

MEETING THE METHANE PLEDGE

The U.S. can do more on agriculture

Photo by Chesapeake Bay Program via Flickr CC

INTRODUCTION

When the United States and European Union signed the Global Methane Pledge in September 2021, it shined a bright light on the urgent need to slash emissions of this potent, short-lived greenhouse gas.¹ By the COP26 meeting in Glasgow two months later, more than 111 countries had joined the pledge. By signing, countries agreed to cut methane emissions (from 2020 levels) by 30% by 2030. Countries agreed to an annual Methane Ministerial to assess progress. In January 2022, U.S. Climate Envoy John Kerry hosted 20 countries to follow up on the Global Methane Pledge and called for each country to set its own methane reduction plan²

The momentum to reduce methane emissions is both exciting and daunting. While most of the attention from the pledge focused on the fossil fuel and gas industry, agriculture is the world's largest methane source. Earlier in 2021, the Intergovernmental Panel on Climate Change (IPCC) urged action on methane because it is 80 times more potent than carbon dioxide over a 20-year period, and it is more short-lived.³ While carbon dioxide can stay in the atmosphere for up to 1,000 years, methane only remains in the atmosphere for 10-12 years. Global methane emissions have risen steadily over the last century but have increased at an accelerated rate since 2007, according to a recent paper in *Nature*.⁴ By slashing methane emissions by 2030, the planet can see more immediate benefits for the climate, while buying time for ongoing action to reduce carbon dioxide.

The Biden administration announced its U.S. methane plan during the Glasgow meeting. For agriculture-related emissions, the plan relies almost exclusively on various government grants and subsidies for the controversial use of methane digesters on giant manure lagoons created at large-scale dairy, beef and hog operations. The use of digesters to capture and produce manure-based gas, best understood as factory farm gas, is opposed by many rural residents around the country because of the residual pollution associated with these operations. More recent evidence suggests the production of factory farm gas is fueling consolidation in the dairy industry and incentivizing large-scale operations to produce more manure and ultimately new emissions.

To meet the U.S. commitment on the Methane Pledge, there is much more the Biden administration can and must do, from ordering the Environmental Protection Agency (EPA) to set clear, absolute limits on methane emissions for the biggest hog and dairy operations, to expanding and improving farm conservation programs, to updating trade and finance rules that would help spur climate action. Congress can do its part by reforming the next Farm Bill in 2023 to meet the Global Methane Pledge by redirecting subsidies and policies that currently drive factory farm methane emissions toward more agroecological systems of farming and animal production.

The U.S. commitment to the Methane Pledge should also include a deeper reassessment of agriculture and trade policy. U.S. Farm Bills, trade deals and weak



regulatory oversight have propelled the continued expansion of the factory farm system of meat and dairy production. To reduce major sources of methane in U.S. agriculture requires a comprehensive approach that goes beyond a technical focus on reducing a single gas. Instead, we must begin a transition out of the damaging factory farm system in a way that reduces greenhouse gases (GHGs) and other pollutants, while supporting farmers and rural communities. Such a transition must include reforming farm policy and redirecting public investments into more agroecological systems of raising animals.

WHAT IS THE GLOBAL METHANE PLEDGE?

The pledge commits countries to reduce global methane emissions 30% (from 2020 levels) by 2030 “across all sectors.” The pledge covers all methane emissions, acknowledging that the gas accounts for 17% of global greenhouse gas emissions, primarily from energy, agriculture and waste. The pledge states in introductory language that the 30% target is a global commitment, not a national country-level commitment. But as one of the original signatories and leaders behind the Global Methane Pledge, it should be assumed that the U.S. and the EU would meet at least the 30% reduction target by 2030.

The language in the pledge is noticeably different when referring to energy versus agriculture. The pledge states that “the energy sector has the greatest potential for targeted mitigation by 2030.” For energy, countries commit to focus “on standards to achieve all feasible reductions.” But for agriculture, reductions will be achieved “through technology innovation as well as incentives and partnerships with farmers.” The distinction is notable, particularly in a voluntary pledge with no global enforcement mechanism. The incentives-based agriculture language is in line with the Biden Methane Plan for agriculture (see below) and public statements made by U.S. Department of Agriculture (USDA) Secretary Tom Vilsack. New standards will drive reductions in energy. Technology and incentives for farmers will steer agriculture.

In addition, the countries commit to public, transparent, up-to-date reporting on actions they have taken to reach these commitments. The countries resolve to “review progress toward the target of the

Global Methane Pledge on an annual basis until 2030 by means of a dedicated ministerial meeting.”⁵

WHAT'S IN THE BIDEN METHANE PLAN ON AGRICULTURE

The Biden administration’s U.S. Methane Emissions Reductions Action Plan,⁶ announced at the Glasgow meeting, lays out a suite of policies and programs to meet its methane reduction goal by 2030. The Biden Plan directly targets the oil and gas sector, responsible for 30% of the country’s methane emissions, through EPA actions under the Clean Air Act.⁷ The Biden Plan also sets a goal of capturing 70% of methane emitted from landfills, once again citing the EPA’s authority under the Clean Air Act to require the reduction of methane emissions at the nation’s largest landfills.

For agriculture, the Biden Plan makes no mention of EPA’s Clean Air Act authority and instead focuses on: 1) “alternative manure management systems;” 2) the “expansion of on-farm generation and use of renewable energy systems;” 3) the “development of a climate smart agricultural commodities partnership initiative;” and 4) “increased investments in agricultural methane quantification.”

All four agriculture strategies are tied to the controversial use of anaerobic digesters to capture factory farm gas from giant manure lagoons at large-scale dairy, beef and hog operations. Factory farm gas is sent into methane gas pipelines and branded as “renewable.” While some factory farm gas is captured, the manure and associated air and water pollution linked to this factory farm system remain in place. (See below for more on factory farm gas.)

Here is a deeper dive into the four agriculture strategies of the Biden Methane Plan:

1. ALTERNATIVE MANURE MANAGEMENT SYSTEMS AND OTHER MANURE-REDUCING PRACTICES — The Biden Plan states that the USDA will work through the Natural Resource Conservation Service (NRCS) to use conservation programs like the Environmental Quality Incentives Program (EQIP) to subsidize the new construction and use of methane digesters on manure lagoons. In 2021, USDA introduced a Climate Smart Agriculture and Forestry pilot program through EQIP and particularly directed support to methane digesters.⁸ The Biden Plan also mentions the

expanded use of the Rural Business Cooperative Service, the Rural Energy for America Program (REAP) and the AgStar program as programs it will use to subsidize farmers’ construction and/or use of digesters. This strategy would also support the installation of lagoon covers and flares for methane. The Biden Plan claims if the Build Back Better Act were passed, additional resources would fund “the equivalent of 500 farms installing anaerobic digesters; 1,200 farms installing lagoon covers with flares; and 250 farms installing solids separators.” This strategy does include language, almost as an afterthought, on the use of conservation programs to help farmers transition to pasture grazing of livestock — something existing conservation programs already do through supports for practices such as adding fencing or perennial grasses.

2. PROMOTING ON-FARM RENEWABLE ENERGY FROM METHANE — This Biden strategy is essentially an advocacy campaign through a new USDA-led public/private partnership “to promote biogas policies, programs and research.” USDA will establish an Interagency Biogas Opportunities Task Force (included in the 2018 Farm Bill) to facilitate the collection and use of methane for on-farm renewable energy applications. USDA will deepen its engagement with AgStar to promote biogas with biogas companies, factory farm operators, universities and trade associations. USDA will launch an advisory committee to help expand the industry and develop a communications strategy to highlight success stories.

3. LAUNCHING A CLIMATE-SMART PARTNERSHIP INITIATIVE — USDA is taking \$1 billion of the Commodity Credit Corporation’s \$33 billion budget,⁹ used to fund farm programs, to launch a new initiative to develop a market for commodities based on their purported “climate benefits.” USDA will invest in identifying, measuring and certifying climate smart practices, including those that reduce methane. The new program will include pilot projects that support the use of methane digesters and prescribed managed grazing. USDA has accepted initial applications for the Climate-Smart Partnership pilot projects in May and June.¹⁰

4. INCREASED INVESTMENTS IN AGRICULTURAL METHANE MEASUREMENT AND INNOVATIONS — USDA will devote more research resources toward methane reduction strategies, including “feed additives and manure management systems (digesters).” USDA will pursue a “methane innovation agenda” that includes USDA’s Agriculture Research Service, its Economic Research Service and National Institute on Food and Agriculture. Also, USDA will continue to partner with U.S. Dairy funded by the dairy check off, a controversial tax on all dairy producers that has been caught overpaying its executives and favoring a factory farm system.¹¹ U.S. Dairy includes the Innovation Center for U.S. Dairy and Dairy Management Inc. to reduce methane emissions. Prior to becoming agriculture secretary under President Biden, Vilsack headed U.S. Dairy’s Export Council.

THE SCALE OF U.S. METHANE EMISSIONS

Methane accounts for 10% of U.S. greenhouse gas emissions, according to the EPA.¹² Overall U.S. methane emissions have declined 15% since 1990, with energy-related emissions declining by 25% since 1990 and industrial waste methane emissions declined 31%. But the largest source of U.S. methane emissions, agriculture, has increased by 17% since 1990. Agriculture now represents 37% of U.S. methane emissions.¹³ Livestock-related emissions have risen by 20% since 1990.

Methane is produced through the normal digestive system in ruminants, mostly through burping and through manure. The amount of methane emitted depends on the animal, the type of feed and how the manure is managed. The EPA publishes a Greenhouse Gas Inventory annually, tracing U.S. emissions going back to 1990. The data follows guidelines set by the United Nations Framework Convention on Climate Change.¹⁴

The EPA calculates that enteric fermentation and manure management represent 27.1% and 9.5%, respectively, of total agriculture methane emissions. Beef cattle account for 72% of enteric methane emissions and dairy cattle for 24%. Enteric methane emissions have increased 8.4% since 1990.

GET BIG(ER) OR GET OUT – FACTORY FARM GAS EMERGES

“We used to joke about how funny it would be if we could make more money off the poop than the milk. And now we’re essentially there.”
– California dairy farmer¹⁸

While the Biden Methane Plan presents a rosy picture of methane digesters on big dairy and hog operations (the USDA/EPA biogas program known as AgStar says there are currently 317 active digester projects in the U.S.¹⁹), the reality is more complicated and troubling. Methane digesters to sell gas off-farm are enormously expensive (around \$4.2 million for a 2,000 dairy cow operation²⁰), making them only financially viable for the largest operations. A 2011 USDA report under then Secretary Vilsack explained that public subsidies for factory farm gas will largely benefit large-scale hog and dairy operators.²¹ With new alignments between big dairies and hog companies and the methane gas industry, the exclusive beneficiaries of this system have become even more clear.

There are several engines driving the use of methane digesters. One of the most important is California’s Low Carbon Fuel Standard (LCFS), with a goal to help reduce emissions from the state’s transportation sector by 20% by 2030. Factory farm gas grades well under the LCFS scoring system, making it eligible for credits (generally between \$170-\$190) under the policy. The LCFS credits are often combined with a variety of state and federal subsidies to make digesters more profitable. According to a University of California at Davis economist, dairy farmers tapping into these public programs for digesters can generate up to \$2,827 per cow.²²

The impact of California’s LCFS isn’t limited to California. Factory farm gas operations in other states sell credits into the California market, including as far away as New York.²³ Even polluting dairies are eligible. Earlier in 2022, Oregon’s Three Mile Canyon farm was found to be violating the state’s clean air laws in 2019 and 2020, even as it sold credits from factory farm gas to California.²⁴ Neighboring Idaho is also building more big dairies and cashing in on LCFS credits, with Shell Oil partnering with a 10,000-cow dairy on a factory farm gas project.²⁵

Driving factory farm gas expansion in North Carolina is a state requirement that 0.2% of the state’s energy come from hog waste by 2023.²⁶ This special favor carveout directly aids global pork giant Smithfield, who has partnered with energy giant Dominion Energy to form the factory farm gas company Align RNG to capture methane from hog operations and pipe it into methane gas pipelines. Smithfield is building similar factory farm gas operations connected to their hog facilities around the country, from Utah to Missouri, where they also tap into credits from California’s LCFS to help subsidize the projects.²⁷

At the federal level, the national Renewable Fuel Standard allows factory farm gas producers to create and sell Renewable Identification Numbers (RIN) credits (similar to the LCFS) to fossil fuel providers to meet their obligations under the RFS. The RFS is a national policy that requires fossil fuel providers to use a certain percentage of non-petroleum-based transportation fuel, heating oil or jet fuel.²⁸

With factory farm gas projects allowed to tap into a laundry list of state and federal energy and agriculture programs, environmental advocates and the dairy industry are raising new questions about whether these programs are ultimately incentivizing factory farm expansion and manure-related pollution. What signals does this system send to farmers if the methane from the manure pays as well or more than the milk? “At that point, milk has become a by-product of manure production,” reports the industry publication *Hoard’s Dairyman*.²⁹ *Hoard’s* points out, “The trend is for fewer, larger dairy farms, and government energy policy, while well-meaning, could have the unintended consequence of driving additional consolidation in the dairy farm sector.”

Research by the Union of Concerned Scientists (UCS) earlier this year confirmed that subsidies for digesters far exceed the cost to capture the methane in a digester, and that the subsidy is nearly as large as the price the farmer was receiving for milk. UCS concluded that this development gives major advantages to large dairies over smaller dairies, creating potential incentives to either consolidate production or add cows to existing dairies to take further advantage of the subsidies.³⁰

There are already signs that policies promoting digesters are incentivizing factory farms to expand and produce more manure. In Iowa, recently passed legislation that allows dairies to expand beyond the current 6,000 limit if they use a digester for all

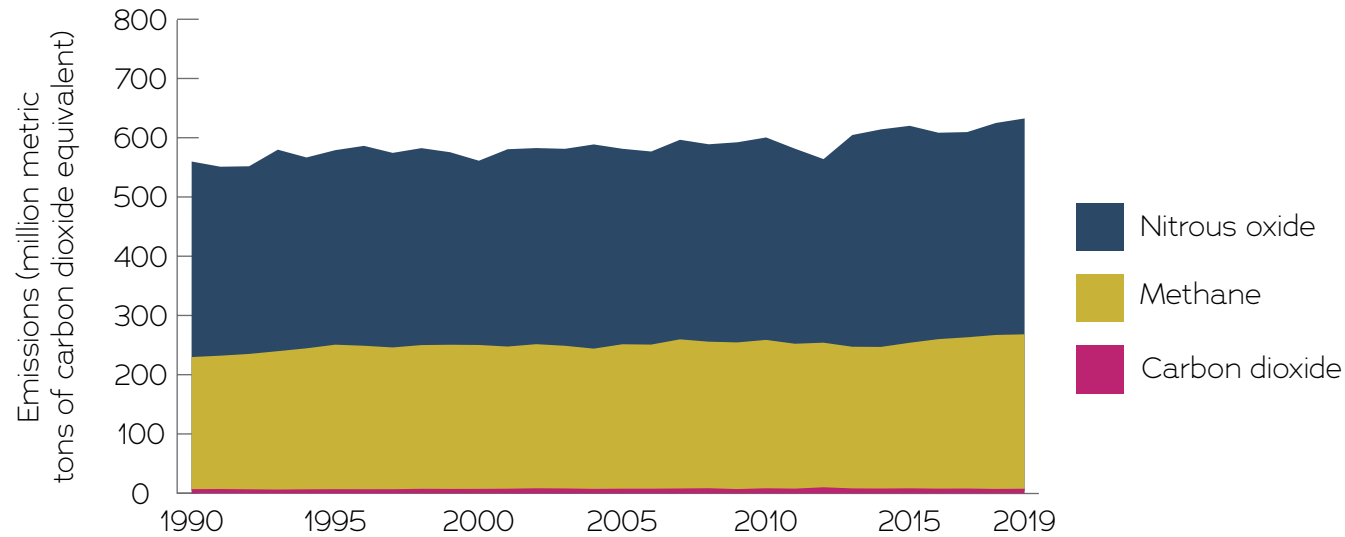


Figure 1: U.S. Greenhouse Gas Emissions from Agricultural Activities, by Gas, 1990-2020

Source: United States EPA, <https://bit.ly/391vovi>, accessed April 18, 2022.

When livestock manure is stored in manure lagoons and liquified for spraying on fields, it also produces methane. When manure is handled as a solid and applied to fields, it produces much less methane. The EPA identifies the liquid manure systems of large-scale factory farm dairy and hog operations as major sources of methane emissions and nitrous oxide (another potent greenhouse gas). Methane emissions from manure management have increased 68% since 1990, according to the EPA. The EPA writes, “The majority of this increase is due to swine and dairy cow manure, where emissions increased 49 and 117 percent, respectively....In many cases, manure management systems with the most substantial methane emissions are those associated with confined animal management operations where manure is handled in liquid-based systems.”¹⁵ The EPA writes: “the shift toward larger dairy cattle and swine facilities since 1990 has translated into an increasing use of liquid manure management systems, which have higher potential CH₄ emissions than dry systems.”

The EPA GHG Inventory tells only part of the story. Recent research indicates that emissions from hog and dairy concentrated animal feeding operations (CAFOs) are likely higher than estimated through the EPA’s modelling. The tracking of methane emissions using satellites and airplanes found that livestock emissions are consistently higher than EPA estimates, somewhere between 39-90% higher.¹⁶

While emerging methane sensors have focused on oil and gas, they will soon also include agriculture. For example, Carbon Mapper is partnering with NASA to track high methane sources in certain U.S. states and is broadening its scope to include more states and more up-to-date data, including for agriculture-related sources. Such aerial imaging technology has also raised questions about methane capture by dairy CAFOs using digesters. University of California researchers found “fairly persistent” methane plumes from four San Joaquin Valley dairies using digesters.¹⁷

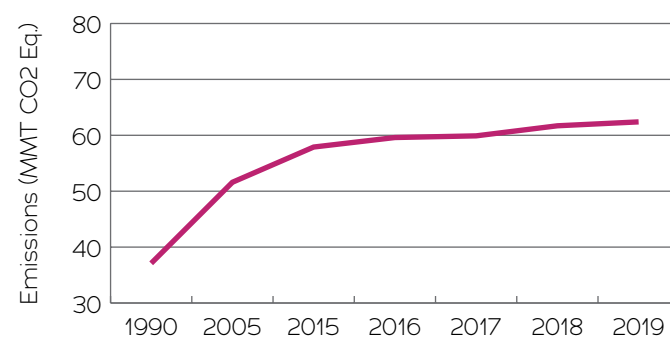


Figure 2: U.S. Greenhouse Gas Emissions from Manure Management, 1990-2019

Source: United States EPA, <https://bit.ly/3jM5AWd>, accessed April 18, 2022.

manure. Seven operations responded by expanding their numbers of dairy cows.³¹

If cows are added to produce additional manure to generate more factory farm gas, the gas can no longer be characterized as a byproduct of milk production. The manure instead becomes an intentional and additional pollution source that would not have otherwise existed, and any leakage from the digester or pipeline becomes additional methane pollution. Leakage from biogas facilities and pipelines is estimated between 2-4% to up to 15% of total biogas production.³²

Consolidation within the dairy industry into fewer, larger operations follows a long-term trend. Low prices, often below the cost of production, have plagued the dairy industry for several decades, but particularly over the last five years. Tens of thousands of small and mid-sized dairies have been pushed out, while big dairies have been caught price fixing³³ as they flood the market. While the number of dairies declined, the number of cows and milk production continued to rise sharply.³⁴ In 2021, the U.S. dairy herd reached its highest number in 27 years.³⁵

RISKS RISE FOR RURAL COMMUNITIES

Around the country, rural communities are already opposing the factory farm system for its water and air pollution, the lowering of property values and quality of life, the treatment of animals and the economic harm to independent farmers. Advocates in multiple states, like Iowa, Maryland, Minnesota, Wisconsin and Oregon, have called for moratoriums on new factory farms. A 2019 national poll, with a specific focus on major factory farm states Iowa and North Carolina, found that 80% of people are concerned about air, water and health issues from CAFOs.³⁶ Rural residents are also using the courts. In 2020, Smithfield, after repeatedly losing in court, was forced to settle multiple lawsuits from largely African American neighbors, who said the air and water pollution from hog CAFOs made their daily lives unbearable.³⁷

The introduction of factory farm gas and associated pipelines poses new public health and safety concerns for rural communities. Methane is highly flammable and explosive, and inhalation exposure can cause short and long-term health risks. Methane digesters and associated pipelines can leak and cause fires.³⁸ As the Biden Methane Plan admits, chronic pipeline leakages and ruptures are a major source of methane

emissions.³⁹ The Biden Plan also acknowledges that “communities located near areas of high methane production often face impacts from methane and other pollutants that result in poor health outcomes, reductions in property values, and decreases in quality of life” and that “communities of color bear the brunt.” This is certainly the case with factory farm operations clustered in North Carolina and California.

Factory farm gas infrastructure threatens to double-down on these risks by further incentivizing manure production. In North Carolina, environmental justice advocates have opposed the use of digesters on hog farms that are already polluting largely Black and Latinx rural communities.⁴⁰ In early 2022, the EPA launched a civil rights investigation into whether the North Carolina Department of Environmental Quality violated the civil rights of rural residents when they approved four digesters for hog operations.⁴¹ Waste from these farms has already contaminated nearby streams and rivers. The spray often blows onto neighboring homes and passing cars. Factory farm operators often pump down the liquid in lagoons ahead of major rainfall events to reduce the risk of lagoon overflows. This practice results in the land becoming oversaturated and the sprayed waste running off the fields onto neighboring properties and streams during and after the heavy rain events.

The giant factory farm manure lagoons required for digesters are vulnerable to extreme weather events and equipment breakdowns that result in manure spills and water pollution.⁴² Operations with methane digesters are not immune from manure spills,⁴³ most recently leaking into waterways in Iowa⁴⁴ and Oregon.⁴⁵ The Iowa digester, which was operating without state approval, was designed to send factory farm gas from big dairies in Iowa into pipelines to access credits in California’s LCFS.⁴⁶ Repairing broken digesters can be dangerous for workers. Last year, a worker drowned as he attempted to fix a broken digester on a one-million-pound manure tank in Iowa.⁴⁷

Another concern for rural residents is the anaerobic digestion process itself. While the digester captures some methane, it can increase the amount of ammonia,⁴⁸ nitrate and nitrite (all forms of nitrogen) in the manure. The result is a more concentrated ammonia and other forms of nitrogen in the leftover manure that is then sprayed on neighboring fields. Nitrate pollution leads to algae blooms in waterways. Ammonia air pollution is associated with respiratory issues. A National Academy of Sciences study attributes 95 and 83 premature deaths in two counties

with a high concentration of hog factory farms to fine particulate pollution, resulting from ammonia emissions.⁴⁹ When ammonia oxidizes it creates nitrous oxide, a potent greenhouse gas.

FACTORY FARMS BORN FROM U.S. FARM AND TRADE POLICY

The sharp rise in the factory farm system of meat and dairy production since 1990 emerged from a series of policy and regulatory choices. In the 1996 Farm Bill, the U.S. ended the last vestiges of farm programs that helped manage production to balance supply with demand and ensure fair prices for farmers. The 1996 Farm Bill instead allowed farmers to plant as much as they could (so-called Freedom to Farm) to target expanding exports. The policy failed, prices for farmers plunged, and now, the Farm Bill has a series of programs (including revenue insurance) that pay farmers on the basis of acreage yield when the market price drops.⁵⁷ The 1996 Farm Bill was designed to be consistent with trade policy provisions in the North American Free Trade Agreement (NAFTA) in 1994 and the formation of the World Trade Organization (WTO) in 1995. IATP opposed NAFTA as an attack on sustainable agriculture.⁵⁸ The Clinton administration and most agricultural economists sold all three policy actions to U.S. farmers on the premise that expanded exports would make them prosperous. As commodity prices dropped for animal feed crops, often below cost of production, the factory farm system took advantage. These below-cost animal feed prices served as a subsidy for factory farm meat and dairy operations,⁵⁹ giving them a big edge over smaller or mid-sized operations and pasture-based systems. The factory farm system is increasingly dependent on exports. Nearly 30% of U.S. hog production,⁶⁰ 11% of beef⁶¹ and 16% of dairy goes to exports.⁶² While this system has worked well for global meat and dairy companies, it has failed independent farmers, rural communities and the climate.

A STRONGER METHANE PLAN

When it comes to agriculture, the Biden Methane Plan could take much bolder steps that would provide a clear, predictable path toward meeting the country’s methane reduction pledge and responding to the urgency of the climate crisis. Here are eight actions to strengthen the Biden Plan:

Methane Digesters Revisited

Much of the Biden administration’s Methane Plan on agriculture is recycled from the Obama administration. In 2009, then Agriculture Secretary Vilsack announced a partnership with the dairy industry to reduce dairy industry GHGs 25% by 2020. (The latest EPA Greenhouse Gas inventory shows dairy emissions linked to enteric emissions and manure management rising steadily since 2005).⁵⁰ The basis of that commitment was expanded funding, research and promotion of manure digesters and a so-called “public private partnership” with the industry.⁵¹ Vilsack announced the partnership at COP15 in Copenhagen, touting the benefits of digesters: “Not only can we mitigate climate change but we can also provide immediate local environmental benefits, reduce U.S. dependence on fossil fuels, and provide a new economic stimulus for the rural economy.”⁵²

In 2013, USDA Secretary Vilsack signed a Memorandum of Understanding with Innovation of Center for U.S. Dairy (funded by the dairy checkoff, a tax on dairy farmers to promote the industry) that reiterated the USDA’s commitment to digesters including a “roadmap to biogas.”⁵³ The MOU served as a template for the Biden Methane Plan by touting support from multiple USDA programs, including expanding EQIP and REAP funding, technical assistance and research, and helping to connect digesters to other energy grids and pipelines.

In 2015, as part of President Obama’s Climate Action Plan, Vilsack announced USDA’s Building Blocks for Climate Smart Agriculture and Forestry that set the nation’s first measurable benchmarks in food and forestry to reduce net emissions by 120 million metric tons per year. Part of that goal was to install 500 digesters on livestock operations (the same target named in the Biden Methane Plan to use Build Back Better funds) through REAP and EQIP.⁵⁴

From 2017 through 2020, Vilsack led the checkoff-funded U.S. Dairy Export Council, also funded largely by Dairy Management Inc., to market the industry around the world, including a public relations campaign that claimed a high level of sustainability through creating biogas.⁵⁵

At the 2021 Glasgow climate meeting, Vilsack returned to much the same message on digesters. He announced USDA’s support for a new dairy industry initiative, this time called Pathways to Dairy Net Zero, an initiative to reach net zero dairy emissions in 30 years. Vilsack said, “Increasing the rate of adoption of feed management, manure management and digesters will be key to reducing greenhouse gas emissions including methane.”⁵⁶

Limit Emissions, Eliminate Exemptions:

1. **THE EPA SHOULD TAKE STEPS TO LIMIT METHANE EMISSIONS FROM LARGE-SCALE DAIRY AND HOG OPERATIONS.** In April 2021, IATP joined Public Justice and other family farm and environmental justice organizations in petitioning the EPA to set caps on methane

emissions for the largest dairy and hog operations under the Clean Air Act.⁶³ The Biden Plan includes actions to regulate methane for the oil and gas sector and landfill sector under the Clean Air Act. It has the statutory authority to regulate methane emissions from these large-scale factory farms. The EPA should begin to set standards for methane emissions from hog and dairy factory farms of more than 1,000 hogs and 500 dairy cows without access to pasture and that use lagoons to store massive amounts of liquified manure that is later sprayed on fields. In addition, the EPA should set standards to reduce emissions on new or expanding farm operations that fit this category and to require states to set specific methane emission limits for existing hog and dairy operations that fit this category.

- 2. REQUIRE ENVIRONMENTAL REVIEW FOR GOVERNMENT GUARANTEED LOANS** — The Trump administration weakened the National Environmental Protection Act (NEPA), one of the nation’s bedrock environmental laws, by creating an exemption for USDA and Small Business Administration loans for new or expanding factory farms.⁶⁴ Factory farms apply for USDA or SBA loans when they cannot get a loan from the Farm Credit System or from a commercial bank. Previously under NEPA, government backed loans for factory farms had to undergo environmental review, which includes the impact the proposed operation will have on water, air and climate, and gave community members an opportunity to weigh in if they had concerns. The White House Council for Environmental Quality is currently reviewing the Trump administration’s actions to weaken NEPA. The Biden Methane Plan should reinstate environmental review requirements, including for climate impacts, for loans backed by USDA or SBA. This important step would help ensure public resources aren’t used to increase and accelerate pollution and methane emissions.
- 3. INCORPORATE THE METHANE PLEDGE AND THE PARIS CLIMATE AGREEMENT AS BINDING MEASURES IN TRADE DEALS** — U.S. Trade Representative Katherine Tai has publicly advocated for the integration of climate commitments into trade deals. There are mechanisms within the U.S.-Mexico-Canada Agreement (USMCA) that allow countries to add additional multilateral environmental agreements to the trade deal. All three USMCA countries have

signed onto the Paris Climate Agreement and the Methane Pledge. Adding these climate-related agreements to the USMCA, a legally-binding trade deal, would reinforce these climate commitments, send a message to global trading partners and help protect climate action in the three countries from climate regulatory related trade disputes.

- 4. REQUIRE COMPANIES TO FULLY DISCLOSE METHANE EMISSIONS** — The Securities and Exchange Commission (SEC) has proposed new climate-related financial disclosure rules, as part of the SEC’s statutory mandate to ensure that investors are protected against financial risks undisclosed by companies seeking their investments.⁶⁵ These rules should cover quarterly posting of factory farm related supply chain emissions (called “Scope 3 emissions” in the Paris Agreement), including specific reporting of methane. Without mandatory, uniform and comprehensive reporting, meat and dairy companies can and do obscure their emission reporting by excluding their supply chains (not counting the cow or manure related emissions).⁶⁶ To meet the Methane Pledge, investors need more accurate reporting from companies to assess climate risk. The SEC can and should require Scope 3 climate reporting from companies that specifically includes methane emissions from the biggest factory farms.

Redirect Public Spending:

- 5. EXPAND AND REDIRECT CONSERVATION PROGRAMS** — Prior to the 2002 Farm Bill, CAFOs were not eligible for funding from EQIP, a program created to support specific farmer conservation projects to create a pathway toward greater conservation. Once CAFOs became eligible, they started to access EQIP for the management of their giant manure lagoons. A National Sustainable Agriculture Coalition analysis concluded that 10% of EQIP funds went to CAFOs in 2019 and 11% in 2020.⁶⁷ A recent analysis by IATP estimated that over one-quarter of 2020 EQIP dollars in the Midwest went toward practices that supported factory farms. EQIP and the more comprehensive Conservation Stewardship Program are enormously popular among farmers looking for support for sustainable practices, such as planting perennial grasses

or incorporating managed rotational grazing systems. Nationwide, only 31% of farmers who apply for EQIP and only 42% of farmers who apply for CSP are accepted. By removing CAFOs from EQIP eligibility and expanding these programs to meet demand, farmers can have more options to be successful outside of the factory farm system.

- 6. REDIRECT USDA GUARANTEED LOANS AWAY FROM FACTORY FARMS** — Many new or expanding CAFOs cannot get traditional financing from banks. Instead, they must turn to USDA Farm Service Agency guaranteed loans. USDA should prioritize loans for sustainable, agroecological farming systems, not those expanding the factory farm system that is driving methane emissions. The next Farm Bill should ban the use of FSA-guaranteed loans for these factory farms and ensure greater access to credit for farmers using sustainable, agroecological systems.
- 7. REDIRECT PUBLIC PAYOUTS FOR FACTORY FARM GAS** — The Biden Methane Plan pledges to spend significant public dollars through a variety of programs, such as REAP, that would put digesters on 500 dairy farms around the country. The digesters producing gas for off-farm pipelines require large amounts of manure and only make sense for the biggest operations. If those operations want to add digesters, they should pay for them. The public payouts should be redirected toward helping farmers transition to different types of farming systems, including well-managed pasture-based systems, and support real on-farm renewable energy, such as solar and wind.

Support the Transition:

- 8. PASS THE FARM SYSTEMS REFORM ACT** — The FSRA, with the support of over 300 groups, places an immediate moratorium on new or expanding CAFOs, with a phaseout of the biggest CAFOs by 2040.⁶⁸ It launches a voluntary buyout program for existing CAFO owners to help them transition toward different farming systems, including pasture-based systems. It also includes tougher competition rules and mandatory Country-of-Origin Labeling. The program provides farmers with a predictable, resourced transition, and if coupled with other Farm Bill programs, is a

pathway toward a just transition away from the high methane producing factory farm system.

CONCLUSION

When it comes to agriculture, the Biden Methane Plan is too tentative and misdirected to achieve its emissions reduction targets. The factory farm system has largely evaded scrutiny of its greenhouse gases, including methane. The reluctance to place appropriate limits on methane emissions from the biggest operations and halt the numerous public payouts that prop up the industry threatens to undermine the credibility of the Biden Methane commitment. Congress can take action in the next Farm Bill to halt public supports for big factory farms and provide a path forward for farmers to transition out of the CAFO system. The Methane Pledge cannot be just a promise. It needs action designed to bring the results to which the country has committed. Right now, the Biden Plan falls short. At this year’s Methane Ministerial, the Biden administration will have an opportunity to strengthen its plan and serve as a model for 110 other countries also dealing with their agriculture-related methane emissions.

ENDNOTES

1. The Global Methane Pledge. Accessed March 16, 2022. <https://www.globalmethanepledge.org/>
2. Hodgson, Camilla. "Climate meeting of ministers discusses national plans to cut methane." Financial Times. January 27, 2022. <https://www.ft.com/content/00f452ee-a234-4a30-bc0f-858c136781d8>
3. United Nations. "5 things you should know about the greenhouse gases warming the planet." January 8, 2022. <https://news.un.org/en/story/2022/01/1109322>
4. Tollefson, Jeff. "Scientists raise alarm over 'dangerously fast' growth in atmospheric methane." Nature. February 8, 2022. https://www.nature.com/articles/d41586-022-00312-2?utm_term=Autofeed&utm_campaign=nature&utm_medium=Social&utm_source=Twitter#Echobox=1644298955
5. Clean Air and Climate Coalition. Global Methane Pledge. Accessed March 16, 2022. <https://www.ccacoalition.org/en/resources/global-methane-pledge>
6. White House. Fact Sheet: President Biden tackles methane emissions, spurs innovations and supports sustainable agriculture to build a clean energy economy and create jobs. November 2, 2021. <https://www.whitehouse.gov/briefing-room/statements-releases/2021/11/02/fact-sheet-president-biden-tackles-methane-emissions-spurs-innovations-and-supports-sustainable-agriculture-to-build-a-clean-energy-economy-and-create-jobs/>
7. U.S. Environmental Protection Agency. U.S. to sharply cut methane pollution that threatens the climate and public health. November 2, 2021. <https://www.epa.gov/newsreleases/us-sharply-cut-methane-pollution-threatens-climate-and-public-health>
8. Natural Resources Conservation Service, U.S. Department of Agriculture. USDA to \$10 million to support climate-smart agriculture and forestry through voluntary conservation. June 24, 2021. <https://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/newsroom/releases/?cid=NRCSEPRD1793821>
9. U.S. Department of Agriculture. Commodity Credit Corporation. Accessed March 16, 2022. <https://www.usda.gov/ccc>
10. U.S. Department of Agriculture. USDA to spend \$1 billion in climate smart commodities expanding markets, strengthening rural America. February 7, 2022. https://www.usda.gov/media/press-releases/2022/02/07/usda-invest-1-billion-climate-smart-commodities-expanding-markets?utm_campaign=climatesmartcommodities&utm_medium=email&utm_source=govdelivery
11. Spivak, Cary. Hoffman, Mark. "Nonprofit that's supposed to promote dairy pays its leaders millions while the farmers who fund it are going out of business." Milwaukee Journal Sentinel. September 9, 2019. <https://pultzercenter.org/stories/nonprofit-thats-supposed-promote-dairy-pays-its-leaders-millions-while-farmers-who-fund-it>
12. U.S. Environmental Protection Agency. Greenhouse Gas Inventory. Accessed March 16, 2022. <https://cfpub.epa.gov/ghgdata/inventoryexplorer/index.html#allsectors/allsectors/allgas/gas/current>
13. White House Office of Domestic Climate Policy. U.S. Methane Emissions Reduction Action Plan: Critical and common sense steps to cut pollution and consumer costs, while boosting good paying jobs and American competitiveness. November 2021. <https://www.whitehouse.gov/wp-content/uploads/2021/11/US-Methane-Emissions-Reduction-Action-Plan-1.pdf>
14. U.S. Environmental Protection Agency. Greenhouse Gas Inventory, Agriculture Chapter 5. April 2021. <https://www.epa.gov/sites/default/files/2021-04/documents/us-ghg-inventory-2021-chapter-5-agriculture.pdf>
15. Ibid.
16. Hayek, Matthew. Miller, Scot. Underestimates of methane from intensively raised animals could undermine goals of sustainable development. Environmental Research. June 4, 2021. <https://iopscience.iop.org/article/10.1088/1748-9326/ac02ef>

17. Gross, Liza. Can California Reduce Dairy Methane Emissions Equitably. Inside Climate News. August 9, 2021. <https://insideclimatenews.org/news/09082021/california-dairy-methane-emissions/>

18. Laterman, Kaya. "This California dairy farm's secret ingredient for clean electricity: cow poop." Daily Beast. January 21, 2022. <https://www.thedailybeast.com/california-dairy-farm-has-microgrid-powered-by-clean-electricity-made-from-methane-from-cow-poop?via=newsletter>

19. U.S. Environmental Protection Agency. AgStar Anaerobic Digesters Data and Trends. Accessed March 16, 2022. <https://www.epa.gov/agstar/agstar-data-and-trends>

20. Smith, Aaron. What's worth more: a cow or its poop. Ag data news. February 3, 2021. <https://asmith.ucdavis.edu/news/cow-power-rising>

21. Key, Nigel. Sneeringer, Stacy. "Climate Change Policy and the Adoption of Methane Digestors on Livestock Operations." Economic Research Service, U.S. Department of Agriculture. February 2011. https://www.ers.usda.gov/webdocs/publications/44808/7839_err111.pdf?v=0#:~:text=Burning%20methane%20in%20a%20digester,from%20adopting%20a%20methane%20digester.

22. Smith, Aaron. The Dairy Cow Manure Goldrush. Ag data news. February 2, 2022. <https://asmith.ucdavis.edu/news/revisiting-value-dairy-cow-manure>

23. French, Marie. How Cow Manure from New York is Bolstering California's Air Emissions Goals. Politico. February 19, 2022. <https://www.politico.com/news/2022/02/19/cow-manure-new-york-california-emissions-00007370>

24. Food and Water Watch. Oregon Mega-Dairy Digester Received California Green Energy Credits as it Violated Air Quality Law. January 20, 2022. <https://www.foodandwaterwatch.org/2022/01/20/oregon-mega-dairy-digester-received-california-green-energy-credits-as-it-violated-air-quality-law/>

25. Cohen, Rachel. Why There's a "Gold Rush" to Build Dairy Digesters in Idaho. Boise State Public Radio. February 11, 2022. <https://www.boisestatepublicradio.org/news/2022-02-11/why-theres-a-gold-rush-to-build-dairy-digesters-in-idaho>

26. Morrison, James. In North Carolina Hog Waste is Becoming a Streamlined Fuel Source. National Public Radio. April 17, 2018. <https://www.npr.org/sections/thesalt/2018/04/17/601857456/in-north-carolina-hog-waste-is-becoming-a-streamlined-fuel-source>

27. Smithfield Foods. Largest Renewable Gas Project of its Kind Implements Manure-to-Energy Technology across Northern Missouri. August 11, 2021. [https://www.smithfieldfoods.com/press-room/2021-08-11-Largest-Renewable-Natural-Gas-Project-of-Its-Kind-Implements-Manure-to-Energy-Technology-Across-Northern-Missouri%2C-Celebrates-Construction-Completion-Ahead-of-Joint-Ventures-10-Year-Anniversary#:~:text=and%20Roeslein%20Alternative%20Energy%20\(RAE,power%20homes%2C%20vehicles%20and%20businesses.](https://www.smithfieldfoods.com/press-room/2021-08-11-Largest-Renewable-Natural-Gas-Project-of-Its-Kind-Implements-Manure-to-Energy-Technology-Across-Northern-Missouri%2C-Celebrates-Construction-Completion-Ahead-of-Joint-Ventures-10-Year-Anniversary#:~:text=and%20Roeslein%20Alternative%20Energy%20(RAE,power%20homes%2C%20vehicles%20and%20businesses.)

28. Environmental Protection Agency. Overview: Renewable Fuel Standard. Accessed: March 23, 2022. <https://www.epa.gov/renewable-fuel-standard-program/overview-renewable-fuel-standard#pathways>

29. Mcculley, Michael. Energy Revenue Could be a Game Changer for Dairy Farms. Hoard's Dairyman. September 23, 2021. <https://hoards.com/article-30925-energy-revenue-could-be-a-game-changer-for-dairy-farms.html>

30. Union of Concerned Scientists. Manure Biomethane Analysis. January 6, 2022. <https://www.arb.ca.gov/lists/com-attach/24-lcfs-wkshp-dec21-ws-AHVSNI1MhVlpXNQRI.pdf>

31. Jordan, Erin. Nine Iowa Dairies Get Digester Permits Since New Law, Seven Plan Expansion. The Gazette. December 3, 2021. <https://www.thegazette.com/agriculture/nine-iowa-dairies-get-digester-permits-since-new-law-seven-plan-expansion/>

32. Grubert, Emily. At Scale, Renewable Natural Gas Systems Could Be Climate Intensive: the Influence of Methane Feedstock and Leakage Rates. Environmental Research Letters. August 11, 2020. <https://iopscience.iop.org/article/10.1088/1748-9326/ab9335>

33. Fu, Jessica. Milk Co-ops Slaughtered 500,000 Cows via a Retirement Program. Now They'll Pay \$220 Million in a Price Fixing Lawsuit. The Counter. December 5, 2019. <https://thecounter.org/dairy-cooperatives-herd-retirement-cow-slaughter-antitrust-price-fixing-retailer-lawsuit-settlement/#:~:text=Retirement%20has%20never%20been%20so,price%2Dfixing%20dispute%20with%20retailers.>

34. U.S. Department of Agriculture. National Agriculture Statistics Service. Milk Production by Year. Accessed: March 23, 2022. https://www.nass.usda.gov/Charts_and_Maps/Milk_Production_and_Milk_Cows/milkprod.php

35. Mcculley, Michael. Energy Revenue Could be a Game Changer for Dairy Farms. Hoard's Dairyman. September 23, 2021. <https://hoards.com/article-30925-energy-revenue-could-be-a-game-changer-for-dairy-farms.html>

36. Johns Hopkins Center for Livable Future. Survey: Majority of Voters Surveyed Support Greater Oversight of Industrial Animal Farms. December 10, 2019. <https://clf.jhsphe.edu/about-us/news/news-2019/survey-majority-voters-surveyed-support-greater-oversight-industrial-animal>

37. Yeoman, Barry. Smithfield Settles Suits Over North Carolina Farms After Losing Appeal. FERN's Ag Insider. November 19, 2020. https://thefern.org/ag_insider/smithfield-settles-suits-over-north-carolina-farms-after-losing-appeal/

38. Livestock and Poultry Environmental Learning Community. Anaerobic Digesters and Biogas Safety. March 5, 2019. <https://lpelc.org/anaerobic-digesters-and-biogas-safety/>

39. White House Office of Domestic Climate Policy. U.S. Methane Emissions Reduction Action Plan: Critical and common sense steps to cut pollution and consumer costs, while boosting good paying jobs and American competitiveness. November 2021. <https://www.whitehouse.gov/wp-content/uploads/2021/11/US-Methane-Emissions-Reduction-Action-Plan-1.pdf>

40. Southern Environmental Law Center. Civil rights Filing Alleges Discriminatory Harm in Industrial Hog Operations Permits. September 28, 2021. <https://www.southernenvironment.org/news/civil-rights-filing-alleges-discriminatory-harm-in-industrial-hog-operations-permits/>

41. Yeoman, Barry. EPA to Investigate North Carolina Biogas for Discrimination. FERN's Ag Insider. January 23, 2022. https://thefern.org/ag_insider/epa-to-investigate-north-carolina-biogas-for-discrimination/

42. Sorg, Lisa. Hog Farm That Spilled 1 Million Gallons of Feces, Urine Into Waterways Had Been Warned of Lagoon Problems. NC Policy Watch. January 12, 2021. <https://ncpolicywatch.com/2021/01/12/hog-farm-that-spilled-1-million-gallons-of-feces-urine-into-waterways-had-been-warned-of-lagoon-problems/>

43. Channel 3000. Third Spill in 6 Months Reported at Manure Digester. March 13, 2014. <https://www.channel3000.com/3rd-spill-in-6-months-reported-at-manure-digester/>

44. Grant, Jeff. Manure Spill Investigated by Rock Valley. N'West Iowa. February 7, 2022. https://www.nwestiowa.com/news/manure-spill-investigated-by-rock-valley/article_c2d513f8-886c-11ec-82fd-d7bbd9eb6ab9.html

45. Plaven, George. Oregon DEQ Hands Out \$63,750 in Fines for Manure Digester Overflow. Capital Press. June 19, 2020. https://www.capitalpress.com/ag.sectors/water/oregon-deq-hands-out-63-750-in-fines-for-manure-digester-overflow/article_27ef98da-b24a-11ea-8e63-efef06e70b61.html

46. Mansouri, Kavahn. Iowa Manure Recycler Operated Without States Permission When it Leaked Waste into Creeks. Iowa Public Radio. March 3, 2022. <https://www.iowapublicradio.org/ipr-news/2022-03-03/iowa-manure-recycler-operated-without-states-permission-when-it-leaked-waste-into-creeks>

47. Jordan, Erin. Anaerobic digester death ruled accidental drowning. The Gazette. July 28, 2021. <https://www.thegazette.com/agriculture/anaerobic-digester-death-ruled-accidental-drowning/>

48. Southern Environmental Law Center. Complaint Under Title VI under Civil Rights Act. September 27, 2021. <https://www.southernenvironment.org/wp-content/uploads/2021/09/2021-09-27-Title-VI-Complaint-Index-DEQ-Biogas-Permits.pdf>

49. Chapmen, Isabelle. Air Pollution From Animal-based Food Production is Linked to 12,700 Deaths Each Year, Study Says. CNN. May 10, 2021. <https://www.cnn.com/2021/05/10/us/air-pollution-deaths-farming-agriculture/index.html>

50. Environmental Protection Agency. U.S. Greenhouse Gas Inventory, Agriculture Chapter 5. Accessed: March 23, 2022. <https://www.epa.gov/system/files/documents/2022-02/us-ghg-inventory-2022-chapter-5-agriculture.pdf>

51. Agweb. Vilsack Outlines Deal With Dairy Industry on GHGs. December 15, 2009. <https://www.agweb.com/news/machinery/100-ideas/vilsack-outlines-deal-w/dairy-industry-ghgs.>

52. Ranchers.net. Agriculture Secretary Vilsack Giving Climate Summit Speech. November 27, 2009. <https://www.ranchers.net/threads/agriculture-sec-tom-vilsack-giving-climate-summit-speech.40778/>

53. U.S. Department of Agriculture. USDA MOU With Dairy Innovation Center. April 24, 2013. <https://www.usda.gov/sites/default/files/documents/usda-mou-innovation-center-us-dairy.pdf>

54. U.S. Department of Agriculture. USDA Building Blocks for Climate Smart Agriculture and Forestry. May 2016. <https://www.usda.gov/sites/default/files/documents/building-blocks-implementation-plan-progress-report.pdf>

55. O'Keefe, Mark. U.S. Dairy Exports Start Farmer Passion for Sustainability, Customer Focus, Animal Care and Efficiency. U.S. Dairy Exporter Blog. April 9, 2019. <https://blog.usdec.org/usdairyexporter/us-dairy-exports-start-with-farmer-passion-for-sustainability-customer-focus-animal-care-and-efficiency-0.>

56. U.S. Department of Agriculture. USDA Underscores Commitment for Climate Action at COP26. Accessed: November 5, 2021. <https://www.usda.gov/media/press-releases/2021/11/05/usda-underscores-commitment-climate-action-cop26.>

57. Lilliston, Ben. Ritchie, Niel. Freedom to Fail: How US Farming Policies Have Helped Agribusiness and Pushed Out Family Farmers. July 10, 2000. <https://www.iatp.org/documents/freedom-fail-how-us-farming-policies-have-helped-agribusiness-and-pushed-family-farmers.>

58. Mark Ritchie, "Impacts of NAFTA on Sustainable Agriculture," Institute for Agriculture and Trade Policy, April 27, 27, 1994.

59. Starmer, Elanor. Wise, Tim. Feeding at the Trough: Industrial Livestock Firms Saved \$35 Billion From Low Feed Prices. Global Development and Environmental Institute. Tufts University. December 2007. <https://static1.squarespace.com/static/5e0a3c609e9c070f246c7788/t/5e667724bc0a8b4eab50dcb6/1583773485065/Feeding+at+the+Trough%3A+Industrial+Livestock+Firms+Saved+%2435+billion+From+Low+Feed+Prices.>

60. Pork Checkoff. U.S. Pork Exports. Accessed: March 23, 2022. <https://porkcheckoff.org/markets/us-pork-exports/#:~:text=Top%20U.S.%20Pork%20Customers&text=In%202021%2C%20exports%20accounted%20for,%20every%20U.S.%20hog%20marketed.>

61. U.S. Department of Agriculture, Foreign Agriculture Service. Beef and Cattle. Accessed: March 23, 2022. <https://www.fas.usda.gov/commodities/beef-and-cattle#:~:text=Overall%2C%20exports%20accounted%20for%2011%20percent%20of%20U.S.%20domestic%20production.>

62. U.S. Dairy Export Council. Market Information. Accessed: March 23, 2022. <https://www.usdec.org/research-and-data/market-information/top-charts-x1507#:~:text=The%20United%20States%20exported%20an,more%20than%20any%20other%20year.>

63. Public Justice. Climate, Environmental Justice Groups Call for EPA to Hold Industrial Dairy and Hog Operations Accountable and to Reject Big Ag Technology. April 6, 2021. <https://food.publicjustice.net/methane-petition-press-release/>

64. Lilliston, Ben. New Rules Weaken Protections for Rural Communities and Climate. September 30, 2020. <https://www.iatp.org/blog/202009/new-rules-weaken-protections-rural-communities-and-climate.>

65. U.S. Security and Exchange Commission. SEC Proposes Rules to Enhance and Standardize Climate-Related Disclosure for Investors. March 21, 2022. <https://www.sec.gov/news/press-release/2022-46>.

66. Lilliston, Ben. Behind the Curtain: JBS Net Zero Pledge. October 21, 2021. <https://www.iatp.org/documents/behind-curtain-jbs-net-zero-pledge>.

67. National Sustainable Agriculture Coalition. Cover Crops and CAFOs: EQIP in FY2019 and FY 2020. October 6, 2021. <https://sustainableagriculture.net/blog/cover-crops-and-cafos-eqip-in-fy-2019-and-fy-2020/>.

68. Booker, Cory. Booker Reintroduces Bill to Reform Farm System With Expanded Support from Farm, Labor, Environment, Public Health, Faith-based and Animal Welfare Groups. July 15, 2021. [https://www.booker.senate.gov/news/press/booker-reintroduces-bill-to-reform-farm-system-with-expanded-support-from-farm-labor-environment-public-health-faith-based-and-animal-welfare-groups#:~:text=The%20Farm%20System%20Reform%20Act,\(CAFOs\)%2C%20and%20restore%20mandatory](https://www.booker.senate.gov/news/press/booker-reintroduces-bill-to-reform-farm-system-with-expanded-support-from-farm-labor-environment-public-health-faith-based-and-animal-welfare-groups#:~:text=The%20Farm%20System%20Reform%20Act,(CAFOs)%2C%20and%20restore%20mandatory).