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Re: Renewable Fuel Standard (RFS) Program: Standards for 2023–2025 and Other Changes

Food & Water Watch respectfully submit these responses to the Environmental Protection Agency's ("EPA") proposed rule setting standards in the Renewable Fuel Standard ("RFS") program for 2023–2025 and other changes.[1] Experience shows that simply displacing fossil fuels does not guarantee the intended environmental outcomes or climate benefits, and in some cases can perversely raise more problems than it mitigates. EPA must carefully consider how the RFS program incentivizes climate damaging agricultural practices, unproven solutions, and environmental injustices.

FWW opposes the incentivization and use of dirty fuels that do not live up to their climate promises. As explained in these comments, this includes ethanol and biogas production at factory farms, or factory farm gas. Now that we have moved beyond the statutory total renewable fuel volume targets, EPA has an opportunity to revisit the failures of the RFS program to achieve its climate and environmental objectives. EPA should course correct by reducing the program's reliance on dirty ethanol and factory farm gas, and instead refocus its efforts on incentivizing truly green, clean, renewable sources such as solar, wind, geothermal, and other clean electricity generation used to fuel electric vehicles. EPA's renewed attention on eRIN generation presents such an opportunity, but unfortunately the Proposed Rule doubles down on dirty fuels by incentivizing biogas combustion to produce electricity. Further incentivizing factory farm gas, and especially the burning of factory farm gas in inefficient electrical generation units ("EGUs"), would cause environmental injustice in communities across the country and would harm the environment as a whole. We deserve better than false solutions like dirty ethanol and factory farm gas from EPA, and we demand that climate mitigation measures are implemented equitably and responsibly.

[1] Renewable Fuel Standard (RFS) Program: Standards for 2023–2025 and Other Changes, 87 Fed. Reg. 80,582 (Dec. 30, 2022) (to be codified at 40 C.F.R. Parts 80 and 1090) (hereinafter "Proposed Rule").

With that goal in mind, FWW requests that EPA reassess the RFS program and reduce its reliance on ethanol and factory farm gas production. The Proposed Rule would exacerbate the failures of the RFS program to date; therefore, FWW requests EPA adopt the recommendations outlined below.

I. EPA Should Not Allow the RFS Program to Prop up the Harmful Ethanol Industry, Nor Should It Create a False Choice Between Ethanol and Other Dirty Fuels

EPA proposes to continue allowing dirty ethanol to account for the vast majority of fuel under the RFS program. As discussed further below, EPA is under no obligation to increase or even maintain its reliance on conventional renewable fuel, which essentially refers to ethanol. Ethanol harms the climate and the environment and has no place in a renewable energy future. To the extent EPA contemplates reducing its reliance on conventional renewable fuel, it should not create a false choice between ethanol and other dirty fuels.

A. EPA is not required to increase or even maintain its reliance on conventional renewable fuel

Pursuant to Section 211(o) of the Clean Air Act ("CAA"), EPA sets annual volume targets for the RFS program.[2] When the annual targets are no longer specified in the statute—beginning in 2023 for renewable fuel, advanced biofuel, and cellulosic biofuel—EPA sets the targets in consultation with the Departments of Energy and Agriculture based on a review of the program and an analysis of several enumerated factors.[3] EPA has "substantial discretion" in considering the statutory factors and setting the volume requirements, outside of limited Congressional constraints that include maintaining the ratio of advanced biofuel to total renewable fuel.[4] The portion of total renewable fuel not allocated to advanced biofuel is the implied conventional renewable fuel volume requirement.[5]

EPA is not required to set a certain conventional renewable fuel volume requirement, nor is the agency required to increase or even maintain that requirement. In fact, as EPA states, "there is no volume requirement for conventional renewable fuel" at all.[6] Yet EPA proposes to maintain an increased reliance on conventional renewable fuel of 15.25 billion gallons annually from 2023 to 2025.[7]

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[2] 42 U.S.C. § 7545(o).
[3] *Id.* § 7545(o)(B)(ii).
[4] Proposed Rule at 80,588. EPA must allocate a certain threshold percentage of the total renewable fuel volume to advanced biofuel—27.3% based on 2022 levels. *See* 42 U.S.C. § 7545(o)(B)(iii); Proposed Rule at 80,589.
[5] Proposed Rule at 80,599 (stating "conventional renewable fuel is that portion of the total renewable fuel volume requirement that is not required to be advanced biofuel. In some cases, it is referred to as an "implied" volume requirement.).
[6] *Id*. EPA goes on to explain "obligated parties are not required to comply with [the implied conventional volume requirement] per se since any portion of it can be met with advanced biofuel volumes in excess of that needed to meet the advanced biofuel volume requirement." *Id*.
[7] *Id*. at 80,602. For 2023, EPA explains that its proposed 15 billion gallon implied conventional volume requirement and its 250 million gallon supplemental requirement together effectively create a 15.25 billion gallon implied conventional volume requirement. *Id*. For 2024 and 2025 respectively, EPA clearly sets forth a 15.25 billion gallon implied conventional volume requirement. *Id*. EPA's proposal demonstrates an increased reliance on conventional renewable fuel over the next three years as compared to the previous three years. *See* Renewable Fuel Standard

EPA projects that corn ethanol consumption will account for approximately 14.5 billion gallons—or 95%—of the conventional renewable fuel volume per year through 2025.[8] Using those projections, not only would corn ethanol continue to dominate conventional renewable fuel for the time period proposed, it would continue to account for over two thirds of total renewable fuel under the RFS program. As discussed further below, ethanol harms the climate and the environment, and has no place in a renewable energy future. Given EPA's substantial discretion in setting volume requirements, EPA is under no obligation to further entrench ethanol production through the RFS program and should not do so.

B. The ethanol industry exacerbates the climate crisis and harms the environment

EPA must consider environmental impacts when setting volume requirements under the RFS program.[9] That includes, *inter alia*, impacts of the production and use of renewable fuels on climate change, ecosystems, and water quality.[10] Ethanol production is a significant source of greenhouse gas emissions, contributes to biodiversity loss, and degrades water quality. Yet despite the negative impacts of ethanol production, EPA continues to prop up the industry and tout this dirty fuel as renewable.

Corn ethanol production has increased under the RFS program, as has the intensity and extent of cropland devoted to corn.[11] According to an analysis of the environmental outcomes of the RFS program led by researchers at the University of Wisconsin-Madison, "the RFS substantially increased on-site GHG emissions from cropping systems."[12] In addition, land use change emissions "spurred by the RFS undermine the GHG benefits of using ethanol as a transportation fuel."[13] Increased ethanol production under the RFS "caused enough domestic land use change emissions such that the carbon intensity of corn ethanol produced under the RFS is no less than gasoline and *likely at least 24% higher*."[14] Moreover, the ethanol industry receives over a third of the nation's corn supply,[15] converting vast swaths of agricultural land to monocultured commodities that can contribute to biodiversity loss.[16] Furthermore, due to production intensity, cropland expansion, and increased synthetic fertilizer use, ethanol production under the RFS program degrades water quality by resulting in increased nutrient pollution and soil erosion.[17]

(RFS) Program: RFS Annual Rules, 87 Fed. Reg. 39,600 (July 1, 2022) (to be codified at 40 C.F.R. Parts 80 and 1090).

[8] Proposed Rule at 80,629. The agency's projections include slight increases in ethanol consumption year-over-year through 2025. *Id*. at 80,603 (Table III.C.3-1—Projections of Corn Ethanol Consumption).

[9] 42 U.S.C. § 7545(o)(B)(ii).

[10] *Id.*

[11] *See* Tyler J. Lark et al., *Environmental Outcomes of the US Renewable Fuel Standard*, PNAS (Feb. 14, 2022), https://www.pnas.org/doi/full/10.1073/pnas.2101084119.

[12] *Id*. at 3.

[13] *Id*.

[14] *Id*. at 1 (emphasis added); *see also*, *id*. at 3.

[15] Dep't of Energy, *U.S. Corn Production and Portion Used for Fuel Ethanol*, https://afdc.energy.gov/data/10339.

[16] H. Wang & A. Ortiz-Bobea, *Market Driven Corn Monocropping in the U.S. Midwest*, 48 AG. AND RESOURCE ECONOMICS REV. 271 (Aug. 2019), https://www.cambridge.org/core/journals/agricultural-and-resource-economics-review/article/marketdriven-corn-monocropping-in-the-us-midwest/E194EE27F867FC296527A1953FBABF68.

[17] Lark, *supra* note 11, at 2–3.

The ethanol industry is inextricably linked to our broken food system, where corporate agribusinesses and industrial agriculture dominate the market, harm the environment and fuel climate change.[18] Ethanol is a byproduct of domestic farm policies that encourage the overproduction of grains like corn.[19] Corporate agribusinesses profit from a steady supply of artificially cheap grains, which they manufacture into ethanol, feed for factory farms, and additives for ultra-processed food.[20] Ultimately, agriculture is one of the most significant human sources of climate change, contributing 19% to 29% of all human-sourced emissions across the production chain.[21] Furthermore, overproduction of commodities and meat, food waste, growing crops for fuel, and use of synthetic fertilizers produced from fossil fuels enlarge the industry's footprint.[22]

C. EPA should not present a false choice between ethanol and other dirty fuels

In seeking public comment on alternative volume requirements, EPA only contemplates trading one category of dirty fuels for another.[23] The agency recognizes its proposed conventional renewable fuel volume requirement of 15.25 billion gallons "represent[s] a significant policy choice for the program."[24] EPA also recognizes that stakeholders have called for EPA to lower this requirement.[25] However, the agency only contemplates adjusting the conventional renewable fuel volume requirement in the context of retaining the proposed increases in total renewable fuel volume year-over-year.[26] Maintaining or decreasing the conventional renewable fuel volume requirement while continuing to increase the total renewable fuel volume requirement would simply create a larger gap for dirty alternative biofuels—discussed *infra* at Section III—to fill.

It is promising that EPA is considering potentially decreasing the conventional renewable fuel volume requirement. However, FWW could only support such a policy choice if the agency applied it to the total renewable fuel volume requirement as well. If EPA is truly interested improving the RFS program, we request that the agency reduce its reliance on dirty fuels altogether, rather than create a false choice between ethanol and other harmful options.

II. EPA Should Not Incorporate Carbon Capture and Storage or Hydrogen from Biomass Into the RFS Program

EPA asks whether there are steps the agency should take to integrate carbon capture and storage ("CCS") into renewable fuel production, or to "capture opportunities related to hydrogen

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[18] Food & Water Watch, *Well-Fed: A Roadmap to a Sustainable Food System That Works for All* (Apr. 2021), https://www.foodandwaterwatch.org/2021/04/19/well-fed-a-roadmap/.
[19] Food & Water Watch, *Carbon Capture Is Iowa's New Problem Pipe Dream* 2 (Apr. 2022), https://www.foodandwaterwatch.org/wp-content/uploads/2022/03/FSW_2204_IACCS-FINAL.pdf.
[20] *Id.*
[21] Food & Water Watch, *Well-Fed*, *supra* note 18.
[22] *Id.*
[23] Proposed Rule at 80,585, 80,628.
[24] *Id.* at 80,628.
[25] *Id.*
[26] *Id.* at 80,585, 80,628.

derived from renewable biomass."[27] There are not. CCS and hydrogen from biomass are merely efforts to greenwash biofuel production and EPA should not promote these costly and inefficient technologies.

Carbon capture is expensive and energy intensive, and increases emissions, while carbon storage presents significant risks.[28] Although CCS is marketed as a climate solution, "capturing the CO_2 from ethanol facilities adds costs to already expensive biofuel technology."[29] Moreover, "biofuels are poorly suited to CCS, as they need substantial inputs relative to the energy they generate."[30] In fact, "biofuels' low energy and high moisture content could make the net CO_2 reduction from biogas worse than fossil-fueled CCS."[31]

The ethanol industry is already trying to hide behind CCS, despite its flaws, as FWW has pointed out:

> In 2017, [Archer Daniels Midland ("ADM")] began capturing carbon from its Illinois ethanol plant. Proponents often point to this as proof of concept, but the plant's dubious track record says otherwise; the facility consistently captures just half of its yearly CO_2 target. Biofuels will still emit CO_2 when combusted, and the captured CO_2 accounts for a mere 3 percent of ADM's total CO_2 emissions, barely scraping the surface.[32]

Hydrogen production is also resource intensive, wasteful and inefficient.[33] And while hydrogen can be produced from biomass, that is a dirty energy source that includes archaic, polluting energy like burning wood.[34] Moreover, hydrogen produced from biomass can be combined with CCS,[35] which doubles down on technologies that attempt to greenwash continued reliance on dirty fuels. EPA should not incorporate either of these costly and inefficient technologies into the RFS program.

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[27] *Id.* at 80,587.
[28] Food & Water Watch, *Top 5 Reasons Carbon Capture and Storage Is Bogus*, https://www.foodandwaterwatch.org/2021/07/20/top-5-reasons-carbon-capture-and-storage-ccs-is-bogus/.
[29] Food & Water Watch, *Carbon Capture Is Iowa's New Problem Pipe Dream*, *supra* note 19, at 2.
[30] *Id.*
[31] *Id.*
[32] *Id.* at 3.
[33] Food & Water Watch, *Hydrogen's Water Problem* (Feb. 2023), https://www.foodandwaterwatch.org/wp-content/uploads/2023/02/FSW_2302_HydrogenWaterUse.pdf; Food & Water Watch, *Hydrogen: The Good, The Bad, The Ugly* (Apr. 2021), https://www.foodandwaterwatch.org/wp-content/uploads/2021/10/FS_2104_Hydrogen-WEB-1.pdf.
[34] Food & Water Watch, *Hydrogen: The Good, The Bad, The Ugly*, *supra* note 33. Burning wood emits GHGs that contribute to the climate crisis, along with other air pollutants that harm human health and the environment. Food & Water Watch, *Biomass Cannot Be Part of a U.S. Renewable Energy Future* (Dec. 2018), https://foodandwaterwatch.org/wp-content/uploads/2021/03/fs_1812_biomass-us-web_0.pdf.
[35] Food & Water Watch, *Hydrogen: The Good, The Bad, The Ugly*, *supra* note 33.

III. EPA Should Not Promote Factory Farm-Derived Fuels That Result in Myriad Environmental Harms and Dubious Climate Benefits

EPA proposes to further incentivize harmful biogas production at large, industrial animal agriculture facilities, or factory farms, with little regard for the perverse incentives and environmental justice impacts such a policy decision will engender. Factory farm gas is not clean, climate friendly, or a "net benefit" for communities living near these facilities around the country.[36] Yet, EPA boasts of the "significant opportunities for increasing the production of biogas from manure."[37] This misguided perspective goes on to pervade the Proposed Rule and would result in serious unintended consequences, environmental harm, and obvious environmental injustices.

Contrary to EPA's apparent belief in the merits of factory farm gas, incentivizing this fuel through increased volume requirements and/or the establishment of the proposed electricity from biogas eRIN pathway will harm the climate, entrench and reward a devastating model of animal agriculture, and heap further harm on communities already overburdened with the pollution and public nuisances associated with factory farming. EPA must reverse course from the Proposed Rule by limiting the inclusion of these harmful fuels and focusing its efforts on truly clean alternatives that will safeguard a livable climate and align with the environmental justice goals required of EPA.

A. EPA has the authority to limit factory farm gas volume requirements

EPA has the authority to avoid the climate and environmental damage that will result from the Proposed Rule's embrace of factory farm gas. As the Proposed Rule recognizes, the CAA gives EPA "considerable discretion to weigh and balance" the statutory factors EPA must consider.[38] Under CAA section 211(o)(2)(B)(ii)(I), EPA must consider "the impact of the production and use of renewable fuels on the environment, including on air quality, climate change, conversion of wetlands, ecosystems, wildlife habitat, water quality, and water supply."[39] The CAA also requires EPA to consider "the impact of the use of renewable fuels on other factors, including job creation, the price and supply of agricultural commodities, rural economic development, and food prices."[40] The Proposed Rule includes environmental justice in this latter, catchall provision.[41] While FWW strongly supports the inclusion of environmental justice considerations, these issues fall under (o)(2)(B)(ii)(I) not (o)(2)(B)(ii)(VI) because environmental justice harms spring from impacts to the environment, including air quality, water quality, water supply, and climate change – which are disproportionately borne by low-income populations or communities of color already overburdened by pollution. EPA cannot conjure for itself greater discretion by placing environmental justice concerns within subsection (VI)'s catchall when it clearly falls under (I)'s defined set of statutory considerations.

[36] Proposed Rule at 80,617.
[37] Proposed Rule at 80,593.
[38] Proposed Rule at 80,588.
[39] 42 U.S.C. § 7545(o)(2)(B)(ii)(I).
[40] *Id.* § 7545(o)(2)(B)(ii)(VI).
[41] Proposed Rule at 80,588.

As explained below, factory farm gas production and use have serious environmental and environmental justice impacts that EPA must consider, and Executive Orders and guidance require EPA to give greater weight to these factors than it has in the Proposed Rule. Executive Order 12898 requires that EPA, "[t]o the greatest extent practicable and permitted by law, … shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations."[42]

Executive Order 14008 further calls on EPA to elevate environmental justice under the Biden Administration's Justice40 Initiative and "whole-of-government" approach to the climate crisis.[43] This Order calls on EPA to "deliver environmental justice in communities all across America" by "ensur[ing] that environmental and economic justice are key considerations in how we govern."[44]

Thus, EPA not only has the authority but the imperative to elevate environmental justice concerns in this rulemaking. And as explained below, factory farm gas poses unacceptable environmental and environmental justice harms that would be entrenched and exacerbated by the Proposed Rule.

B. Factory farm gas production depends on deeply flawed and harmful practices

The availability of biogas production at scale at factory farms fundamentally relies on deliberate and environmentally dangerous production practices that harm local communities and the climate.[45] Producing factory farm gas does not eliminate these underlying environmental and public health harms, but instead entrenches them and threatens to make some impacts worse.

When animal manure is liquified and stored in vast cesspools or "lagoons" to minimize a factory farm's waste management and disposal costs, methane is emitted as the waste decomposes in the resulting anaerobic (*i.e.*, oxygen deprived) environment.[46] "When manure is handled as a solid (e.g., in stacks or drylots) or deposited on pasture, range, or paddock lands, it tends to decompose aerobically and produce CO_2 and little or no CH_4."[47] Animal manure excreted on pasture undergoes a process that involves naturally occurring microbes that break down the manure's complex molecules into more plant-accessible basic nutrients, while

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[42] Exec. Order No. 12,898, 59 Fed. Reg. 7629 (Feb. 16, 1994).
[43] Exec. Order No. 14,008, 86 Fed. Reg. 7619 (Feb. 1, 2021); Memorandum for the Heads of Departments and Agencies (M-21-28), Interim Implementation Guidance for the Justice40 Initiative (July 20, 2021).
[44] Exec. Order No. 14,008 §§ 201, 219.
[45] *See, e.g.*, Julia Kravchenko et al., *Mortality and Health Outcomes in North Carolina Communities Located in Close Proximity to Hog Concentrated Animal Feeding Operations*, 79 N.C. Med. J. 279, https://doi.org/10.18043/ncm.79.5.278; Pew Commission on Industrial Farm Animal Production, *Reports*, https://www.pcifapia.org/reports/ (cataloging technical reports explaining the dangers of factory farming, including liquid manure and lagoon systems); EPA, EPA/600/R-04/042, Risk Assessment Evaluation for Concentrated Animal Feeding Operations (May 2004); Carrie Hribar, Understanding Concentrated Animal Feeding Operations and Their Impacts on Communities (2010), https://www.cdc.gov/nceh/ehs/docs/understanding_cafos_nalboh.pdf.
[46] EPA, Inventory of U.S. Greenhouse Gas Emissions and Sinks 1990–2020 at 5-11 ("When livestock manure is stored or treated in systems that promote anaerobic conditions (e.g., as a liquid/slurry in lagoons, ponds, tanks, or pits), the decomposition of the volatile solids component in the manure tends to produce CH4.").
[47] *Id.*

releasing a modest amount of carbon dioxide. This process bears almost no resemblance to the highly industrialized, anaerobic systems factory farms use to produce biogas.[48]

Thus, environmentally responsible, pasture-based farms do not emit meaningful amounts of methane from their manure management, and the transition from family-scale farms to industrial-scale factory farms using liquid manure management systems is the primary reason why methane emissions from animal agriculture have become such a large contributor to climate change.[49] According to EPA, methane emissions from manure management went from 34.8 MMT CO_2 eq. to 59.6 MMT CO_2 eq. from 1990 to 2020.[50] This same shift from smaller farms to large-scale factory farming is responsible for dramatic water, air, and public health impacts across the country. In other words, the climate damage from factory farms arose in tandem with other environmental and public health impacts because they are rooted in the same flawed and dangerous model of animal agriculture.

Instead of recognizing and avoiding this problem through better waste management, factory farm gas production relies on, entrenches, and rewards that harmful system. In the process, factory farm gas also entrenches and exacerbates myriad environmental and public health harms. Factory farm gas production props up the largest, most dangerous factory farms across the country. Such systems require vast quantities of manure and other liquid waste as feedstock to operate anaerobic digesters. The installation and operation of these systems, which are highly technical and expensive, is only economically feasible at the largest facilities.[51] As other transportation fuel programs akin to the RFS have demonstrated, incentivizing factory farm gas with environmental attribute credits does not alter this dynamic and the largest animal agriculture facilities are the only beneficiaries.[52] The biggest polluters get the biggest rewards.[53]

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[48] *See* Alan Newport, *Coming Up for Air*, BEEF MAG. (Apr. 1, 2006), https://www.beefmagazine.com/mag/beef_coming_air (describing the problems with anaerobic digestion and concluding that "[o]nce we understand nature's preferences and biological principles, it's only logical to look for ways to introduce higher levels of aerobic decomposition back into our modern manure handling systems").

[49] *See* Food & Water Watch, The Economic Cost of Food Monopolies: The Dirty Dairy Racket at 5, https://www.foodandwaterwatch.org/wp-content/uploads/2023/01/RPT2_2301_EconomicCostofDairy-WEB.pdf; EPA, Inventory of U.S. Greenhouse Gas Emissions and Sinks 1990-2020 at 5-12.

[50] EPA, Inventory of U.S. Greenhouse Gas Emissions and Sinks 1990-2020 at 5-13.

[51] *See* Markus Lauer et al., *Making Money from Waste: The Economic Viability of Producing Biogas and Biomethane in the Idaho Dairy Industry*, 222 Applied Energy 621 (2018), https://www.sciencedirect.com/science/article/pii/S0306261918305695; Ruthie Lazenby, Rethinking Manure Biogas: Policy Considerations to Promote Equity and Protect the Climate and Environment at 18 (Aug. 2022), https://www.vermontlaw.edu/sites/default/files/2022-08/Rethinking_Manure_Biogas.pdf.

[52] A review of certified pathway holders under California's Low Carbon Fuel Standard ("LCFS") makes clear that only large and very large factory farms participate in that program. An analysis by FWW of 83 LCFS pathways for factory farm gas producers found that every factory farm providing manure to produce factory farm gas was well above EPA's regulatory definition of a large concentrated animal feeding operation ("CAFOs"). Analysis on file with FWW; EPA, Regulatory Definitions of Large CAFOs, Medium CAFO, and Small CAFOs, https://www3.epa.gov/npdes/pubs/sector_table.pdf. The vast majority are extremely large factory farms with thousands or tens of thousands of animals.

[53] *See* Comment to California Air Resources Board from Jeremy Martin, Union of Concerned Scientists (Jan. 6, 2022), https://www.arb.ca.gov/lists/com-attach/24-lcfs-wkshp-dec21-ws-AHVSN1MhVlpXNQRl.pdf ("Thus, in this instance the largest polluter is the one receiving a large subsidy.")

The factory farm gas produced at these facilities "contains a significant amount of impurities and inert gases (e.g., carbon dioxide) and must undergo pre-treatment before it can be used to generate electricity and especially before it can be used as compressed natural gas/liquid natural gas ("CNG/LNG") in vehicles."[54] Thus, to use as CNG/LNG in vehicles another layer of industrial processing is required before it can be used for local fleets or injected into common carrier pipelines, where it becomes fungible with fossil natural gas and has the same climate impacts when burned.[55] This refining process also releases local air pollutants, GHGs, and requires significant amounts of energy.[56] Alternatively, it can be burned in an EGU onsite to produce electricity, which releases large quantities of local air pollution compared to the quantity of electricity produced as explained below.

Factory farm pollution is not limited to methane emissions that are susceptible to capture in digesters. This system of liquid manure handling and disposal also causes a host of other environmental and public health impacts, nearly all of which are left in place or exacerbated by the introduction of factory farm gas production.

C. *Factory farm gas entrenches and exacerbates environmental harm and adverse public health impacts*

The underlying systems that factory farm gas production depends on harm the environment, compromise public health, and work severe environmental injustices in communities across the country. By rewarding those systems with lucrative RINs, the Proposed Rule would entrench and exacerbate those harms. Such outcomes are at odds with EPA's mandate to protect the environment and especially its mission to ensure environmental justice in all its programs and activities.

1. Factory farm gas production threatens water quality

The liquified manure systems that factory farm gas production relies on results in massive water quality degradation across the country including harmful algal blooms, eutrophication, and groundwater contamination. Anaerobic digestion of that waste exacerbates those environmental and public health risks by making digestate (the waste product remaining after digestion and gas production) more likely to pollute surface and ground waters.

Factory farm waste disposal onto crop fields as "fertilizer" is one of the leading causes of water quality impairments in the United States and anaerobic digestion makes the problem worse. While often touted as nothing more than a beneficial fertilizer, in reality, factory farms' land application of factory farm waste amounts to cheap waste disposal and leads to application in excess of what crops or the landscape can utilize or absorb. When digested, the chemistry of this waste changes and becomes more hazardous to water quality. The USDA's Natural

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[54] Proposed Rule at 80,636.
[55] *Id.*
[56] For example, a proposed factory farm gas plant in Delaware would emit VOCs, nitrogen oxide, PM, and sulfur oxide and would vent the CO_2 removed in the refining process directly into the atmosphere. Comments to Delaware Department of Natural Resources and Environmental Control, Food & Water Watch et al., https://documents.dnrec.delaware.gov/Admin/Hearings/2022-P-MULTI-0012/Comments/Tyler-Lobdell.pdf.

Resources Conservation Service warns that "[l]and application of digester effluent, compared with fresh manure, may have a higher risk for both ground and surface water quality problems. Compounds such as nitrogen, phosphorus, and other elements become more soluble due to anaerobic digestion and therefore have higher potential to move with water."[57] Anaerobic digesters have been found to increase the waste's pH as well.[58]

This chemical alteration of the waste exacerbates its potential to result in surface water impairments like harmful algal blooms and eutrophication.[59] It also exacerbates its potential to leach into groundwater as nitrate, a contaminant with well-documented adverse health risks including a variety of cancers, thyroid disease, "blue-baby syndrome," and reproductive and gestational problems.[60] EPA understands that nitrate is an "acute contaminant" and that "one exposure can affect a person's health. Too much nitrate in your body makes it harder for red blood cells to carry oxygen."[61] Several parts of the country populated by factory farms are already struggling with pervasive nitrate contamination that poses imminent public health emergencies.[62]

Therefore, incentivizing anaerobic digestion of factory farm waste not only entrenches the harmful system of liquid manure management and disposal through land application, but increases the water quality and public health risks associated with that practice.

2. Factory farm gas production threatens air quality

Factory farm gas production also threatens to increase air pollution in already overburdened communities. Although unregulated by EPA, air pollution from factory farms is already a pervasive problem and includes nuisance odors, airborne pathogens, ammonia,

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[57] NRCS, 366-CPS-1, Conservation Practice Standard No. 366: Anaerobic Digester at 6, https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs143_026149.pdf; *see also* Lazenby, Rethinking Manure Biogas, *supra* note 51, at 19 ("Digestate contains 'more soluble plant nutrients due to mineralization ….'").
[58] Michael A. Holly et al., *Greenhouse Gas and Ammonia Emissions from Digested and Separated Dairy Manure During Storage and After Land Application*, 239 AG., ECOSYSTEMS & ENV'T 410 (Feb. 2017), https://www.sciencedirect.com/science/article/pii/S0167880917300701 (last visited Jan. 27, 2021).
[59] NRCS, Conservation Practice Standard No. 366: Anaerobic Digester, *supra* note 57, at 6; A.N. Sharpley et al., Agricultural Phosphorus and Eutrophication (July 1999), https://www.ars.usda.gov/ARSUserFiles/oc/np/phosandeutro1/phosAndEutro1ed.pdf.
[60] JoAnn Burkholder et al., *Impacts of Waste from Concentrated Animal Feeding Operations on Water Quality,* 115 ENVTL. HEALTH PERSPECTIVE 308, 310 (2008).
[61] EPA, *Lower Yakima Valley Groundwater*, https://www.epa.gov/wa/lower-yakima-valley-groundwater.
[62] *E.g.*, Columbia Riverkeeper, *Groups Petition EPA to Take Emergency Action on Chronic Groundwater Pollution in Rural Oregon*, https://www.columbiariverkeeper.org/news/2020/1/groups-petition-epa-take-emergency-action-chronic-groundwater-pollution-rural-oregon (petition for EPA emergency action under the Safe Drinking Water Act linked to in the URL); State of Washington Department of Ecology, *Lower Yakima Valley Groundwater Management Area*, https://ecology.wa.gov/Water-Shorelines/Water-quality/Groundwater/Protecting-aquifers/Lower-Yakima-Valley-groundwater; Sarah Whites-Koditschek & Coburn Dukehart, *Most Nitrate, Coliform in Kewaunee County Wells Tied to Animal Waste*, WISC. PUB. RADIO (Feb. 27, 2019), https://www.wpr.org/most-nitrate-coliform-kewaunee-county-wells-tied-animal-waste; Mark A. Borchardt et al., *Sources and Risk Factors for Nitrate and Microbial Contamination of Private Household Wells in the Fractured Dolomite Aquifer of Northeastern Wisconsin*, 129(6) ENV'T HEALTH PERSPS. (June 23, 2021), https://ehp.niehs.nih.gov/doi/10.1289/EHP7813.

hydrogen sulfide, and particulate pollution.[63] While installing an anaerobic digester on certain factory farms may marginally reduce certain air pollutants in one place, such as odors from lagoons, they often increase air pollutants elsewhere or fail to achieve meaningful reductions, such as when digestate is discharged from a covered lagoon into a secondary, open lagoon and then land applied.

Digesters can increase air pollutants and make local air quality worse by altering the chemistry of the waste that is then disposed of through land application. For example, one study found that ammonia emissions from the handling of digestate increased 81% compared undigested manure slurries.[64] Ammonia from factory farms is a PM2.5 precursor that EPA recognizes can have local air quality impacts.[65] Alarmingly, a recent study estimates that ammonia emission from livestock operations alone result in over 12,000 premature deaths each year in the United States.[66]

Factory farm gas refining also emits air pollutants. Biogas refineries are industrial gas production facilities that pose substantial risks to local air quality through flaring, leakage, and other process emissions. By adding this industrial gas production on top of already-polluting factory farm operations, the Proposed Rule threatens to heap more local air pollution onto communities already overburdened with some of the worst air quality in the country, such as in California's San Joaquin Valley, which is in serious nonattainment for PM2.5 under the CAA.[67]

Finally, the Proposed Rule's adoption of a regulatory framework that allows for eRINs generated by burning biogas to produce electricity would have dramatic air quality impacts that are patently unjustified by the amount of electricity produced. A concrete example comparing an actual factory farm gas operator using EGUs with a proposed natural gas power plant helps illustrate the inherently harmful and absurd nature of this proposal. The Lakeview Dairy Biogas project in Kern County, California uses two internal combustion engines to produce over 1,000 kW of electricity onsite.[68] This project emits 4.58 tons/year of NOx, 1.98 tons/year of PM2.5, and 3.18 tons/year of VOC after the imposition of Best Available Control Technology as required by the CAA due to the area's nonattainment status.[69] Compared to a proposed natural gas combined cycle plant in Avenal, California, the Lakeview digester project produces much higher levels of NOx, sulfur oxides (SOx), and VOC emissions per unit of electricity

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[63] *E.g.*, Petition to Rescind the Air Consent Agreement and Enforce Clean Air Laws Against Animal Feeding Operations (Oct. 26, 2021), https://www.foodandwaterwatch.org/wp-content/uploads/2021/10/2021.10.26-Petition-re-2005-Air-Consent-Agreement-1.pdf; Amy Chapin et al., *Airborne Multidrug-Resistant Bacteria Isolated from a Concentrated Swine Feeding Operation*, 113(2) ENV'T HEALTH PERSPS. (Feb. 1, 2005), https://ehp.niehs.nih.gov/doi/10.1289/ehp.7473.

[64] Michael A. Holly et al., *Greenhouse Gas and Ammonia Emissions from Digested and Separated Dairy Manure During Storage and After Land Application*, 239 AG., ECOSYSTEMS & ENV'T 410 (Feb. 2017), https://www.sciencedirect.com/science/article/pii/S0167880917300701.

[65] *See* Clean Air Plans; 2012 Fine Particulate Matter Serious Nonattainment Area Requirements; San Joaquin Valley, California, 87 Fed. Reg. 60,494 (Oct. 5, 2022).

[66] Nina G. G. Domingo, *Air Quality-Related Health Damages of Food*, 118 PNAS (2021), https://www.pnas.org/doi/pdf/10.1073/pnas.2013637118.

[67] 87 Fed. Reg. 60,494.

[68] San Joaquin Valley Air Pollution Control District, NOTICE OF PRELIMINARY DECISION – AUTHORITY TO CONSTRUCT (Mar. 22, 2016), http://www.valleyair.org/notiCes/Docs/2016/03-22-16_(S-1143770)/S-1143770.pdf.

[69] *Id.* at 14.

generated.[70] And aggregating 25 factory farms burning factory farm gas in EGUs similar to that of the Lakeview project would result in higher emissions of NOx, SOx, carbon monoxide, and VOCs than the proposed Avenal plant, but would only generate 4.4 percent of the electricity.[71] Aggregating enough factory farms burning biogas in similar EGUs to match the electricity output of just one natural gas power plant would result in vastly disproportionate air pollution. This inefficiency is manifest.

This problem is compounded when you consider that the Lakeview project's EGUs were subject to strict pollution controls such as selective catalytic reduction. On the other hand, EPA here proposes to incentivize EGUs throughout the country, many of which will be subject to far less stringent pollution controls. EPA has apparently provided no safeguards that would require any degree of efficiency or air pollution controls; it only requires that the EGU burns approved biogas and delivers the electricity to a commercial grid or directly fuels EVs onsite. Sacrificing local air quality for miniscule additions of electricity is bad policy and would work environmental injustices in countless communities already overburdened with factory farm air pollution.

3. Factory farm gas production threatens to increase GHG emissions

Underscoring the counterproductive nature of incentivizing factory farm gas through the RFS are the increases in GHG emissions associated with its production. First, monetizing methane emissions from factory farm operations entrenches the problem and encourages operators to maximize methane generation. Were EPA to adopt the Proposed Rule as written, factory farm operators will have every incentive to adopt the most climate damaging practices to increase their RIN generation potential. This perverse incentive also disincentivizes operators from adopting practices that would reduce or eliminate methane emissions from their waste management, such as using solid separation to reduce volatile solids flushed into lagoons or avoiding anaerobic waste storage in the first place.[72] In other words, the Proposed Rule not only incentivizes the worst climate practices, it penalizes those who adopt more responsible practices that *avoid* methane emissions in the first place instead of capturing them for combustion because they face a market disadvantage compared to operators able to increase operational income from intentional methane production.

In fact, anaerobic digesters at factory farms are designed to *maximize* methane production to monetize the methane and realize maximum return on the capital investments required, a

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[70] San Joaquin Valley Air Pollution Control District, NOTICE OF FINAL DETERMINATION OF COMPLIANCE, AVENAL POWER CENTER, 3, 27 (Dec. 17, 2010). Producing 1.059 megawatts and emitting 4.58 tons/year of NOx, the Lakeview turbine generates 0.17 percent of the electricity while the engines powering the turbine emit 4.6 percent of the NOx pollution.

[71] Digester v. Avenal Comparison on file with FWW. This assumes that Lakeview represents the average emissions from these factory farm gas operations.

[72] For example, Threemile Canyon Farms, one of the largest mega-dairies in the country, stopped solid-liquid separation pre-lagoons once it began generating factory farm gas despite solid-liquid separation being a widely recognized best management practice. EPA & NRCS, Agricultural Air Quality Conservation Measures: Reference Guide for Poultry and Livestock Production Systems at 35 (Sept. 2017), https://www.epa.gov/sites/default/files/2017-01/documents/web_placeholder.pdf ("Solid-liquid separation reduces the generation of odor and gases by reducing the load on manure treatment lagoons.").

practice EPA's AgStar program endorses.[73] Intentionally produced methane "is always GHG positive unless the total system leakage is 0," which is never the case.[74] Recent research indicates that emissions from factory farm gas production are significantly higher than currently appreciated, with especially high emissions from digestate storage.[75] By rewarding methane production from deliberate waste mismanagement, the Proposed Rule risks making the problem worse and may actually result in more climate damage.

Additionally, by incentivizing methane emissions from poor factory farm waste management, the Proposed Rule would incentivize manure production and therefore increased herd sizes on factory farms. To maximize RIN generation, an operator must maximize the amount of liquified manure entering lagoons and thus must maximize the number of animals generating manure. California's Low Carbon Fuel Standard has already brought this perverse incentive into the light, and researchers have expressed concern "that these programs could incentivize more beef cattle to move into confinement, where their manure would be collected in lagoons and farmers could install digesters to profit from LCFS and RFS subsidies."[76]

The Proposed Rule threatens to supercharge this "manure goldrush" with very serious consequences and counterproductive GHG emissions outcomes. As a manager for one of the largest dairies in the United States said: "The most valuable product that we have [at Threemile Canyon mega-dairy in Oregon] is natural gas."[77] Other industry and media statements making a similar point include, but are not limited to:

- "We used to joke about how funny it would be if we could make more money off the poop than the milk," [California mega-dairy Bar 20's] Sheheady said. "And now we're essentially here."[78]
- "If profits are $2 to $3 per hundredweight, they could likely exceed the profit from milk. At that point, milk has become the by-product of manure production."[79]

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[73] *E.g.*, EPA AgStar, *Increasing Anaerobic Digester Performance with Codigestion* (Sept. 2012), https://www.epa.gov/sites/default/files/2014-12/documents/codigestion.pdf.

[74] *See* Emily Grubert, *At Scale, renewable natural gas systems could be climate intensive: the influence of methane feedstock and leakage rates*, 15 ENVTL. RES. LETTERS (Aug. 2020) (finding that "RNG from intentionally produced methane, even from climate-neutral CO2 sources, has substantial climate impacts at methane leakage levels observed in the existing, mature biogas industry" and "for any meaningful system scale, RNG is likely to be derived from intentionally produced methane"); Zachary D. Weller et al., *A National Estimate of Methane Leakage from Pipeline Mains in Natural Gas Local Distribution Systems*, 54 ENV'T SCI. TECH. 8958 (June 10, 2020), https://pubs.acs.org/doi/10.1021/acs.est.0c00437.

[75] Semra Bakkaloglu et al., *Methane Emissions Along Biomethane and Biogas Supply Chains Are Underestimated*, 5 ONE EARTH 724–736 (June 17, 2022), https://www.sciencedirect.com/science/article/pii/S2590332222002676.

[76] Aaron Smith, *The Dairy Cow Manure Gold Rush*, AG DATA NEWS (Feb. 2, 2022), https://asmith.ucdavis.edu/news/revisiting-value-dairy-cow-manure.

[77] Tracy Loew, *Manure Is Big Business at Oregon's Largest Dairy with Conversion to Natural Gas*, STATESMAN JOURNAL (Apr. 1, 2019), https://www.statesmanjournal.com/story/tech/science/environment/2019/03/31/oregon-threemile-canyon-farms-dairy-natural-gas-manure/3247197002/.

[78] Kaya Laterman, *This California Dairy Farm's Secret Ingredient for Clean Electricity: Cow Poop*, DAILY BEAST (Jan. 22, 2022), https://www.thedailybeast.com/california-dairy-farm-has-microgrid-powered-by-clean-electricity-made-from-methane-from-cow-poop?via=newsletter.

[79] Michael McCully, *Energy Revenue Could Be a Game Changer for Dairy Farms*, HOARD'S DAIRYMAN (Sept. 23, 2021), https://hoards.com/article-30925-energy-revenue-could-be-a-game-changer-for-dairy-farms.html.

- "Cow manure is now worth more than milk at some California dairy farms."[80]
- The LCFS "gold rush" is "attracting companies from Amazon to Chevron."[81]
- A principal at a global agribusiness consulting firm noting that cow manure may be worth more than milk in the future—"[s]o, there is a gold rush to install this kind of technology on large-scale dairy farms" in order to profit off the programs such as the RFS.[82]

Many other media and industry sources have likewise identified the "gold rush" to monetize intentionally created factory farm methane emissions.[83]

Critically, factory farm digesters are only capable of capturing a percentage of intentionally created *manure* methane emissions, but any increases in herd size also bring increased enteric methane emissions. These emissions undercut whatever GHG emissions reductions could be claimed from the digesters. EPA completely ignores this perverse incentive and the obvious problem it raises for the effectiveness of the Proposed Rule at mitigating GHG emission.

D. Factory farm gas production poses serious environmental justice harms that the Proposed Rule ignores

Factory farming already poses serious environmental justice concerns in places such as

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[80] *Manure Becomes More Valuable Than Milk at California Dairies*, SBJ (Oct. 20, 2021), https://sbj.net/stories/manure-becomes-more-valuable-than-milk-at-california-dairies,76541#:~:text=Cow%20manure%20is%20now%20worth,can%20exceed%20that%20of%20milk.

[81] Phred Dvorak, *California's Green-Energy Subsidies Spur a Gold Rush in Cow Manure*, WALL STREET J. (Feb. 19, 2022), https://www.wsj.com/articles/californias-green-energy-subsidies-spur-a-gold-rush-in-cow-manure-11645279200.

[82] Emma Hopkins-Obrien, *Dairy Industry Leads the Way for Innovation*, FARMER'S EXCHANGE (Dec. 17, 2021), http://www.farmers-exchange.net/detailPage.aspx?articleID=21153.

[83] *See, e.g.*, Janet Wilson & Joshua Yeager, *Is Manure the Future of Fuel? California Say Yes, but Environmentalists Say It Stinks*, USA TODAY (Mar. 3, 2022), https://www.usatoday.com/story/money/2022/03/03/california-manure-biogas-clean-energy-future-chevron-environmentalists-object/9341873002/?gnt-cfr=1; Marie J. French & Ry Rivard, *Cow Poop and Landfill Gas Shipped to California*, POLITICO (Feb. 14, 2022), https://www.politico.com/newsletters/weekly-new-york-new-jersey-energy/2022/02/14/cow-poop-and-landfill-gas-shipped-to-california-00008502; *California's Dairy Goldrush*, BLUESOURCE (July 20, 2021), https://www.bluesource.com/blog/californias-dairy-goldrush/; Chuck Abbott, *The New California Gold Rush Into Anaerobic Digesters*, SUCCESSFUL FARMING (Feb. 4, 2022), https://www.agriculture.com/news/business/the-new-california-gold-rush-into-anaerobic-digesters; Rachel Cohen, *Why There's a "Gold Rush" to Build Dairy Digesters in Idaho*, BOISE STATE PUB. RADIO (Feb. 11, 2022), https://www.boisestatepublicradio.org/news/2022-02-11/why-theres-a-gold-rush-to-build-dairy-digesters-in-idaho; Frank Jossi, *California Clean Fuel Standard Sparks Renewable Gas Boom in Midwest*, ENERGY NEWS NETWORK (May 13, 2021), https://energynews.us/2021/05/13/california-clean-fuel-standard-sparks-renewable-gas-boom-in-midwest/; Andrew R. Skwor & Patrick Wood, *American Dairy at the Carbon Markets – Agriculture's Latest Gold Rush, Part 1*, MSA (Dec. 13, 2021), https://www.msa-ps.com/american-dairy-at-the-carbon-market-agricultures-latest-gold-rush-part-i/; Maxson Irsik, *California Has Carbon Credit Opportunities for Out-of-State Dairies*, HIGH PLAINS JOURNAL (Jan. 20, 2021), https://www.hpj.com/opinion/california-has-carbon-credit-opportunities-for-out-of-state-dairies/article_efd6ebaa-56b9-11eb-a648-c387e359b04e.html; Leah Douglas & Nichola Groom, *Biden Spending Bill Ignites Debate over Dairy Methane Pollution*, REUTERS (Jan. 11, 2022), https://www.reuters.com/markets/commodities/biden-spending-bill-ignites-debate-over-dairy-methane-pollution-2022-01-11/.

California's San Joaquin Valley and eastern North Carolina, and factory farm gas has only made the problem worse. The Proposed Rule fails to live up to EPA's mandate to "make achieving environmental justice part of its mission"[84] and to "deliver environmental justice in communities all across America" by "ensur[ing] that environmental and economic justice are key considerations in how we govern."[85]

Instead of seriously assessing the environmental justice implications of factory farm gas production or use, the Proposed Rule arbitrarily side steps the issue. EPA claims that water and soil quality impacts "do[] not apply to biogas used to produce electricity or upgraded to RNG, since while land use impacts from agriculture, waste management, and wastewater treatment may impact water and soil quality on their own, biogas feedstock capture is a net benefit to soil and water quality, as it captures otherwise wasted product."[86] This ignores that the Proposed Rule would *incentivize* adverse water quality impacts by incentivizing the practices causing widespread degradation.[87] It also ignores the ways in which factory farm gas production exacerbates these harms by altering the chemistry of the waste; digestate is not the same as undigested manure in how it interacts with and harms the environment as explained above. EPA's attempt to wash its hands of these inextricably related issues—incentivizing factory farm gas and incentivizing industrialized farming practices that undergird factory farm gas production—is absurd.

Regarding air quality impacts, the Proposed Rule would increase air pollution in some of the hardest hit communities in the country. California's San Joaquin Valley has some of the worst air quality in the country, in part because of air emissions factory farm dairies. As explained in a Petition for Rulemaking to Exclude All Fuels Derived from Biomethane from Dairy and Swine Manure from the Low Carbon Fuel Standard Program submitted to the California Air Resources Board ("CARB") in October 2021, incentivizing factory farm gas harms communities that are disproportionately persons of color and low-income.[88] According to a 2015 study commissioned by CARB, burning factory farm gas to generate electricity produces criteria air pollutants, like NOx and particulate matter.[89] The study found this technology would increase NOx emissions by 10 percent, exacerbating air quality in the Valley, violating CARB's duty to ensure that its programs do not interfere with efforts to reduce air pollution.[90] The San Joaquin Valley Unified Air Pollution Control District also documents criteria pollutant emissions from electricity generation from factory farm gas. EPA should assume similar air quality impacts in other communities plagued by factory farming that will be incentivized to collect biogas and burn it to generate eRINs.

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[84] Exec. Order No. 12,898, 59 Fed. Reg. 7629 (Feb. 16, 1994).
[85] Exec. Order No. 14,008 §§ 201, 219.
[86] Proposed Rule at 80,617.
[87] The Proposed Rule recognizes the program's role in the "rapid expansion" of CNG/LNG derived from biogas. Proposed Rule at 80,594. And the proposed eRIN regulations are intended to "send the requisite market signals to ensure continued growth and investment of renewable electricity produced from biogas." Proposed Rule at 80,650.
[88] Jill Hindenach, *Climate Credits for Factory Farm Gas Violates Civil Rights, Fail to Achieve Climate Benefits, States Petition Submitted to CARB*, LEADERSHIP COUNSEL FOR JUSTICE AND ACCOUNTABILITY (Oct. 27, 2021), https://leadershipcounsel.org/climate-credits-for-factory-farm-gas-violate-civil-rights-fail-to-achieve-climate-benefits-states-petition-submitted-to-carb/ (petition available as a link in this URL).
[89] Marc Carreras-Sospedra et al., Assessment of the Emissions and Energy Impacts of Biomass and Biogas Use in California at 9–10 (Feb. 2015), https://ww2.arb.ca.gov/sites/default/files/classic//research/apr/past/11-307.pdf.
[90] *Id.* at 4, 13.

EPA's cursory dismissal of environmental justice is especially inappropriate given that EPA has before it a pending Civil Rights Act Title VI complaint against the state of North Carolina for violating the rights of minority and low-income North Carolinians in its permitting and promotion of factory farm gas. In September of 2021, the Southern Environmental Law Center on behalf of the Duplin County Branch of the North Carolina Conference of National Association for the Advancement of Colored People and the North Carolina Poor People's Campaign filed a complaint to EPA alleging that the North Carolina Department of Environmental Quality violated Title VI of the Civil Rights Act of 1964 by issuing four water permits authorizing anaerobic digester systems at industrial hog operations.[91] On January 13, 2022, EPA opened an investigation into this matter.[92] On December 22, 2022, SELC supplemented the Title VI complaint to include allegations regarding the state's issuance of a Swine Farm Digester System General Permit. In sum, that factory farm gas is a serious environmental justice concern is not a surprise to EPA.

The Proposed Rule's conclusions regarding the environmental justice implications of biogas production and use, particularly factory farm gas, is arbitrary and unsupported by experience, science, or common sense.

E. Given these unintended environmental harms, perverse incentives, and environmental injustices associated with factory farm gas production, EPA must reverse course and limit its inclusion in the RFS

FWW strongly opposes the Proposed Rule's increased incentivization of factory farm gas production. EPA proposed to further entrench the harms of factory farms and reward bad actors for adopting GHG intensive and highly polluting practices. This is contrary to the goals of the CAA, the RFS program, and EPA's mandate to center environmental justice in all its programs and activities.

FWW requests that EPA revise the following portions of the Proposed Rule to avoid the perverse incentives and environmental harms described above:

- Retain the minimum required ratio of advanced biofuels.
- Pause the biogas to electricity eRIN pathway insofar as it allows for factory farm gas to electricity until EPA has conducted the necessary environmental reviews.
- Conduct a meaningful environmental justice analysis for factory farm gas production.

[91] https://www.southernenvironment.org/wp-content/uploads/2021/09/2021-09-27-Title-VI-Complaint-Index-DEQ-Biogas-Permits.pdf.
[92] https://www.southernenvironment.org/wp-content/uploads/2022/01/2022.01.13-Final-CP-Acceptance-Ltr.-EPA-Complaint-No.-05RNO-21-R4-NCDEQ-copy.pdf.

1. Retain minimum volumes for advanced biofuels to avoid the harms associated with factory farm gas

EPA proposes to increase the CNG/LNG Derived from Biogas cellulosic biofuel volumes to 719 million RINs, 814 million RINs, and 921 million RINs for 2023, 2024, and 2025 respectively.[93] As stated in the Proposed Rule, "EPA must, at a minimum, maintain the ratio of advanced biofuel to total renewable fuel that was established for 2022 for the years in which EPA sets the applicable volume requirements."[94]

FWW requests that EPA eliminate these increased ratios and instead maintain the minimum percentage of 27.3% of total renewable volume. In tandem with our request above to lower the total renewable volume, this will minimize the unintended consequences and environmental harm associated with incentivizing factory farm gas.

2. Do not promulgate an eRIN regulatory program for factory farm gas until a rigorous environmental study and environmental justice assessment

EPA proposes to establish a new program to govern the generation of RINs representing renewable electricity, or eRINs. Generating such eRINs would be eligible starting January 1, 2024. This would include incentivizing the burning of unrefined factory farm gas in generators to produce electricity. EPA applauds such an approach because it would reduce the capital costs currently associated with RIN generation from factory farm gas that must be refined into CNG/LNG.[95] EPA expects this this cost cutting to "quickly incentivize the expansion of the use of biogas for electricity."[96] EPA proposes eRIN generation at 600 million RINs and 1,200 RINs for 2024 and 2025 respectively.[97]

Because this portion of the Proposed Rule would lead to the environmental, public health, and environmental justice problems discussed above, FWW requests that EPA pause this portion of the rule until it has conducted an accurate environmental impacts analysis, including a meaningful environmental justice assessment. As explained above, factory farm gas works an environmental injustice, and burning factory farm gas in EGU's is especially egregious due to its inefficiency and local air quality impacts. Were EPA to move forward with its eRIN regulatory structure at this time, it would violate its obligations to protect our air and climate and to center environmental justice in its RFS program.

3. Conduct a meaningful environmental justice analysis for factory farm gas production

Before EPA may proceed with incentivizing more factory farm gas production and the burning of factory farm gas in inefficient, dirty EGUs, it must conduct a meaningful environmental analysis with particular attention to environmental justice that takes into account the real-world impacts to communities. EPA should not sacrifice communities of color, rural

[93] Proposed Rule at 80,622.
[94] Proposed Rule at 80,589.
[95] Proposed Rule at 80,594.
[96] *Id.*
[97] Proposed Rule at 80,622.

America, and our environment in a myopic drive to displace fossil transportation fuels with other, dirty, combustion-based alternatives.

IV. Conclusion

Administering the RFS program to rely on ethanol and factory farm gas production has serious environmental consequences, leads to environmental injustices, and undermines EPA's climate goals. The Proposed Rule threatens to make these program failures worse. For these reasons, FWW requests that EPA adopt the recommendations contained herein.

Sincerely,

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