BEFORE THE U.S. DEPARTMENT OF AGRICULTURE
RURAL BUSINESS-COOPERATIVE SERVICE

PETITION FOR RULEMAKING TO DEEM MANURE DIGESTERS INELIGIBLE FOR FUNDS UNDER THE RURAL ENERGY FOR AMERICA PROGRAM

Friends of the Earth, Earthjustice, Socially Responsible Agriculture Project, Animal Legal Defense Fund, Buffalo River Watershed Alliance, Campaign for Family Farms and the Environment, Cape Fear River Watch, Center for Food Safety, CleanAIRE NC, Climate Action California, Environmental Justice Community Action Network, Farm Aid, Farm Forward, Food & Water Watch, Friends of Toppenish Creek, Institute for Agriculture and Trade Policy, Kansas Rural Center, Kissimmee Waterkeeper, Michiganders for a Just Farming System, Milwaukee Riverkeeper, National Family Farm Coalition, North Carolina Environmental Justice Network, Nebraska Communities United, Northeast Organic Dairy Producers Alliance, Organic Farming Research Foundation, Potomac Riverkeeper, RE Sources, RedTailed Hawk Collective, Rural Empowerment Association for Community Help, Shenandoah Riverkeeper, Southern Coalition for Social Justice, Sustain Rural Wisconsin Network, Upper Potomac Riverkeeper, Waterkeeper Alliance

PETITIONERS

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TABLE OF CONTENTS

EXECUTIVE SUMMARY

Farmers and rural small businesses can increase their energy independence, reduce their energy costs, promote rural economic development, and provide environmental benefits in their communities by making energy efficiency improvements, such as installing efficient lighting or insulation, and using renewable energy systems, such as solar panels or wind turbines. The Rural Energy for America Program ("REAP") aims to help farmers and rural small businesses do just that by providing funding for efficient and renewable energy projects. Since its enactment in 2002, REAP has supported tens of thousands of projects for farmers and businesses across every state in the country.[1] In recent years, REAP has directed hundreds of millions of dollars to anaerobic digester projects that either are located at industrial animal feeding operations ("AFOs")[2] or use AFO manure or other byproducts (collectively, "manure digesters").[3] These manure digesters are meant to capture methane emissions and generate energy from animal waste, but in fact, they are a harmful and inefficient use of taxpayer dollars.

Petitioners—a nationwide coalition of over 30 groups that together represent taxpayers, farmers, rural community members, and environmental advocates—urge the Rural Business-Cooperative Service ("RBCS") to issue a rule deeming manure digesters ineligible for REAP grants and loan guarantees.[4] Even if manure digesters fit within the definition of renewable energy systems ordinarily eligible for funding under REAP,[5] RBCS has the authority to decline to fund them because they directly undermine Congress's intent that REAP "promote rural economic development" while "provid[ing] environmental and public health benefits such as cleaner air and water."[6] RBCS should decline to fund digesters not only

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[1] *See* Brandon Watson, Andy Olsen & Ann Mesnikoff, Env't Law & Pol'y Ctr., *REAP Success Stories: Advancing Economic Development, Farm Income, and the Environment through the Rural Energy for America Program* (2023), https://elpc.org/wp-content/uploads/2023/02/ELPC_REAP-Report_2023-1.pdf.

[2] Petitioners adopt the U.S. Environmental Protection Agency's definition of an AFO, which is a lot or facility where animals are confined and fed for a total of 45 days or more in any 12-month period and where crops are not sustained over any portion of the lot or facility in the normal growing season. 40 C.F.R. § 122.23(b)(1) (2025).

[3] Here and throughout the petition, Petitioners use "manure digester," "anaerobic digester," and "digester" to refer to anaerobic digesters that that are located at AFOs and anaerobic digesters that utilize AFO manure or other byproducts (including fats, oils, and greases).

[4] *See* 7 C.F.R. § 1.28 (2025).

[5] Under REAP, "renewable energy" includes energy derived from "renewable biomass," which is "any organic matter that is available on a renewable or recurring basis," including animal manure. *See* 7 U.S.C. § 8101(16)(A), (15)(A), (13)(B)(ii)(III). Importantly, AFOs can and should manage their waste using systems that do not make manure available for energy generation on a renewable or recurring basis, such as solid-liquid separation systems or dry manure management systems, because the manure in those systems does not generate significant methane emissions. *See infra* Section I.A.

[6] 148 Cong. Rec. S1108 (daily ed. Feb. 25, 2002); *see also* 7 U.S.C. § 8107(c)(2) (directing RBCS to consider several factors, including "other appropriate factors," when making REAP funding determinations); *All. for Fair Bd. Recruitment v. SEC*, 125 F.4th 159, 178 n.5 (5th Cir. 2024) (explaining that when a statute lists factors that an agency must consider, catch-all phrases at the end of the list encompass "the purposes that Congress had in mind when it enacted [the] legislation" (quoting *NAACP v. Fed. Power Comm'n*, 425 U.S. 662, 670 (1976))).

because they undermine Congress's intent, but also because they fail to provide many of the benefits that RBCS identifies and considers when selecting the renewable energy systems it will fund.

Funding manure digesters runs directly counter to Congress's intent to strengthen rural communities and economies and protect the environment. As discussed below, digesters contribute to the loss of small farms in rural communities, which worsens the decline in wealth, employment, and population that is already occurring in those communities due to the takeover by large, industrial animal operations, as well as the loss of agricultural workers,[7] funding for agricultural projects,[8] and markets for agricultural goods.[9] Just like the industrial animal operations that generate the waste and byproducts on which they depend, manure digesters cause serious water and air pollution that threatens community members' health. Indeed, REAP funding has gone to numerous digesters at operations that have documented instances of water pollution, in violation of their permits or other standards.[10] As a result, RBCS is awarding taxpayer dollars to projects that hurt the very communities that REAP is meant to support.

Not only do digesters harm rural communities and the environment, but they also fail to provide many of the benefits that RBCS must identify and consider when awarding REAP funding.[11] RBCS gives preference to projects that seek a grant of $250,000 or less,[12] yet the manure digesters that received grants from fiscal year 2021 to fiscal year 2025 required an average of $855,701, over *three times more* than RBCS's preferred maximum.[13] RBCS also looks for projects that will recoup their total costs,[14] but numerous studies show that manure digesters typically are unlikely to recoup their high costs.[15] RBCS assesses how much energy a project will generate per public dollar,[16] yet the manure digesters that received loan guarantees from fiscal year 2021 to fiscal year 2025 generate an average of *4.5 times less* energy per public

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[7] *See* Avery Lotz, *Trump Promises Farmers "Changes Are Coming" to Immigration Crackdown*, Axios (June 12, 2025), https://www.axios.com/2025/06/12/trump-immigration-enforcement-farms-hotels.
[8] *See* Tre Spencer, *'We Cannot Survive This': Trump's Cuts to USDA Programs Hurt West Virginia Schools, Food Banks and Farmers*, Mountain State Spotlight (Apr. 29, 2025), https://mountainstatespotlight.org/2025/04/29/usda-farms-monroe-greenbrier-cuts/.
[9] *See* Marilou Johanek, *Ohio Family Farmers Describe Life Under Trump Tariffs: 'We're in a Hell of a Mess Here'*, Ohio Cap. J. (Sep. 30, 2025), https://ohiocapitaljournal.com/2025/09/30/ohio-family-farmers-describe-life-under-trump-tariffs-were-in-a-hell-of-a-mess-here/.
[10] *See* Exhibit A.
[11] *See* 7 U.S.C. § 8107(c)(2); 7 C.F.R. § 4280.121 (2025).
[12] 7 C.F.R. § 4280.121(g).
[13] *See Rural Investments – Data Tables*, USDA, https://www.rd.usda.gov/rural-data-gateway/rural-investments/data (last visited Sep. 3, 2025) (under "Select Programs," select "Rural Energy for America Program (REAP)"). Here and throughout the petition, Petitioners exclude existing manure digester projects that received REAP funding for equipment upgrades or expansions and digester projects that are not located at AFOs or do not use waste from AFOs.
[14] 7 C.F.R. §§ 4280.121(f), 5001.319(f) (2025). Because the regulatory criteria for grant applications and guaranteed loan applications are substantially the same, Petitioners generally only cite the criteria for grant applications.
[15] *See infra* Section III.B.2.
[16] 7 C.F.R. § 4280.121(b)(1).

dollar than solar projects.[17] And RBCS considers whether a project will offer environmental benefits,[18] including reducing greenhouse gas ("GHG") emissions, but manure digesters offer only uncertain and incomplete GHG emissions reductions at major cost to taxpayers. **For all these reasons, RBCS should make manure digesters ineligible for REAP funding, as it has done for other harmful projects.**[19]

Making manure digesters ineligible for REAP will free up funds for projects that satisfy REAP's purposes by benefitting small farms, rural communities, the environment, and taxpayers. The U.S. Department of Agriculture's ("USDA") past funding awards make clear that there is strong demand for these projects. From fiscal year 2021 to fiscal year 2025, RBCS awarded *over 8,000* grants averaging $131,480 each to solar projects. This funding has led to savings and other benefits for the recipients. For example, RBCS provided a grant to Wildtype Native Plant Nursery, in Mason, Michigan, for the installation of rooftop solar panels that have saved the nursery around $450 per month.[20] RBCS also provided a grant to Fiesta Foods, the only full-service grocery store in Beresford, South Dakota, for the installation of energy-efficient refrigeration units.[21] The improvements have saved the store around $1,200 per month, and its sales increased after the project was finished.[22] As one of the store owners explained, "It's a must to keep [REAP] going for [] small-town retailers and farmers because once you start losing your small business[es] in these small towns, you don't have a lot of town left."[23] Making manure digesters ineligible for REAP funds will ensure that the program continues to support projects that provide these benefits, rather than projects that cause harm to rural communities and the environment.

I. FACTUAL BACKGROUND

A. Industrial animal operations increasingly are adopting manure digesters.

Meat, dairy, and egg production in the United States today looks very different than it did just 40 years ago.[24] While most livestock and poultry were once raised on small, diversified, and

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[17] *See Rural Investments – Data Tables*, *supra* note 13. Here and throughout the petition, Petitioners exclude solar stock wells and solar-powered irrigation pumps.
[18] 7 C.F.R. § 4280.121(a); *id.* § 5001.307(c)(2) (2025) (requiring the applicant to provide a description of "how the project will have a positive effect on resource conservation, public health, and the environment").
[19] *See* 7 C.F.R. § 4280.113(a)(4) (2025) (project ineligible for grants); *id.* § 4280.114 (2025) (additional projects ineligible for grants); *id.* § 5001.119 (2020) (projects ineligible for loan guarantees).
[20] Watson, Olsen & Mesnikoff, *supra* note 1, at 4.
[21] *Id.* at 7.
[22] *Id.*
[23] *Id.*
[24] *See* James M. MacDonald & William D. McBride, USDA, *The Transformation of U.S. Livestock Agriculture: Scale, Efficiency, and Risks* 1, 5 (2009), https://ers.usda.gov/sites/default/files/_laserfiche/publications/44292/10992_eib43.pdf?v=56066; *see also* James M. MacDonald, *Tracking the Consolidation of U.S. Agriculture*, 42 Applied Econ. Persps. & Pol'y 361, 370 tbl. 3 (2020).

independent farms, they are now primarily produced in massive, industrial animal factories, which are often classified as AFOs.[25] The hundreds, thousands, or even over a million animals in these factories generate a tremendous amount of urine and feces. Many AFOs—especially dairy and swine facilities, but some poultry facilities, as well—store this waste in liquid form in massive pits and dispose of it by spreading it on fields. Not only do liquid waste storage and disposal cause serious pollution and facilitate the spread of pathogens, but they also are a significant source of GHG emissions.[26] Indeed, storing liquid waste in pits results in higher GHG emissions than any other method of manure management[27] because the pits create an anaerobic environment that generates methane, an especially potent GHG.[28] Using other manure management practices—including solid-liquid-separation, aeration, acidification, decreased storage time, composting, storage temperature optimization, cover-and-flare systems, and dry manure management—generates significantly less methane in the first place.[29]

AFO operators increasingly are turning to anaerobic digesters to capture some of the methane emitted from animal waste, due in large part to flawed federal and state programs that subsidize the cost of digester construction and create markets that allow operators to profit from the captured methane,[30] as well as the lack of laws or regulations requiring operators to reduce or eliminate their methane emissions.[31] Digesters are very expensive, with construction costs often ranging from $2 to $12 million,[32] depending on their size and design. AFO operators generally utilize manure digesters in one of two ways—by installing a digester on-site, or by sending manure or other byproducts off-site to a centralized digester that accepts waste from multiple

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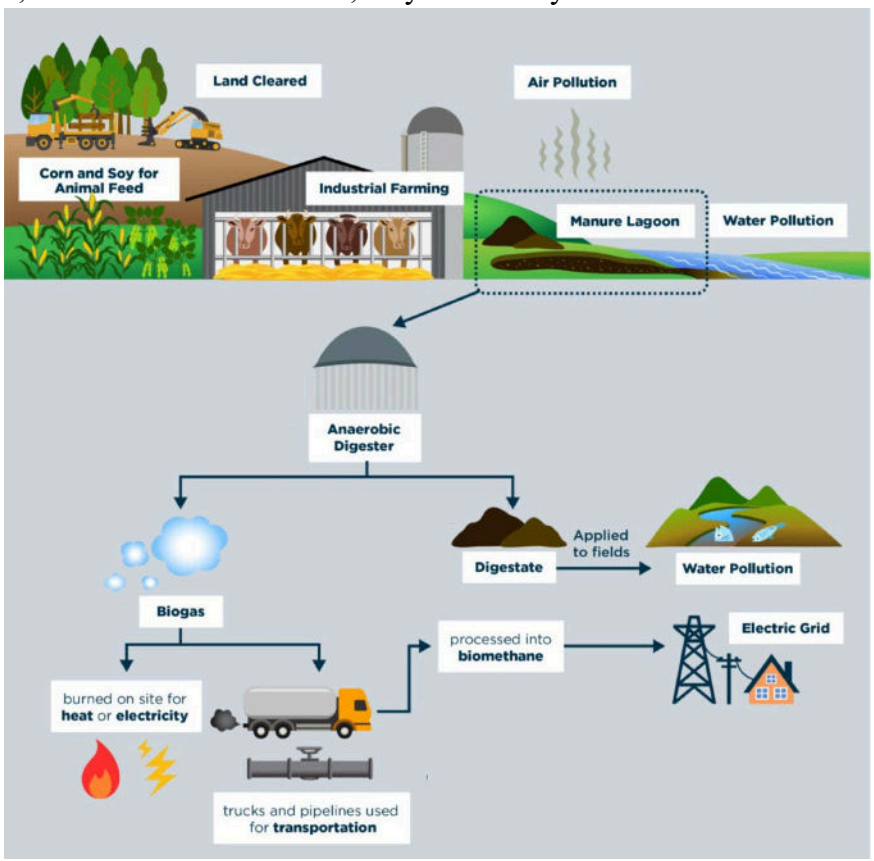
[25] *See* 40 C.F.R. § 122.23(b)(1).
[26] *See infra* Section III.A.2.
[27] *See* Olga Gavrilova et al., *Chapter 10: Emissions from Livestock and Manure Management*, *in 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories*, at 10.58 tbl. 10.14 (2019), https://www.ipcc-nggip.iges.or.jp/public/2019rf/pdf/4_Volume4/19R_V4_Ch10_Livestock.pdf.
[28] *See* Frederik R. Dalby et al., *Understanding Methane Emission from Stored Animal Manure: A Review to Guide Model Development*, 50 J. Env't Quality 817 (2021).
[29] *See* Felipe Montes et al., *SPECIAL TOPICS—Mitigation of Methane and Nitrous Oxide Emissions from Animal Operations: A Review of Manure Management Mitigation Options*, 91 J. Animal Sci. 5070 (2013); Jenifer L. Wightman & Peter B. Woodbury, *New York Dairy Manure Management Greenhouse Gas Emissions and Mitigation Costs (1992-2022)*, 45 J. Env't Quality 266 (2016).
[30] *See* Nigel Key & Laura Dodson, Econ. Rsch. Serv., *Number of On-Farm Anaerobic Digesters Systems Used to Decompose Organic Waste Has Increased Over Time*, USDA (Mar. 15, 2023), https://www.ers.usda.gov/data-products/charts-of-note/chart-detail?chartId=106096. For a more detailed discussion of these flawed programs, see *infra* Section III.B.2.
[31] Under some programs that create markets for methane captured from animal waste, operators are only credited for methane reductions that are *additional* to any reductions that they are required to achieve by law or regulation. *See, e.g.*, Wash. Admin. Code § 173-424-610(16)(a)(ii) (2025). Thus, if operators were required to eliminate their methane emissions, they would not be able to profit from those emissions reductions, which would make them less likely to construct digesters, because profit from emissions reductions is necessary to make digesters a financially sound investment. *See infra* Section III.B.2.
[32] *See* Off. of Agric. Resilience & Sustainability, Cal. Dep't of Food & Agric., *Dairy Digester Research & Development Program Report on Funded Projects from 2015-2025: 2025 Report to the Joint Legislative Budget Committee* 20 tbl. 5 (2025), https://www.cdfa.ca.gov/oars/ddrdp/docs/CDFA_DDRDP_Legislative_Report_2025.pdf.

operations.[33] Installing a digester on-site typically requires putting a plastic cover over the waste pit or constructing a tank to hold the waste; adding pipes to move the captured gas, often called biogas; and installing equipment to combust the captured gas for use on-site as electricity or heat.[34] Operators may also opt to transport the captured gas off-site using additional pipes, where it can be upgraded to natural gas and inserted into existing natural gas infrastructure.[35] By contrast, utilizing a centralized digester requires transporting the manure and other byproducts off-site using pipes or trucks, where the waste is combined with waste from other operations and added to a shared digester.[36] The material left over after the digestion process, called digestate, also requires storage and disposal. In general, digesters are estimated to have a lifespan of only around 20 years,[37] but as discussed below, they commonly shut down well before then.[38]



Source: Chloe Waterman & Molly Armus, *Biogas or Bull****? The Deceptive Promise of Manure Biogas as a Methane Solution* 18 (2024), https://foe.org/wp-content/uploads/2024/03/Factory-Farm-Gas-Brief_final.pdf.

[33] *See Anaerobic Digestion on Dairy Farms*, U.S. Env't Prot. Agency (EPA), https://www.epa.gov/agstar/anaerobic-digestion-dairy-farms (last updated May 29, 2025).
[34] *See Anaerobic System Design and Technology*, EPA, https://www.epa.gov/agstar/anaerobic-system-design-and-technology (last updated May 1, 2025).
[35] *See id*.
[36] *See Anaerobic Digestion on Dairy Farms*, *supra* note 33.
[37] *See, e.g.*, Josephine Erb & Daniel Ciolkosz, PennState Extension, *Enhancing Digester Profitability: Strategies for Farmers* (Mar. 24, 2025), https://extension.psu.edu/enhancing-digester-profitability-strategies-for-farmers.
[38] *See infra* Section III.B.2.

B. REAP provides significant public financial support for manure digesters, but RBCS offers little public information on those digesters.

REAP provides funding to farmers and rural small businesses for energy efficiency improvements and renewable energy systems,[39] and RBCS has directed hundreds of millions of this funding to anaerobic digesters. When Congress established the provisions that became REAP, it explained that these investments enhance energy independence, increase farmer and rancher income, promote rural economic development, provide environmental and public health benefits such as clean air and water, and improve electricity grid reliability.[40] At that time, there were only a handful of anaerobic digesters at AFOs.[41] From fiscal year 2021 to fiscal year 2025, the program provided over $3.2 billion in grants and loan guarantees to farmers and rural small businesses across the country, funding solar panels, wind turbines, equipment upgrades, and more.[42] Of that funding, about $257 million went to 55 new manure digesters.[43] Although a relatively small number of manure digesters received funding, their awards were much larger on average than awards to solar or wind projects. For new manure digesters, the average grant was $855,701, and the average loan guarantee was $19,847,098.[44] By contrast, the average grant for solar projects during the same time period was $131,480, and the average loan guarantee was $6,445,087.[45] The average grant for wind projects was just $95,202.[46]

As this petition makes clear, a large body of scientific research and on-the-ground experience indicates that funding digesters is a harmful, expensive, and risky use of taxpayer dollars.[47] RBCS does not provide publicly available information about its digester funding decisions or recipients that would suggest that the projects it funds are exceptions to this general rule. To the contrary, RBCS keeps that information largely hidden, making it impossible for the public to assess RBCS's decision-making. USDA's Rural Data Gateway—which provides some publicly available information on the projects that USDA has funded through various programs—purports to provide information on projects that received REAP awards from fiscal year 2015 to fiscal year 2025, but its information on digester project awards covers only fiscal year 2021 to fiscal year 2025,[48] even though digesters received REAP awards prior to 2021.[49]

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[39] *See* 7 U.S.C. § 8107(a)(2).
[40] 148 Cong. Rec. S1108. Congress gave this explanation in the Senate version of the 2002 Farm Bill, which established the provisions that later became REAP.
[41] *See* Allie Wainer et al., *Deconstructing the Livestock Manure Digester and Biogas Controversy*, 12 Current Env't Health Reps. 1, 2 (2025).
[42] *See Rural Investments – Data Tables*, *supra* note 13.
[43] *See id.*
[44] *See id.*
[45] *See id.*
[46] *See id.* Wind projects did not receive loan guarantees between fiscal years 2021 and 2025.
[47] *See infra* Section III.
[48] *See Rural Investments – Data Tables*, *supra* note 13.
[49] *See* AgStar, Nat. Res. Conservation Serv., USDA, *USDA Energy and Conservation Programs* 19 (2018), https://www.epa.gov/sites/default/files/2018-05/documents/agstar_webinar_9may2018_petok.pdf (noting that "[i]n October 2015, USDA, through REAP, awarded $12.5 million in grants and loans to support the installation of 17 anaerobic digesters and biogas systems").

What is more, the information that USDA provides on digester projects is very limited in comparison to other projects. For example, for new manure digester projects, USDA provides energy generation estimates for 33 of the 55 projects—or about 60 percent—while for solar projects, it provides energy generation estimates for 7,592 of the 8,166 projects—or about 93 percent.[50] And USDA does not explain why it chose the digester projects for funding. To better understand the agency's decision to award REAP funding to digesters, Petitioner Friends of the Earth submitted a request under the Freedom of Information Act for records that would shed light on the agency's decision-making. However, USDA withheld those records from Friends of the Earth and the broader public.[51]

REAP is a popular program, and RBCS regularly receives more applications than it can process and fund.[52] Even with a recent infusion of additional funding from the Inflation Reduction Act ("IRA"), RBCS has seen more demand than it can meet.[53] Indeed, in a report issued after the IRA's passage, USDA stated that "[a]ll of USDA Rural Development's (RD) clean energy programs for rural Americans are oversubscribed" and that requests for REAP funding were up over 1,000 percent since IRA funding was announced.[54] On June 30, 2025, RBCS announced that it would delay opening the first grant application window for fiscal year 2026, citing "the overwhelming response and continued popularity of the program resulting in a backlog of applicants."[55] RBCS will use the additional time to address the backlog.[56] This significant oversupply of applications makes RBCS's funding decisions and transparency around those decisions especially important. If RBCS selects projects that cause harm that the statutory and regulatory criteria discussed below do not capture, or projects that do not fully satisfy the criteria, RBCS likely leaves projects that are more qualified unfunded.

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[50] *See Rural Investments – Data Tables*, *supra* note 13.
[51] This withholding is subject to a pending legal challenge by Friends of the Earth.
[52] *See* Miguel Yañez-Barnuevo, *USDA Investments in Clean Energy for Rural Businesses*, Env't & Energy Study Inst. (June 27, 2023), https://www.eesi.org/articles/view/usda-investments-in-clean-energy-for-rural-businesses; Press Release, Representative Chellie Pingree, *Rep. Pingree Touts 16 USDA Grants, 2 Loans Worth over $30 Million for Midcoast Maine Businesses* (Mar. 28, 2024), https://pingree.house.gov/news/documentsingle.aspx?DocumentID=5196.
[53] *Rural Energy for America Program (REAP)*, USDA, https://www.rd.usda.gov/inflation-reduction-act/rural-energy-america-program-reap (last visited Sep. 15, 2025) (stating that "[t]hanks to Inflation Reduction Act funding, more farmers and more acres are enrolled in voluntary conservation practices than at any single point in history, and even with this unprecedented funding, USDA is seeing more demand than we have funds to support"). The One Big Beautiful Bill Act does not affect the Inflation Reduction Act's increased funding for REAP.
[54] USDA, *IRA Climate and Clean Energy Solutions: Colorado Updates* 2, https://www.rd.usda.gov/media/file/download/ira-climate-colorado.pdf.
[55] USDA, *Stakeholder Announcement: USDA Will Pause Accepting Applications Under the Rural Energy for America Program* (June 30, 2025), https://www.rd.usda.gov/media/file/download/usda-rd-sa-reap-deadline-06302025.pdf.
[56] *Id.*

II. LEGAL FRAMEWORK

To receive REAP funding, a proposed project must clear several hurdles. First, the project must meet the definition of an energy efficiency improvement or a renewable energy system.[57] For purposes of REAP, "renewable energy system" includes a system that produces energy from "any organic matter that is available on a renewable or recurring basis," including "animal waste and byproducts (including fats, oils, greases, and manure)."[58] But, as discussed below, meeting the definition of a renewable energy system is not all a project must do to receive funding. The project must also avoid the list of projects that RBCS has deemed ineligible for REAP funding. And the project must receive a sufficiently high score under the statutory and regulatory scoring criteria.

RBCS's regulations set out a narrow list of projects that the agency has deemed ineligible for REAP funding, even though they can meet the definition of an energy efficiency improvement or a renewable energy system.[59] For example, RBCS has determined that it will not fund projects at businesses engaged in gambling or projects that co-fire with fossil fuels.[60] Like manure digesters, these projects undermine the statute's goal of funding renewable energy systems that benefit small farms, rural communities, and the environment.

Even if a project is a renewable energy system and is not ineligible to receive REAP funding, it still must receive a sufficiently high score under RBCS's scoring criteria. RBCS determines how much—if any—funding it will award to an eligible project by following the statutory command to consider, as applicable:

- The type of renewable energy system to be purchased,
- The amount of energy the system will generate,
- The environmental benefits the system will provide,
- The amount of energy the system will save,
- The amount of time it will take for the system's energy generation to recoup its cost,
- The energy efficiency of the system, and
- Other appropriate factors.[61]

To carry out this command, RBCS scores REAP applications based on these statutory criteria, along with additional regulatory criteria.[62] The additional regulatory criteria are:

- The percentage of written commitment an applicant has from its fund sources,

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[57] *See* 7 U.S.C. § 8107(a)(2).
[58] *See id.* § 8101(16)(A), (15)(A), (13)(B)(ii)(III).
[59] *See* 7 C.F.R. §§ 4280.113(a)(4), 4280.114 (projects ineligible for grants); *id.* § 5001.119 (projects ineligible for loan guarantees).
[60] *See id.* § 4280.114(b), (f).
[61] 7 U.S.C. § 8107(c)(2).
[62] *See* 7 C.F.R. § 4280.121 (scoring criteria for grant applications); *id.* § 5001.319 (scoring criteria for applications for loan guarantees).

- Whether the applicant is a previous grantee or borrower,
- Whether the applicant is an existing agricultural producer or rural small business,
- The size of the grant requested, and
- Certain "priority" conditions, such as whether the project is located in an area where 20 percent or more of the population lives in poverty or whether the project is located in an area that has experienced long-term population decline or loss of employment.[63]

RBCS ranks the proposed projects by their total score[64] and allocates funding to the highest-scoring projects until the funding is exhausted.[65]

III. RBCS SHOULD DEEM MANURE DIGESTERS INELIGIBLE FOR REAP GRANTS AND LOANS.

Pursuant to RBCS's authority to prevent REAP funds from supporting projects that undermine REAP's statutory purposes,[66] RBCS should deem manure digesters ineligible for REAP grants and loans. Even if these digesters meet the statutory definition of a renewable energy system, they nonetheless should be ineligible for two reasons. First, funding manure digesters contravenes REAP's goals of increasing farmer income, promoting rural economic development, and providing environmental and public health benefits because manure digesters harm small farms, rural economies, the environment, and human health.[67] Second, in addition to causing this harm, digesters also fail to provide many of the benefits that RBCS looks for when applying the statutory and regulatory scoring criteria. In other instances where projects threaten harm, RBCS has made the projects ineligible for REAP funding,[68] and it should do the same for digesters.

A. Manure digesters undermine REAP's goals by harming small farms, rural economies, rural communities, the environment, and human health.

1. Manure digesters harm small farms, rural economies, and rural communities.

At its heart, REAP is meant to assist small farms and businesses and to strengthen rural communities,[69] but manure digesters do just the opposite. Digesters are not suitable for small farms, which tend to generate less waste and have smaller budgets, so subsidies for digesters and

[63] *Id.* § 4280.121(c)–(e), (g), (h).
[64] *Id.* § 4280.122(c) (2021).
[65] *Id.* § 4280.122(c), (d).
[66] *See supra* note 6.
[67] *See* 148 Cong. Rec. S1108.
[68] *See* 7 C.F.R. § 4280.113(a)(4) (project ineligible for grants); *id.* § 4280.114 (additional projects ineligible for grants); *id.* § 5001.119 (projects ineligible for loan guarantees).
[69] *See* 148 Cong. Rec. S1108 (explaining that REAP is meant to increase farmer and rancher income and promote rural economic development).

biogas primarily benefit large, industrial operations.[70] Support for digesters reinforces the economic advantages that these large operations already have. In California, where there are significant public subsidies for digesters and biogas, an analysis raised alarms that the subsidies could "provide the largest 225 dairies with a subsidized competitive advantage over smaller dairies" and warned that the state "may be going down a dangerous path for smaller dairies, where these projects don't seem viable."[71] Research commissioned by the Union of Concerned Scientists, analyses by academics, and discussions in trade publications for the dairy industry confirm this conclusion.[72] Subsidizing digesters using REAP funding threatens the same result.

The economic threat that digesters pose to small farms will compound the harm that industrial animal agriculture has already caused to both small farms and rural communities, including communities with high levels of poverty, population decline, or employment loss. According to one study, shifting from small farms to large, industrial operations "tends to remove a higher percentage of money from rural communities than when the industry is dominated by smaller farm operations, which tend to circulate money within the community."[73] Missouri illustrates this conclusion. In Missouri, there were approximately 23,000 independent swine farmers in 1985.[74] However, as industrial swine operations have spread throughout the state, they have pushed smaller producers out.[75] Today, only about 2,000 independent swine farmers remain.[76] As the small farms declined, the businesses they had supported closed, and

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[70] *See* Stephanie Lansing et al., *Maryland Animal Waste Technology Assessment and Strategy Planning* 95 (2023), https://extension.umd.edu/sites/extension.umd.edu/files/2023-10/Final.Report.AWTF_.Assessment.pdf; *see also* Farm Forward, *Gaslit by Biogas: Big Ag's Reverse Robin Hood Effect* 15 (2025), https://www.farmforward.com/wp-content/uploads/2025/01/Gaslit-By-Biogas-Reverse-Robin-Hood-Effect-Report-1-3-LR.pdf.

[71] Cal. Assembly Budget Comm., *Subcommittee No. 3 on Resources and Transportation Agenda* 19–20 (Apr. 19, 2017), https://abgt.assembly.ca.gov/sites/abgt.assembly.ca.gov/files/April%2019%20-%20Toxics%20Recycling%20Ag.pdf; *see also* Kevin Fingerman et al., *Risks of Crediting Carbon Offsets in Low Carbon Fuel Standards: Lessons Learned from Dairy Biomethane*, 206 Energy Pol'y 1, 4 (2025) (explaining that support for digesters "could have the effect of skewing the economics of dairy and meat production in favor of the largest facilities" and "risks leaving behind small and medium-sized farms which are often already implementing more sustainable manure management strategies and therefore have no point source methane production to abate").

[72] *See* Amin Younes & Kevin Fingerman, *Quantification of Dairy Farm Subsidies Under California's Low Carbon Fuel Standard* 19 (2021), https://www.arb.ca.gov/lists/com-attach/24-lcfs-wkshp-dec21-ws-AHVSN1MhVlpXNQRl.pdf; Aaron Smith, *The Dairy Cow Manure Goldrush*, Ag Data News (Feb. 2, 2022), https://agdatanews.substack.com/p/the-dairy-cow-manure-goldrush; Michael McCully, *Energy Revenue Could Be a Game Changer for Dairy Farms*, Hoard's Dairyman (Sep. 23, 2021), https://hoards.com/article-30925-energy-revenue-could-be-a-gamechanger-for-dairy-farms.html.

[73] Kelley J. Donham et al., *Community Health and Socioeconomic Issues Surrounding Concentrated Animal Feeding Operations*, 115 Env't Health Persps. 317, 317 (2006).

[74] Chris McGreal, *How America's Food Giants Swallowed the Family Farms*, The Guardian (Mar. 9, 2019), https://www.theguardian.com/environment/2019/mar/09/american-food-giants-swallow-the-family-farms-iowa.

[75] *Id.*

[76] *Id.*

communities shrank.[77] As one Missouri resident put it, the expansion of industrial animal agriculture "has extracted wealth and power from communities."[78] "You can see the boarded-up storefronts. You can see the lack of economic opportunity."[79] Supporting digesters will benefit only large, industrial operations, hastening the decline of small farms and the accompanying harm to rural communities.

Digesters also pose serious safety hazards to operators, employees, and community members. According to the U.S. Environmental Protection Agency ("EPA") servicing digester waste pits and tanks presents a risk of drowning, and touching digester equipment or pipes can cause severe burns.[80] In June 2021, an experienced diver attempting to fix equipment inside a digester drowned in the waste.[81] No federal or state agency investigated the death because the U.S. Occupational Safety and Health Administration is forbidden from using federal funds to inspect farms with 10 or fewer employees, a category that includes even large, industrial animal operations.[82] The carbon dioxide, methane, and hydrogen sulfide that make up biogas also present serious danger because they are asphyxiants, which prevent human cells from taking up oxygen.[83] In confined spaces or covered areas, biogas concentrations can reach levels that are immediately dangerous to life and health.[84] In August 2025, five adults and one teenager died in an underground waste pit due to gas exposure.[85] Biogas is also flammable, which presents the risk of explosions when it is stored and transported through communities.[86] As a University of Iowa professor of Occupational and Environmental Health put it, "Every farmer that has a digester or manure storage needs to know there are life-and-death consequences of going into those spaces."[87]

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[77] *Id.*
[78] *Id.*
[79] *Id.*
[80] *See* AgSTAR, EPA, *Common Safety Practices for On-Farm Anaerobic Digestion Systems* 2–3 (2021), https://www.epa.gov/sites/default/files/2014-12/documents/safety_practices.pdf.
[81] Kari Lydersen, *Biogas Expansion May Compound Worker Risks*, Civil Eats (Nov. 16, 2022), https://civileats.com/2022/11/16/injured-and-invisible-cafos-animal-ag-biogas-expansion-worker-safety/.
[82] *Id.*
[83] AgSTAR, *Common Safety Practices*, *supra* note 80, at 10.
[84] *See id.* at 11.
[85] Kenny Torrella, *Cow Manure Just Killed 6 Workers on a Dairy Farm. It Happens More than You'd Think*, Vox (Aug. 27, 2025), https://www.vox.com/future-perfect/459417/dairy-farm-deaths-cow-manure-osha-colorado.
[86] AgSTAR, *Common Safety Practices*, *supra* note 80, at 11.
[87] Erin Jordan, *No OSHA Probe of Man Who Died in Dive into Farm Digester*, The Gazette (June 17, 2021), https://www.thegazette.com/news/no-osha-probe-of-man-who-died-during-dive-into-on-farm-digester/.

2. Manure digesters harm the environment and human health.

a. Manure digesters cause water and air pollution that harms human health.

In addition to strengthening rural communities, REAP is meant to support energy production that benefits the environment and public health,[88] yet manure digesters cause pollution that threatens serious health harms. Digesters cause water pollution due to spills and leaks from the waste storage pits, tanks, and pipes. For example, in North Carolina, a digester waste pit cover burst,[89] spilling anywhere from 10,745 to more than 37,000 gallons of waste into nearby Nahunta Swamp, according to reported estimates.[90] The waste reportedly contained manure, dead animals, and food waste, including deli meat and hot dogs.[91] A year later, levels of fecal coliform in Nahunta Swamp still far exceeded the allowed standards.[92] In Iowa, a digester leaked an estimated 376,000 gallons of manure into Lizard Creek, where tests showed elevated levels of bacteria and ammonia.[93] In Oregon, a digester overflowed, spilling an estimated 163,301 gallons of manure into Anderson Creek.[94] Tests showed high levels of E. coli, and the Oregon Department of Environmental Quality determined that the spill killed approximately 100 sickleback fish.[95] And in Wisconsin, a digester was allegedly responsible for three manure spills of more than 400,000 gallons over a 12-month span.[96]

Not only do digesters cause pollution, but so too does digestate, the material left over after the digestion process. In fact, storing and disposing of digestate may cause more pollution

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[88] *See* 148 Cong. Rec. S1108 (explaining that REAP is meant to provide environmental and public health benefits such as clean air and water); *see also* 7 C.F.R. § 4280.121(a) (directing RBCS to consider whether a project "will have a positive effect on resource conservation (*e.g.*, water, soil, forest), public health (*e.g.*, potable water, air quality), and the environment (*e.g.*, compliance with EPA's renewable fuel standard(s), greenhouse gases, emissions, particulate matter)").

[89] Annette Weston, *Organization Calling for More Transparency from DEQ After Toxic Foam Spill at North Carolina Biogas Facility*, Pub. Radio E. (Sep. 14, 2022), https://www.publicradioeast.org/2022-09-14/organization-calling-for-more-transparency-from-deq-after-toxic-foam-spill-at-north-carolina-biogas-facility.

[90] Will Atwater, *Wayne County Wetland Continues to Suffer: Farm with Massive Hog Waste Spill Nets New Violations amid Bacteria Concerns*, N.C. Health News (July 28, 2023), https://www.northcarolinahealthnews.org/2023/07/28/wayne-county/.

[91] Weston, *supra* note 89.

[92] Atwater, *supra* note 90.

[93] Jared Strong, *Company Filled Massive Manure Container Despite Signs of a Leak, DNR Says*, Iowa Cap. Dispatch (July 6, 2022), https://iowacapitaldispatch.com/2022/07/06/company-filled-massive-manure-container-despite-signs-of-a-leak-dnr-says/.

[94] George Plaven, *Oregon DEQ Hands out $63,750 in Fines for Manure Digester Overflow*, Cap. Press (June 19, 2020), https://capitalpress.com/2020/06/19/oregon-deq-hands-out-63750-in-fines-for-manure-digester-overflow/.

[95] *Id.*

[96] Steven Verburg, *Waunakee Manure Plant Polluting the Air as Well as Water, DNR Alleges*, Wis. State J. (Nov. 29, 2014), https://madison.com/news/local/environment/waunakee-manure-plant-polluting-the-air-as-well-as-water-dnr-alleges/article_87b921ba-a962-5c70-af20-6aed1cf8e666.html.

than traditional manure. In the Natural Resources Conservation Service's ("NRCS") conservation practice standard for anaerobic digesters, NRCS acknowledges that "land application of [digestate], compared with fresh manure, may have a higher risk for both ground and surface water quality problems" because "[c]ompounds such as nitrogen, phosphorus, and other elements become more soluble due to anaerobic digestion and therefore have higher potential to move with water."[97] Research also shows that storage of digestate emits more ammonia than storage of traditional manure, with one study finding an 81 percent increase in ammonia emissions.[98] Numerous additional studies bolster these conclusions.[99]

Pollution from digesters and digestate threatens human health. For example, nitrogen in undigested waste and digestate is a source of nitrates, and nitrates in drinking water are associated with birth defects and cases of the potentially fatal blood condition methemoglobinemia, or "blue baby syndrome," in infants under six months of age.[100] Exposure to nitrates in drinking water is also associated with an increased risk for hyperthyroidism,[101] insulin-dependent diabetes,[102] bladder cancer,[103] ovarian cancer,[104] and colorectal cancer.[105] In addition, nitrogen and phosphorus in undigested waste and digestate can cause harmful algal blooms in surface water.[106] Contact with these algal blooms can lead to gastrointestinal tract distress, skin irritation, and liver damage.[107] Ammonia emissions are also associated with serious health harms. Exposure to ammonia can cause irritation of the eyes, nose, and throat;

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[97] NRCS, USDA, *Conservation Practice Standard: Anaerobic Digester Code 366*, at 366-CPS-8 to -9 (2023), https://www.nrcs.usda.gov/sites/default/files/2023-08/366_NHCP_CPS_Anaerobic_Digester_2023.pdf.

[98] *See* Michael A. Holly et al., *Greenhouse Gas and Ammonia Emissions from Digested and Separated Dairy Manure During Storage and After Land Application*, 239 Agric., Ecosystems & Env't 410, 417 (2017).

[99] *See* Roger Nkoa, *Agricultural Benefits and Environmental Risks of Soil Fertilization with Anaerobic Digestates: A Review*, 34 Agronomy Sustainable Dev. 473 (2014); Thomas Kupper et al., *Ammonia and Greenhouse Gas Emissions from Slurry Storage – A Review*, 300 Agric., Ecosystems & Env't, at 1 (2020); Lowry A. Harper, Kim H. Weaver & Alex De Visscher, *Dinitrogen and Methane Gas Production During the Anaerobic/Anoxic Decomposition of Animal Manure*, 100 Nutrient Cycling Agroecosystems 53, 63 (2014); Lowry A. Harper et al., *The Effect of Biofuel Production on Swine Farm Methane and Ammonia Emissions*, 39 J. Env't Quality 1984 (2010).

[100] *See* JoAnn Burkholder et al., *Impacts of Waste from Concentrated Animal Feeding Operations on Water Quality*, 115 Env't Health Persps. 308, 310 (2006).

[101] *Id.*

[102] *Id.*

[103] *See* Rena R. Jones et al., *Nitrate from Drinking Water and Diet and Bladder Cancer Among Postmenopausal Women in Iowa*, 124 Env't Health Persps. 1751 (2016).

[104] *See* Maki Inoue-Choi et al., *Nitrate and Nitrite Ingestion and Risk of Ovarian Cancer Among Postmenopausal Women in Iowa*, 137 Int'l J. Cancer 173 (2015).

[105] *See* Alexis Temkin et al., *Exposure-Based Assessment and Economic Valuation of Adverse Birth Outcomes and Cancer Risk Due to Nitrate in United States Drinking Water*, 176 Env't Rsch. (2019).

[106] *See* JoAnn M. Burkholder et al., *Impacts to a Coastal River and Estuary from Rupture of a Large Swine Waste Holding Lagoon*, 26 J. Env't Quality 1451 (1997).

[107] P.V. Lakshmana Rao et al., *Toxins and Bioactive Compounds from Cyanobacteria and Their Implications on Human Health*, 23 J. Env't Biology 215, 215 (2002).

respiratory illness; and even death.[108] Ammonia also forms particulate matter, and a recent study found that particulate matter from ammonia emissions from livestock waste confinement, handling, and storage causes at least 6,900 premature deaths per year.[109] Given that digestate releases even more ammonia than traditional manure, increasing the use of digesters will likely drive this number higher.

b. Manure digesters reinforce highly polluting manure management systems.

Digesters go hand-in-hand with highly polluting liquid manure management systems. Indeed, providing funding for digesters and biogas entrenches the use of these systems in at least two ways. First, providing funding for digesters at operations with existing liquid systems means that the operations will continue using those systems, rather than transitioning to practices that cause less pollution. Second, providing funding for digesters may incentivize operations with less polluting systems to switch to liquid ones, to take advantage of subsidies for digesters and biogas.[110] Adding a digester at an operation using a liquid manure management system will not address many of the operation's pollution sources, including its confinement buildings and land application areas, and as discussed above, it may actually worsen the pollution.

Not only does funding digesters and biogas incentivize operators to continue using liquid manure management systems, but numerous studies show that it also encourages them to expand their herd size, which can further increase water and air pollution. A new study of 237 dairy operations in California found that the operations that constructed digesters added an estimated 860 additional mature dairy cows three years after anticipating digester construction.[111] A study of 73 dairy operations across eight states found that herd sizes at facilities with digesters grew 3.7 percent year-over-year, or by an average of 177 cows per year, which was 24 times the growth rate for overall dairy herd sizes.[112] Another study of dairy operations with digesters in Kewaunee County, Wisconsin found that herd sizes at those operations grew 5.2 percent year-over-year, which was 52 times the growth rates for overall dairy herd sizes.[113] An analysis of 15 Iowa dairy operations with digesters permitted since 2021 found that seven of those operations

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[108] *See* U.S. Dep't of Health & Human Servs., *Toxicological Profile for Ammonia* 15–17 (2004), https://www.ncbi.nlm.nih.gov/books/NBK598717/pdf/Bookshelf_NBK598717.pdf.
[109] *See* Nina G.G. Domingo et al., *Air Quality-Related Health Damages of Food*, 118 PNAS, at 1, 2 fig. 1 (2021).
[110] *See* Credit for Production of Clean Hydrogen and Energy Credit, 90 Fed. Reg. 2,290, 2,224 (Jan. 10, 2025).
[111] Varun Magesh et al., *Do Methane Mitigation Incentives Intensify Livestock Production? Evidence from California, 2016-2025*, at 5 (2025), https://dho.stanford.edu/wp-content/uploads/digesters.pdf.
[112] Chloe Waterman & Molly Armus, *Biogas or Bull****? The Deceptive Promise of Manure Biogas as a Methane Solution* 38 (2024), https://foe.org/wp-content/uploads/2024/03/Factory-Farm-Gas-Brief_final.pdf.
[113] Carlin Molander & Molly Armus, *Making a Bad Situation Worse: Manure Digesters at Mega Dairies in Wisconsin* 6 (2024), https://foe.org/wp-content/uploads/2024/06/WI-Case-Study_v2.pdf; *Making a Bad Situation Worse: Manure Digesters at Mega Dairies in Wisconsin*, Friends of the Earth, https://foe.org/resources/kewaunee-county-wi-case-study/ (last visited Oct. 21, 2025).

expanded, causing a 23 percent increase in the total number of animals.[114] And there is at least one example of a facility increasing its herd size around the time that it received REAP funding for a digester. In November 2024, the Michigan Department of Environment, Great Lakes, and Energy ("EGLE") cited Schaendorf Dairy for violating its permit by failing to report a 100 percent increase in animal numbers and manure production.[115] The same month, USDA announced that Monterey RNG LLC would receive a $1,000,000 REAP grant to construct a digester at Schaendorf Dairy,[116] indicating that the herd size increase coincided with Monterey RNG LLC's plans to construct the digester. As herd sizes grow, so too does the amount of waste the animals generate and the threat of water and air pollution it poses. For example, 177 cows—which is the number of cows in the average digester-related herd size increase—will produce 25,000 tons of additional waste over five years, which is enough to fill more than 1,000 semi-trucks.[117]

c. REAP funds digesters at industrial animal operations that cause water and air pollution.

There is ample evidence that REAP funding has gone to digesters at industrial animal operations with documented instances of water pollution. Indeed, of the 30 new manure digesters in California, Michigan, North Carolina, and Wisconsin that received REAP funding, 12 were associated with operations that had documented statutory, regulatory, or permit violations in the last five years.[118] For example, in fiscal year 2024, USDA announced that Isabella RNG LLC would receive a $1,000,000 REAP grant[119] to construct a digester at Cow Pleasant Dairy in Isabella County, Michigan.[120] But earlier that year, EGLE had cited Cow Pleasant Dairy for multiple unpermitted discharges of waste from the area around the confinement buildings.[121] EGLE observed the first discharge on February 26, 2024 and noted that it "created an acute water quality impairment" with "unusual colors, odors, and films" in an

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[114] Erin Jordan, *Iowa Dairies with Biogas Digesters Are Growing Their Herds, Which Concerns Water Quality Advocates*, The Gazette (Nov. 4, 2024), https://investigatemidwest.org/2024/11/04/iowa-dairies-with-biogas-digesters-are-growing-their-herds-which-concerns-water-quality-advocates/.
[115] *See* Exhibit B, at 2.
[116] *See* Erin Voegele, *USDA Awards REAP Funding to Biogas Projects*, Biomass Mag. (Nov. 14, 2024), https://biomassmagazine.com/articles/usda-awards-reap-funding-to-biogas-projects (describing Monterey RNG LLC's receipt of a REAP grant); Mich. Strategic Fund, *Board Meeting Agenda October 22, 2024*, at 132–33 (2024), https://www.michiganbusiness.org/globalassets/documents/msf-board/msf-board-packets/october-2024-msf-board-packet---final.pdf (linking the Monterey RNG LLC digester to Schaendorf Dairy).
[117] Waterman & Armus, *supra* note 112, at 38.
[118] *See* Exhibit A.
[119] Rural Dev., USDA, *Rural Energy for America Program (REAP) Renewable and Energy Efficiency Program 11.14.2024*, at 94 (2024), https://www.rd.usda.gov/media/file/download/usda-rd-reap-round7-chart-11142024.pdf.
[120] *See* Mich. Strategic Fund, *Board Meeting Agenda October 22, 2024*, at 133, 135 (2024), https://www.michiganbusiness.org/globalassets/documents/msf-board/msf-board-packets/october-2024-msf-board-packet---final.pdf (linking the Isabella RNG LLC digester to Cow Pleasant Dairy).
[121] *See* Exhibit C.

unnamed tributary to the Coldwater River.[122] EGLE also observed "evidence of chronic discharge of runoff and leachate" from the area.[123] EGLE returned to the operation on March 5, 2024 and identified additional discharges to the tributary.[124] Similarly, in fiscal year 2023, USDA announced that Meadowbrook Ag-Grid LLC would receive a $1,000,000 REAP grant[125] to construct a digester at Meadowbrook Dairy in Ionia County, Michigan.[126] In May 2021, however, EGLE had cited Meadowbrook Dairy for an unpermitted discharge of approximately 12,000 gallons of waste from the confinement buildings to an unnamed tributary of Tupper Creek.[127] As a result of the discharge, the water "contained unnatural turbidity, color, foams, settleable solids, and suspended solids."[128] Because these discharges occurred from areas other than the waste storage pit, adding a digester to the operations does not prevent such discharges. The repeated pollution events at these operations should have raised serious questions about the operations' ability to manage a digester without causing additional harm, but RBCS nonetheless awarded the operators $1,000,000 for digester construction.

B. Manure digesters fail to provide many of the benefits that RBCS considers when awarding REAP funding.

Not only do manure digesters harm rural communities and the environment, but they also fail to provide many of the benefits that RBCS considers under the statutory and regulatory criteria for awarding REAP funding. In particular, RBCS looks for projects that offer a low price tag for taxpayers, energy generation that will recoup the project's costs, significant energy returns on taxpayers' investment, and environmental benefits.[129] As discussed below, digesters often come up short under these criteria, although they may still receive points under other criteria. Digesters' failure to provide these meaningful benefits is all the more reason to make them ineligible for REAP funding.

1. Manure digesters require significant taxpayer funding.

Under the scoring criteria, RBCS considers the amount of taxpayer dollars that a proposed project will require and gives preference to projects that have a smaller price tag,[130] but digesters come at a high cost to taxpayers. Specifically, if an applicant proposing a renewable energy system seeks a grant of $250,000 or less, RBCS can award the project 10 points.[131]

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[122] *Id.* at 1–2.
[123] *Id.* at 1.
[124] *Id.*
[125] *See* Erin Krueger, *USDA Awards REAP, FPEP Funds to Biogas Energy Projects*, Biomass Mag. (Jan. 22, 2024), https://biomassmagazine.com/articles/usda-awards-reap-fpep-funds-to-biogas-bioenergy-projects.
[126] *See Meadowbrook Dairy*, Ag-Grid Energy, https://aggridenergy.com/project/meadowbrook-dairy/ (last visited Oct. 27, 2025).
[127] *See* Exhibit D, at 1.
[128] *Id.*
[129] *See* 7 C.F.R. § 4280.121.
[130] *See id.* § 4280.121(g).
[131] *Id.*

Digester projects typically require much larger grants. For the 45 new manure digesters that received REAP grants from fiscal year 2021 to fiscal year 2025, the average grant award was $855,701.[132] Only four of the projects received $250,000 or less.[133] By contrast, for the 8,023 solar projects that received REAP grants during this time period, the average grant award was just $131,480, and 6,980 of the projects—or 87 percent—received $250,000 or less.[134] And for the wind projects, the average grant award was only $95,202, and 146 of the 157 projects—or 93 percent—received $250,000 or less.[135]

2. Manure digesters are unlikely to recoup their costs and often shut down.

RBCS also considers how long it will take for a project to recoup its cost,[136] yet many studies show that digesters are unlikely to recoup their high costs. The measure that RBCS employs is referred to as the project's simple payback, and it is a common tool for evaluating whether a project is a cost-efficient investment.[137] For energy generation projects, RBCS calculates the simple payback by dividing the project's total cost by the sum of the value of the energy replaced, credited, sold, or used, and the value of the byproducts produced in a typical year.[138]

Total cost
÷
(Value of energy replaced, credited, sold, or used in a typical year
+
Value of byproducts produced in a typical year)
=
Simple payback

RBCS cannot reduce the total cost by any one-time benefits, such as the REAP grant the operator may receive.[139] The longer a project's payback period, the fewer points the project can receive under this criterion.[140] These rules for calculating and scoring a proposed project's payback

[132] *See Rural Investments – Data Tables*, *supra* note 13.
[133] *See id.*
[134] *See id.*
[135] *See id.*
[136] *See* 7 C.F.R. § 4280.121(f); *id.* § 4280.103 (2025) (defining "simple payback").
[137] *See* Frank Lefley, *The Payback Method of Investment Appraisal: A Review and Synthesis*, 44 Int'l J. Prod. Econ 207, 208 (1996).
[138] *See* 7 C.F.R. § 4280.103. Because the anaerobic digesters that have received REAP funding have primarily been for energy generation, rather than energy replacement or savings, Petitioners focus on the points available for energy generation.
[139] *See id.* (explaining that "the simple payback calculation does not include any one-time benefits such as but not limited to construction and investment-related benefits, nor credits which do not provide annual income to the project, such as tax credits").
[140] *See id.* § 4820.121(f)(1).

period indicate that REAP is meant to support projects that will recoup the operator's investment even if the projects do not receive REAP funding.

Numerous analyses have found that digesters do not recoup their costs when evaluated according to RBCS's rules for calculating a project's payback period, meaning that digesters seeking REAP funding also likely will not recoup their costs. For example:

- A study of a Minnesota dairy digester found that when a digester's cost is not reduced by grants or other one-time benefits and electricity is valued at the market price plus existing subsidies or premiums—which is the scenario under which RBCS calculates a project's payback period—the digester will not recoup its cost over an estimated 10-year lifetime.[141] Not only that, but the financial loss from the digester would increase the dairy's milk production cost, which the dairy could pass on to the consumer in the form of higher prices for milk and other dairy products.[142]

- A study of Vermont dairy digesters found that a digester under the same scenario will not recoup its cost over an estimated seven-year lifetime.[143]

- Another study of two hypothetical dairy digesters under the same scenario found that the digesters will not recoup their costs over even a 20-year lifetime.[144]

- Yet another study of Texas dairy digesters similarly found that for an average-cost digester under the same scenario, the digester will not recoup its costs over its 20-year lifetime.[145] Indeed, the study concluded that "[l]ow electricity prices in Texas make it very unlikely, under most models, that a dairy will recoup its investment in the first

[141] *See* William F. Lazarus & Margaretha Rudstrom, *The Economics of Anaerobic Digester Operation on a Minnesota Dairy Farm*, 29 Rev. Agric. Econ. 349, 353 tbl. 1 (2007) (evaluating a digester with loans and production subsidies, which accounts for the digester's total cost and existing electricity production subsidies).
[142] *See id.*
[143] *See* Q. Wang et al., *Economic Feasibility of Converting Cow Manure to Electricity: A Case Study of the CVPS Cow Power Program in Vermont*, 94 J. Dairy Sci. 4937, 4945–46 (2011) (showing that under Scenario 3, which accounts for the digester's total cost and values electricity at the market price plus a premium available through the Central Vermont Public Service Corporation Cow Power program, the digester has a negative net present value at the end of the seven-year period, meaning that the digester was not profitable at the end of its seven-year lifetime).
[144] *See* Anne C. Asselin-Balençon & Olivier Jolliet, *Metrics and Indices to Assess the Life Cycle Costs and Greenhouse Gas Impacts of a Dairy Digester*, 79 J. Cleaner Prod. 98, 102 (2015) (evaluating the two "low revenue" scenarios, which account for the digester's total cost and the market price of electricity).
[145] *See* Justin R. Benavidez, Anastasia W. Thayer & David P. Anderson, *Poo Power: Revisiting Biogas Generation Potential on Dairy Farms in Texas*, 51 J. Agric. & Applied Econ. 682, 691 tbl. 4, 692 tbl. 5 (2019) (showing that an average-cost digester at a dairy that sells excess power back to the grid and uses dried digestate as bedding has a negative net present value at the end of the 20-year period).

20 years after installation."[146] When the study increased the price of electricity by more than 500 percent, it still found that "substantial increases of electricity pricing or additional price incentives cannot overcome the burden of initial capital outlay."[147] In other words, when 100 percent of a digester's cost is considered, as RBCS's regulations require,[148] it is difficult to impossible for the digester to recoup that cost.

- An analysis of dairy digesters found that the cost of a digester is approximately $1,130 per cow per year, while the market value of the gas a digester generates is only about $128 per cow per year.[149] The annual digester cost per cow consists of $490 in capital costs over 10 years, $440 in operating costs, and $200 in trucking costs if the digester is not directly connected to a pipeline.[150] Because the market value of the gas does not cover the capital costs, let alone the additional operating costs, this analysis indicates that dairy digesters will not recoup their costs over 10 years.

Although some studies have found that digesters can recoup their costs, those studies reduced the digesters' total cost or assumed that operators would be able to sell energy at unusually high prices. As explained above, RBCS cannot make assumptions like these under its regulations.[151] The Minnesota study had to discount the digester's total cost by over 30 percent in order for the digester to recoup its cost within 10 years.[152] The Vermont study had to either discount the digester's total cost or increase the electricity price beyond what was available under the existing state program to recoup the digester's cost within seven years.[153] And the study of two hypothetical digesters again had to discount the digesters' total cost by 35 percent or increase the electricity price in order to recoup the digesters' cost within 20 years.[154] These results show that giving public funding or other support to digesters props up what would otherwise be a losing investment, which as discussed above, is not how REAP funds are meant to be used.

The very limited data in USDA's Rural Data Gateway on manure digester projects that received REAP funding from fiscal year 2021 to fiscal year 2025—which presumably are the most qualified digester projects that sought funding—does not adequately rebut the evidence that

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[146] *Id.* at 692.
[147] *Id.* at 693.
[148] *See* 7 C.F.R. § 4280.103.
[149] Aaron Smith, *The Value of Methane from Cow Manure*, Ag Data News (Apr. 15, 2023), https://agdatanews.substack.com/p/the-value-of-methane-from-cow-manure.
[150] *Id.*
[151] *See id.*
[152] *See* Lazarus & Rudstrom, *supra* note 141, at 353 tbl. 1.
[153] *See* Wang et al., *supra* note 143, at 4946.
[154] *See* Asselin-Balençon & Jolliet, *supra* note 144, at 102–03 (evaluating the high- and medium-revenue scenarios, which account for grants and increased electricity prices).

digesters typically do not recoup their costs.[155] Of the 55 digester projects that received funding, only four have publicly available payback periods, which range from six to nine years, with a median of 8.5 years.[156] USDA provides no support for arriving at those payback periods. Nor does USDA require any reporting or conduct any monitoring that would ensure that REAP-funded projects actually recoup their costs.[157] This limited and unsupported information is not sufficient to contradict the significant body of evidence showing that digesters ultimately are a losing investment.

Operators cannot rely on programs that create markets for biogas to recoup the high cost of a digester, because revenue from these programs is very unpredictable. California's Low Carbon Fuel Standard ("LCFS") is a prime example. The LCFS aims to reduce GHG emissions from the state's transportation sector by requiring transportation fuel producers to meet annual GHG emissions benchmarks. Different transportation fuels are assigned scores that are meant to reflect their lifecycle GHG emissions. Fuels with scores below the benchmark generate credits, while fuels with scores above the benchmark generate deficits. Fuel producers with deficits can meet the benchmark by purchasing credits from other fuel producers. Biogas from animal manure has received—improperly[158]—a very low score, meaning that it generates significant credits that operators can sell to producers with deficits. As a result, some dairy operations in California have profited more from biogas production than from milk.[159] However, those high profits have been short-lived. Recently, credits have flooded the market, causing their value to

[155] *Rural Investments – Data Tables*, *supra* note 13. USDA does not provide data on digester projects that received REAP funding prior to fiscal year 2021.
[156] *See id.*
[157] Grant and loan guarantee recipients must submit to RBCS annual project performance certifications, which certify that the project has performed at the operating level described in the application, for three years after the project has been constructed. *See* 7 C.F.R. § 4280.124(i)(3)(i) (2025); *id.* § 5001.503(a) (2025). Following those three years, no further reporting is required.
[158] The LCFS's low score for biogas from animal manure is incorrect, because it mistakenly assumes that methane emissions from manure are unavoidable, fails to account for intentionally produced methane emissions, and ignores upstream and downstream emissions. Under these assumptions, capturing methane leads to significant emissions reductions from the high baseline. But, as explained above, there are alternatives to storing liquid waste in pits that do not cause methane emissions, so the baseline should not be assumed to be high. *See supra* Section I.A. And under a lower baseline, emission reductions are not so significant. The low score is also incorrect because it categorizes manure as a waste product of meat and dairy production. As a result, none of the significant GHG emissions associated with other aspects of meat and dairy production, which are discussed in greater detail below, are allocated to the biogas generated from the manure. But, because operators are profiting off the manure, it is better categorized as a co-product, meaning that all upstream and downstream emissions from the underlying AFO must be included.
[159] *See* Kevin Hall, *Under Guise of Climate Benefit, Manure Is More Valuable than Milk at California Dairies*, The Fresno Bee (Oct. 16, 2021), https://www.fresnobee.com/opinion/readers-opinion/article255037057.html.

plummet.[160] In addition, an amendment to the LCFS that would perpetuate the low score for biogas from animal manure is subject to pending legal challenges that could also reduce the value of the credits.[161] As one report concluded, without assurances that revenue from LCFS credits will remain available, "digesters may be too risky to warrant investment."[162] Another recent report agreed, explaining that variability in the value of LCFS credits "can quickly shift profitability."[163]

Adding to the evidence that digesters are unlikely to recoup their costs, EPA data shows that digesters often prematurely shut down, sometimes specifically because they cannot recoup costs. A review of the 571 digesters that EPA tracks in its Livestock Anaerobic Digester Database shows that 17 percent, or 98 digesters, have shut down.[164] On average, those digesters operated for just 7.2 years,[165] which is less than the commonly used 20-year lifespan, as well as the lifespans in many of the studies discussed above, meaning that many of the digesters that have shut down likely did so before they recouped their costs. The reasons for the shut-downs vary but include financial issues, such as "poor payback" and the "[c]ost to own and operate . . . exceeded revenue/benefits."[166] In other cases, the shut-downs were due to equipment failures and odor issues from the digesters.[167] Operations that shut down their digesters but continued operating likely reverted to their original, highly methane-emitting liquid manure management systems.

Financially driven shutdowns will likely increase with the falling value of LCFS credits, because, as the evidence above shows, digesters are unlikely to recoup their costs without the credits. For example, Aerogy LLC, the company responsible for a dairy digester in Gillett, Wisconsin, recently defaulted on a $1.7 million principal payment on municipal bonds worth $41.5 million and reportedly is in discussions with bondholders to restructure the debt.[168] The default could be due to the sharp dip in credit prices.[169] In a presentation on the digester, a consulting group assumed a credit price of $170 per metric ton of carbon dioxide equivalent,[170]

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[160] *See Renewable Products: California Low Carbon Fuel Standard Credit Price*, Neste, https://www.neste.com/investors/market-data/renewable-products (last visited Sep. 2, 2025).
[161] *See Defensores del Valle Central para el Aire y Agua Limpio v. Cal. Air Res. Bd.*, No. 25CECG03544 (Fresno Cnty. Super Ct. filed July 25, 2025); *Defensores del Valle Central para el Aire y Agua Limpio v. Cal. Air Res. Bd.*, No. 24CECG05508 (Fresno Cnty. Super. Ct. filed Dec. 18, 2024).
[162] Hyunok Lee & Daniel A. Sumner, *Dependence on Policy Revenue Poses Risks for Investments in Dairy Digesters*, 72 Cal. Agric. 226, 235 (2018).
[163] Wainer et al., *supra* note 41, at 6.
[164] *See Livestock Anaerobic Digester Database*, EPA, https://www.epa.gov/agstar/livestock-anaerobic-digester-database (last updated July 24, 2025).
[165] *See id.*
[166] *Id.*
[167] *Id.*
[168] Nina B. Elkadi, *A Small Wisconsin Town Bet Big on a Biodigester. Now the Project Is Defaulting on Its Loans.*, Sentient Media (Aug. 27, 2025), https://sentientmedia.org/wisconsin-town-bet-big-on-a-biodigester/.
[169] *Id.*
[170] *Id.*

but a later report on credit prices from December 29, 2025 to January 4, 2026 shows that the average price per metric ton was just $54,[171] meaning that the digester is earning three times less than expected.

3. Manure digesters often offer low energy returns on taxpayers' investment.

In addition to considering whether a project will be able to recoup its total costs, RBCS considers whether the project will be worth its cost to taxpayers,[172] and here too, manure digesters often come up short. For energy generation projects, RBCS considers not just the energy a project will generate, but also the amount that taxpayers will have to pay to generate that energy. Under the scoring criteria, RBCS will award a project 10 points if the project is for energy generation,[173] and it will award up to 10 additional points based on the amount of energy that will be generated per REAP dollar requested.[174] Because all energy generation projects will receive at least 10 points, their performance under this criterion turns on how much energy they will generate per REAP dollar.

USDA's data shows that the manure digesters that received loan guarantees from fiscal year 2021 to fiscal year 2025 generate much less energy per REAP dollar than solar projects,[175] meaning that digesters seeking loan guarantees will likely do the same. Specifically, the manure digesters that received loan guarantees generate an average of 8,047 British Thermal Units ("BTUs") annually per REAP dollar, while the solar projects that received loan guarantees generate an average of 36,728 BTUs annually per REAP dollar.[176] That is, the digester projects generate an average of about 4.5 times less energy per REAP dollar than solar projects. What is more, the digester projects required much larger loan guarantees to generate these low returns. The digester projects received average loan guarantees of $18,696,918, while the solar projects received average loan guarantees of $6,529,719.[177] In other words, the digester projects needed almost three times *more* money to generate over four times *less* energy per dollar. These projects clearly are not worth their cost to taxpayers. While the digesters that received grants from fiscal year 2021 to fiscal year 2025 generate more energy per REAP dollar on average than solar and wind projects,[178] this does not remedy their harms or failures under other criteria—namely, their serious harm to rural communities and the environment, their high total cost to taxpayers, and their inability to recoup their total cost.

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[171] *See Weekly LCFS Credit Transfer Activity Reports*, Cal. Air Res. Bd., https://ww2.arb.ca.gov/resources/documents/weekly-lcfs-credit-transfer-activity-reports (last visited Jan. 9, 2026).
[172] *See* 7 C.F.R. § 4280.121(b)(1).
[173] *Id.* § 4820.121(b)(2)(ii).
[174] *Id.* § 4820.121(b)(1).
[175] *See Rural Investments – Data Tables*, *supra* note 13. No wind projects received loan guarantees during the time period.
[176] *See id.* The figures in this paragraph were calculated based on the projects for which USDA's data provides energy generation estimates.
[177] *See id.*
[178] *See id.*

4. Manure digesters do not offer environmental benefits.

RBCS also considers whether a project offers environmental benefits,[179] and not only do digesters cause the environmental harms discussed above, but they also fail to offer environmental benefits. Relevant here, RBCS considers whether a project will have a positive impact on GHG emissions,[180] but digesters provide only uncertain and incomplete GHG emissions reductions. This is because digesters and biogas transportation infrastructure release methane due to leaks and malfunctions.[181] During the digestion process, digesters can leak about 15 percent of the methane they initially capture.[182] And during periods of repair, maintenance, malfunction, or other suboptimal performance, digesters can release 13 to 25 percent of methane initially captured.[183] For example, in December 2025 at a Wisconsin dairy operation, the cover on a digester tank separated from the tank structure, releasing the captured gas into the air.[184] The digester operator had celebrated the digester's opening just two days before the release occurred.[185] Cold weather poses significant operational challenges for digesters, including causing equipment damage, indicating that leaks like the one in Wisconsin are not isolated incidents.[186] In addition, the infrastructure used to transport biogas also leaks, releasing more methane.[187] Storing and disposing of digestate also releases methane and nitrous oxide. And in some conditions, digestate may emit *more* nitrous oxide than manure because biogas generation consumes manure carbon, leaving relatively high-nitrogen digestate as a byproduct.[188] Leakage, residual methane emissions, and increased nitrous oxide emissions undermine GHG emissions reductions attributed to digesters. Indeed, a new analysis of methane plumes located over dairy

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[179] 7 C.F.R. § 4280.121(a); *id.* at § 5001.307(c)(2) (requiring the applicant to provide a description of "how the project will have a positive effect on resource conservation, public health, and the environment").
[180] *Id.* at § 4280.121(a).
[181] *See* Thomas K. Flesch, Raymond L. Desjardins & Devon Worth, *Fugitive Methane Emissions from an Agricultural Biodigester*, 35 Biomass & Bioenergy 3927 (2011); *see also* Nicole D. Miranda, Hanna L. Tuomisto & Malcolm D. McCulloch, *Meta-Analysis of Greenhouse Gas Emissions from Anaerobic Digestion Processes in Dairy Farms*, 49 Env't Sci. & Tech. 5211 (2015); Semra Bakkaloglu, Jasmin Cooper & Adam Hawkes, *Methane Emissions Along Biomethane and Biogas Supply Chains Are Underestimated*, 5 One Earth 724 (2022).
[182] Jin Zeng et al., *Evaluation of Methane Emission Flux from a Typical Biogas Fermentation Ecosystem in China*, 257 J. Cleaner Prod. (2020).
[183] Flesch, Desjardins & Worth, *supra* note 181, at 3934 tbl. 2.
[184] Sarah Nigbor, *RF Fire Called to New Biodigester for Gas Leak*, Pierce Cnty. J. (Dec. 17, 2025), https://www.piercecountyjournal.news/stories/rf-fire-called-to-new-biodigester-for-gas-leak,170354.
[185] *Id.*
[186] *See Winter Impact on Biogas Production and Solutions*, Rutherford Renewables (Aug. 31, 2025), https://rutherfordrenewables.co.uk/winter-impact-on-biogas-production-and-solutions/.
[187] *See* Bakkaloglu, Cooper & Hawkes, *supra* note 181. Digestate emits methane because digestion does not eliminate all the methane-generating organic matter in animal manure. *See* Carlos Rico et al., *Anaerobic Digestion of the Liquid Fraction of Dairy Manure in Pilot Plant for Biogas Production: Residual Methane Yield of Digestate*, 31 Waste Mgmt. 2167 (2011).
[188] *See* Kurt Möller & Walter Stinner, *Effects of Different Manuring Systems with and Without Biogas Digestion on Soil Mineral Nitrogen Content and on Gaseous Nitrogen Losses (Ammonia, Nitrous Oxides)*, 30 European Journal of Agronomy 1 (2009).

operations with manure digesters found that the operations emitted massive methane plumes even after the digesters were installed.[189] A single hour of pluming at the recorded rates releases the carbon dioxide equivalent of driving a car around the equator 84 times.[190]

Beyond emissions from manure management, digesters leave other major sources of GHG emissions entirely unaddressed. These emissions stem from enteric fermentation and livestock feed production. Enteric fermentation is a digestive process in cows and other ruminant animals that causes them to release methane when they exhale. Enteric emissions are a major source of methane[191] that digesters do not address. Indeed, the California study that found that dairy operations with digesters increased their herd sizes by an estimated 860 cows also found that the herd size expansion generates approximately 5,866 additional metric tons of carbon dioxide equivalent per year, even with the digesters.[192] In addition, animals in industrial animal operations are confined in buildings or feedlots rather than in pastures, and they must be fed grain as a result. It takes a lot of grain to produce meat and dairy, and growing this grain requires a tremendous amount of land. Devoting this much land to feed production is a major source of GHG emissions for three reasons. First, converting land to cropland releases stored carbon from the soil and prior native vegetation. Second, using land for crop production rather than growing native vegetation tends to reduce the land's ability to sequester carbon, resulting in a "carbon opportunity cost."[193] And third, applying nitrogen fertilizers to crops releases large amounts of nitrous oxide,[194] in addition to emissions from producing fertilizers[195] and other agrochemicals.[196] Emissions from feed production and land use together significantly exceed emissions from manure management.[197] Accordingly, major sources of GHG emissions remain unabated even with installation of a digester.

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[189] Food & Water Watch, *The Proof Is in the Pluming: Mega-Dairies with Digesters Continue to Spew Methane* (Sep. 26, 2025), https://storymaps.arcgis.com/stories/4b708bdc0d2d419ba34cb352ca79b6e3.
[190] *Id.*
[191] EPA, *Inventory of U.S. Greenhouse Gas Emissions and Sinks 1990-2023*, at 2-4 tbl. 2-1, https://library.edf.org/AssetLink/145ky510ew61fk1tq5c2klp5kq5yp33j.pdf.
[192] *See* Magesh et al., *supra* note 111, at 5–7, 11–12.
[193] *See* Matthew N. Hayek et al., *The Carbon Opportunity Cost of Animal-Sourced Food Production on Land*, 4 Nature Sustainability 21 (2021); Timothy D. Searchinger et al., *Assessing the Efficiency of Changes in Land Use for Mitigating Climate Change*, 564 Nature 249 (2018); Kurt Schmidinger & Elke Stehfest, *Including CO_2 Implications of Land Occupation in LCAs—Method and Example for Livestock Products*, 17 Int'l J. Life Cycle Assessment 962 (2012); Andrew Balmford et al., *The Environmental Costs and Benefits of High-Yield Farming*, 1 Nature Sustainability 477 (2018); Daniel Blaustein-Rejto, Nicole Soltis & Linus Blomqvist, *Carbon Opportunity Cost Increases Carbon Footprint Advantage of Grain-Finished Beef*, 18 PLOS ONE (2023).
[194] Stefan Wirsenius et al., World Res. Inst., *Comparing the Life Cycle Greenhouse Gas Emissions of Dairy and Pork Systems Across Countries Using Land-Use Carbon Opportunity Costs*, at 11 (2020), https://research.chalmers.se/publication/539583/file/539583_Fulltext.pdf.
[195] *See* Stefano Menegat, Alicia Ledo & Reyes Tirado, *Greenhouse Gas Emissions from Global Production and Use of Nitrogen Synthetic Fertilisers in Agriculture*, 12 Sci. Reps. (2022).
[196] *See* Pesticide Action Network N. Am., *Pesticides and Climate Change: A Vicious Cycle* (2023), https://www.panna.org/wp-content/uploads/2023/02/202301ClimateChangeEngFINAL.pdf.
[197] Wirsenius et al., *supra* note 194.

Digesters require a large taxpayer investment to cover the cost of their uncertain and incomplete GHG emissions reductions, just as they require a significant taxpayer investment relative to their energy generation.[198] Indeed, a recent analysis of public funding for digesters and digester infrastructure in California found that digesters cost the public at least $159 per ton of carbon dioxide equivalent abated when accounting for direct funding from state agencies and market incentives from state programs, including the LCFS.[199] And the full public cost is even higher, as the analysis did not count funding from agencies and programs that do not provide adequate public information on funding recipients, including REAP.[200] Importantly for taxpayers, the cost of $159 per ton for GHG emissions reductions from digesters is well over double the cost of emissions reductions from projects funded under California's Alternative Manure Management Program,[201] which provides financial assistance for operators to adopt non-digester manure management practices to reduce their GHG emissions.[202] In other words, using digesters is much less cost-effective at reducing GHG emissions from industrial animal operations than adopting other manure management methods.

CONCLUSION

For all the reasons above, manure digesters are a harmful and inefficient investment for operators, rural communities, the environment, and taxpayers. Accordingly, Petitioners urge RBCS to issue a rule deeming these digesters ineligible for REAP grants and loan guarantees.

[198] *See infra* Sections III.B.1. and III.B.3.
[199] Donovan Wakeman & Kevin Fingerman, *Waste Stream to Revenue Stream: Calculating the Costs and Climate Impact of California's Investments in Dairy Digester Infrastructure* 11, 13 (2023), https://www.centerforfoodsafety.org/files/waste-stream-to-revenue-stream_final_35719.pdf.
[200] *See id.* at 6.
[201] *See* Cal. Env't Prot. Agency, *Annual Report to the Legislature on California Climate Investments Using Cap-and-Trade Auction Proceeds* 68 (2023), https://ww2.arb.ca.gov/sites/default/files/auction-proceeds/cci_annual_report_2023.pdf. Emissions reductions from projects funded under California's Alternative Manure Management Program cost $62 per ton of carbon dioxide equivalent abated. *Id.*
[202] *Alternative Manure Management Program*, Cal. Dep't of Food & Agric., https://www.cdfa.ca.gov/oars/ammp/ (last visited Dec. 2, 2025).

PROPOSED REGULATORY LANGUAGE

7 C.F.R. § 4280.114 Ineligible projects.

The Agency will not award funding under this part for any projects identified in this section, unless otherwise noted.

(a) Research and development projects and projects that involve technology that is not commercially available;

(b) Business operations that derive more than 10 percent of annual gross revenue from gambling activity. Gambling activities include any lease income from space or machines used for gambling activities. State or Tribal-authorized lottery proceeds, as approved by the Agency, conducted for the purpose of raising funds for the approved project are excluded;

(c) Business operations deriving income from activities of a sexual nature or illegal activities;

(d) Residential RES or EEI projects, including farm labor housing, apartment complexes, and owner-occupied bed and breakfasts, except for-profit nursing homes and assisted living facilities that provide full-time medical care for residents, and for-profit hotels that provide short-term housing;

(e) Racetracks or facilities for conducting either professional or amateur races of animals, or by professional or amateur drivers or jockeys, or any other type of racing;

(f) RES projects that co-fire with fossil fuels, natural gas or petroleum-based products or materials such as coal and other non-renewable fuels, oils, and chemicals, and tires or plastic;

(g) Projects where 50 percent or more of the costs are ineligible or where project costs as defined in the application do not meet the definition of a renewable energy system or energy efficiency improvement, including projects submitted for labor costs only. Project costs associated with an EEI that are not clearly identified in the energy assessment or audit will be considered ineligible costs; ~~and~~

(h) Projects proposing two or more different types of RES technologies that are not incorporated into a unified system and projects proposing two or more different types of RES technologies at two or more locations~~.~~<u>; and</u>

<u>(i) Anaerobic digesters that that are located at AFOs and anaerobic digesters that utilize animal waste or byproducts (including fats, oils, greases, and manure) from AFOs.</u>

7 C.F.R. § 5001.119 Ineligible REAP projects.

Owner occupied bed and breakfasts, anaerobic digesters that that are located at AFOs, and anaerobic digesters that utilize animal waste or byproducts (including fats, oils, greases, and manure) from AFOs are ineligible projects in the REAP program.

Exhibit A

Statutory, Regulatory, or Permit Violations by Certain Industrial Animal Facilities with REAP-Funded Anaerobic Digesters
January 2020 – September 2025

The following chart shows documented statutory, regulatory, or permit violations by industrial animal operations with REAP-funded manure digesters.[1] Petitioners reviewed violation records for operations with REAP-funded manure digesters in California, Michigan, North Carolina, and Wisconsin, as those states make violation records accessible to the public.[2] Petitioners included only violations that occurred between January 2020 and September 2025, because those violations occurred closest in time to the award of REAP funding. Petitioners also focused on incidents of water or air pollution or violations that are especially likely to cause this pollution. The chart reflects only violations that were documented by the relevant state agency. As a result, it may not be a complete accounting of all violations by the facilities.

Of the 30 new manure digesters at industrial animal operations that received REAP funding, 12 were associated with operations that had documented violations in the last five years. That is, ***over one third*** of the manure digesters that received REAP funding were associated with industrial animal operations that had documented incidents of water or air pollution, violations that are likely to cause pollution, or violations of monitoring or reporting requirements that are meant to prevent, identify, and address pollution. In California, REAP awards went to 20 manure digesters, and five were associated with operations that had violations. In Michigan, REAP awards went to four manure digesters, and all four were associated with operations that had violations. In North Carolina, REAP awards went to four manure digesters, and three were associated with operations that had violations. And in Wisconsin, REAP awards went to two projects, but neither were associated with operations that had violations in the last five years.

[1] As in the petition, Petitioners included only manure digester projects that received REAP funding between fiscal year 2021 and fiscal year 2025, as those are the only manure digester projects for which USDA provides public information. Petitioners excluded existing manure digester projects that received REAP funding for equipment upgrades or expansions and digester projects that do not use animal manure.

[2] *See* Cal. Env't Prot. Agency, California Integrated Water Quality System Project (CIWQS) Public Reports, https://www.waterboards.ca.gov/ciwqs/publicreports.html (select "Interactive Violation Reports"); Mich. Dep't of Env't, Great Lakes, & Energy, MiEnviro Portal, https://mienviro.michigan.gov/ncore/external/home (select "Site Map Explorer"); N.C. Dep't of Env't Quality, Animal Facility Map, https://www.deq.nc.gov/about/divisions/water-resources/permitting/animal-feeding-operations/animal-facility-map (select "Animal Feeding Operations Facility Map"); Wis. Dep't of Nat. Res., Remediation and Redevelopment Database – BRRTS, https://apps.dnr.wi.gov/rrbotw/botw-search. The violation reports referenced in the chart are available upon request.

REAP Recipient	REAP Award Year	State	Facility Name	Facility Violation Date	Facility Violation Description
Mattos Brothers Dairy L.P.	FY2023	CA	Mattos Brothers Dairy	9/26/2022	Excessive vegetation in several wastewater ponds
Troost Dairy Biogas LLC	FY2023	CA	Troost Dairy	9/14/2022	Groundwater sampling results for two domestic wells not included in annual reports
Blue Sky Dairy Biogas LLC	FY2023	CA	Blue Sky Dairy	07/13/2023	Discharge of wastewater off-property; improper use of former fishponds for manure wastewater storage; disposal of manure wastewater on cropland for purposes other than nutrient recycling
Veldhuis Biogas LLC	FY2023	CA	Veldhuis North Dairy	05/15/2023	Discharge of wastewater from tailwater pond; minimal amount of freeboard in the wastewater storage pit
Meirinho West Dairy Biogas LLC	FY2023	CA	Meirinho Holsteins, LP	10/1/2021	Violation of the groundwater monitoring requirements
Monterey RNG LLC	FY2024	MI	Schaendorf Dairy	6/24/2025	Failure to respond to request for documents; continued failure to have adequate waste storage capacity; continued failure to provide updated nutrient management plan
				11/21/2024	Failure to have adequate waste storage capacity; failure to provide updated nutrient management plan; failure to report an increase in animal numbers
				1/27/2023	Failure to provide updated nutrient management plan
Isabella RNG LLC	FY2024	MI	Cow Pleasant Dairy	9/30/2024	Failure to provide updated nutrient management plan; failure to provide written notification prior to construction of new waste storage structures; failure to inspect all waste storage structures; failure to perform manure analysis; storage of waste outside of waste storage structure
				3/5/2024	Continued discharge of waste from waste storage structure to unnamed tributary of the Coldwater River; violation of water quality standards

				2/26/2024	Discharge of waste from waste storage structure to unnamed tributary of the Coldwater River creating an acute water quality impairment; violation of water quality standards
				5/5/2021	Inaccurate and incomplete nutrient management plan; runoff of silage from storage area to surrounding fields and toward surface waters; discharge of dirty water from drainage ditch to surrounding fields and surface waters; depth gauges not present in each waste storage structure; wind carries materials from production area to surrounding fields
Elsie RNG LLC	FY2024	MI	Green Meadows Dairy	12/22/2022	Failure to have engineering documentation for waste storage structures
				9/23/2021	Application of waste containing excessive phosphorus to fields
Meadowbrook Ag-Grid LLC	FY2023	MI	Meadowbrook Dairy	5/14/2021	Discharge of waste from production area to an unnamed tributary of Tupper Creek, releasing approximately 12,000 gallons of waste to surface waters
Bull Run Oz LLC	FY2025	NC	Bull Run	9/5/2024	Non-compliant sludge levels in waste storage pit
				8/17/2023	Non-compliant sludge levels in waste storage pit
				4/28/2023	Need to repair bare areas on banks of waste storage pit
				3/30/2022	Need to repair bare areas on banks of waste storage pit
				9/7/2021	Need to repair bare areas on banks of waste storage pit
				6/18/2020	Failure to maintain appropriate waste level in waste storage pit
				3/19/2020	Failure to maintain appropriate waste level in waste storage pit
Mill Run Oz LLC	FY2025	NC	Mill Run	9/5/2024	Non-compliant sludge levels in waste storage pit
				8/17/2023	Non-compliant sludge levels in waste storage pit
				9/21/2022	Need to repair erosion and bare areas on banks of waste storage pit Anaerobic digester located too close to a water well
				11/18/2020	Need to repair erosion on banks of waste storage pit

Packs Pride Oz LLC	FY2025	NC	Packs Pride	9/5/2024	Non-compliant sludge levels in waste storage pit
				8/17/2023	Non-compliant sludge levels in waste storage pit
				2/21/2023	Need to repair erosion and bare areas on banks of waste storage pit
				8/30/2022	Need to repair bare areas on banks of waste storage pit
				9/7/2021	Need to repair bare areas on banks of waste storage pit
				11/18/2020	Non-compliant sludge levels in waste storage pit

Exhibit B

GRETCHEN WHITMER
GOVERNOR

sSTATE OF MICHIGAN
DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY
WATER RESOURCES DIVISION

PHILLIP D. ROOS
DIRECTOR

December 18, 2024

VN No. VN-016830

VIA E-MAIL

John Schaendorf, Owner
John B. Schaendorf Dairy, LLC
2748 30th Street
Allegan, Michigan 49010

Dear John Schaendorf:

SUBJECT: Violation Notice
Concentrated Animal Feeding Operation (CAFO) Reconnaissance (Recon)
National Pollution Discharge Elimination System (NPDES)
Certificate of Coverage under General Permit (COC) No. MIG010146
Designated Name: John B. Schaendorf Dairy #2-CAFO

The Department of Environment, Great Lakes, and Energy (EGLE), Water Resources Division (WRD), inspected the John B. Schaendorf Dairy #2-CAFO (Farm), located at 2748 30th Street, Allegan, Allegan County, Michigan 49010 on November 21, 2024, to determine compliance with Part 31, Water Resources Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA), MCL 324.3101; and NPDES COC No. MIG010146, which was issued on December 13, 2016, effective December 13, 2016 (Permit). The inspection was prompted by a report that the Farm had expanded its animal numbers causing violations of the Permit.

Present from the Farm was Dan Vannette and Todd Klaasen; from EGLE, Bruce Washburn, all of whom participated in the limited inspection which involved a discussion about the increase in animal numbers, the lack of notification, and failure to have adequate waste storage capacity. Dan Vannette and Bruce Washburn also completed a short site inspection around the existing waste storage structures and then Bruce Washburn went to the proposed waste storage structure site on 134th Avenue. Please see the attached Inspection Report for details of the inspection and all areas evaluated along with their rating.

Despite several communications with the Farm where EGLE staff informed the Farm that they needed to notify EGLE when they populated and that the Farm needed adequate waste storage in place prior to the expansion of animals, the Farm expanded anyways. It was known by EGLE that the Farm planned to add animals and as early as October 5, 2022, in Violation Notice VN-013630, EGLE had asked for notification and an updated comprehensive nutrient management plan (CNMP) to assist the Farm with complying with its Permit. An additional letter, Second Violation Notice SVN-01317, was sent on January 27, 2023, to prompt the Farm to submit an updated CNMP. On April 20, 2023, EGLE completed an inspection and noted in the inspection report “Discussed with the farm, once the new building is complete, will need updated CNMP, additional storage will be needed and EGLE will need to be notified of that prior to starting construction. New storage will need to be in place prior to populating to maximum

numbers." This inspection report was part of a letter, CC-004721, dated June 5, 2023, which also communicated the need to build adequate storage.

During EGLE's most recent inspection on September 17, 2024, and in a letter dated September 24, 2024, EGLE again reminded the Farm of the requirement to report and ensure additional storage was constructed prior to adding animals. During the September 2024 inspection Dan Vannette stated there were approximately 900 mature dairy cattle at the Farm, the Farm was aware of the need to build additional storage, and the Farm would not be adding additional animals until next year (2025) because the milk co-op taking the milk did not yet have capacity. The inspection report for this inspection also outlined the requirements the Farm needed to meet to comply with their Permit.

On or around October 23, 2024, EGLE staff became aware that the Farm may have added additional animals. EGLE staff sent an email to the Farm on November 13, 2024, to inquire about the information. As a result of the information received on November 19, 2024, and the November 2024 inspection, the following violations and concerns were noted.

1. **Past Due Permit Fee** – As part of a file review for the Farm in preparation for the November 2024 inspection, EGLE staff noted that the Farm was past due on a Permit fee from 2023. The fee was due on January 14, 2023, and at the time of the file review, had not been paid. EGLE staff communicated this to the Farm during the inspection and since the inspection, the fee has been paid. Thank you for your prompt attention to this item.

2. **Comprehensive Nutrient Management Plan (CNMP)** – The Farm did not have, nor has submitted, an updated CNMP for the additional animals, the completion of the animal housing barn, ongoing work of Pit 1, or the planned waste storage structure. Failure to update and submit a CNMP is a violation of Part I. Section B.4.e. of your Permit.

3. **Reporting Requirements** – The Farm failed to report the following:

    a. Failure to report the additional animals, which amounted to a 100 percent increase in animal numbers and manure production. This is a violation of Part II Section C. 12. of your Permit.
    b. Failure to report non-compliance with the Farm's inability to obtain 6 months available storage between November 1 and December 31 as required in its ongoing schedule of compliance. The Farm is required to notify EGLE within 14 days of this date that it will not accomplish this requirement. To date, EGLE has not been notified. This is a violation of Part II Section C. 5. of your permit.
    c. Failure to report non-compliance with the Farm not having the required minimum 6 months of storage constructed for the Farm is a violation of Part II Section C. 6. of your Permit.

4. **Waste Storage Structures (WSS)** – The Farm's decision to expand without adequate storage capacity and not having the required minimum amount of storage for waste produced is a violation of Part I Section B.1.a. of your Permit.

5. **Facility Contact** – During the inspection, EGLE staff wanted to verify the appropriate person was named as the Facility Contact as there was concern about the lack of adequate communication and awareness by the current Facility Contact, Dan Vannette, to ensure compliance with the Permit. It is still not clear that the current Facility Contact is appropriate for the Farm.

In an email response from the Farm on November 19, 2024, in conversation with Dan Vannette during the inspection, and a follow-up call with Ben Schaendorf, the Farm has explained it is working on finalizing a winter spreading plan for fields that can be winter spread, and if needed use storage at John Schaendorf Dairy-CAFO (Site #1). To date, EGLE has not received any requests for winter spreading and the Farm is not authorized to put CAFO waste into Site #1 waste storages. Should the Farm decide to use Site #1, additional violations may occur along with additional action by EGLE. Bruce Washburn also disagreed with Dan Vannette that if an emergency existed at Site #2, that would allow use of Site #1, as the Farm knowingly expanded without the proper storage in place. Improper planning and timing on the part of the Farm does not constitute an emergency.

The violations identified in the Violation Notice are violations of Part 31 of the NREPA and NPDES COC No. MIG010146 and are continuing.

John B. Schaendorf Dairy #2-CAFO should take immediate action to achieve and maintain compliance with the terms and conditions of Part 31 and NPDES COC No. MIG010146.

Please submit a response to this office via MiEnviro **by January 23, 2025**. At a minimum, the response shall include:

1. Detailed daily records, along with supporting documentation, of the animal numbers at the Farm starting September 1, 2024, to the date of your response to this letter.

2. The date that the Farm expanded animal numbers above what was in the current CNMP, dated April 14, 2022.

3. An updated complete CNMP, including but not limited to:
   a. All anticipated animal numbers for the Farm, including updated waste production numbers,
   b. Details of the construction and new process associated with Pit 1,
   c. Anticipated location and volume of any new waste storage structures, and
   d. Required documentation for fields that the Farm plans to use in compliance with the Technical Standard for the Surface Application of Concentrated Animal Feeding Operations Waste on Frozen or Snow-Covered Ground Without Incorporation or Injection.

4. The design plans and cold weather concrete plan for modifications of Pit 1.

5. The design plans for the planned waste storage structures.

6. An explanation and title for the roles and association of the following people as it relates to the Farm: John Schaendorf, Connie Schaendorf, Ben Schaendorf, Dan Vannette, and Todd Klaasen.

7. Please provide the name and information of the Facility Contact as required in Part I Section C. 5. of your Permit.

8. An acknowledgement that the Farm has selected the appropriate person to be the Facility Contact, and this person is knowledgeable of all the Farm operations and/or how the person obtains necessary information.

If you have any factual information, you would like us to consider regarding the violations identified in this Violation Notice, please provide them with your written response.

Compliance with the terms of this Violation Notice does not relieve John B. Schaendorf Dairy #2-CAFO of any liability, past or present, from the failure to meet the conditions specified in MIG010146 or failure to comply with the permit or Part 31, of the NREPA.

The WRD reserves its right to take all necessary and appropriate enforcement actions for all violations observed to date and any violations that occur in the future. This may include civil action seeking fines, enforcement costs, injunctive relief, and potential criminal prosecution.

Due to the severity of the noncompliance, the matter is being evaluated for escalated enforcement.

We anticipate and appreciate your cooperation in resolving this matter. Should you require further information regarding this Violation Notice or if you would like to arrange a meeting to discuss it, please contact me at 269-330-6079; WashburnB2@Michigan.gov; or EGLE, KDO-WRD, P.O. Box 30458, Lansing, Michigan 48909-7958.

Sincerely,

Bruce Washburn
Environmental Specialist
Kalamazoo District Office
Water Resources Division
269-330-6079

BW:DMM

Attachment
cc: Dan Vannette, John B. Schaendorf Dairy, LLC
Ben Schaendorf, John B. Schaendorf Dairy, LLC
James DeYoung, CJD Farm Consulting, Inc.
James Zellinger, EGLE
Jen Klang, EGLE

Exhibit C

GRETCHEN WHITMER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY
BAY CITY DISTRICT OFFICE

PHILLIP D. ROOS
DIRECTOR

September 30, 2024

SENT VIA EMAIL: devosjacobs5@yahoo.com

Katrien De Vos, Vice-President
Cow Pleasant Dairy, Inc.
5731 N. Winn Road
Weidman, Michigan 48893

Dear Katrien De Vos:

SUBJECT: Violation Notice VN-016525

The Department of Environment, Great Lakes, and Energy (EGLE), Water Resources Division (WRD), inspected the Cow Pleasant Dairy-CAFO, located at 5731 N. Winn Road, Weidman, Michigan 48893 on February 26 and March 5, 2024. The purpose of the inspection was to determine compliance with Part 31, Water Resources Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA), MCL 324.3101 et seq., and the administrative rules promulgated thereunder being 2006 AACS R 323.2101 et seq., as amended; and the National Pollutant Discharge Elimination System (NPDES) Permit No. MIG010188, which was issued on May 6, 2016.

EGLE received notification through the Pollution Emergency Alert System (PEAS) that a discharge of Concentrated Animal Feeding Operation (CAFO) waste had occurred from Cow Pleasant Dairy. The facility self-reported the discharge of runoff from the silage storage which overflowed the collection sump due to a pump failure and flowed into a recently installed field tile west of the silage pad. The tile discharges to an unnamed tributary to the Coldwater River. EGLE staff conducted an inspection at the facility with Katrien and Tom DeVos on February 26, 2024, which consisted of a discussion about facility operations, a review of records and submittal, observations of the production area, and evaluation of the initial efforts to address the discharge of CAFO waste. EGLE staff returned on March 5, 2024, to collect samples and conduct monitoring of the surface waters upstream and downstream of the discharge.

Review of aerial imagery and onsite conditions indicated the discharge that occurred due to the pump failure in the silage collection sump located at the northwest corner of the silage pad created an acute water quality impairment, but evidence of chronic discharge of runoff and leachate from the silage pad was present. The facility took immediate action to excavate the west edge of the silage pad and install concrete blocks backed by a clay berm. On March 5, 2024, additional discharges were identified from the southwest corner of the silage pad and to the surface drain that starts south of Storage 3 and flows west into the unnamed tributary of the Coldwater River. Samples were collected of the discharges in each of these locations, as well as the tile outlet that was the source of the originally reported discharge. Surface water samples were collected of the unnamed tributary to the Coldwater River upstream of the facility, at Vernon Road, and downstream of the facility at N. Gilmore Road.

The results of these analyses are provided in the table below.

	Vernon Rd (upstream)	N Gilmore Rd (downstream)	CP Tile Outlet	SW Silage Pad Discharge	Surface Drain SW of Storage 3
Total Suspended Solids	19 mg/l	68 mg/l	24 mg/l	700 mg/l	89 mg/l
Conductivity	571 umhos.cm	536 umhos.cm	1130 umhos/cm	1820 umhos/cm	476 umhos/cm
Ammonia	0.02 mg/l	3.7 mg/l	0.52 mg/l	36 mg/l	0.45 mg/l
Nitrate + Nitrite Kjeldahl Nitrogen	8.1 mg/l	0.65 mg/l	57 mg/l	0.29 mg/l	3.2 mg/l
Total Phosphorus		2.2 mg/l	1.5 mg/l	14 mg/l	0.63 mg/l
Dissolved Oxygen	8.92 mg/l	4.55 mg/l	8.72 mg/l	2.91 mg/l	8.04 mg/l
Temperature	54.5	53.3	44.5	49.3	49.0
Biochemical Oxygen Demand	Not Detected	19.9 mg/l	36.0 mg/l	775 mg/l	22.6 mg/l
E. coli	104 MPN	366 MPN	282 MPN	241,960 MPN	749 MPN

The dissolved oxygen was measured at Vernon Road, upstream of the discharge, and at the five road crossings downstream of the discharge. The results of dissolved oxygen measurements are provided in the table below.

	2/26/24	3/5/2024
Vernon Rd (upstream)	19.49 mg/l	8.92 mg/l
Gilmore Rd	0.94 mg/l	4.55 mg/l (11:45 am)
		0.94 mg/l (2:15pm)
Scott Pond	0.23 mg/l	Not Sampled
Denver Rd	1.37 mg/l	2.84 mg/l
Littlefield Rd	2.1 mg/l	2.74 mg/l (Scutt Drain)
		9.18 mg/l (Trib to Scutt Drain)
Rosebush	5.94 mg/l	3.57 mg/l

The unpermitted discharges of CAFO waste are violations of Part I.A.3 and Part I.B.1.d.7 of the permit. The facility must implement structural and operational controls to assure the discharge of CAFO waste from the production are eliminated, and all CAFO waste is collected and stored in a waste storage structure designed and constructed in accordance with Part I.B.1 of the permit.

The discharge of CAFO waste from the facility created unusual colors, odors, and films in the receiving waters and violations of the Water Quality Standard for dissolved oxygen. This is a violation of Part 31.

The most recent Comprehensive Nutrient Management Plan (CNMP) provided to the Department was submitted on September 11, 2021. This CNMP does not meet the requirements of Part I.B of the permit and does not accurately reflect the facility's operating conditions. Maps of the production area do not include all clean water and production area waste flow paths, pipes, control structures, valves, etc., and do not identify runoff collection areas. This is a violation of Part I.B.4.c of the permit.

The facility identified construction of a new 350-foot by 100-foot barn was planned in 2024. The newly constructed barn can be seen on aerial imagery from June 2024. While the facility did provide verbal notification on February 26, 2024, please be advised Part I.C.2 of the permit requires written notification to the Department prior to the construction of new waste storage structures of facilities.

The construction of a new animal housing facility is defined as a significant change under Part I.B.4.e of the permit. Prior to a significant change in operations the facility must update the CNMP, and the updated CNMP must be submitted to the Department within ninety days. An updated CNMP has not been submitted. This is a violation of Part I.B.4.e of the permit.

The facility is conducting inspections of the waste storage structures and production area and documenting these inspections on the required inspection forms. However, the inspections only identify four of the six waste storages structures are inspected weekly. All CAFO waste storage structures must be inspected, and the inspections documented. The failure to conduct and record waste storage structure inspections are violations of Part I.B.1.c and Part I.B.1.d of the permit.

Review of the manure analysis reports identified that CAFO waste is not being analyzed in accordance with the requirements of the permit. CAFO waste must be analyzed to determine nutrient content for total Kjeldahl nitrogen (TKN), ammonium nitrogen, and total phosphorus. The facility's manure samples have not been analyzed for ammonium nitrogen. This is a violation of Part I.B.3.b of the permit.

Records of the manure analyses conducted by the facility have not been submitted with the annual reports. Instead, a summary table developed by the facility's CNMP provider, James DeYoung has been submitted. It is unclear how first year available nitrogen and nitrogen credits have been calculated, and how application rates have been reported, without analysis of ammonium nitrogen. The failure to report nitrogen application rates based on appropriate analysis of the waste is a violation of Part I.B.3 of the permit.

Solid CAFO waste is piled in an area southeast of the silage pad, adjacent to the calf hutches. This area is not a waste storage structure designed and constructed in accordance with Part I.B.1.b of the permit. Additionally, it is unclear how runoff from this location and the calf hutch area is collected and stored. All CAFO waste must be collected and stored in a waste storage structure designed and constructed to meet the standards outlined in the permit. The failure to collect and store all CAFO waste in accordance with Part I.B.1.b of the permit is a violation of Part I.B.1.d.7 of the permit.

The facility indicated there are plans to construct a digestor at the facility. Written notification must be made to the Department prior to the construction of any waste storage structures, facilities, or portions thereof in accordance with Part I.C.2. The CNMP must be updated prior to a significant change in operations and the updated CNMP must be submitted to the Department within ninety (90) days, in accordance with Part I.B.4 of the permit. Additionally, a change in the availability of demonstrated technology or practices for the control or abatement of waste applicable to the point source discharge may require the facility to apply for an obtain an Individual Permit in accordance with Part I.C.8 of the permit.

Cow Pleasant Dairy-CAFO should take immediate action to achieve and maintain compliance with the terms and conditions of Part 31 and NPDES Permit No. MIG010188.

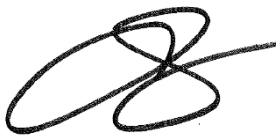
Please submit a response to this office, via MiEnviro, no later than November 1, 2024. At a minimum, the response shall include:

1. A detailed description of all corrective actions that have been implemented to eliminate all discharges of CAFO waste from the production area. This shall include all strucutural and operational changes, the implementation dates, and the activities taken to assure these modifications have been sufficient to eliminate the discharges.
2. Verification that the facility is inspecting all waste storage structures, waste collection and transfer systems, and clean water diversions and outlets in accordance with Part I.B.1 and Part I.B.2. This shall include a detailed description of each area evaluated during the inspections.
3. An explanation why CAFO waste has not been analyzed in accordance with Part I.B.3.b of the permit and how nitrogen application rates have been calculated and reported without the required analyses.
4. Verification that all CAFO waste has been removed from the stacking location near the calf hutches. Provide a description of how this CAFO waste will be collected and stored moving forward and a map and description depicting how runoff from this area is collected.
5. An updated CNMP shall be submitted within 90 days of receipt of this Violation Notice. The CNMP shall meet all requirements of Part I.B of the permit and accurately represent the operating conditions at the facility.

If you have any factual information you would like us to consider regarding the violations identified in this Violation Notice, please provide them with your written response.

We anticipate and appreciate your cooperation in resolving this matter. Should you require further information regarding this Violation Notice or if you would like to arrange a meeting to discuss it, please contact me at schwinga1@michigan.gov; 989-590-0662; or EGLE, WRD, 401 Ketchum Street, Bay City, Michigan 48708-5430.

Sincerely,



Audrey Schwing
Bay City District Office
Water Resources Division

cc: James DeYoung, electronic

Exhibit D

STATE OF MICHIGAN
DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY
GRAND RAPIDS DISTRICT OFFICE

GRETCHEN WHITMER
GOVERNOR

LIESL EICHLER CLARK
DIRECTOR

May 25, 2021

VIA EMAIL

Mr. Tony Jandernoa, Owner
Meadow Brook Dairy
333 East Tupperlake Road
Lake Odessa, Michigan 48849

VN No. VN-011800

Dear Mr. Jandernoa:

SUBJECT: Violation Notice (VN) No. VN-011800
Concentrated Animal Feeding Operation (CAFO)
National Pollutant Discharge Elimination System (NPDES)
Certificate of Coverage (COC) No. MIG010257
Designated Name: Meadow Brook Dairy-CAFO

The Department of Environment, Great Lakes, and Energy (EGLE), Water Resources Division (WRD), Grand Rapids District Office (GRDO) has determined that the Meadow Brook Dairy is in violation of Part 31, Water Resources Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA), MCL 324.3101 et seq., NPDES Permit COC No. MIG010257.

On May 14, 2021, WRD staff received a call from Blue Wing Consulting, stating that Meadow Brook Dairy had a discharge of CAFO waste to waters of the state that morning. WRD staff arrived on site and observed the unlawful discharge of CAFO waste to an unnamed tributary to Tupper Creek, also called Halls and Ingalls drain in Ionia County.

The discharge of CAFO waste was a result of a pump malfunctioning within the flume system between free stall barns. The pump was reset while the flume was full, which resulted in CAFO waste overflowing up into the free stall barns, out into clean stormwater drains, and into the unnamed tributary. Meadow Brook Dairy staff witnessed the overflow, and immediately created several berms in the receiving water to stop the flow of CAFO waste from traveling further downstream. Meadow Brook Dairy then used vacuum trucks and excavators to remove the CAFO waste and contaminated waters from approximately a half a mile of the unnamed stream. Meadow Brook Dairy estimated approximately 12,000 gallons of CAFO waste entered surface waters of the state.

As a result of this discharge, the receiving water contained unnatural turbidity, color, foams, settleable solids, and suspended solids, which is a violation of Part 31 of the NREPA.

The violations identified in this Violation Notice have ceased.

Meadow Brook Dairy should take immediate action to achieve and maintain compliance with the terms and conditions of Part 31 of NREPA and NPDES Permit COC No. MIG010257.

On May 18, 2021, Meadow Brook Dairy submitted a Discharge Summary Report to WRD. The report included a description of the events leading up to the discharge, an estimate of the volume of the discharge, and a description of the actions taken by Meadow Brook Dairy to clean up the discharge.

Please submit a response to this Violation Notice to WRD by **June 11, 2021**. At a minimum, the response shall include a detailed plan of actions Meadow Brook Dairy has taken or will take to prevent a discharge in the future.

If you have any factual information you would like us to consider regarding the violations identified in this Violation Notice, please provide them with your written response.

We anticipate and appreciate your cooperation in resolving this matter. Should you require further information regarding this Violation Notice or if you would like to arrange a meeting to discuss it, please contact me at SandbornM1@Michigan.gov; 616-401-1396; or at EGLE, WRD, GRDO, 350 Ottawa Avenue NW, Unit 10, Grand Rapids, Michigan 49503-2341.

Sincerely,

Melissa Sandborn

Melissa Sandborn
Senior Environmental Quality Analyst

ms/lr

cc: Mr. Kyle Jandernoa, Meadow Brook Dairy (via email)
Ms. Beth Gruden, Blue Wing Consulting LLC (via email)
Mr. Michael J. Worm, EGLE, WRD (via email)