Putting Lipstick on a Pig: Biogas, Methane Digesters, and the Greenwashing Playbook

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Industrial animal agriculture pitches biogas and methane digesters as solutions to the outsized methane footprint of concentrated animal feeding operations (CAFOs). In fact, these efforts are nothing more than an effort to dupe the public into thinking CAFOs' operations are environmentally responsible. Biogas and methane digesters only more deeply entrench these facilities into the status quo of unsustainable production and disposal methods at CAFOs. This article first describes industrial animal agriculture's impacts on climate change, with a focus on methane emissions. It then addresses biogas and methane digesters as ineffective solutions to the methane emissions from CAFOs. Next, it examines how these misleading and inadequate responses in the industrial animal agriculture context parallel the fossil fuel industry's greenwashing campaigns with blue hydrogen and carbon capture and storage facilities. The article proposes long-term and short-term accountability mechanisms to promote the phaseout of biogas and methane digesters in CAFOs. Effective long-term measures would involve implementing disclosure and verification standards much like those that are starting to be implemented in the fossil fuel industry context. These legislative efforts take time; however, and have not yet been implemented in the U.S. In the meantime, an effective short-term response would be to pursue strategic litigation to raise awareness of and apply pressure to phase out these harmful methane management responses by drawing on best practices from greenwashing lawsuits in the fossil fuel context.

Introduction

In the United States, billions of food animals are raised in concentrated animal feeding operations (CAFOs), commonly referred to as "factory farms," which produce massive amounts

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of waste.[2] The waste generated from CAFOs is a multi-faceted public enemy that causes dangerous impacts to air and water quality,[3] animal welfare,[4] worker safety,[5] and fenceline communities.[6] Yet the most destructive long-term impact of CAFOs is how they are propelling the climate change crisis by clinging to this destructive status quo of operation and failing to reduce and phase out their significant greenhouse gas emissions, especially from methane. According to a report released during COP27, the combined methane emissions of 15 of the world's largest meat and dairy companies far exceeds the methane footprint of many of the world's highest methane-emitting countries.[7]

To add insult to injury, sometimes the purported "cure" can be more dangerous than the "disease." In response to public pressure to reduce harmful methane emissions, CAFOs have undertaken biogas and methane digesters as their methane management practices to convey to conscientious consumers that these facilities are undertaking environmentally beneficial measures. Not only are these measures not solutions to the methane emissions problem at these facilities, but they also risk making the problem worse in the long run by increasing demand for the destructive practices of factory farming. Worse still, these efforts have been communicated to the public as a win-win solution that enshrines this harmful, low-cost method of production while purportedly protecting the environment through managing the pollution impacts from these facilities and producing "renewable energy."[8]

This deceptive approach mirrors the fossil fuel industry's responses to the threats that its greenhouse gas (GHG) emissions pose to the global climate change crisis. Their false solutions are: (1) blue hydrogen and (2) carbon capture and storage. Like biogas and methane digesters, these two responses seek to enable the industry to proceed with business-as-usual practices while attempting to communicate that these measures are making great strides in addressing climate change. It is not surprising that these two industries are engaged in similarly destructive practices

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[2] Lindsay Walton & Kristen King Jaiven, *Regulating Concentrated Animal Feeding Operations for the Well-Being of Farm Animals, Consumers, and the Environment*," *in* WHAT CAN ANIMAL LAW LEARN FROM ENVIRONMENTAL LAW? 205, 207 (Randall S. Abate, ed., 2d ed. 2020) (noting that "nine billion confined U.S. farm animals produce almost one million tons of manure daily"); Patty Keough, *Manure-to-Energy Projects – Greenwashing or a Real Solution to Reducing Methane Emissions from Livestock Production?* ENV'T, NATURAL RESOURCES, & ENERGY L. BLOG (Jan. 23, 2023), https://college.lclark.edu/live/blogs/216-manure-to-energy-projects-greenwashing-or-a-real ("According to estimates, livestock in the U.S. produce between 3-20 times more manure than humans in the U.S. – as much as 1.37 billion tons of manure per year.").

[3] Walton & King Jaiven*, supra* note 1, at 208-09.

[4] *Id.* at 209-10.

[5] For a discussion of worker safety issues at CAFO, see F. M. Mitloehner & M. S. Calvo, *Worker Health and Safety in Concentrated Animal Feeding Operations*, 14 J. AGRIC., SAFETY & HEALTH 163 (2008).

[6] Walton & King Jaiven*, supra* note 1, at 210; Daina Bray, *The Climate Problem of Animal Agriculture*, 20 ABA SCITECH LAW. (Fall 2023), https://www.americanbar.org/groups/science_technology/publications/scitech_lawyer/2024/fall/climate-problem-animal-agriculture/ (noting that "industrial animal agriculture has numerous negative consequences, including … environmental justice issues"); *see also* THE SMELL OF MONEY (Beyond the Pines, 2022), https://www.smellofmoneydoc.com/ (documentary detailing health and environmental impacts of CAFOs on fenceline communities).

[7] *COP27 continued to ignore the role of animals in climate change,* WORLD FEDERATION FOR ANIMALS (Nov. 24, 2022), https://wfa.org/cop-27-continued-to-ignore-the-role-of-animals-in-climate-change/.

[8] *What is biogas?* NATIONAL GRID, *ignore* https://www.nationalgrid.com/stories/energy-explained/what-is-biogas#:~:text=Biogas%20is%20a%20naturally%20occurring,non%2Drenewable%20source%20of%20power (last visited Mar. 11, 2024).

and getting away with it. First, both industries are drowning in federal subsidies.[9] Second, even when there is political will to address the climate change impacts of these industries, the political power of these industries enables them to avoid strict regulation.[10] For example, the Biden administration acknowledged the imminent need to regulate methane emissions in its Methane Action Plan,[11] yet animal agriculture is only subject to suggested voluntary measures.[12]

The challenge for effective regulation of the fossil fuel and animal agriculture industries is also stuck in neutral at the international level. For example, language recognizing the need to phase out fossil fuel reliance has not made it into a global climate agreement after three decades of global climate change negotiations. Even at COP 28 in December 2023, advocacy for a fossil fuel phaseout fell short again with only weak language calling for a "transition away" from fossil fuels making it into the language of the meeting's final agreement.[13] The climate COPs' track record on addressing industrial animal agriculture's impact on climate change is even worse. While COP27's recognition of agriculture and food systems as a component of climate change action was a positive step forward, the meeting failed to tackle emissions and vulnerabilities caused by industrial animal farming that need to be addressed to halt and reverse global warming.[14] Worse still, despite the agreement on the transition away from fossil fuels, COP 28 again failed to address the regulation of factory farming.[15]

Part I of this article describes industrial animal agriculture's impacts on climate change, with a focus on methane emissions. Part II addresses biogas and methane digesters as ineffective solutions to the methane emissions from CAFOs. Part III examines how these misleading and inadequate responses in the industrial animal agriculture context parallel the fossil fuel industry's greenwashing campaigns with blue hydrogen and carbon capture and storage. Part IV proposes long-term and short-term accountability mechanisms for biogas and methane digesters. Effective long-term measures would involve implementing disclosure and verification standards much like those that are starting to be implemented in the fossil fuel industry context. These legislative efforts take time; however, and have not been fully implemented in the U.S. In the meantime, an effective short-term response would be to pursue strategic litigation to raise awareness of these deceptive practices and impose pressure to phase them out by drawing on best practices from greenwashing lawsuits in the fossil fuel context.

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[9] Randall S. Abate, *Anthropocene Accountability Litigation: Confronting Common Enemies to Promote a Just Transition*, 46:S COLUM. J. ENV'T L. 243-45, 249-51 (2021).
[10] *Id.* at 240-42, 245-49.
[11] Biden Administration's U.S. Methane Emissions Reductions Action Plan, White House Office of Domestic Climate Policy, U.S. Methane Emissions Reduction Action Plan (Nov. 2021), https://www.whitehouse.gov/wp-content/uploads/2021/11/US-Methane-Emissions-Reduction-Action-Plan-1.pdf [hereinafter "Biden's Methane Action Plan"].
[12] *Id.; see* Viveca Morris, *The Cow-Shaped Hole in Biden's Methane Plan*, POLITICO (Nov. 16, 2021), https://www.politico.com/news/agenda/2021/11/16/methane-emissions-cows-agriculture-climate-change-522550.
[13] UN Sustainable Development Group, *COP28 ends with call to 'transition away' from fossil fuels; UN chief says phaseout is inevitable*, (Dec. 13, 2023), https://unsdg.un.org/latest/stories/cop28-ends-call-%E2%80%98transition-away%E2%80%99-fossil-fuels-un-chief-says-phaseout-inevitable.
[14] *COP27 continued to ignore the role of animals in climate change, supra* note 6.
[15] *COP28 fails to address animal agriculture*, WORLD ANIMAL PROTECTION (Dec.13, 2023), https://www.worldanimalprotection.ca/news/cop28-fails-address-animal-agriculture (noting that COP28 secured extensive global support for sustainable agriculture, yet the critical need to regulate factory farming to promote climate change mitigation was notably absent).

I. Industrial Animal Agriculture's Methane Emissions and Climate Change

The climate change impacts of animal agriculture are well documented and have received heightened scrutiny in recent years.[16] CAFOs generate significant quantities of greenhouse gases (GHGs) that contribute to global climate change, including carbon dioxide, nitrous oxide, and methane.[17] These facilities release GHGs through various processes, including feed production, land use change, manure management, processing, transportation, and enteric fermentation.[18]

CAFOs are responsible for significant methane emissions.[19] Methane is approximately 80 times more potent than carbon dioxide over its first twenty years in the atmosphere.[20] CAFOs' methane emissions are primarily derived from livestock raising and the storage and processing of massive amounts of manure.[21] Animal agriculture contributes to about one third of all global anthropogenic methane emissions[22] and it is the largest source of methane in the U.S. at 35.9 percent.[23]

Reducing methane emissions is seen as a critical "low-hanging fruit"[24] opportunity to slow global warming to reach climate goals. At COP26 in 2021, representatives from over 100 countries signed the "Global Methane Pledge," committing to reducing methane emissions by 30 percent by 2030; however, most measures to implement the pledge have focused on methane emissions from sources other than livestock, such as landfills and leaky oil and gas pipelines. Similarly, the Biden administration's Methane Emissions Reduction Action Plan[25] and the Inflation Reduction Act[26] have imposed strict limits on methane emissions from non-livestock

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[16] *See, e.g.,* Melina Walling, *Agriculture gets its day at COP28, but experts see big barriers to cutting emissions* APNEWS.COM (Dec. 9, 2023), https://apnews.com/article/cop28-meat-emissions-livestock-climate-cattle-c4153323be877da16d881ddef560815d; George Monbiot, *There's one big subject our leaders won't touch at cop27: livestock farming*, GUARDIAN (Nov. 9, 2022), https://www.theguardian.com/commentisfree/2022/nov/09/leaders-cop27-livestock-farming-carbon-budget-governments.

[17] Linda Breggin & Bruce Myers, *Tackling the Problem of CAFOs and Climate Change: A New Path to Improved Animal Welfare? in* WHAT CAN ANIMAL LAW LEARN FROM ENVIRONMENTAL LAW? 376 (Randall S. Abate, ed., 2d ed. 2020); *see also* Bray, *supra* note 5.

[18] Bray, *supra* note 5. "Enteric fermentation" refers to the process of cows and other ruminants expelling methane as a product of their digestive processes. Breggin & Myers, *supra* note 15, at 376.

[19] UN Environment Programme, *Methane emissions are driving climate change. Here's how to reduce them.* (Aug. 20, 2021), https://www.unep.org/news-and-stories/story/methane-emissions-are-driving-climate-change-heres-how-reduce-them.

[20] Bray, *supra* note 5.

[21] Breggin & Myers, *supra* note 16, at 376-77.

[22] Bray, *supra* note 5.

[23] *Id.*

[24] Global Flaring and Methane Reduction Partnership, *Methane from Oil and Gas Production Explained*, THE WORLD BANK, https://www.worldbank.org/en/programs/gasflaringreduction/methane-explained#:~:text=Cutting%20methane%20from%20oil%20and,Methane%20Pledge%20launched%20at%20COP26 (last visited Feb. 5, 2024).

[25] Biden's Methane Action Plan, *supra* note 10.

[26] Section 60113 of the Inflation Reduction Act (IRA) introduces an amendment to the Clean Air Act by incorporating a new provision, Section 136, on "methane emissions and waste reduction incentive program for

sources, while adopting only voluntary and incentive-based approaches for addressing methane emissions from animal agriculture. Given this "hands-off" approach to the problem of methane emissions from industrial animal agriculture,[27] it is not surprising that the industry's efforts to greenwash their waste management practices through measures like biogas and methane digesters have been tolerated to date.

II. Background on Biogas and Methane Digesters

Despite being promoted as a sustainable improvement to existing manure management practices at CAFOs, biogas and methane digester facilities have been criticized for their expense, reliance on government subsidies, and limited potential to replace natural gas.[28] These measures represent the animal agriculture industry's effort to perpetuate its harmful status quo and protect its bottom line. These "technological fix" solutions[29] also seek to make the public feel good about the industry's efforts to address the problem by distracting the public from the need to address the root cause of the problem. Portrayed as methods to promote clean energy and neutralize these facilities' impacts, these measures represent the essence of greenwashing.

A. Biogas

According to industry sources, biogas[30] is a renewable fuel that is produced when organic matter, such as food or animal waste, is broken down by microorganisms in the absence of oxygen.[31] This process is called anaerobic digestion.[32] For this process to occur, the waste

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petroleum and natural gas systems." Inflation Reduction Act of 2022, Pub. L. No. 117-169, § 60113 (2022), enacting Clean Air Act § 136, to be codified at 42 U.S.C. § 7436. Under this provision, a methane charge is imposed on emissions from specific facilities in the petroleum and natural gas sector that surpass an annual emission threshold of 25,000 metric tons of carbon dioxide equivalent greenhouse gasses. Inflation Reduction Act § 136(d); Clean Air Act § 136(c). The IRA states that "the term 'applicable facility' means a facility within the industry segments, as defined in subpart W of part 98 of title 40." Inflation Reduction Act § 60113. The charge for applicable facilities is set at $900 per ton for the year 2024, $1,200 per ton for 2025, and $1,500 per ton thereafter. Inflation Reduction Act § 136(e).

[27] For example, CAFOs have been largely exempted from federal air pollution regulation. For a detailed discussion of the regulatory gaps and loopholes that animal agriculture enjoys under U.S federal environmental law, see Abate, *supra* note 8, at 245-49.

[28] *See* Keough, *supra* note 1.

[29] Emma Bryce, *A novel and relatively simple device filters most of the methane out of animal barns*, ANTHROPOCENE (Jan. 5, 2024), https://www.anthropocenemagazine.org/2024/01/a-novel-device-can-filter-most-of-the-methane-out-of-animal-barns-and-help-farming-clean-up-its-act/?utm_source=rss&utm_medium=rss&utm_campaign=a-novel-device-can-filter-most-of-the-methane-out-of-animal-barns-and-help-farming-clean-up-its-act (describing a new technology – in addition to biogas and methane digesters – that seeks to limit methane emissions from animal agriculture facilities and recycle the waste into a form that can be reintegrated into the system).

[30] "Biogas" is similar to but distinct from "biomethane." Biogas is a range of gases, including methane and carbon dioxide, whereas biomethane is a product of a purification process that removes carbon dioxide, hydrogen sulfide, and water from the original biogas composition. *What is biogas and biomethane*? GAS DATA, https://www.gasdata.co.uk/2022/08/08/what-is-biogas-biomethane/#:~:text=The%20primary%20difference%20between%20biogas,from%20the%20original%20biogas%20composition.

[31] *Fact Sheet I Biogas: Converting Waste to Energy*, ENV'T & ENERGY STUDY INST., https://www.eesi.org/papers/view/fact-sheet-biogasconverting-waste-to-energy; *What is biogas?, supra* note 7.

[32] *Fact Sheet I Biogas: Converting Waste to Energy*, ENV'T & ENERGY STUDY INST., https://www.eesi.org/papers/view/fact-sheet-biogasconverting-waste-to-energy; *What is biogas?, supra* note 7.

material needs to be enclosed in an oxygen-free environment.[33] Biogas can occur naturally or as part of an industrial process designed to produce it as a fuel.[34] Biogas proponents assert that capturing the gases produced by this decay and using them as an energy source causes less harm to the environment than allowing them to escape into the atmosphere.[35]

Biogas consists mainly of methane and carbon dioxide.[36] If biogas is compressed, it can be used as a vehicle fuel.[37] If biogas is cleaned up and upgraded to natural gas standards, it can be used as a replacement for natural gas, known as biomethane, which can be used for cooking and heating.[38]

Biogas plants significantly reduce methane emissions by capturing this harmful gas and using it as fuel.[39] Biogas generation helps reduce reliance on the use of oil and coal.[40] In addition, the raw materials used in the production of biogas are renewable.[41] Manure, food scraps, and crop residue are raw materials that will always be available, which makes biogas a highly sustainable option.[42] The by-product of the biogas generation process is enriched organic digestate, which is a valuable supplement to, or substitute for, chemical fertilizers.[43] The fertilizer discharge from the digester can accelerate plant growth and promote resilience to diseases, whereas commercial fertilizers contain chemicals that have toxic effects and can cause food poisoning, among other adverse impacts.[44]

As a result of these asserted benefits, biogas has been bolstered by federal and state subsidies and tax credits. At the federal level, the IRA's Investment Tax Credit ("ITC") has been instrumental in encouraging biogas production.[45] The ITC offers a tax credit for a percentage of the capital investment in qualifying renewable energy projects, including biogas facilities.[46] Additional provisions within the IRA are poised to support projects related to biogas by facilitating financing options or increasing demand. Such initiatives include allocation of $2 billion towards the United States Department of Agriculture's Rural Energy for America (REAP) program, aimed at fostering rural or agriculture-linked renewable energy ventures, and

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[33] *What is biogas?, supra* note 7.
[34] *Id.*
[35] *Id.*
[36] *Id.*
[37] *Id.*
[38] *Id.*
[39] *Advantages and Disadvantages of Biogas*, HomeBiogas (Feb. 21, 2021), https://www.homebiogas.com/blog/advantages-and-disadvantages-of-biogas/.
[40] *Id.*; *Fact Sheet I Biogas: Converting Waste to Energy*, Env't & Energy Study Inst., https://www.eesi.org/papers/view/fact-sheet-biogasconverting-waste-to-energy.
[41] *Id.*; *Fact Sheet I Biogas: Converting Waste to Energy*, Env't & Energy Study Inst., https://www.eesi.org/papers/view/fact-sheet-biogasconverting-waste-to-energy
[42] *Advantages and Disadvantages of Biogas*, HomeBiogas (Feb. 21, 2021), https://www.homebiogas.com/blog/advantages-and-disadvantages-of-biogas/.
[43] *Id.*
[44] *Id.*
[45] 26 U.S.C. § 48 (2018).
[46] *Business Energy Investment Tax Credit (ITC)*, Database of State Incentives for Renewables & Efficiency, https://programs.dsireusa.org/system/program/detail/658 (last updated Aug. 29, 2023).

extensions or increases in per-gallon credits for the annual sale of specific biofuels.[47] In addition to the IRA, the Biden administration has prioritized biogas as a cornerstone of its clean energy agenda, as reflected in the Methane Emissions Reduction Action Plan, which aims to establish public-private collaborations to promote the expansion of biogas facilities.[48]

State-level subsidies and incentives also play a crucial role in supporting biogas projects. About 70 programs in about 30 states offer financial incentives for anaerobic digesters.[49] For example, California's Dairy Digester Research and Development Program provides grants to dairy farmers to help offset the costs of installing dairy digesters, which capture methane emissions from dairy waste and convert them into biogas.[50] Furthermore, some states have implemented Renewable Portfolio Standards (RPS) that require a certain percentage of energy to be derived from renewable sources, including biogas, thereby creating a market for biogas producers. For example, under the Massachusetts RPS program, a certain percentage of Class I renewable energy must be derived from certain biomass technologies, including biogas, which creates a market for biogas producers by incentivizing the development and utilization of biogas as a renewable energy source.[51]

Additionally, various state-level tax incentives, such as production tax credits, property tax exemptions, and sales tax exemptions, further encourage investment in biogas projects.[52] These incentives vary by state and are often designed to attract investment and stimulate economic growth within the renewable energy sector. For instance, Oregon's Commercial Energy Tax Credit provides a tax credit for a percentage of eligible project costs related to the construction, installation, and operation of the biogas facility.[53] This tax credit helps offset the initial capital investment required for developing biogas projects, making them more economically viable for investors and developers.

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[47] Michael H. Levin, *The IRA Revolutionizes AD Tax Credits*, BioCycle (Aug. 23, 2022), https://www.biocycle.net/the-ira-revolutionizes-ad-tax-credits/; *Rural Energy for America Program Renewable Energy Systems & Energy Efficiency Improvement Guaranteed Loans & Grants in Iowa*, U.S. Department of Agriculture, https://www.rd.usda.gov/programs-services/energy-programs/rural-energy-america-program-renewable-energy-systems-energy-efficiency-improvement-guaranteed-loans-3 (last visited Feb. 5, 2024).

[48] *U.S. Methane Emissions Reduction Plan*, The White House Office of Domestic Climate Policy (Nov. 2021), https://www.whitehouse.gov/wp-content/uploads/2021/11/US-Methane-Emissions-Reduction-Action-Plan-1.pdf.

[49] Report, *The Big Oil and Big Ag Ponzi Scheme: Factory Farm Biogas*, Food & Water Watch (Jan. 2024), https://www.foodandwaterwatch.org/2024/01/09/the-big-oil-and-big-ag-ponzi-scheme-factory-farm-biogas/.

[50] *Dairy Digester Research & Development Program*, California Department of Food & Agriculture, https://www.cdfa.ca.gov/oefi/ddrdp/ (last visited Feb. 5, 2024).

[51] *Alternative Energy Portfolio Standard (APS) and Renewable Thermal (RT) Technologies*, Massachusetts Clean Energy Center, https://www.masscec.com/alternative-energy-portfolio-standard-aps-renewable-thermal-rt-technologies (last visited Feb. 5, 2024).

[52] *Renewable energy explained*, U.S. Energy Information Administration, https://www.eia.gov/energyexplained/renewable-sources/incentives.php (last visited Feb. 5, 2024).

[53] *Biomass Tax Credits*, Oregon Department of Energy, https://www.oregon.gov/energy/Incentives/Pages/Biomass-Tax-Credits.aspx (last visited Feb. 5, 2024).

Notwithstanding these purported benefits that the industry alleges, biogas has been criticized from a variety of perspectives.[54] Concern for the environment is a major reason why the use of biogas has become more widespread.[55] Yet when environmental concerns motivate industry practices, allegations of greenwashing are sure to follow. The fossil fuel industry and industrial animal agriculture are in business to make profits. Good environmental stewardship is secondary, especially if it requires sacrifices that adversely affect the company's bottom line.

Biogas is marketed as a renewable energy solution to solve the methane impacts of CAFOs.[56] The promotion of biogas as "renewable" by agribusinesses and the energy industry is misleading and harmful.[57] Burning biogas releases carbon dioxide and other pollutants, including smog-forming nitrogen oxides, ammonia, and hydrogen sulfide.[58] Biogas from factory farms actually *hurts* the climate more than it helps.[59] Not only will it not solve the industry's waste problem, it will entrench that problem by encouraging more factory farms.[60] At best, biogas projects have the potential to be helpful for small farms (not CAFOs) if the biogas produced on the farm is reused only at that farm.[61]

One encouraging sign for opponents of biogas facilities is that a major company that planned to support these facilities is having misgivings about its involvement.[62] Shell had signed a contract for almost two billion dollars with a Danish company to conduct these operations, yet it has withdrawn from its first project in Minnesota.[63] This development reveals that "biogas still faces hurdles — including high costs, regulations, market forces and local opposition — to becoming a major U.S. energy source."[64] Biogas is flammable, highly toxic, and potentially explosive.[65] Residents near these facilities are also concerned about waste leakage during transport, processing, and storage.[66]

B. Methane Digesters

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[54] *See generally Animal Law Podcast Episode #104: The Biogas Nightmare*, Our Hen House (Jan. 31, 2024), https://www.ourhenhouse.org/alp104/; *Joaquin Phoenix Responds to Industrial Animal Agriculture's Greenwashing of Factory Farm 'Biogas'* (Aug. 10, 2022), https://aldf.org/article/joaquin-phoenix-responds-to-industrial-animal-agricultures-greenwashing-of-factory-farm-biogas/.

[55] *What is biogas?*, *supra* note 7.

[56] Phoebe Gittelson et al., *The False Promises of Biogas: Why Biogas is an Environmental Justice Issue*, 15 Env't Justice (Dec. 12, 2022), *available at* https://www.liebertpub.com/doi/10.1089/env.2021.0025.

[57] Wenonah Hauter, *Agribusiness Is Trying to Greenwash Its Waste as "Renewable Energy,"* Sentient Media (Oct. 7, 2020), https://sentientmedia.org/agribusiness-is-trying-to-greenwash-its-waste-as-renewable-energy/.

[58] *Id.*

[59] Mia DiFelice & Kat Ruane, *We Can't Let this Gas Greenwash Factory Farms*, Food & Water Watch (Apr. 12, 2023), https://www.foodandwaterwatch.org/2023/04/12/we-cant-let-this-gas-greenwash-polluting-factory-farms/.

[60] *Id.*

[61] Gittelson et al., *supra* note 55.

[62] *Digesters make renewable energy from manure, but face hurdles* (Sept. 12, 2023), https://www.mprnews.org/story/2023/09/12/digesters-make-renewable-energy-from-manure-but-face-hurdles.

[63] *Id.*

[64] *Id.*

[65] *Id.*; Gittelson et al., *supra* note 55.

[66] Environmental justice impacts are receiving increased attention, but are beyond the scope of this article. *See generally* Gittelson et al., *supra* note 55 (explaining why biogas is an environmental justice issue given that CAFOs are prevalent primarily in low-income areas and neighborhoods of color).

Also known as manure or anaerobic digesters, methane digesters are devices that promote the decomposition of manure or "digestion" of the organics in manure to simple organics and gaseous biogas products.[67] According to EPA, methane digesters on livestock farms have many benefits compared to traditional manure management systems, including diversified farm revenue, rural economic growth, conservation of agricultural land, energy independence, sustainable food production, and farm-community relationships.[68] Methane digester systems also provide "tipping fees" received for the management of non-farm organic waste streams.[69] These fees boost revenues and provide additional biogas for energy production.[70]

Unlike biogas facilities, which have gained traction only in recent years, methane digesters are not a new phenomenon.[71] They have been used for decades to harness energy from livestock manure, mainly on a small scale, with the first facility in Minnesota in 1999 engaged to produce electricity.[72] Like biogas facilities, however, methane digesters incentivize farmers to have more animals and, therefore, more manure.[73] More manure prompts the need for more digesters, thus creating a vicious cycle and perpetuating industrial animal agriculture's harmful status quo.[74] Methane digesters also are unable to reduce the emissions of methane from cows' belches, which contribute significantly to methane emissions from these facilities.[75]

Methane digesters may be able to extract energy from manure, but critics like the Food and Water Watch assert that is not worth the risks of accidents associated with producing natural gas on farms.[76] Transporting biomethane is expensive and complicated for livestock farmers, and while rare, accidents can happen.[77] Other environmental groups also oppose large-scale methane digesters as "greenwashing," fearing that these measures will encourage the expansion of large factory farms that have negative impacts on air and water quality.[78]

The Biden Methane Action Plan incentivizes this practice.[79] For methane emissions associated with livestock production, it relies almost exclusively on government subsidies and

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[67] *Methane (Anaerobic) Digesters*, University of Nebraska-Lincoln Institute of Agriculture and Natural Resources, https://water.unl.edu/article/animal-manure-management/methane-anaerobic-digesters#:~:text=A%20methane%20digester%20system%2C%20commonly,organics%20and%20gaseous%20biogas%20products (last visited Feb. 5, 2024).
[68] U.S. Environmental Protection Agency, *The Benefits of Anaerobic Digestion*, https://www.epa.gov/agstar/benefits-anaerobic-digestion (last visited Feb. 5, 2024).
[69] *Id.*
[70] *Id.*
[71] *Digesters make renewable energy from manure, but face hurdles* (Sept. 12, 2023), https://www.mprnews.org/story/2023/09/12/digesters-make-renewable-energy-from-manure-but-face-hurdles
[72] *Id.*
[73] Keough*, supra* note 1.
[74] *America has a manure problem and the miracle solution being touted isn't all that it seems*, GUARDIAN (Jan. 20, 2022), https://www.theguardian.com/us-news/2022/jan/20/manure-natural-gas-pipeline-factory-farms-greenwashing.
[75] *Id.*
[76] *Id.*
[77] *Id.*
[78] Kirsti Marohn, *Digesters make renewable energy from manure, but face hurdles,* MPR NEWS (Sept. 12, 2023), https://www.mprnews.org/story/2023/09/12/digesters-make-renewable-energy-from-manure-but-face-hurdles#.
[79] Keough, *supra* note 1.

grants for the use of methane digesters on large-scale livestock operations.[80] These include the use of conservation programs like the Environmental Quality Incentives Program (EQIP), the AgStar Program, the Rural Business Cooperative Service, and the Rural Energy for America Program to subsidize construction and use of methane digesters.[81] The Inflation Reduction Act also includes tax credits for companies that invest in anaerobic digesters.[82]

President Biden announced a sweeping new U.S. plan for reducing emissions of methane at COP26 on November 2, 2021.[83] Biden pledged to use "all available tools" to rein in methane when he was elected.[84] He also urged countries to join a global pledge to cut methane emissions 30% this decade.[85] Pursuant to the plan, EPA proposed rules to limit methane emissions from new and existing oil and gas sources, and proposed rules for monitoring methane leaks and expanding pipeline safety standards.[86]

On December 14, 2023, EPA issued the final methane rule. There are several key components of the final rule. First, both new and existing sources will be regulated.[87] Additionally, the rule reinstates methane rules for the upstream oil and natural gas sectors, which reverses the rollback implemented by the Trump administration.[88] Moreover, the rule will phase out and eventually prohibit routine flaring at new oil wells.[89] The rule also requires owners and operators to increase monitoring for unintended methane emission leaks.[90] Owners and operators may use advanced remote monitoring technologies, such as aerial surveys, if such technologies meet certain specifications.[91] Lastly, the rule includes a super-emitter program that will address large methane emission events.[92] Unfortunately, like the IRA's methane regulation provisions, this new rule does not apply to CAFOs.

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[80] *Id.*
[81] *Id.*
[82] *Id.*
[83] Drew Shindell, *Biden announces a sweeping methane plan – here's why cutting the greenhouse gas is crucial for protecting climate and health*, The Conversation (Sept. 17, 2021), https://theconversation.com/biden-announces-a-sweeping-methane-plan-heres-why-cutting-the-greenhouse-gas-is-crucial-for-protecting-climate-and-health-168220**.**
[84] Jean Chemnick, *US Targets Methane Emissions in New Batch of Rules*, Sci. Am. (Nov. 22, 2023), https://www.scientificamerican.com/article/u-s-targets-methane-emissions-in-new-batch-of-rules/.
[85] Shindell, *supra* note 82.
[86] *Id.*
[87] 40 CFR pt. 60, https://www.epa.gov/system/files/documents/2023-12/eo12866_oil-and-gas-nsps-eg-climate-review-2060-av16-final-rule-20231130.pdf.
[88] Carrie Jenks et al., *EPA's Final Methane Rule—Incorporating Advanced Technologies and Emissions Data to Reduce Methane Emissions from the Oil and Natural Gas Sector*, Harvard Law School (Dec. 14, 2024), https://eelp.law.harvard.edu/wp-content/uploads/EELP-EPA-Final-Methane-Rule.pdf.
[89] Timothy J. Sullivan et al., *EPA Finalizes Air Rule Targeting Oil and Gas Industry Methane Emissions*, Beveridge & Diamond (Dec. 14, 2023), https://www.bdlaw.com/publications/epa-finalizes-air-rule-targeting-oil-and-gas-industry-methane-emissions/.
[90] 40 C.F.R. pt. 60 2(b)(ii)(B), https://www.epa.gov/system/files/documents/2023-12/eo12866_oil-and-gas-nsps-eg-climate-review-2060-av16-final-rule-20231130.pdf.
[91] *Id.*
[92] 40 CFR pt. 60 (3)(C), https://www.epa.gov/system/files/documents/2023-12/eo12866_oil-and-gas-nsps-eg-climate-review-2060-av16-final-rule-20231130.pdf.

III. Greenwashing Déjà vu: Parallels with Fossil Fuel Industry Greenwashing

Animal agriculture's efforts to promote biogas and methane digesters as sustainable measures to promote renewable energy are strikingly similar to tactics from the fossil fuel industry's greenwashing playbook. Like biogas, blue hydrogen has been widely promoted as a sustainable alternative to fossil fuels when in fact it enables the industry to continue to rely on carbon-intensive impacts. Similarly, like methane digesters, carbon capture and storage (CCS) conveys the message that as long as efforts are made to process or bury the waste or emissions from these harmful practices, industry may proceed with business as usual in a way that is environmentally beneficial while maintaining profits. A pattern of public deception by seeking to promote self-serving objectives is evident in these greenwashing tactics across both industries.

A. Blue Hydrogen

Produced from fossil gas paired with carbon capture and storage, blue hydrogen does not involve much of a pivot away from the fossil fuel industry's status quo. Contrary to the industry's campaign that blue hydrogen is a potent weapon to fulfill climate mitigation goals,[93] a 2021 Cornell University study found that blue hydrogen has a substantially larger greenhouse gas footprint than burning gas, coal, or diesel oil for heating.[94] The fossil fuel industry is also using hydrogen to justify building more pipelines, claiming that this infrastructure can be used for "clean hydrogen" in the future.[95] Yet hydrogen is highly flammable and corrosive, and it would be costly to repurpose oil and gas infrastructure to make it safe for hydrogen.[96] Though not a greenhouse gas, hydrogen can exacerbate the impacts of greenhouse gases by, for instance, causing methane to stay in the atmosphere for longer.[97] It takes more energy to produce, store, and transport hydrogen than it provides when converted into useful energy, so using blue hydrogen will require burning more fossil fuels[98] and help entrench the industry's status quo.

Worse still, companies can claim their hydrogen projects are renewable when in reality their life cycle emissions are poor. A proposed hydrogen production tax credit (PTC), established under section 45V of the Inflation Reduction Act, is one of only three "direct pay" provisions in the bill available for corporations. The tax credit would authorize payments for blue hydrogen,[99] which represents a significant victory for the fossil fuel industry. The latest research indicates

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[93] *See* Fergus Smith et al., *COP26: Hydrogen in the spotlight*, WHITE & CASE (Dec. 1, 2021), https://www.whitecase.com/insight-alert/cop26-hydrogen-spotlight.
[94] Nina Lakhani, *Is hydrogen really a clean enough fuel to tackle the climate crisis?* GUARDIAN (Mar. 7, 2023), https://www.theguardian.com/environment/2023/mar/07/hydrogen-clean-fuel-climate-crisis-explainer.
[95] *Id.*
[96] *Id*.
[97] *Id*.
[98] *Id.*
[99] Internal Revenue Service, Proposed Rule, *Section 45V Credit for Production of Clean Hydrogen; Section 48(a)(15) Election To Treat Clean Hydrogen Production Facilities as Energy Property* (Dec. 26, 2023), https://www.federalregister.gov/documents/2023/12/26/2023-28359/section-45v-credit-for-production-of-clean-hydrogen-section-48a15-election-to-treat-clean-hydrogen.

that accurately accounting for both methane leakage and the power demands of CCS makes blue hydrogen even worse for the climate than coal, per unit of heat energy.[100]

"Book-and-claim" carbon accounting is one way that blue hydrogen is being used as a greenwashing tactic.[101] This is a market mechanism that allows the environmental attributes of a product, such as renewable energy, to be traded between consumers with no direct, physical connection to the original product.[102] It enables alleged "on paper" reductions measured through Renewable Energy Certificates (RECs) for emitters to claim that pollution in one place is being offset by renewable power in another. Tradable emissions systems like these tend to lead to pollution hot spots that concentrate harm in already overburdened communities.[103]

Companies like Shell and Valero are advocating for book-and-claim credits for biogas captured from CAFOs,[104] which benefit from an essentially nonexistent air emissions regulatory environment, allowing methane biogas producers to ignore leakage during production and transportation while collecting clean energy subsidies.[105] This loophole has caused significant emission leakage that is not reported or captured in modeling.[106] The real impact of subsidizing biogas has been a market distortion that effectively penalizes more sustainable practices such as pasturing livestock that could reduce emissions and pollution at the source.[107] CAFOs have formed a tight alliance with fossil gas in that methane biogas rebranded as renewable natural gas is a lucrative greenwashing tactic.[108]

B. Carbon Capture and Storage

Like plastic surgery designed to extend youthful vitality in the human body, the primary goal of carbon capture and storage (CCS) is to extend the life of fossil fuels. Subsidizing carbon

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[100] Jim Walsh & Mia DiFelice, *How Much of This Hype for Hydrogen "Energy" is Just Smoke and Mirrors?* Food & Water Watch (Dec. 13, 2022), https://www.foodandwaterwatch.org/2022/12/13/hydrogen-energy-hype/.
[101] Jeff St. John, *Tax-credit rules leave key 'blue hydrogen' issues unanswered*, Canary Media (Jan. 12, 2024), https://www.canarymedia.com/articles/hydrogen/tax-credit-rules-leave-key-blue-hydrogen-issues-unanswered.
[102] Thomas Koch Blank et al., *Clean Energy 101: Book and Claim*, RMI.org (May 30, 2023), https://rmi.org/clean-energy-101-book-and-claim/?__hstc=213470795.56292954afab3563c6d0560d5a24b4cd.1706202646888.1706216213153.1707184275282.3&__hssc=213470795.3.1707184275282&__hsfp=1354570303#:~:text=Book%20and%20claim%20is%20a,climate%20disclosures%20in%20a%20different.
[103] Sara Gersen, *Billions in hydrogen tax credits could be given to polluters*, The Hill (June 1, 2023), https://thehill.com/opinion/energy-environment/4027700-billions-in-hydrogen-tax-credits-could-be-given-to-polluters/.
[104] St. John, *supra* note 100.
[105] Madison McVan, *18 years and counting: EPA still has no method for measuring CAFO air pollution*, Missouri Independent (Apr. 21, 2023), https://missouriindependent.com/2023/04/21/18-years-and-counting-epa-still-has-no-method-for-measuring-cafo-air-pollution/.
[106] *RE: Renewable Fuel Standard Program: Standards for 2023–2025 and Other Changes Docket ID No. EPA-HQ-OAR-2021-0427*, Friends of the Earth (Feb. 10, 2023), https://foe.org/wp-content/uploads/2023/02/Joint-RFS-Comment-Letter-2.10.23.pdf.
[107] *Id.*
[108] Guy Oron, *Climate activists warn "renewable natural gas" may be the newest form of greenwashing*, Real Change (Mar. 1, 2023), https://www.realchangenews.org/news/2023/03/01/climate-activists-warn-renewable-natural-gas-may-be-newest-form-greenwashing.

capture for uneconomic coal- and gas-fired power plants enables them to continue operating and polluting even as more ambitious climate targets are established.[109]

CCS projects are troublesome for several reasons. First, CCS entrenches the harmful status quo. These projects are energy intensive and are often powered by dirty energy, adding to the source's overall carbon footprint.[110] The vast majority of the captured carbon is used for enhanced oil recovery, which diminishes much of the purported climate benefits and promotes reliance on dirty fuels.[111] A second concern is the effectiveness of the CCS process. The International Energy Agency determined that annual carbon capture capacity needs to increase to 1.6 billion tons of carbon dioxide by 2030 to align with a net zero by 2050 pathway, which is unrealistic to achieve climate mitigation targets.[112] In addition, almost 90% of proposed CCS capacity in the power sector has failed at the implementation stage or was suspended early, and most projects have failed to operate at their theoretically designed capturing rates.[113] As a result, the 90% emission reduction target generally claimed by the industry has been unreachable in practice.[114] Finding suitable storage sites and maintaining effective storage also pose significant additional challenges.[115] The trapped carbon dioxide underground needs monitoring for centuries to ensure it does not come back to the atmosphere.[116] Finally, CCS has not captured even close to all of the carbon emissions from power plants on which it is installed and it does not reduce other pollutants that threaten people's health.[117]

CCS also poses cost and environmental justice concerns. CCS is expensive and receives federal subsidies funded by taxpayers.[118] Subsidizing CCS diverts resources away from real climate solutions like clean energy and electrification, and impairs progress towards environmental justice.[119] The process of capturing, transporting, and storing carbon poses additional safety and health threats to communities nearby, including toxic releases and waste.[120] Communities are too often cut out of the decision-making process about CCS projects, which move forward without adequate transparency or public input.[121]

The underperformance of CCS in achieving its asserted benefits has provided fertile ground for greenwashing claims. The bases for these claims are threefold. First, they overstate the effectiveness of transplanting CCS from the natural gas processing context, where most CCS has occurred, to fossil fuel power plants. The few CCS projects in this new context have

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[109] *Carbon Capture: The Fossil Fuel Industry's False Climate Solution*, EARTHJUSTICE (Sept. 19, 2023), https://earthjustice.org/article/carbon-capture-the-fossil-fuel-industrys-false-climate-solution.
[110] *Id.*
[111] *Id.*
[112] Bruce Robertson, *Carbon capture remains a risky investment for achieving decarbonization*, INSTITUTE FOR ENERGY ECONOMICS AND FINANCIAL ANALYSIS (Sept. 2, 2022), https://ieefa.org/resources/carbon-capture-remains-risky-investment-achieving-decarbonisation.
[113] *Id.*
[114] *Id.*
[115] *Id.*
[116] *Id.*
[117] *Carbon Capture: The Fossil Fuel Industry's False Climate Solution*, *supra* note 108.
[118] *Id.*
[119] *Id.*
[120] *Id.*
[121] *Id*

performed poorly, and have been beset with technological problems and outages. Second, they overstate the anticipated performance of these facilities in claiming that 95% of emissions can be captured.[122] These kinds of capture rates – even if they were enough – have never yet been demonstrated at scale and under real-world conditions.[123] The only currently operating power CCS plant (Boundary Dam in Canada) has seen an average capture rate of around 50% up to 2021.[124] Even in its best year it only achieved around 65% reduction in the carbon intensity of its power output.[125] Finally, CCS proponents ignore unknown consequences of large-scale geological storage of carbon dioxide, which could include ocean acidification, harm to marine biodiversity, and carbon dioxide leaking back into the atmosphere.[126]

The U.S. Department of Energy has provided tens of billions into poorly conceived and managed "clean coal" and CCS projects. They have almost entirely failed, earning the condemnation of the Government Accountability Office.[127] Worse still, the U.S. 45Q tax credit for carbon capture projects pays $60 per ton for carbon used in enhanced oil recovery, which delays the retirement of the fossil fuel industry.[128] Hard-to-control industrial sources like cement, steel, and fertilizers might be good candidates for specialized CCS projects that can theoretically remove some of these concentrated emissions.[129] Yet even these limited contexts can be successful only if researchers, investors, and project managers can overcome CCS technology's technical and financial limitations.[130]

IV. Proposed Accountability Mechanisms

The greenwashing tactics of the animal agriculture and fossil fuel industries are much more egregious and sinister than mere puffery and overstated claims of alleged benefits. The common denominator in the biogas, methane digester, blue hydrogen, and carbon sequestration contexts is that these strategies deliberately fail to address the root cause of the problems at issue. They are analogous to individuals who seek to lose weight while refusing to change their food consumption and lifestyle habits. These strategies also fail to deliver reliable results in combating

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[122] Robertson, *supra* note 111.
[123] *Id.*
[124] *Id.*
[125] Karin Rives, *Only still-operating carbon capture project battled technical issues in 2021*, S&P Global (Jan. 6, 2022), https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/only-still-operating-carbon-capture-project-battled-technical-issues-in-2021-68302671.
[126] Lindsay Fendt et al., *Deep Trouble: The Risks of Offshore Carbon Capture and Storage*, Center for International Environmental Law (Nov. 2023), https://www.ciel.org/wp-content/uploads/2023/11/Deep-Trouble_The-Risks-of-Offshore-Carbon-Capture-and-Storage_CIEL_November_2023.pdf.
[127] Jonathan Foley, *Don't Fall for Big Oil's Carbon Capture Deceptions,* Sci. Am. (Dec. 4, 2023), https://www.scientificamerican.com/article/dont-fall-for-big-oils-carbon-capture-deceptions/.
[128] *Id.*
[129] *Id.*
[130] *Id.* Carbon offsets are receiving increased attention as a potential form of greenwashing. Two examples of how carbon offset claims can constitute greenwashing is when the credits are "double counted" (i.e., when a trade reduction is counted by the company offsetting its emissions *and* by the project's host country when reporting its progress in meeting climate targets) and when there is no "additionality" (i.e., when a party receives carbon credits for conserving forests that were never in danger of being cut down). Khalid Raji, *Is Carbon Offset a Form of Greenwashing?* Earth.org. (Aug. 5, 2023), https://earth.org/is-carbon-offset-a-form-of-greenwashing/.

climate change while involving high associated economic, environmental, and social costs. Worse still, these measures are communicated with messaging that seeks to dupe the public into thinking a "win-win" reality of continued profits while achieving climate mitigation compliance goals and a clean energy transition is underway. Quite the opposite is true. These tactics merely target the conscientious public's interest in a transition away from traditional fossil fuel and industrial animal agriculture practices while these industries perpetuate the harmful status quo through these greenwashing practices.

The "green moral hazard"[131] dimension of the problem is even more disturbing. The term "moral hazard" refers to the notion that those who are insured are likely to engage in riskier behavior because they feel protected.[132] A similar phenomenon is at play with these technological "quick-fix" greenwashing tactics. These measures risk increasing demand for the harmful status quo practices of these industries and thereby increase methane emissions because these practices bear the renewable energy "halo."

Detecting greenwashing tactics and holding industry accountable for these efforts can be difficult. It requires consumers to ask what the representations actually mean. Some valuable inquiries include: (1) Is the claim substantiated by third-party verifications or standards and does it include the full scope of the activity in question? (2) how are the claims measured? and (3) who is accountable for the results? If answers to these questions are not readily available, consumers should suspect that greenwashing may be at issue.[133]

Part IV proposes long-term and short-term accountability mechanisms to address the greenwashing tactics that industrial animal agriculture employs in its deceptive use of biogas and methane digesters as allegedly meaningful measures to address the methane impacts of CAFOs. Effective long-term measures would involve implementing disclosure and verification standards much like those that are starting to be implemented in the fossil fuel industry context in the EU. These legislative efforts take time; however, and have not yet been fully implemented in the U.S. In the meantime, an effective short-term response would be to pursue strategic litigation to raise awareness of and apply pressure to phase out these harmful activities by drawing on best practices from greenwashing lawsuits in the fossil fuel context.

A. Long Term: Implement Disclosure and Verification Standards

[131] Gernot Wagner & Daniel Zizzarnia, *Green Moral Hazards*, 25 ETHICS, POL'Y & ENV'T 264 (2021), *available at* https://www.tandfonline.com/doi/full/10.1080/21550085.2021.1940449 (noting that similar concerns have been expressed regarding climate geoengineering tactics that arguably provide a false sense of security that "quick fix" solutions are available to address climate change, which could reduce public motivation to reduce climate change drivers through tradition emissions reduction measures).

[132] *What is 'moral hazard*,' ECON. TIMES, https://economictimes.indiatimes.com/definition/moral-hazard (defining moral hazard as "a situation in which one party gets involved in a risky event knowing that it is protected against the risk and the other party will incur the cost.").

[133] Irina Gerry, *Paint it Green: Meat & Dairy's Top Greenwashing Tactics*, *Exposed*, GREEN QUEEN (Jan. 29, 2023), https://www.greenqueen.com.hk/meat-dairy-greenwashing-tactics/.

The EU is a leader in the fight against greenwashing.[134] In the U.S., there are also some promising developments underway at the federal level that show progress in combating greenwashing. At the state level, as is the case in many contexts in environmental governance, California is a leader in enacting legislation that seeks to identify and limit greenwashing tactics. Some combination of these approaches in the EU and U.S. imposing disclosure and verification standards to combat the fossil fuel industry's greenwashing tactics should be applied to regulate the greenwashing at issue with biogas and methane digesters.

In the fossil fuel industry context, many greenwashing tactics have been exposed and targeted in litigation.[135] For example, environmental groups in the Netherlands sued KLM for its "Fly Responsibly" ad campaign that claims its carbon offsets and alternative fuels will make flying "sustainable."[136] They accuse KLM of using misleading advertising to make the company seem more environmentally friendly than it really is.[137] As of this writing, the case is still pending.

Concerns in the EU regarding carbon offsets as a widespread greenwashing tactic prompted lawmakers in the EU to enact legislation banning some of those efforts and restricting others unless the claims are accompanied by evidence.[138] Terms such as "climate neutral" or "climate positive" that rely on offsetting will be banned from the EU by 2026.[139] Products and services portrayed as "biodegradable" or "eco" must provide proof, with carbon schemes banned as evidence.[140] Use of terms such as "environmentally friendly," "natural," and "climate neutral" are similarly prohibited without evidence, and carbon offsetting schemes are not permitted to substantiate the claims.[141] Only sustainability labels using approved certification schemes will be allowed.[142]

While carbon offsets hardly offer a direct comparison to the biogas and methane digester context, the regulatory approach to combating greenwashing tactics is readily applicable. For example, like the EU's approach in banning or limiting the use of characterizations of

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[134] Despite the EU's leadership in combating greenwashing through legislation, advocates in the EU are seeking even tighter regulation. *See* Iulia Gheorghiu, *EU's financial regulator: Stronger regulation needed to deter greenwashing*, ESG DIVE (Jan. 3, 2024), https://www.esgdive.com/news/esma-stronger-regulation-needed-to-deter-greenwashing/703492/.

[135] Renee Cho, *Climate Lawsuits Are On The Rise. This Is What They're Based On*, COLUMBIA CLIMATE SCHOOL STATE OF THE PLANET (Aug. 9, 2023), https://news.climate.columbia.edu/2023/08/09/climate-lawsuits-are-on-the-rise-this-is-what-theyre-based-on/.

[136] Press Release, *Landmark greenwashing lawsuit against KLM airline granted court permission*, CLIENTEARTH (June 7, 2023), https://www.clientearth.org/latest/press-office/press/landmark-greenwashing-lawsuit-against-klm-airline-granted-court-permission/#:~:text=The%20lawsuit%20%E2%80%93%20the%20first%20of,to%20the%20worsening%20climate%20emergency.

[137] *Id.*

[138] Patrick Greenfield, *EU bans 'misleading' environmental claims that rely on offsetting*, GUARDIAN (Jan. 17, 2024), https://www.theguardian.com/environment/2024/jan/17/eu-bans-misleading-environmental-claims-that-rely-on-offsetting.

[139] *Id.*

[140] *Id.*

[141] *Id.*

[142] *Id.*

environmentally friendly performance without proof, restricting the definition of what constitutes "renewable energy" could offer a pathway for protection in the biogas and methane digester context. Biogas stretches the concept of "renewable" by requiring unnatural and massive amounts of manure to generate this so-called "renewable energy" source. In reality, the factory farm model of production is unnecessary and should be phased out, which would be far better for the environment than relying on this form of "renewable" energy, which imposes massive environmental, public health, and social negative externalities.

Additional support for this approach can be found in the European Securities and Markets Authority (ESMA) Progress Report on Greenwashing, which reviews preliminary remediation actions and provides recommendations for enhanced regulation of greenwashing risks and the supervision of sustainable finance policies.[143] The report addressed the need to clarify what qualifies as "sustainable investment."[144] The existing definition in the Sustainable Finance Disclosures Regulation (SFDR) embraces a high level of flexibility and absence of shared, predefined metrics and threshold for an investment's contribution to a sustainable objective, as distinguished from the definition of environmentally sustainable activities in the EU Taxonomy Regulation (TR), which uses science-based and clear technical screening criteria.[145]

The Report also addresses the need to establish reliable, comprehensive sustainability data. With regard to sustainability commitments and pledges, external validation or assessment of the ambition and credibility of these pledges is recommended to help mitigate greenwashing in forward-looking information. ESG data providers also should publicly disclose their methodologies, consistent with the International Organization of Securities Commission (IOSCO) standards, and minimum standards for the quality of estimates of ESG data could be established. This may be achieved by distinguishing, for instance, between claims that promise or strongly suggest that a certain outcome will be achieved or guaranteed versus claims that commit to a certain process being applied (*i.e.*, obligation of results vs. obligation of means).

Again, although greenwashing in the sustainable finance context is seemingly unrelated to similar tactics in animal agriculture's use and promotion of biogas and methane digesters, key mechanisms are common in regulating greenwashing in each context. Science-based criteria to determine what "renewable" and "natural" mean in the biogas and methane digester context would help limit these practices, as would external certification entities authorized to evaluate the credibility of their self-serving assertions. Finally, requiring transparency and disclosure of the industry's methodologies to support their assertions of favorable outcomes also would limit the extent to which the empty promise of biogas would be able to persist.

In the United States, the Federal Trade Commission is reviewing its "Green Guides" for the first time in more than a decade. The updated version is expected in 2024.[146] The Green Guides offer companies direction on how to avoid making deceptive environmental claims in

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[143] European Securities and Markets Authority (ESMA) Progress Report on Greenwashing (May 31, 2023), https://www.esma.europa.eu/sites/default/files/2023-06/ESMA30-1668416927-2498_Progress_Report_ESMA_response_to_COM_RfI_on_greenwashing_risks.pdf.
[144] *See id.*
[145] *See id.*
[146] Laura Brett, *It's Not Easy Being Green: Preparing for the FTC's Updated Green Guides*, ADWEEK (Oct. 19, 2023), https://www.adweek.com/commerce/green-advertising-ftc-2024-guide/.

advertising or marketing.[147] Environmental advocates are applying pressure to the FTC to crack down on greenwashing and apply the Green Guides to aid this effort more ambitiously than it has in the past.[148] The FTC used the Green Guides to support enforcement actions against companies only eight times since 2018.[149] The revised guidelines will likely be more specific and prompt increased enforcement and compliance.[150] The Green Guides are limited, however, because they do not address all greenwashing tactics and are limited to efforts pertaining to products. Nevertheless, the increased attention to greenwashing concerns at the federal level can help apply pressure to limit the greenwashing tactics at issue in the animal agriculture industry.

California has enacted two new climate disclosure laws that require companies doing business in California to make substantial annual disclosures regarding carbon emissions and climate risk.[151] The first, the Climate Corporate Data Accountability Act (CCDAA), requires entities with annual revenues exceeding $1 billion doing business in California to make an annual disclosure of Scope 1, 2 and 3 GHG emissions for the prior fiscal year in conformity with the Greenhouse Gas Protocol standards and guidance. The law requires companies to estimate and report "Scope 3"[152] emissions for the first time.

The second law, the Climate-Related Financial Risk Act (CRFRA), require entities with annual revenues exceeding $500 million doing business in California to publish on their own website a biannual climate-related financial risk report that discloses (1) the entity's "climate-related financial risk" and (2) measures adopted to mitigate and adapt to that climate-related financial risk. "Climate-related financial risk" includes all material risk of harm to immediate and long-term financial outcomes due to physical and transitional risks, such as risks to operations, provision of goods and services, supply chains, employee health and safety, capital and financial investments, institutional investments, financial standing of loan recipients and borrowers, shareholder value, consumer demand, and financial markets and economic health.

The requirements of the CCDAA and CRFRA closely track those proposed by the Securities Exchange Commission (SEC) with some notable exceptions that underscore the ambitious scope of the California laws: (1) the SEC's proposed rule only applies to publicly traded companies, whereas the CCDAA will apply to both public and private companies;[153] (2)

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[147] Tom Kertscher, *Red light on 'greenwashing'? US regulatory agency takes fresh look at deceptive climate claims,* POLITIFACT (July 17, 2023), https://www.politifact.com/article/2023/jul/17/red-light-on-greenwashing-us-regulatory-agency-tak/.
[148] *Id.*
[149] *Id.*
[150] *Id.*
[151] Thomas A Donaho, *New Regulations and Standards Look to Clean Up the Voluntary Carbon Market and Fight Greenwashing,* BAKERHOSTETLER (Oct. 17, 2023), https://www.bakerlaw.com/insights/new-regulations-and-standards-look-to-clean-up-the-voluntary-carbon-market-and-fight-greenwashing/ (noting that companies will need to develop comprehensive environmental claims management frameworks that emphasize both transparency and reliance on verified data to comply with the new wave of "greenwashing" legislation).
[152] "Scope 3" emissions include emissions from the company's "full value chain," including emissions from entities that a reporting company does not own or directly control (e.g., customers who buy or use company products).
[153] The Enhancement and Standardization of Climate-Related Disclosures for Investors, 87 Fed. Reg. 21334, Introduction,

the SEC's proposed rule would only require a disclosure of Scope 3 emissions when "material" or if the registrant has set a GHG emissions target that includes Scope 3 emissions.[154]

Taken together, recent legislative developments in the EU and U.S. reflect a growing trend toward mandating transparency, disclosure, and accountability in an effort to combat greenwashing in the climate change compliance context. These efforts are highly relevant in seeking to demand similar compliance in the animal agriculture context and finally overcome the "exceptionalism" from vigorous environmental compliance that this industry has enjoyed for decades. Industry's false claims about what protects the environment should apply across all sectors of the business world without exception to ensure an opportunity for enhanced compliance with climate mitigation goals.

B. Best Practices in Strategic Litigation

Greenwashing litigation has exploded in recent years. While the cases have involved several contexts and a variety of legal theories,[155] the cases that are most relevant to the animal agriculture context involve those filed against the fossil fuel industry or other private sector entities that falsely or misleadingly allege that their products or services are sustainable, renewable, recyclable, carbon neutral, or the like.

Greenwashing cases associated with carbon offsets and "sustainable" products offer valuable insights into the defining features of successful greenwashing claims. Just as biogas is touted as a "renewable energy source" despite raising environmental, public health, and animal welfare concerns, these purportedly "climate neutral" practices in the carbon offset context involve the manipulation of environmental factors to falsely portray an appearance of sustainability while concealing the true impact of business activities. Thus, applying similar reasoning to biogas lawsuits may increase the chances of achieving favorable legal outcomes.

Courts have not universally accepted third-party verification as conclusive evidence of sustainability claims.[156] For example, in *Smith v. Keurig Green Mountain, Inc.*, Keurig argued

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https://www.federalregister.gov/documents/2022/04/11/2022-06342/the-enhancement-and-standardization-of-climate-related-disclosures-for-investors.

[154] *Id.*, Section (E)(1), https://www.federalregister.gov/documents/2022/04/11/2022-06342/the-enhancement-and-standardization-of-climate-related-disclosures-for-investors.

[155] *See generally* Jillian Marullo, Jeffrey A. Knight & Michael S. McDonough, *Amid the Rise of Greenwashing Litigation, Guidance Due for Updates May Become* Law, PILLSBURY (Feb. 21, 2023), https://www.pillsburylaw.com/en/news-and-insights/greenwashing-litigation.html (surveying recent greenwashing cases and anticipating potential changes with the Biden administration considering codifying relevant non-binding guidance); Jacob H. Hupart et al., *Greenwashing Class Action Litigation: An Emerging Risk for Companies' Claims of Sustainability*, MINTZ (Aug. 2, 2023), https://www.mintz.com/insights-center/viewpoints/2151/2023-08-02-greenwashing-class-action-litigation-emerging-risk (offering recommendations for minimizing companies' potential exposure to greenwashing claims based on insights gleaned from recent cases).

[156] *See* Dorris v. Danone Waters of America, F.Supp.3d 1 (S.D.N.Y. 2024) (finding that consumer pled plausible claim that "carbon neutral" was misleading because, despite defendant's argument that "carbon neutral" complies with the Green Guides as a "specific environmental benefit supported by a third-party certification," the term "carbon neutral" is not within an average consumer's knowledge and it carries multiple meanings); *see also* Lee v. Canada Goose US, Inc., 2021 WL 6881256 (S.D.N.Y. 2021) (denying motion to dismiss even where defendant's

that labeling K-cups as "recyclable" aligned with the FTC's Green Guides because the material used to make the pods was technically recyclable.[157] However, the reality was that most recycling facilities were unable to process materials as small as K-cups, which contradicted the Green Guides' stipulation that items made from recyclable material but not accepted in recycling programs should not be marketed as recyclable.[158] Accordingly, the court granted a $10 million settlement because the plaintiff's allegations were "not precluded based on the Green Guides' plain text."[159]

Similarly, claims that biogas is a renewable energy source, despite potentially enhancing reliance on traditional factory farming practices and exacerbating methane emissions, may not withstand scrutiny if they fail to align with the true environmental impact of the practice, as outlined by regulatory guidelines. Moreover, the outcome in the *Keurig* case suggests a type of extended producer responsibility (EPR) stewardship responsibility on industry. Given the gravity of the climate crisis, the plastics and animal agriculture industries may be held to a higher standard in characterizing what is "recyclable" and in determining what processes can be understood as producing "renewable" energy.

Courts have denied motions to dismiss where the supposed advantages of the defendant's "sustainable" practices actually produce adverse outcomes.[160] For example, in *Smith v. Keurig Green Mountain, Inc.*, the court denied the defendant's motion to dismiss because products labeled "recyclable" could not be processed by most recycling facilities.[161] Similarly, in *White v. Kroger*, the court found that Kroger misleadingly labeled products as "reef friendly" because the ingredients used in the products in fact had the potential to damage reefs.[162] These cases demonstrate that sustainability claims, including those pertaining to biogas as a renewable energy source, may come under scrutiny if they lead to unintended adverse outcomes, such as heightened methane emissions from conventional factory farming methods.

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representations of "sustainable" fur sourcing on product labels were compliant with Canadian and U.S. standards); *see also* Usler v. Vital Farms, Inc., 2022 WL 1491091 (W.D. Tex. Jan. 31, 2022) *report and recommendation adopted*, 2022 WL 1514068 (W.D. Tex. Mar. 2, 2022) (denying defendant's motion to dismiss where egg products were labeled "pasture raised" according to Humane Farm Animal Care standards because the industry definition of "pasture raised" is different from the plain meaning of the term for reasonable consumers).

[157] Smith v. Keurig Green Mountain, Inc., 393 F. Supp. 3d 837, 844-45 (N.D. Cal. 2019).

[158] Smith v. Keurig Green Mountain, Dkt. No. 1, Ex. B, 2 (Cal. Super. Ct. 2018); Smith v. Keurig Green Mountain, Inc., 393 F. Supp. 3d 837, 846 (N.D. Cal. June 28, 2019).

[159] Smith v. Keurig Green Mountain, Inc., 2023 WL 2250264, at *6 (N.D. Cal. Feb. 27, 2023); *see also* Smith v. Keurig Green Mountain, Inc., 393 F. Supp. 3d 837, 846 (N.D. Cal. 2019).

[160] *See* Lee v. Canada Goose US, Inc., 2021 WL 6881256 (S.D.N.Y. Jun. 29, 2021) (finding that defendant's representations of "sustainable" fur sourcing on product labels created a sufficient issue of material misrepresentation because the term signals compliance with "higher animal welfare standards," but in fact the fur was obtained from trappers who allegedly use inhumane traps); *see also* Usler v. Vital Farms, Inc., 2022 WL 1491091 (W.D. Tex. Jan. 31, 2022) *report and recommendation adopted*, 2022 WL 1514068 (W.D. Tex. Mar. 2, 2022) (denying defendant's motion to dismiss where egg products were labeled as "humane" because evidence suggested that the company partially sourced products from inhumane facilities); *see also* Rawson v. ALDI, Inc., 2022 WL 1556395 at *1 (N.D. Ill. May 17, 2022) (denying defendant's motion to dismiss where salmon products were labeled "sustainable" because the label "attempts to connect its product to at least some environmental benefit," but in reality defendant sourced its salmon from industrial fish farms that use environmentally destructive practices).

[161] Smith v. Keurig Green Mountain, Dkt. No. 1, Ex. B, 2 (Cal. Super. Ct. 2018).

[162] White v. Kroger Co., 2022 WL 888657 at *1 (N.D. Cal. Mar. 25, 2022).

Nevertheless, courts have determined that environmental assertions are not deceptive when companies are open and offer public evidence. For example, in *Dwyer v. Allbirds*, the plaintiff contended that the defendant misled reasonable consumers by presenting its products as "sustainable" and "environmentally friendly."[163] The plaintiff argued that the defendant's carbon footprint calculation and life cycle analysis methodology were insufficient measures of product sustainability.[164] The court rejected this claim and granted the defendant's motion to dismiss because the company precisely delineated the components of its carbon footprint calculations, provided comprehensive details about its life cycle analysis methodology, and explained its reliance on the Higg Material Sustainability Index for evaluating the environmental impact of its materials.[165]

In the context of biogas, allegations of false or misleading characterizations of environmental performance might not always succeed, even if the defendant has made inaccurate statements or incomplete calculations, provided that the defendant has furnished sufficient public evidence to support its assertions. This understanding is consistent with applying the disclosure and verification standards enacted in the EU to biogas and methane digesters as an effective measure to eliminate or limit the industry's greenwashing tactics.

Conclusion

The climate change impacts of CAFOs' methane emissions are well established in the scientific community, yet the legal community has been slow to regulate these damaging impacts effectively. Despite some recent efforts to regulate methane emissions as the "low-hanging fruit" of climate regulation (i.e., they are much easier to regulate than carbon dioxide emissions), the animal agriculture sector has largely avoided these regulatory mandates and pressures. There are two reasons for this reality. The first is the supportive relationship that animal agriculture enjoys with the U.S. government and the lax regulations to which it is subject. Second, CAFOs have engaged in greenwashing tactics that seek to dupe the public into embracing its biogas and methane digester measures as reducing CAFOs' methane emissions and generating renewable energy in the process.

This article revealed how these misleading and inadequate responses in the industrial animal agriculture context parallel the fossil fuel industry's greenwashing campaigns with blue hydrogen and CCS. In both industries, the greenwashing tactics seek to entrench the status quo of profits at the expense of the environment, public health, and vulnerable communities. Worse still, these measures risk increasing demand for these destructive GHG-intensive processes that need to be phased out to enable progress on the path toward a clean and renewable energy future.

This article also proposed both long-term and short-term accountability mechanisms to combat the greenwashing at issue with biogas and methane digesters. Effective long-term measures would include disclosure and verification standards much like those that are starting to be implemented in the fossil fuel industry context in the EU, U.S., and California. These

[163] Dwyer v. Allbirds, Inc., 598 F. Supp. 3d 137, 144-45, 147 (S.D.N.Y. 2022).
[164] *Id.*
[165] *Id.*

legislative efforts take time; however, and have not yet been fully implemented in the U.S. In the meantime, an effective short-term response would be to pursue strategic litigation to raise awareness of and impose pressure to phase out these harmful activities by drawing on best practices from greenwashing lawsuits in the fossil fuel and sustainability contexts. U.S. case law addressing misleading statements regarding sustainability and environmental performance appears to offer a foundation for accountability for misleading characterizations regarding the performance of biogas and methane digesters.