Attachment

September 12, 2022

VIA ELECTRONIC MAIL

The Honorable Michael S. Regan
Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, DC 20460
Regan.Michael@epa.gov

Re: Renewable Natural Gas and Agricultural Digesters

Dear Administrator Regan:

The Coalition for Renewable Natural Gas (RNG Coalition) represents the renewable natural gas (RNG) industry in North America. We are a non-profit association of companies, local governments, and organizations dedicated to the advancement of RNG as a clean, green, alternative, and domestic energy and fuel resource. RNG Coalition's diverse membership includes each sector of the RNG value chain: waste collection, waste management & recycling companies, renewable energy/gas developers, engineers, banks, financiers, investors, gas/power marketers, gas/power transporters, manufacturers, technology & service providers, environmental advocates, research organizations, organized labor, law firms, consultants, non-profits, airports, municipalities, universities, utilities, and individual ratepayers.

We write in response to an August 23, 2022 letter to you from five U.S. Senators regarding implementation of certain electrification pathways under the Renewable Fuel Standard (RFS) program that "could allow methane biogas from Concentrated Animal Feeding Operations (CAFOs) to serve as a qualified feedstock and generate electric renewable identification numbers (e-RINs) under the RFS' cellulosic mandate."

The RFS program is an important federal policy supporting the production of low-carbon renewable fuels, which are an important element of addressing climate change through transportation policy, to replace fossil fuels. RNG is the best solution for decreasing carbon in transportation fuels today while reducing U.S. methane emissions—two major priorities of this Administration. Now more than ever this Administration is actively developing real answers to this Nation's dependence on petroleum-based fuels. Expanding the production and use of renewable fuels like RNG and biogas – and supporting power generation from both sources to charge electric vehicles (EV) – can help protect Americans today from volatile crude oil prices by reducing our reliance on fossil fuels.

Additionally, President Biden and this Administration have worked to enhance the development and distribution of new EVs and infrastructure into the U.S marketplace. The development of a well-crafted e-RIN program under the RFS can assist mightily in creating a framework that will allow the next generation of vehicles to reduce carbon because the energy used to power those vehicles is created from energy that is truly less than net zero carbon sources from renewable biomass.

We are concerned by statements in the August 23 letter that appear to be raising environmental justice concerns with biogas facilities. As you should be aware, RNG is a biogas-derived fuel that is cleaned and conditioned to achieve quality standards necessary to blend with or substitute for geologic natural gas. RNG, including that processed from biogas from agricultural wastes, makes up the majority of the cellulosic biofuel category under the RFS program and provides substantial environmental, economic, and energy independence and security benefits. It is important to note that the U.S. Environmental Protection Agency (EPA) established pathways for renewable electricity in 2010, and updated in 2014, and that the Clean Air Act expressly references "biogas" as a type of "advanced biofuel" under the RFS program.

In summary, as EPA has long recognized, agricultural digesters are an effective way to manage manure and agricultural wastes, avoiding methane emissions that would otherwise be emitted into the atmosphere. Policies, such as the RFS program, make financial resources available to enable this environmentally beneficial technology to also be economically viable.

The concerns raised in the August 23 letter appear to stem from the operations of the CAFOs themselves, and the study regarding the impact of policies that may promote agricultural digesters cited relates to a fuels program that operates differently than the RFS program and, in short, provides no explanation or link between the RFS program and CAFOs. CAFOs have been increasing for decades due to increasing demand for food products and their economic efficiencies, regardless of any fuels policy. While we believe the study itself is of limited utility, it provides no basis for EPA to reassess its prior lifecycle determinations and approval of agricultural digesters as a source of biogas under the RFS. More important, it ignores that RNG provides numerous benefits to local communities, relieving the burdens of waste management in those communities where an RNG facility is in operation. In other words, RNG helps promote environmental justice, and there is no basis to remove the incentives Congress and EPA have provided that would support increased use of agricultural digesters for RNG to reduce greenhouse gas (GHG) emissions.

About RNG

Every community in America produces waste. As that waste breaks down, it often emits methane, which is a potent and harmful GHG. RNG facilities capture this methane from existing food waste, animal manure, wastewater sludge and garbage, and redirect it away from the environment, repurposing it as a clean, green energy source. As such, RNG can produce carbon-negative results (i.e., better than carbon neutral) when fueling on-road vehicles like short- and long-haul trucks, transit buses, and refuse and recycling collection vehicles or used to generate electricity. During power outages, RNG (since it is a baseload, dispatchable resource) can be tapped to provide reliable, sustainable energy. This dependability is also why it is used to power essential services for food storage, airports, universities, hospitals, and other important facilities.

According to EPA's GHG Inventory, the largest source of carbon dioxide (CO_2) in the United States, and of overall GHG emissions, is fossil fuel combustion primarily from transportation and power generation.[1] RNG is an essential part of the energy future, providing meaningful opportunity for this country to displace fossil fuels and decarbonize the transportation and power sectors. As a significant bonus, RNG also reduces the non-CO_2 climate impacts of organic wastes, reducing adverse impacts to air and water quality that would occur in the absence of these facilities. Solid waste from human activity is expected to grow nearly 70 percent by 2050.[2] RNG provides a near-term solution for effectively managing this colossal waste issue and getting us on the path to implementing a source of clean, reliable fuel.

In establishing the RFS program, Congress, among other things, sought to reduce GHG emissions from the transportation fuel sector by moving away from petroleum based fuels and toward renewable fuels. It did so by imposing a lifecycle GHG emissions reduction requirement to be eligible under the program and establishing "advanced biofuel" categories. The cellulosic biofuel category, which falls within the overall advanced biofuel volume, requires EPA to find the fuel provides at least a 60 percent reduction in lifecycle GHG emissions compared to the applicable petroleum baseline. RNG, in the form of compressed natural gas (CNG) and liquified natural gas (LNG),[3] currently makes up over 95 percent of our nation's cellulosic biofuel under the RFS program. Using California Air Resources Board (CARB) data, the average carbon intensity value of the renewable CNG pathways in its Low Carbon Fuel Standard (LCFS) program was carbon negative at -44.41 gCO_2e/MJ for calendar year 2021, primarily due to the large methane reduction benefits produced by agricultural RNG projects.[4] Even considering other natural gas fuels, natural gas used in motor vehicles is the only transportation fuel used in California that enjoys a negative carbon intensity. Based on CARB's data, RNG use in transportation fuel displaced 3.8 million metric tons (MMT) of CO_2 equivalent in 2021, which is equivalent to removing CO_2 emissions from more than 427 million gallons of gasoline consumed.[5] Once EPA begins to approve registrations for generation of Renewable Identification Numbers (RINs) for renewable electricity under the existing RFS pathways, it is anticipated that cellulosic biofuel volumes, and RNG's contribution to the cellulosic biofuel program, will grow substantially, furthering the goals and intent of Congress.

Agricultural Digesters Remedy Environmental Harms and Support Environmental Justice

1. Agricultural Digesters Significantly Reduce GHG Emissions.

The August 23, 2022 letter acknowledges the importance of electrification for GHG emissions reductions but attempts to minimize the substantial GHG emissions reductions from biogas-to-electricity, which would include RNG projects. Multiple international, national, and

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[1] *See* EPA, *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2020*, at ES-7 (2022), *available at* https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks-1990-2020.
[2] Silpa Kaza et al., *What a Waste 2.0: A Global Snapshot of Solid Waste Management to 2050,* World Bank Group, at 3 (2018), *available at* https://openknowledge.worldbank.org/handle/10986/30317.
[3] This fuel can be used in the same equipment and applications as geologic natural gas.
[4] NGVAmerica and RNG Coalition, *Decarbonize Transportation with Renewable Natural Gas*, May 2022, *available at* https://ngvamerica.org/resource-center/.
[5] *Id.*

state authorities recognize that methane emission reduction is highly cost effective and will result in the most immediate climate cooling impacts than any other climate protection strategy.[6] EPA has found that livestock manure contributes around 9 percent of U.S. methane emissions and that "[a]naerobic digesters are a tool agriculture producers can use to manage manure sustainably."[7] EPA found that "[c]ollection and use of biogas from U.S. farms reduced methane emissions by 5.27 MMT of CO_2e in 2020."[8] "Lower emissions reduce the risk of respiratory illness and reduce climate impacts."[9] Digesters, with productive energy generation, have been proven to be the best system of manure methane emission controls for many California dairies. CARB has found the carbon intensity score for RNG from dairy and swine manure to range from -135 to -532 gCO_2e/MJ and, for electricity, -108 to -758 gCO_2e/MJ.[10] This means that RNG and biogas-to-electricity facilities at agricultural operations avoid dramatically more emissions than they add to the atmosphere.

As of April 2021, EPA identified 221 anaerobic digester systems processing dairy cow manure in the United States, and these systems reduce approximately 4.29 $MMTCO_2e$ each year.[11] The AgSTAR program, a collaborative effort of EPA and the U.S. Department of Agriculture (USDA) estimates that there is potential for anaerobic digester systems on approximately 2,700 additional dairy farms, with the potential to reduce 29.9 $MMTCO_2e$ each year; "That's equivalent to planting nearly 500 million trees!"[12] As of May 2022, EPA estimates 113 manure-based anaerobic digester systems producing RNG (includes pipeline injection and compressed natural gas (CNG) projects) with 82 RNG projects under construction.[13] These are investments that must be supported to meet this Administration's climate change goals.

Notwithstanding CARB's findings, and the significant benefits of agricultural digesters that EPA itself has recognized, the August 23, 2022 letter references a September 2021 paper prepared for the Union of Concerned Scientists (UCS) entitled "Quantification of Dairy Farm Subsidies Under California's Low Carbon Fuel Standard," which asserts that the California LCFS provides advantages to CAFOs. Despite the very real need to reduce GHG emissions from large agricultural operations, the paper contends that California should reassess the lifecycle analysis for agricultural digesters, because digesters can provide revenue to the farms. In other words, the paper tries to make the case that methane from digesters is a valuable product, not a by-product, of animal feeding operations.

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[6] *See, e.g.,* National Oceanic and Atmospheric Administration Press Release, *Increase in atmospheric methane set another record during 2021*, Apr. 7, 2022, https://www.noaa.gov/news-release/increase-in-atmospheric-methane-set-another-record-during-2021.

[7] *See* EPA Presentation, *Overview of Anaerobic Digestion*, AgSTAR Program, at slides 4, 9 (2022), *available at* https://ww2.arb.ca.gov/sites/default/files/2022-04/dairy-ws-session-6-USEPA.pdf.

[8] *Id.* at slide 10.

[9] *Id.*

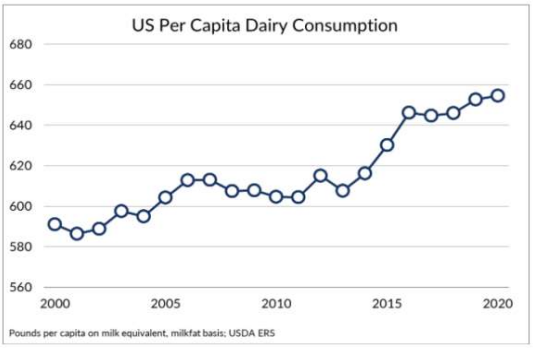
[10] *See* CARB Presentation, *Session 9: Overview of Low Carbon Fuel Standard & Dairy/Swine Manure Fuel Pathways*, at slide 11 (2022), *available at* https://ww2.arb.ca.gov/sites/default/files/2022-04/dairy-ws-session-9-CARB.pdf.

[11] EPA, *Anaerobic Digestion on Dairy Farms*, https://www.epa.gov/agstar/anaerobic-digestion-dairy-farms (last updated Nov. 17, 2021).

[12] *Id.*

[13] EPA, *Renewable Natural Gas from Agricultural-Based AD/Biogas Systems*, https://www.epa.gov/agstar/renewable-natural-gas-agricultural-based-adbiogas-systems (last updated Aug. 23, 2022).

CAFOs, however, do not exist to produce biogas. The purpose of CAFOs is to maximize meat, dairy, and egg production. Methane is a by-product of existing operations, which are based on demand for the food products. Emission reductions achieved by the capture, cleanup, and beneficial reuse of RNG produced from agricultural operations is additive and would not otherwise take place without the incentives created by government policies, such as the RFS program. Demand for dairy products continues to increase nationwide, as shown in the following figure.[14]



On the supply side, dairy consolidation has been occurring for decades, not only in California, but all over the country. According to USDA, the number of licensed U.S. dairy herds fell by more than half between 2002 and 2019, with an accelerating rate of decline in 2018 and 2019, even as total milk production continued to grow.[15] Production has been shifting to much larger but fewer farms, and that shift shows no sign of slowing. Larger operations realize lower costs of production on average, and those advantages persist with or without emission controls for manure methane. As discussed in more detail below, there is no demonstrated relationship between public policy support for digestors to control manure methane emissions and dairy consolidation.

Instead, California illustrates the success story that can result when proper incentives are offered to install digesters to control manure methane emissions at family dairies that have existed for decades. The LCFS, and other California policy support, has given farmers the opportunity and incentive to reduce their fugitive methane emissions. Farmers would not be able to afford either the capital or the operations and maintenance costs of these installations without the help of RNG developers who have the capacity to absorb the large financial exposure. California has closely studied the existing positive impacts of dairy digesters and plans to continue to promote digesters

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[14] California Department of Food & Agriculture Presentation, *Dairy Operations and Manure Management in California*, at slide 3 (2022), *available at* https://ww2.arb.ca.gov/sites/default/files/2022-04/dairy-ws-session-2-CDFA.pdf; *see also* Eric Njuki, *Sources, Trends, and Drivers of U.S. Dairy Productivity and Efficiency*, USDA, at 1 (2022), *available at* https://www.ers.usda.gov/webdocs/publications/103301/err-305.pdf?v=8846 ("[G]lobal demand for milk and other dairy products, such as cheese, butter, yogurt, whey products, and skim milk powder, continues to increase, primarily driven by rapid population growth, favorable consumption patterns of milk and dairy products, and rising household incomes—though this could change in the face of the global coronavirus (COVID-19) pandemic.").

[15] James M. MacDonald, et al., *Consolidation in U.S. Dairy Farming* USDA, Summary at 2 (July 2020), *available at* https://www.ers.usda.gov/webdocs/publications/98901/err-274.pdf?v=968.

with productive energy use as a key strategy to achieve additional methane reductions from the sector.[16]

We also have concerns with the assumptions and analysis in the referenced UCS paper. First, the authors of the paper admit (at 18) that they only considered small scale biogas-to-electricity and not RNG to power.[17] RNG projects, however, require substantial capital investment. Equipment and infrastructure needed include the following: biogas collection system; anaerobic digesters for livestock or wastewater facilities; conditioning equipment for cleaning and upgrading raw biogas to RNG; compressors and pipeline infrastructure for delivering RNG to an interconnection with the natural gas pipeline system; and storage facilities and trucks for delivering RNG in the absence of an economic pipeline interconnection.[18] "The required cost for individual projects varies significantly, and depends on the type of feedstock, site specifics, including the cost of construction and right-of-way for a pipeline to interconnect with the common carrier system, and also reflects different cost structures of developers."[19] The average RNG investment at dairies is $45.3 million,[20] well above the capital cost of $3.3 million estimated for a 2,000-cow dairy by the UCS paper (at 18).

Second, it appears the UCS paper compares revenues based on different assumptions of carbon intensity scores, which simply acknowledges that different operations may have different GHG emissions profiles that may provide different amounts of credits under the LCFS. The UCS paper itself acknowledges that costs, revenues, profits, and emissions from dairies "depend on case-specific factors" that were not characterized, "including: varying labor costs, feed choices, animal breed, confinement, the availability of grants for digester capital costs, and much more" (at 19). Importantly, unlike the LCFS, the RFS program is not based on carbon intensity scores, and there is no explanation how the analysis would relate to generation of RINs based on the volume of renewable fuel produced. EPA has already established renewable electricity pathways for biogas derived from agricultural digesters under the RFS, making its lifecycle analysis determinations and finding that the fuel meets the 60 percent reduction requirement for cellulosic biofuel. As we understand it, the upcoming RFS rulemaking would outline implementing regulations for the mechanics on how to generate RINs for renewable electricity, not reassess these lifecycle analyses.

Finally, the UCS paper does not establish a causal link between increasing number of CAFOs and use of digesters. "Economies of scale and substitution are the benefits obtained by a farm as a result of expanding the scale of operations or producing at the optimal scale."[21] The Biden Administration has acknowledged that the consolidation of farms has been occurring for

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[16] *See* CARB, *Analysis of Progress Toward Achieving the 2030 Dairy and Livestock Sector Methane Emissions Target*, at ES-2 to ES-4 (Final March 2022), *available at* https://ww2.arb.ca.gov/sites/default/files/2022-03/final-dairy-livestock-SB1383-analysis.pdf.

[17] Although the paper references another assessment of the LCFS by Aaron Smith and the impact on dairies that purportedly did consider RNG operations, that analysis was not peer reviewed, and we believe it is based on inaccurate assumptions. *See* Agricultural Energy Consumers Association et al. Letter to CARB, at 8-14, Apr. 12, 2022, *available at* https://www.arb.ca.gov/lists/com-attach/53-dairywkshp220329-ws-AmFUPVY6UG4EZwRq.pdf.

[18] Bates White Economic Consulting, *Renewable Natural Gas Supply and Demand for Transportation*, at 31 (2019), *available at* https://www.bateswhite.com/media/publication/179_BW%20RNG%20Report.pdf.

[19] *Id.* at 32.

[20] *Id.*

[21] Njuki, *supra* n.14, at 16. Climate change impacts are complicating the ability of farms to operate.

decades, in many cases leading to more manure methane that is currently uncontrolled. Indeed, despite pathways being approved, EPA has not yet approved the registration of any biogas or RNG operations to generate RINs for renewable electricity.[22] Consolidations cannot be tied to the RFS program or any form of GHG policy. Instead, there are other traditional drivers toward consolidation, similar to those that can occasionally arise in many industries, which presumably is why "the Biden-Harris Administration is taking bold action to enforce the antitrust laws, boost competition in meat-processing, and push back on pandemic profiteering that is hurting consumers, farmers, and ranchers across the country."[23]

Biogas generates only a portion of the farm's overall revenues,[24] and, even so, the majority of those revenues will be distributed to cover the costs of the digester developer, the gas marketer, the credit broker, the fleets, the investors, and the banks. Despite the asserted benefits of public policy support in California for installing digesters at CAFOs, cow herds have been decreasing in California, not increasing.[25] Indeed, when considering similar concerns raised regarding the California LCFS, CARB indicated that it has not found evidence to support the claims, declined to take action to exclude dairy farm digesters from the LCFS program, and continues to support their use to address methane emissions from the agricultural sector.[26]

It should also be noted that, according to EPA's AgSTAR program, a significant percentage of farm-based biogas systems are located on farms with less than 1,000 cows.[27] Monies that would be collected by the farmers could provide added revenues to allow those farms to continue, rather than sell to larger corporations. Based on the 2017 U.S. Census of Agriculture, the vast majority of farms are owned by families or individuals (above 80 percent).[28] For example, many dairies in California are family-owned businesses that have been passed from generation to generation.[29]

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[22] One question EPA has yet to determine is who would generate the RIN under the renewable electricity pathway. RNG Coalition has urged EPA to allow the producer to generate the RIN.

[23] Brian Deese, et al., *Addressing Concentration in the Meat-Processing Industry to Lower Food Prices for American Families*, Sept. 8, 2021, https://www.whitehouse.gov/briefing-room/blog/2021/09/08/addressing-concentration-in-the-meat-processing-industry-to-lower-food-prices-for-american-families/; *see also* Claire Kelloway and Sarah Miller, *Food and Power: Addressing Monopolization in America's Food System*, at 12-15 (2019), *available at* https://static1.squarespace.com/static/5e449c8c3ef68d752f3e70dc/t/614a2ebebf7d510debfd53f3/1632251583273/200921_MonopolyFoodReport_endnote_v3.pdf (outlining recommendations for "[r]estoring competitive markets in agriculture") (updated 2021).

[24] For example, in California, revenue from milk at a dairy farm is estimated at $5500/milk cow compared to the revenue from the digester estimated at $1200/cow ($150 LCFS; $2.50 RIN). *See* California Bioenergy Presentation, *California Air Resources Board Workshop: Methane, Dairies and Livestock, and Renewable Natural Gas in California*, at slide 4, March 29, 2022, *available at* https://ww2.arb.ca.gov/sites/default/files/2022-04/dairy-ws-session-6-CalBio.pdf.

[25] *See* Agricultural Energy Consumers Association et al. Letter to CARB, at 15-16, Apr. 12, 2022, *available at* https://www.arb.ca.gov/lists/com-attach/53-dairywkshp220329-ws-AmFUPVY6UG4EZwRq.pdf.

[26] Brad Hooker, *CARB rejects petition to cut dairy digesters from LCFS*, Agri-Pulse, Jan. 31, 2022, https://www.agri-pulse.com/articles/17130-carb-rejects-petition-to-cut-dairy-digesters-from-lcfs.

[27] *See* Comments of Wartsila to CARB, at 4, Apr. 2022, *available at* https://www.arb.ca.gov/lists/com-attach/25-dairywkshp220329-ws-WywAZ1YlUnUFcAhh.pdf.

[28] USDA, 2017 Census of Agriculture, at 6 (Figure 8) (2019), *available at* https://www.nass.usda.gov/Publications/AgCensus/2017/Full_Report/Volume_1,_Chapter_1_US/usv1.pdf.

[29] *See, e.g.,* California Bioenergy Presentation, *California Air Resources Board Workshop: Methane, Dairies and Livestock, and Renewable Natural Gas in California*, at slide 4, Mar. 29, 2022, *available at* https://ww2.arb.ca.gov/sites/default/files/2022-04/dairy-ws-session-6-CalBio.pdf.

California dairy farmers work their dairies, alongside tens of thousands of employees who live in nearby communities. They regard themselves as stewards of the land and are constantly looking for ways to give back to the community in which they live and work by developing and implementing sustainable farming practices. This is how California dairy farmers perceive the digesters that they have or are in the process of installing – as a means to more sustainable manure management that fits well with their current farm operations. With the revenues that are made possible by markets for environmental credits, such as the RFS program, the financial resources are finally available to enable this critical environmentally beneficial technology to also be economically sustainable.

2. RNG Projects and Environmental Justice

The August 23, 2022 letter raises concerns that "a decision by EPA to provide a pathway for electricity produced from factory farm biogas will further entrench an industry that is disproportionately harming low-income and Black and Brown communities located near these facilities." The letter, however, references waste and pollutants produced by the operations of farms, *not the digesters and RNG facilities that reduce those wastes and pollutants.*

RNG operations, in fact, remedy the harms that may be experienced by local communities and promotes environmental justice. EPA has acknowledged the numerous benefits of agricultural digesters, including:

- Protecting animal and human health by reducing odor and pathogens from wastes;
- Converting nutrients in manure into a form that, when used as fertilizer, is more accessible for plants to use compared to raw manure, which provides agronomic benefits, including reducing erosion, increasing water retention, crop productivity and yield;[30]
- Recycling nutrients on the farm, creating an economically and environmentally sustainable food production system;
- Producing heat, electricity, or fuel using a renewable fuel that burns cleaner than combusting the biomass directly; and
- Accepting food waste from places like restaurants and grocery stores, reducing food waste sent to landfills.[31]

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[30] It would appear that opponents of RNG would prefer wastes be land spread, which can have significant impacts on water resources. Collection of wastes for use in digesters also helps prevent nitrates from leaching into groundwater and can reduce the impacts of runoff, improving local water resources. *See, e.g.,* Argonne National Laboratory, *Renewable Natural Gas (RNG) for Transportation: Frequently Asked Questions*, at 2 (2020), *available at* https://www.anl.gov/sites/www/files/2020-11/RNG_for_Transportation_FAQs.pdf ("For farm and livestock operations, anaerobic digestion can also reduce nitrogen and phosphorus runoff to groundwater and downstream waters.").

[31] *See* EPA, *The Benefits of Anaerobic Digestion*, https://www.epa.gov/agstar/benefits-anaerobic-digestion (last updated June 9, 2022).

While the August 23 letter cites disproportionate air emissions from CAFOs on disadvantaged communities, RNG operations *reduces* many of those emissions. Capturing, cleaning, and upgrading biogas to RNG prevents methane or flaring emissions on site at the farm. Using RNG in natural gas, hydrogen, or electric vehicles in lieu of diesel fueled medium and heavy-duty vehicles produces lower NOx emissions and eliminates diesel particulates, the contaminant that is doing most harm to disadvantaged communities.[32] The cleaning of the biogas also removes pollutants that may have otherwise been emitted, improving local air quality. In particular, dairy digesters help to reduce hydrogen sulfide emissions.[33]

Moreover, EPA has long recognized the benefits of farms utilizing digesters, including the economic benefits to farmers.[34] RNG promotes rural economic growth due to the technically trained workforce needed to run the digester at optimal conditions, and the market establishment for the diverse products.[35] As EPA has recognized, "Biogas systems offer a wide range of potential revenue streams, growing jobs and boosting economic development in the community. These systems can also improve rural infrastructure for waste management and distributed energy delivery improving community health, resiliency, and viability."[36] EPA has further stated:

> Biogas systems can support sustainable communities by reducing methane emissions, improving water quality, producing a local source of renewable heat, electricity and fuel, and strengthening the local economy by reducing energy costs and generating revenue. They can also play a vital role in helping communities adapt and become more resilient to the effects of climate change.[37]

The RNG industry continues to seek to maximize RNG systems' ability to increase community resilience and prosperity, particularly in the face of climate change. This includes encouraging RNG to be used in ways that provide communities with economic justice including from deployment of local, distributed energy, thereby protecting people and enabling local businesses to remain online during energy shortages or outages; providing additional revenue streams for municipalities and rural communities, including historically disadvantaged communities, which in some cases can reduce local taxes; and helping to grow local employment opportunities, with each facility attracting between $5-$100 million in capital investment and creating between 79-343

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[32] For example, the NOx emission standard for heavy-duty engines is 0.2 g/bhp-hr. and this level of performance is typical of contemporary medium and heavy-duty diesel engines. The Optional Low NOx emission standard of 0.02 g/bhp-hr. (a 90% reduction in emissions) is typical of contemporary medium and heavy-duty natural gas engines.

[33] California Bioenergy Presentation, *California Air Resources Board Workshop: Methane, Dairies and Livestock, and Renewable Natural Gas in California*, at slides 10-11, Mar. 29, 2022, *available at* https://ww2.arb.ca.gov/sites/default/files/2022-04/dairy-ws-session-6-CalBio.pdf.

[34] *See* EPA, *The Benefits of Anaerobic Digestion*, https://www.epa.gov/agstar/benefits-anaerobic-digestion (last updated June 9, 2022); *see also* EPA, *Anaerobic Digestion on Dairy Farms*, https://www.epa.gov/agstar/anaerobic-digestion-dairy-farms (last updated Nov. 17, 2021) ("Tax credits, renewable energy credits, carbon offset credits, or other incentives offered through federal or state renewable or low carbon fuel standards are a potential source of revenue or cost savings.").

[35] Dr. Juliana Vasco-Correa, et al., *Economic Implications of Anaerobic Digestion for Bioenergy Production and Waste Management*, The Ohio State University College of Food, Agricultural and Environmental Sciences, Ohio State University Online (2018), https://ohioline.osu.edu/factsheet/fabe-6611.

[36] EPA, USDA, Department of Energy (DOE), *Biogas Opportunities Roadmap*, at 12 (2014), *available at* https://www.epa.gov/sites/default/files/2015-12/documents/biogas-roadmap.pdf.

[37] *Id.* at 15.

jobs.[38] Ultimately, adding an RNG facility at an organic waste management site produces important climate and non-climate environmental benefits in both the waste and energy sectors. This process should be viewed as a logical first step in a sequence of improvements which may ultimately be needed to achieve full environmental sustainability from the sources of feedstocks for RNG, including mitigating the impact of organic waste on surrounding communities.

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Thank you for your consideration of these issues. We appreciate the important work that EPA is doing with respect to the RFS program and urge EPA to ensure the RFS program continues to support RNG, including RNG derived from biogas from agricultural wastes. RNG Coalition looks forward to continuing to work with EPA on these important issues.

If you have any questions, please do not hesitate to contact us.

Respectfully submitted,

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[38] Bates White Economic Consulting, *supra* n.18, at 31; RNG Coalition, *Economic Analysis of the US Renewable Natural Gas Industry*, at 5 (Dec. 2021), *available at* https://static1.squarespace.com/static/53a09c47e4b050b5ad5bf4f5/t/61ba25c889b4fb7566404e6c/1639589328432/RNG+Jobs+Study.pdf.