poor air quality. Already, the concentrations of ozone and particulate matter often exceed the state and federal standards.⁴⁴ Groundwater has also been degraded partly because of land use and agriculture practices.⁴⁵

The San Joaquin Valley, which makes up two-thirds of the Central Valley, is home to a population that is 54 percent people of color.⁴⁶ This area is agriculturally rich but economically poor, ranking among the nation's poorest regions. These communities lack the political agency and resources needed to advocate for themselves, and often go unnoticed by state officials.⁴⁷

ately located in communities of color where bacteria from manure is found in water.⁴⁸

Moreover, air pollutants from these operations disrupt daily living — of predominately Black, Hispanic and Indigenous residents — contributing to stress and anxiety, mucous membrane irritation, respiratory conditions, reduced lung function and blood pressure elevation.⁴⁹ And while a good portion of emissions are present before digestion takes place, biogas construction and production will bring its own pollutants and emissions — from the exhaust generated from the use of heavy equipment and vehicles, to the potential odors that will come with the transport of manure and other material used for digestion.⁵⁰

The placement of digesters in already disadvantaged communities will only exacerbate the existing environmental degradation facing vulnerable populations around the country.

Biogas Domination in Europe

Europe is far more familiar with biogas operations than the United States, with more than 17,000 digesters located around the continent. Seventy percent of these plants operate on agricultural materials,⁵¹ which includes animal waste, other waste associated with food production, and energy crops — crops grown specifically for anaerobic digestion.⁵²

The increase in biogas production can be attributed, in part, to renewable energy policies backed by the European Union, which boasts that biogas is economically and environmentally beneficial.⁵³ More than £200 million (roughly \$273 million) of taxpayer money is used annually to fund digesters in the United Kingdom (UK) alone.⁵⁴ Germany has more than 8,000 digesters as a result of a law that guarantees renewable energy producers above-market rates for their power.⁵⁵

Contrary to claims of new energy production, the power from digesters cannot actually be harnessed in the ways that the fracking and natural gas industries promote. In a report on the feasibility of renewable biogas, researchers note that there are significant economic constraints in achieving substantial volumes of “renewable” methane from manure in Europe.⁵⁶ Even when incentivized, the high costs of transporting “renewable” methane to the grid for heating and transportation becomes increasingly difficult.⁵⁷

Safety issues on the rise

These operations have proven time and time again to be extremely dangerous. And accidents are increasing. One

farm in the UK has been the site of two separate digester spills, which spewed toxic black sludge onto acres of farmland — killing more than 50 farm animals — and into a nearby stream.⁵⁸ The sludge even reached neighboring farms. Damages from the two spills cost around £114,000, roughly \$145,000.

A study of biogas accidents around Europe found that increased digester development has led to a higher number of operational accidents. The study examined more than 200 accidents and found that explosions and leaks resulted in a number of worker injuries on biogas plants. In more extreme instances, hazardous conditions at plants have led to worker deaths.⁵⁹ Researchers from the study had a database of only 208 accidents to examine, but concluded that the number of accidents at plants probably exceeds what is recorded.

The Urgent Need to Shift to Renewables

Because biogas has the potential to be turned into natural gas, it appeals to industries that want to expand natural gas infrastructure development around the world. The

cost of a single biogas digester can reach \$5 million. The expansion of natural gas infrastructure to handle new biogas production will also come at a high price. By 2016, the costs for constructing U.S. pipelines rose to a whopping \$2.4 million per mile above 2015 costs, bringing total costs to \$7.65 million per mile (roughly £5.86 million).⁶⁰ Rather than investing this huge amount of capital in dirty energy, it would be better spent on actual renewable energy efforts.

We must reject biogas as renewable energy

This worldwide promotion of biogas as “renewable” by agribusinesses and the fracking and natural gas industries is misleading and harmful. Dirty biogas releases greenhouse gas emissions and other pollutants, puts workers and farmers in danger, and harms nearby communities, all while failing to provide reliable power. Investing in natural gas infrastructure and factory farm-linked technology forestalls meaningful reductions in emissions and delays a true shift to renewable energy. It is time to invest in a just transition to a 100 percent, zero-emission, clean energy future, not factory farm biogas.

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