From Factory Farming to a Sustainable Food System: A Legislative Approach

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INTRODUCTION

This Article explores the true costs of widespread industrialized agricultural practices in the United States ("U.S."), particularly the most egregious of those practices—concentrated animal feeding operations ("CAFOs"). For nearly a hundred years, the United States has used federal policy and taxpayer dollars to support agricultural practices focused on high yields and cheap animal-based protein. As a result, the United States is reaping a harvest of toxicity: drinking water contaminated with cancer-causing nitrates and cyanobacteria, untreated animal sewage flooding across watersheds and adulterating crops, and dead zones in the Gulf of Mexico and the Chesapeake Bay that cost state fishing and tourism industries hundreds of millions of dollars in lost revenues. Society picks up the true cost of "cheap meat" while industrialized agriculture thrives in a seemingly endless stream of federal support. It is long past time for a change. This Article proposes legislation that would leverage the power of the federal government to promote sustainable agricultural practices to reduce and eventually reverse the devastating health, economic, and environmental impacts of industrialized agricultural production.

The proposed legislation, the Farm And Rural Model for Sustainable Agriculture through Federal Enforcement ("FARM SAFE") Act, would direct taxpayer dollars towards supporting sustainable agricultural and environmental practices while requiring federal agencies such as the Environmental Protection Agency ("EPA") and the U.S. Department of Agriculture ("USDA") to enforce environmental and liability standards on agricultural producers. The FARM SAFE Act would immediately begin mitigating the damage caused by the most flagrantly polluting industrialized agricultural operations, removing legal exemptions that allow them to avoid environmental compliance requirements and thus transfer the actual societal costs of their production methods to the public and the environment as negative externalities.[1] Successive legislative changes would

1. Helen H. Jensen, *Food System Risk Analysis and HACCP*, *in* NEW APPROACHES TO FOOD-SAFETY ECONOMICS 63, 63 (A.G.J. Velthuis, L.J. Unnevehr, H. Hogeveen & R.B.M. Huirne eds., Kluwer Academic Publishers 2003) ("Private markets often fail to provide adequate food safety because information costs are high, detection is often very difficult, and the nature of contamination is complex. Underlying many of the food-safety failures is the existence of externalities, or costs not borne by those whose actions create them.").

replace direct and indirect federal support for factory farming with support for diversified small and midsized farms that use sustainable production methods, laying the groundwork for long-term U.S. food and environmental safety and security.

The history of U.S. support for industrialized agriculture is long and complicated; untangling all the intricacies would require a book rather than an article. Suffice it to say that the federal government has a huge influence over how crops are grown and animals are produced, from how the Legislative Branch establishes policies and appropriates funding to the ways in which the Executive Branch enforces, or fails to enforce, regulatory requirements.[2] Although U.S. agriculture as a whole is designed to maximize yields at the expense of almost all other considerations, the worst offenders are unquestionably the egregiously polluting livestock operations called CAFOs, which is why they are the focus of this Article. CAFOs are significant sources of polluting emissions and solid and liquid waste, which threaten human, animal, and ecosystem health. They also are the most extreme manifestation of an increasingly consolidated and industrialized agricultural production system that gives control over the worldwide food supply to a smaller and smaller number of corporations. This consolidation, frequently justified on the basis of meeting global consumer demand for cheap animal-based protein, concentrates livestock production in animal-dense locations, putting surrounding communities at risk of pathogen outbreaks and devastating environmental harm.

Instead of directly eliminating CAFOs, the FARM SAFE Act would establish a staggered series of legislative changes directing taxpayer dollars to support sustainable agricultural practices that benefit human health, the environment, and the rural economy. Although these changes might lead to the total abandonment of the CAFO model, it is also possible that the staggered approach, combined with the estimated fifteen-year lifespan of a typical U.S. CAFO constructed today,[3] would finally motivate industrialized agricultural interests to design new facilities in a way that can meet environmental standards. Either result would be a meaningful improvement over the current situation, where federal dollars and agencies are used to underwrite the harmful practices of large corporate entities, rather than promote agriculture that supports the well-being of U.S. health, environment, and economy.

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2. *See, e.g.*, UNION OF CONCERNED SCIENTISTS, SUBSIDIZING WASTE: HOW INEFFICIENT US FARM POLICY COSTS TAXPAYERS, BUSINESSES, AND FARMERS BILLIONS 1 (2016); IOWA STATE UNIV. & THE UNIV. OF IOWA STUDY GRP., IOWA CONCENTRATED ANIMAL FEEDING OPERATIONS AIR QUALITY STUDY 2 (2002).

3. IOWA STATE UNIV. & THE UNIV. OF IOWA STUDY GRP., *supra* note 2, at 15.

I. CHANGE IS NECESSARY

A. THE ENVIRONMENTAL AND HUMAN COSTS OF INDUSTRIALIZED AGRICULTURE

Humanity is facing a critical moment if we intend to address global climate change while there is still time to do so. The scientific community is united in its understanding of the consequences of continuing activities as usual: increasing air temperatures, rising sea levels, growing weather instability with more frequent and more severe disasters, and associated unfavorable effects on the overall habitability of the planet for our species.[4] International efforts to address climate change have focused on the necessity of reducing greenhouse gas emissions such as carbon dioxide, methane, and nitrous oxide.[5] Of these, reduction of methane is believed to be one of the best ways to (relatively) quickly make positive atmospheric changes. However, the main source of methane emissions—agriculture—has not yet been targeted for change the same way that energy, industry, and transportation sources have.[6] In fact, agricultural production, including related deforestation and other land clearing, is the source of as much greenhouse gas emissions as all of global industry and more than all sources of transportation combined.[7]

Scientists, activists, and journalists have recently begun highlighting agricultural contributions to climate change, noting that "at the present rate, cattle and other livestock will be responsible for half of the world's greenhouse gas emissions by 2030."[8] Growing the quantity of crops needed to feed the animals raised for human consumption requires land and forests to be cleared for agriculture, which threatens global biodiversity and worsens greenhouse gas emissions.[9] Additionally, livestock production, particularly the raising of cattle for beef, is a heavy user of global freshwater, an increasingly stressed resource that is critical

4. U.S. GLOB. CHANGE RESEARCH PROGRAM, CLIMATE SCIENCE SPECIAL REPORT: FOURTH NATIONAL CLIMATE ASSESSMENT (NCA4), VOLUME 1, at 1–2 (2017).

5. *See, e.g.*, Paris Agreement Under the United Nations Framework Convention on Climate Change, Art. 6.4, U.N. Doc. FCCC/CP/2015/L.9/Rev.1.

6. Helen Harwatt, *Including Animal to Plant Protein Shifts in Climate Change Mitigation Policy: A Proposed Three-step Strategy*, 19 CLIMATE POL'Y 533, 533 (2018).

7. Univ. of Minn. Inst. on the Env't, *How Does Agriculture Change Our Climate*, ENVIRONMENT REPORTS: FOOD MATTERS (citing Francesco N. Tubiello et al., *The Contribution of Agriculture, Forestry and Other Land Use Activities to Global Warming, 1990–2012*, 21 GLOB. CHANGE BIOLOGY 2655, 2655–56 (2015)), https://perma.cc/GJ8P-TWJG (last visited Sept. 15, 2020). In the United States, the share of greenhouse gas emissions derived from agriculture has increased by 10.1 percent since 1990 due to the concomitant 58.7 percent increase in methane and nitrous oxide emissions from livestock liquid manure systems, which produce more emissions than other forms of manure management. *Sources of Greenhouse Gas Emissions*, ENVTL PROT. AGENCY, https://perma.cc/ZS3U-5WY5 (last updated Sept. 9, 2020).

8. Damian Carrington, *Global Food System Is Broken, Say World's Science Academics*, THE GUARDIAN (Nov. 28, 2018, 2:01 PM), https://perma.cc/9PYF-RKNY.

9. Christian Balzer, Belinda L. Befort, Jason Hill & David Tilman, *Global Food Demand and the Sustainable Intensification of Agriculture*, 108 PROC. NAT'L ACAD. SCIS. U.S. 20260, 20260 (2011).

for human survival.[10] At the same time, the continuing growth of the world's population means that there is heightened pressure to produce more food just as rising global wealth means that more people are able to afford to eat meat regularly, something once reserved for luxury consumption.[11]

If, as many claim, the benevolent objective of U.S. agriculture is to "feed the world,"[12] animal-based protein is an extremely inefficient way to achieve that goal. Given the calories lost in converting feed grains to animal-based protein, if the total number of calories produced on U.S. farmland to feed animals were used to feed humans directly instead, U.S. agriculture would be able to feed nearly three times more people than it currently does.[13] Due to these environmental and nutritional facts, many scientists and environmental advocates have called on consumers to shift their dietary choices to plant-based protein or, at a minimum, to less resource-intensive animal-based protein.[14]

In addition to straining the health of the planet, research shows that large-scale availability and consumption of cheap animal-based protein and highly processed calorie-dense foods are devastating to public health.[15] Although focus is deservedly placed on the 815 million people worldwide who are undernourished, there are also more than 2 billion who are overweight or obese and are, therefore, at great risk of negative health effects such as cardiovascular disease, type II diabetes, chronic kidney disease, and cancer, causing millions of otherwise avoidable

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10. H. Charles J. Godfray et al., *Meat Consumption, Health, and the Environment*, 361 SCI., Jul. 20, 2018, at 4–5 (noting that "[a]griculture uses more freshwater than any other human activity, and nearly a third of this is required for livestock. . . on average, beef farming is more than three times as water intensive as chicken production per kilogram of meat."); PEW COMM'N ON INDUS. FARM ANIMAL PROD., PUTTING MEAT ON THE TABLE: INDUSTRIAL FARM ANIMAL PRODUCTION IN AMERICA 27 (2008) (stating that "87% of the use of freshwater in the United States is used in agriculture, primarily irrigation.").

11. Hannah Devlin, *Rising Global Meat Consumption 'Will Devastate Environment'*, THE GUARDIAN (July 19, 2018, 2:00 PM) (citing Godfray et al., *supra* note 10, at 1–2), https://perma.cc/47KS-KM8P; Thomas T. Poleman & Lillian T. Thomas, *Income and Dietary Change: International Comparisons Using Purchasing-Power Parity Conversions*, 20 FOOD POL'Y 149, 149 (1995); M.A. Keyzer, M.D. Merbis, I.F.P.W Pavel & C.F.A. van Wesenbeeck, *Diet Shifts Towards Meat and the Effects on Cereal Use: Can We Feed the Animals in 2030?*, 55 ECOLOGICAL ECON. 187, 188 (2005).

12. *See, e.g.*, Mary Jane Maxwell, *U.S. Farmers Feed the World*, SHAREAMERICA (Mar. 6, 2019), https://perma.cc/HD7F-AVK4; Tom Vilsack, Sec'y of Agric., *Secretary's Column: Family Farmers Do More than Feed the World*, U.S. DEP'T OF AGRIC.: BLOG (Feb. 21, 2017), https://perma.cc/5MPM-DH8G.

13. Univ. of Minn. Inst. on the Env't, *Change Your Diet, Change Our Destiny?*, ENVIRONMENT REPORTS: FOOD MATTERS (citing Emily S. Cassidy, Paul C. West, James S. Gerber & Jonathan A. Foley, *Redefining Agricultural Yields: From Tonnes to People Nourished Per Hectare*, ENVTL. RES. LETTERS, Aug. 1, 2013, at 1, https://perma.cc/SKF3-622G), https://perma.cc/7J69-QD5W (last visited Sept. 15, 2020).

14. *Drop Beef and Save Millions of Lives, Slash Emissions: WEF*, PHYS.ORG (Jan. 3, 2019) (citing Marco Springmann et al., *Options for Keeping the Food System Within Environmental Limits*, 562 NATURE 519, 519–525 (2018)), https://perma.cc/C3JN-CGGV. However, the plant-based diet faces opposition from well-connected critics. Sam Bloch, *World Health Organization Drops Its High-Profile Sponsorship of the EAT-Lancet Diet*, NEW FOOD ECONOMY (Apr. 12, 2019), https://perma.cc/QXM7-PJAR.

15. Godfray et al., *supra* note 10, at 2–4.

deaths each year.[16] As one article reports, "Poor diets are responsible for more of the global burden of ill health than sex, drugs, alcohol and tobacco combined."[17]

B. CAFOS: A FLAWED APPROACH

To produce animal-based protein in the large quantities and at the low prices demanded by the growing global population, corporations have turned to CAFOs, a method of industrialized livestock production more similar to factories than to farms. The EPA defines a CAFO as an animal feeding operation that either has "more than 1,000 animal units confined on site for more than 45 days during the year" or that "discharges manure or wastewater into a natural or man-made ditch, stream or other waterway."[18] An animal unit is equivalent to 1,000 pounds of live weight, which means "1,000 head of beef cattle, 700 dairy cows, 2,500 swine weighing more than 55 lbs., 125 thousand broiler chickens, or 82 thousand laying hens or pullets."[19] CAFOs concentrate thousands of animals in as small a space as possible to allow them to be rapidly and cheaply converted to protein for human consumption, threatening the surrounding ecosystem while posing health risks for the workers and untold misery for the animals themselves.[20]

According to the Union of Concerned Scientists, only five percent of U.S. livestock operations are CAFOs, but those nearly 10,000 CAFOs produce fifty percent of U.S. food animals, which in turn produce more than 300 million tons of manure a year.[21] That is twice as much fecal waste as American humans produce each year; in fact, one of the largest CAFOs can alone produce more sanitary waste than all the humans in Philadelphia, the fifth most populated city in the U.S.[22]

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16. *Id.*; U.N. Dep't of Econ. & Soc. Affairs, Statistics Div., *The Sustainable Development Goals Report 2018*, at 4 (2018); Marie Ng et al., *Global, Regional, and National Prevalence of Overweight and Obesity in Children and Adults During 1980–2013: A Systematic Analysis for the Global Burden of Disease Study 2013*, 384 LANCET 766, 766, 770, 779 (May 29, 2014).

17. Lawrence Haddad et al., Comment, *A New Global Research Agenda for Food*, 540 NATURE 30 (2016), https://perma.cc/3BGY-G6TN. The World Health Organization considers processed meats such as bacon and sausage to be a group one carcinogen (along with asbestos and tobacco) and red meat to be probably carcinogenic to humans. Sarah Boseley, *Processed Meats Rank Alongside Smoking as Cancer Causes – WHO*, THE GUARDIAN (Oct. 26, 2015) (quoting Bouvard et al., *Carcinogenicity of Consumption of Red and Processed Meat*, 16 LANCET 1599, 1600 (Oct. 26, 2015)), https://perma.cc/CES5-DZH3.

18. *Animal Feeding Operations*, NAT. RES. CONSERVATION SERV., https://perma.cc/LW44-6S89 (last visited Sept. 6, 2020) (summarizing EPA's regulatory definitions at 40 C.F.R. § 122.23(b)).

19. *Id.*

20. *E.g.*, *Improving the Lives of Farm Animals*, THE HUMANE SOC'Y OF THE U.S., https://perma.cc/3FSJ-QZWV (last visited Sept. 12, 2020); F. M. Mitloehner & M. S. Calvo, *Worker Health and Safety in Concentrated Animal Feeding Operations*, 14 J. AGRIC. SAFETY & HEALTH 163, 170 (2008); PEW COMM'N ON INDUS. FARM ANIMAL PROD., *supra* note 10, at 33. This Article and the proposed FARM SAFE legislation do not address the animal welfare issues involved with CAFOs as they are extensive enough to warrant an entirely separate article.

21. DOUG GURIAN-SHERMAN, UNION OF CONCERNED SCIENTISTS, CAFOS UNCOVERED: THE UNTOLD COSTS OF CONFINED ANIMAL FEEDING OPERATIONS 2 (2008).

22. *Id.*; CARRIE HRIBAR, NAT'L ASS'N OF LOCAL BDS. OF HEALTH, UNDERSTANDING CONCENTRATED ANIMAL FEEDING OPERATIONS AND THEIR IMPACT ON COMMUNITIES 2 (2010).

Concentrating livestock in CAFOs exponentially increases environmental and health risks. As one report notes, "Pound for pound, pigs produce four times the waste of a human. Consequently, a single [CAFO] housing 5,000 pigs produces the same volume of raw sewage as a town of 20,000, but the [CAFO] does not have a sewage treatment plant."[23] If you were, however, to decentralize those 5,000 pigs across twenty farms, each farm would only need to manage the waste of 250 pigs, and any unexpected runoff or flooding from the much smaller manure lagoons would have a less detrimental effect on surrounding watersheds. The same is true for human health effects. A poultry broiler CAFO with four houses produces about 340 tons of litter (manure and poultry bedding) each year.[24] The concentrated waste in those long, low houses crowded with chickens creates almost unmanageable ventilation difficulties, resulting in dangerous working conditions for CAFO employees, who frequently suffer from respiratory diseases.[25]

Meanwhile, the increased industrialization and concentration of U.S. agriculture is crowding out midsized, diversified farms. Based on the 2012 Census of Agriculture, the USDA proudly proclaimed that ninety-seven percent of all U.S. farms were family-owned, but the report also showed that more than half of all vegetable and dairy sales came from just three percent of farms, all large or very large.[26] The 2017 Census of Agriculture showed a decline in both the number and profitability of U.S. farms, with increases only among the very large and very small farms; the largest farms, representing less than one percent of farms, accounted for thirty-five percent of all sales.[27] Industrialized agriculture has had a powerful impact on modern farming, as the upfront capital expenditures required to buy the high-tech equipment, buildings, and automated systems used to minimize inputs and maximize yields (by, for example, tracking irrigation, planting, and harvest) are out of reach for all but the largest producers.[28]

These changes have significantly impacted U.S. rural communities: reducing employment opportunities as farms consolidate into larger and more mechanized

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23. PEW COMM'N ON INDUS. FARM ANIMAL PROD., *supra* note 10, at 29.

24. *Id*. at 42.

25. DAVID ANDREW & TIMOTHY KAUTZA, PEW COMM'N ON INDUS. FARM ANIMAL PROD., IMPACT OF INDUSTRIAL FARM ANIMAL PRODUCTION ON RURAL COMMUNITIES 29 (2008).

26. Press Release, U.S. Dep't of Agric., Family Farms are the Focus of New Agriculture Census Data (Mar. 17, 2015) (citing NAT'L AGRIC. STAT. SERV., U.S. DEP'T AGRIC., AC-12-A-15, 2012 CENSUS OF AGRICULTURE (2014)), https://perma.cc/6VQ9-2FH7.

27. NAT'L AGRIC. STAT. SERV., U.S. DEP'T AGRIC., ACH17-1, 2017 CENSUS OF AGRICULTURE HIGHLIGHTS: FARM ECONOMICS (2017) (citing NAT'L AGRIC. STAT. SERV., U.S. DEP'T AGRIC., AC-17-A-51, 2017 CENSUS OF AGRICULTURE (2019)); Brian Todd, *Census Shows More Big, Small Farms; Drop in Mid-Sized Operations*, POST BULLETIN (Apr. 17, 2019), https://perma.cc/LZ23-AGG5.

28. *E.g*., Andrew Soergel, *Family Farms Pushed to Get Big or Go Bust: A Consolidated Agricultural Landscape Has Complicated the Lives of Some Small- and Mid-Sized Farmers*, U.S. NEWS & WORLD REPORT (Apr. 4, 2018, 12:01 AM), https://perma.cc/KH6W-USVU; Beth Hoffman, *Ninety-Nine Percent of America's Farms Are Family-Owned. But Only Half Are Family-Farmed*, THE COUNTER (May 24, 2018, 8:00 AM), https://perma.cc/KM39-6U29.

operations, swallowing up less-profitable smaller operations, driving down the wages at the jobs that remain, causing out-migration of younger generations, and benefiting large national or international agricultural suppliers to the detriment of small retailers.[29] As farms get larger, the percentage of their income that they spend in their local area decreases significantly.[30] Research has shown that rural areas with a larger number of diversified livestock producers benefit more economically than those with primarily large CAFOs, even if those CAFOs are producing a larger total number of animals.[31]

Producers unable to afford their own start-up or maintenance costs often turn to contract agriculture, such as CAFOs. Under a typical CAFO contract, the farmer owns the land and buildings occupied by the animals being raised, while a large corporation, called an integrator, owns the animals, mandates every input and detail of production, and usually owns the slaughterhouses and packing/processing facilities that the farmer is required to use.[32] Although contract farmers have almost no control over any stage of production, their contracts make them legally liable for the waste the CAFO produces.[33] Additionally, contract farmers bear considerable risk because they are required to incur the large debt necessary to finance up-front investments in land, buildings, and equipment as specified by the integrator, and they are typically at the mercy of a single integrator when it comes to contract terms (such as price and duration) and renewal.[34]

As production contracts have taken over, particularly in the poultry and hog sectors where almost eighty percent of poultry and nearly sixty percent of hogs are produced under contract, it is now almost impossible in some areas of the country for farmers to produce livestock any other way.[35] There is literally no

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29. *E.g.*, Jacob Bunge, *Supersized Family Farms Are Gobbling up American Agriculture*, WALL ST. J. (Oct. 23, 2017, 2:04 PM), https://perma.cc/LX62-QN86; ANDREW & KAUTZA, *supra* note 25, at 17–18.

30. ANDREW & KAUTZA, *supra* note 25, at 18; Chris McGreal, *How America's Food Giants Swallowed the Family Farms*, THE GUARDIAN (Mar. 9, 2019, 11:30 AM), https://perma.cc/6JHB-W5LC (describing how the loss of midsized farms devastated the rural economy: "Local seed and equipment suppliers shut up shop because corporations went straight to wholesalers or manufacturers. Demand for local vets collapsed. As those businesses packed up and left, communities shrank. Shops, restaurants and doctors' surgeries closed. People found they had to drive for an hour or more for medical treatment. Towns and counties began to share ambulances.").

31. PEW COMM'N ON INDUS. FARM ANIMAL PROD., *supra* note 10, at 41–42.

32. ANDREW & KAUTZA, *supra* note 25, at 8, 12–13, 15.

33. *Id.* at 8.

34. *Id.* at 11–13, 15. For more on capital investment requirements for modern agriculture, see JAMES M. MACDONALD, ROBERT A. HOPPE & DORIS NEWTON, U.S. DEP'T OF AGRIC., ECON. RESEARCH SERV., ECON. INFO. BULL. NO. 189, THREE DECADES OF CONSOLIDATION IN U.S. AGRICULTURE 16–17 (2018).

35. ANDREW & KAUTZA, *supra* note 25, at 13; *see also*, McGreal, *supra* note 30 (describing how the rise of CAFOs and corporate monoculture agriculture has destroyed the viability of small and midsized farms and devastated rural America: "Missouri . . . had 23,000 independent pig farmers in 1985. Today it has just over 2,000. The number of independent cattle farms has fallen by 40% over the same period. Tim Gibbons of Missouri Rural Crisis Center, a support group for family farmers set up during the 1980s farm crisis, says the cycle of economic shocks has blended with government policies to create a

open market in which noncontract farmers can sell their animals, given the vertically integrated supply chain and corporately controlled slaughter and packing processes.[36] A quarter of contract poultry producers report having become contract growers "when they no longer had access to a slaughter facility as independent producers."[37]

U.S. CAFOs tend to be geographically concentrated; for instance, most hog CAFOs are located in North Carolina and Iowa, while most poultry CAFOs are in Arkansas and Georgia.[38] There are only about 240 U.S. poultry processing facilities, and almost all chickens raised for meat in the United States are produced within thirty miles of one of these facilities.[39] The surrounding communities, however, do not benefit economically from this consolidation. In fact, research shows that industrialized agriculture has led to negative economic effects on the U.S. rural economy, from greater income inequality to decreased employment opportunities.[40] Vertically integrated corporate-controlled supply chains mean that CAFO growers acquire their inputs (feed, animals, even veterinary services) from distant corporations, not local retailers and providers.[41] Moreover, the types of jobs that are available in these factory farms are inherently more dangerous to worker health.[42] Additionally, the harmful impacts of CAFOs on water and air quality significantly decrease outdoor recreation, home values and sales (and, therefore, property tax assessments), and overall quality of life.[43]

C. CHEAP MEAT IS NOT CHEAP

Despite all the evidence showing that CAFOs are a significant source of environmental harm, with negative repercussions to human and environmental health far from their physical location, U.S. agricultural policy continues to support the production of cheap monoculture feed grains while limiting the application of key environmental laws to agricultural operations.[44] These policies allow CAFO production costs to exclude most environmental externalities and, therefore, to be profitable individually while extremely damaging, on the whole, both socially

'monopolisation of the livestock industry, where a few multinational corporations control a vast majority of the livestock'").

36. PEW COMM'N ON INDUS. FARM ANIMAL PROD., *supra* note 10, at 49.

37. ANDREW & KAUTZA, *supra* note 25, at 15.

38. GURIAN-SHERMAN, *supra* note 21, at 39–40.

39. ANDREW & KAUTZA, *supra* note 25, at 12.

40. *Id*. at 17–18, 21.

41. ANDREW & KAUTZA, *supra* note 25, at 17–18, 21.

42. HRIBAR, *supra* note 22, at 5–6; PEW COMM'N ON INDUS. FARM ANIMAL PROD., *supra* note 10, at 16.

43. HRIBAR, *supra* note 22, at 3.

44. *E.g*., GURIAN-SHERMAN, *supra* note 21, at 20, 29–33, 53; PEW COMM'N ON INDUS. FARM ANIMAL PROD., *supra* note 10, at 75.

and environmentally.[45] Although CAFOs are often touted as models of efficiency due to their use of industrialized processing, integrated supply chains, and economies of scale, research shows that it is actually federal law and enforcement inaction that have made them successful.[46]

U.S. farm policy has subsidized the production of commodity crops so much and for so long that feed crops like corn and soybeans are frequently sold at market below their cost of production, while exemptions from environmental laws and enforcement mean that CAFOs are rarely held responsible for the actual costs of the damage they cause. For instance, nitrogen runoff from agricultural production in the United States has been estimated to cause more than 12,500 cancer cases annually in addition to costing $157 billion a year due to contamination of drinking water, negative effects on human health, and environmental damage.[47] This cost is not borne by agricultural producers; instead, municipal water treatment systems pay billions of dollars to remove the nitrates or toxic cyanobacteria in affected water, resulting in increased utility bills for residents.[48] Americans who use groundwater wells for their drinking water must choose between paying to treat their wells, dig new wells, or buy bottled water, and risking negative health effects that include methemoglobinemia (blue baby syndrome), cancer, and thyroid disease.[49] Because the EPA does not regulate private wells, the burden of detecting and treating the problem is placed almost entirely on private citizens.[50] In total, these externalized waste and water treatment costs have been estimated to be about $2.55 to $4 per hundred weight for a typical hog CAFO, costs which are currently paid by society at large, whether or not society at large

45. PEW COMM'N ON INDUS. FARM ANIMAL PROD., *supra* note 10, at 47 ("Externalities are costs or benefits resulting from a decision or activity that is not reflected in the transaction cost (price).").

46. *Id*. at 6, 47.

47. UNION OF CONCERNED SCIENTISTS, *supra* note 2, at 4–5; Brian Pascus, *Study: Nitrate Pollution in U.S. Drinking Water Could Lead to Thousands of Cancer Cases*, CBS NEWS (June 11, 2019, 4:14 PM) (citing Chris Campbell, Sydney Evans, Tatiana Manidis, Olga V. Naidenko & Alexis Temkin, Envtl. Working Grp., *Exposure-Based Assessment and Economic Valuation of Adverse Birth Outcomes and Cancer Risk Due to Nitrate in United States Drinking Water*, 176 ENVTL. RES., Sept. 2019, at 108442), https://perma.cc/36NB-QTF9.

48. UNION OF CONCERNED SCIENTISTS, *supra* note 2, at 4–5; Jennifer Bjorhus, *Landmark Farm Rule Aims to Protect Minnesota's Drinking Water: Hoping to Cut Nitrate Levels in Drinking Supply, Minnesota Regulating Fertilizer Use*, STAR TRIBUNE (June 9, 2019, 6:48 AM) (stating that the town of Hastings, Minnesota paid $3 million to construct a water-treatment plant to remove nitrates from drinking water: "Minnesota farmers apply about 700,000 tons of commercial nitrogen fertilizer to their fields each year, primarily to boost corn yields, and it leaches into groundwater, as well as lakes and streams . . . More than one quarter of the lakes, streams and wetlands in Minnesota now show nitrate levels above the 10 milligrams level" established as being of risk to infants and pregnant women; many private wells are similarly contaminated), https://perma.cc/3LQQ-JAVC.

49. UNION OF CONCERNED SCIENTISTS, *supra* note 2, at 4–5; Bjorhus, *supra* note 48; Mary H. Ward et al., *Drinking Water Nitrate and Human Health: An Updated Review*, 15 INT'L J. OF ENVTL. RES. & PUB. HEALTH (SPECIAL ISSUE) 219, 225, 230, 237 (2018).

50. Ward et al., *supra* note 49 at 220.

eats supposedly low-cost U.S. pork.[51] Put simply, cheap meat is not actually cheap.

II. TOPICS FOR LEGISLATIVE HEARINGS

The next part of this Article describes three general topic areas that could be explored in depth in congressional hearings and used as the basis for legislative findings and committee reports. Passage of comprehensive legislation like the FARM SAFE Act will require a concerted effort, starting with congressional hearings, to heighten public awareness and gain national traction for meaningful action. This is especially true because the harmful industrialized agriculture industry has become engrained in U.S. society thanks to federal support and corporate lobbying that promote the public perception that bigger is not just better, it is the only way to feed the burgeoning world population.[52]

The topics presented here are particularly intended as subjects for field hearings conducted in rural parts of the country that have suffered the most from industrialized agriculture and yet are also likely to be the most resistant to top-down changes mandated by the federal government. Rural voters tend to view themselves as conservationists and can be receptive to environmental messages; however, they also tend to be more skeptical about the larger impact of federal regulations than urban and suburban voters are.[53] Researchers have found that rural voters find environmental messages most compelling when framed in terms of "the need to protect the environment for future generations," "the need to maintain clean water," and "the need for the government to provide corporate oversight."[54] This Article briefly describes facts and arguments that could be presented in these "message frames" to help build support for a comprehensive federal-level legislative effort like passage of the FARM SAFE Act.

Although the proposed topic areas focus on industrialized animal agriculture, it is important to emphasize that current federal agricultural support extends far beyond making CAFOs possible and profitable. Comprehensively changing the current U.S. model and supporting sustainable agriculture will require a holistic approach that addresses everything from how the USDA subsidizes the production of row crops, to how the EPA fails to regulate agricultural activities with significant environmental effects, to how the Department of the Interior allows

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51. PEW COMM'N ON INDUS. FARM ANIMAL PROD., *supra* note 10, at 47.

52. *See, e.g.*, Alex Formuzis, *U.S. Agribusiness 'Feeding the World' Claim Is Dangerous Myth*, ENVTL. WORKING GRP. (Oct. 5, 2016) ("U.S. agribusiness spokesmen routinely defend practices that pollute air and water, and destroy soil by claiming that American farmers are doing what it takes to 'feed the world.'"), https://perma.cc/ZWF4-ZD6K.

53. ROBERT BONNIE, EMILY PECHAR DIAMOND & ELIZABETH ROWE, UNDERSTANDING RURAL ATTITUDES TOWARD THE ENVIRONMENT AND CONSERVATION IN AMERICA 4–5 (2020).

54. *Id.* at 25.

livestock grazing on federal rangeland.[55] For example, federal policies directly influence which crops producers decide to plant, and then schoolchildren are served federally subsidized meals as yet one more way to support the market prices of these overproduced commodities and specialty crops.[56] Each one of these federal resources, and so many more, can be retargeted to support a food system that truly serves the U.S. people.[57] This Article and the FARM SAFE Act it proposes are just a starting point.

A. CAFOS ARE A SIGNIFICANT THREAT TO CLEAN WATER AND PUBLIC HEALTH

The most obvious and immediate threat that CAFOs present is to clean water and public health, two significant concerns of the rural communities in which these factory farms are usually located. CAFOs present such a significant threat to drinking water quality and overall public health because the effects of CAFOs are so difficult to contain.[58]

Many of CAFOs' harms are rooted in manure storage and disposal. Manure lagoons at North Carolina hog CAFOs (most of which are concentrated in the coastal plain) have repeatedly overflowed in situations of natural disaster, flooding untreated sewage across the countryside and contaminating crops to the extent that they are considered "adulterated" by the FDA and cannot be sold for human consumption.[59] Animal waste concentrated in manure lagoons has a much higher nutrient load than raw human sewage and is, therefore, much more likely to result in dangerous algal blooms when it contaminates ground or surface water.[60] This waste often contains heavy metal, antibiotic, pesticide, and hormone

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55. *See e.g.*, *Trump Farm Subsidies: Farmers Find Ways to Boost Their Payments*, CBS NEWS (July 3, 2019, 9:01 AM), https://perma.cc/PE6X-KCYY; *Livestock Grazing on Public Lands*, BUREAU OF LAND MGMT., https://perma.cc/UW2T-5KUR (last visited Sept. 20, 2020); PEW COMM'N ON INDUS. FARM ANIMAL PROD., *supra* note 10, at 75 (stating that "[u]nder currently proposed EPA rules, only 49 to 60% of IFAP waste qualifies for federal regulation").

56. Kevin Kosar, *Why Are Farmers Telling Kids What to Eat?*, POLITICO (Mar. 17, 2016, 4:55 AM), https://perma.cc/QB82-9Q6X.

57. Any serious legislative effort to address these issues should also examine whether targeting federal support of sustainable agriculture will simply move industrialized agriculture south of the U.S. border, exporting all of the terrible health and environmental effects to countries even less able to manage and mitigate them. The Farm System Reform Act of 2019, introduced by Senator Booker, attempts to address this issue by reestablishing mandatory country of origin labeling ("COOL") for beef, pork, and dairy products (Title III of Senate Bill 3221). However, it is debatable whether COOL works as intended, and it has a long history of legal challenges, including through the World Trade Organization, making this another issue beyond the scope of the current Article.

58. *See* Press Release, U.S. Dep't of Agric., EPA, USDA Encourage Use of Market-Based and Other Collaborative Approaches to Address Excess Nutrients (Dec. 4, 2018), https://perma.cc/2KGQ-KWL6 (acknowledging "addressing excess nutrients in waterways" as one of "the nation's most challenging water resource concerns"); PEW COMM'N ON INDUS. FARM ANIMAL PROD., *supra* note 10, at 11.

59. *Overflowing Hog Lagoons Raise Environmental Concerns in North Carolina*, NAT'L PUB. RADIO (Sept. 22, 2018, 7:54 AM), https://perma.cc/RD7D-DGH3.

60. PEW COMM'N ON INDUS. FARM ANIMAL PROD., *supra* note 10, at 22–24.

residue, much of which can persist in watersheds.[61]

Many rural areas depend on groundwater for drinking, and studies have shown that private wells in areas with CAFOs often contain bacteria, pathogens, veterinary antibiotics, and nitrates (a particular risk to infants, among whom high levels of nitrates may result in blue baby syndrome, neural tube defects, and even death).[62] The massive quantities of manure produced in concentrated areas by CAFOs are difficult to mitigate and can lead to antibiotic-resistant strains of bacteria being transmitted to humans through air or water contamination of nearby fresh fruit and vegetable production.[63] Additionally, CAFOs are the perfect breeding place for insects, including those that can spread harmful pathogens to humans.[64] These risks can extend far beyond the rural areas where CAFOs are located, through both food-borne pathogens and infectious diseases that spread from animals to humans.[65]

Despite all of these well-documented negative effects, agricultural activities are largely exempt from regulation and oversight under the Federal Water Pollution Control Act (commonly known as the "Clean Water Act").[66] The threats to clean water and public health are, therefore, particularly compelling reasons for why federal legislative action is necessary.

B. CAFOS PUT CORPORATE INTERESTS AHEAD OF THE PUBLIC INTEREST, NECESSITATING GOVERNMENT INTERVENTION

Although rural voters are generally skeptical of government intervention, they recognize that corporations are powerful interests that put their own financial interests ahead of the public interest, providing a legitimate reason for government oversight.[67] Therefore, the corporate structure that makes CAFOs possible

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61. *Id*.

62. HRIBAR, *supra* note 22, at 3–6; GURIAN-SHERMAN, *supra* note 21, at 42–52; Josephine Marcotty, *Baby's Death Sparks Water Safety Fight: Small-Town Wisconsin Residents Take on State and Powerful Ag Industry*, STAR TRIBUTE (Dec. 26, 2018), https://perma.cc/HB2G-GLBR; PEW COMM'N ON INDUS. FARM ANIMAL PROD., *supra* note 10, at 12–13.

63. Nichole A. Broderick, Jo Handelsman, Fabienne Wichmann & Nikolina Udikovic-Kolic, *Bloom of Resident Antibiotic-Resistant Bacteria in Soil Following Manure Fertilization*, 111 PROC. NAT'L ACAD. SCI. U.S. 15202, 15202 (2014); IOWA STATE UNIV. & THE UNIV. OF IOWA STUDY GRP., *supra* note 2, at 11–12; GURIAN-SHERMAN, *supra* note 21, at 60–64.

64. HRIBAR, *supra* note 22, at 8–9.

65. PEW COMM'N ON INDUS. FARM ANIMAL PROD., *supra* note 10, at 13.

66. *Id*. at 6, 75, 77.

67. BONNIE, DIAMOND & ROWE, *supra* note 53, at 6, 38. Senator Cory Booker, a vegan African-American liberal Democrat, discovered this common ground when campaigning for President in the predominantly conservative midwest areas where industrialized agriculture is the strongest: "Booker realized there was a place that vegans and farmers could come together: Both of them hate the ways agribusiness had consolidated and mechanized the meat market, forcing farmers into using massive, cruel, and environmentally devastating confined animal feeding operations, or CAFOs." Ezra Klein, *Farmers and Animal Rights Activists Are Coming Together to Fight Big Factory Farms*, VOX (July 8, 2020, 8:10 AM), https://perma.cc/3L4L-GWJB. This experience led him to introduce the Farm System

would be an important topic for congressional hearings intending to build support for federal intervention.

By their very nature, CAFOs are tied to consolidated supply chains, with producers acting as quasi-independent contractors legally bound to sell their animals to the processor that both supplies their inputs and controls the price paid for their outputs. This, combined with USDA regulations that make it impracticable for small-scale slaughter operations to maintain USDA-required inspections, reinforces the shift to larger operations controlled by fewer companies, which negatively impacts the economic stability of rural communities.[68] Meanwhile, farmers lose more and more control over their own production, with corporate integrators dictating every detail of how their animals are raised, fed, bred, medicated, and slaughtered.[69] Overall, the interests of corporate agribusiness erode autonomy, leading to decreased community cohesion and fewer jobs, most of which are low-paid, often leading to an influx of migrant or immigrant workers.[70]

In building larger national support for change, it is important to show that CAFOs also have negative effects on the economic and social interests of individuals located far from the facilities themselves. Both lagoon-stored manure and poultry waste (which contains carcasses and bedding in addition to manure) are frequently applied to agricultural fields.[71] Fields where manure has been applied excessively are significant sources of surface runoff that contaminate drinking water, kill fish and other aquatic life, and produce dangerous levels of algae growth.[72] Excess nutrients from the Mississippi Watershed have been linked to the record-setting 2018 Florida red tide, which lasted for more than a year. Estimates of the direct economic and health effects of such algal blooms are tens

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Reform Act of 2019 (Senate Bill 3221), which would, among other changes, place an immediate moratorium on large CAFOs and prohibit their operation entirely after January 1, 2040. *Id.*

68. GURIAN-SHERMAN, *supra* note 21, at 20; PEW COMM'N ON INDUS. FARM ANIMAL PROD., *supra* note 10, at 41–42.

69. Klein, *supra* note 67 (quoting Missouri farmer and former lieutenant governor Joe Maxwell: "Independent family farmers and ranchers are being driven off their land, driven into bankruptcy, being forced into a system of industrialized agriculture that our values don't support . . . It's either join up with these transnational monopolies or we're going to bankrupt you. That's the reality of family agriculture today.").

70. PEW COMM'N ON INDUS. FARM ANIMAL PROD., *supra* note 10, at 43.

71. Press Release, Envtl. Working Grp., New Investigation: Recent Explosion of Poultry Factory Farms in N.C. Piles Manure from 515.3M Chickens onto Waste from 9.7M Hogs (Feb. 13, 2019), https://perma.cc/4C6G-RQZG (noting that North Carolina alone has more than 4,700 poultry and 2,100 swine CAFOs, some located in floodplains or along rivers with a history of overflowing).

72. HRIBAR, *supra* note 22, at 4–5; *see also* Erin Jordan, *Research: Large Number of CAFOs in Western Iowa Increases Nitrate in Streams*, THE GAZETTE (Jan. 20, 2019) (citing Chad W. Drake, Claire E. Hruby, Christopher S. Jones, Keith E. Schilling, Calvin F. Wolter, *Livestock Manure Driving Stream Nitrate*, 48 AMBIO 1143, 1151 (2019)), https://perma.cc/TDV2-R5FC (stating that the high nitrate level found in certain Iowa watersheds is due to the dense concentrations of medium- and large-scale animal feeding operations in that area of the State and their application of more than twice the recommended rate of nitrogen fertilizer (from manure and purchased fertilizer) to cornfields).

of millions of dollars annually.[73] The hypoxic (dead) zones in the Gulf of Mexico and the Chesapeake Bay have been directly linked to industrialized animal production and the resulting nitrogen, phosphorus, and ammonia runoff.[74] The tourism industry, which is critical to many state economies, suffers losses of nearly $1 billion a year due to the disruption of fishing, boating, and other aquatic recreational activities due to algal blooms and other consequences of nutrient pollution.[75]

As the effects of climate change worsen, these environmental effects and their resulting economic impacts will worsen as well. The 2017 North Atlantic hurricane season was the most expensive on record, with more than $300 billion in estimated economic losses.[76] Severe flooding in 2019 prevented timely planting for millions of acres and caused billions of dollars in damages; meanwhile, the National Oceanic and Atmospheric Administration reported 200 more tornados than are typical for the first half of the year.[77] As the sea level rises and weather events become more unpredictable and extreme, so-called "hundred-year floods" will become more common, with more manure lagoons overflowing and more nutrient runoff. Simultaneously, rising temperatures and an increasing global population will increase the demands on clean drinking water and other resources. Contrary to the current official positions of the EPA and the USDA,[78] voluntary "market-based" conservation approaches are not sufficient to address nutrient runoff and declining water quality now, let alone as the problems continue to worsen.

Strangling corporate control, combined with worsening environmental realities, create the perfect storm—one that state and local action alone are unable to address. Comprehensive federal intervention, both legislative and regulatory, is necessary to preserve the way of life that rural Americans value for themselves and their children.

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73. *See* Lisa Krimsky, Betty Staugler, Brittany Hall-Scharf, Krista Stump & Rebecca Burton, *Understanding Florida's Red Tide*, FLORIDA SEA GRANT (Sept. 20, 2018), https://perma.cc/245C-P7QX.

74. GURIAN-SHERMAN, *supra* note 21, at 42–52. *See also* Press Release, Nat'l Ocean and Atmospheric Admin., Larger-than-Average 'Dead Zone' Expected for Gulf of Mexico (June 3, 2020), https://perma.cc/5Z3D-V5SM.

75. UNION OF CONCERNED SCIENTISTS, *supra* note 2, at 6.

76. U.N. Dep't of Econ. & Soc. Affairs, Statistics Div., *supra* note 16, at 4.

77. *E.g.*, Katie Mettler, *Extreme Weather Is Pummeling the Midwest, and Farmers Are in Deep Trouble*, WASH. POST (May 30, 2019, 10:52 AM), https://perma.cc/R9N4-SYWT; Emily Moon, *'The Fields Are Washing Away:' Midwest Flooding Is Wreaking Havoc on Famers*, PAC. STANDARD (June 6, 2019), https://perma.cc/5MZB-DHCA.

78. U.S. Dep't of Agric., *supra* note 58 (quoting Under Secretary Bill Northey as saying that "Voluntary conservation works . . . But we know more can be done, and continue to look for partners to pursue innovative, market-based, and voluntary approaches that lead to cleaner water and a healthier agricultural sector.").

C. CAFOS UNDERMINE OUR MORAL RESPONSIBILITY TO PROTECT THE ENVIRONMENT FOR FUTURE GENERATIONS

Rural communities have an understandable pride in their connection to the land and a strong desire to preserve the environment for future generations.[79] Congressional hearings should emphasize that, without comprehensive federal intervention to promote agricultural and environmental sustainability, the beauty, healthfulness, and productivity of rural America will be severely jeopardized for generations to come.

The relentless transition from small- and medium-scale, diversified farms, which produce both crops and livestock, to industrial-scale CAFOs exacerbates all of the problems described above and has persistent, negative effects on rural America. The consolidation of larger and larger numbers of animals at a single operation exponentially increases the quantity of manure produced, the chemicals and odor emitted, and the difficulties of mitigating the resulting negative effects. CAFOs are now often situated far from feed production, leading to additional environmental burdens both in the transport of feed and animals and in the lack of suitable nearby outlets for manure compost.[80] These burdens are disproportionately borne by rural U.S. communities, which suffer many negative effects from contaminated water (including health risks), the loss of employment and recreational opportunities, and decreasing property values.[81]

In addition, the chemicals and odors emitted by CAFOs pose a threat to anyone living or working near the facilities, particularly children and those with weak immune systems.[82] Although there is a global scientific consensus around the hazards of ammonia and hydrogen sulfide, the United States relies on state regulatory actors to establish and enforce emission standards.[83] In fact, although CAFOs emit significant quantities of methane, a greenhouse gas, federal law does not require CAFOs to have air permits.[84]

Agricultural workers confront the most dangerous levels of exposure and are the first to be affected by chemicals used on and emitted by CAFOs, such as ammonia, methane, carbon dioxide, and hydrogen sulfide.[85] CAFO workers have been shown to suffer from severe chronic respiratory issues that progressively worsen over prolonged exposure to air-borne toxins produced by so many animals living in such a confined space.[86] Although most effects are

79. *See generally* BONNIE, DIAMOND & ROWE, *supra* note 53, at 25, 30.
80. GURIAN-SHERMAN, *supra* note 21, at 56–58.
81. *E.g.*, McGreal, *supra* note 30.
82. HRIBAR, *supra* note 22, at 5–7; GURIAN-SHERMAN, *supra* note 21, at 60–62; PEW COMM'N ON INDUS. FARM ANIMAL PROD., *supra* note 10, at 17.
83. IOWA STATE UNIV. & THE UNIV. OF IOWA STUDY GRP., *supra* note 2, at 7–9.
84. *Id.* at 12.
85. *Id.* at 16.
86. HRIBAR, *supra* note 22, at 5–6.

acute or chronic, some are fatal.[87] The Occupational Safety and Health Administration ("OSHA") is unable to effectively protect these workers because the agency has not established permissible exposure standards for these work conditions and often fails to regulate large agricultural producers entirely.[88] These are not the kinds of jobs that farming families want their children to hold.

III. FEDERAL ACTION CAN CHANGE CAFOS, AS EVIDENCED BY CHANGES IN BIG TOBACCO

Despite all of the evidence arrayed against CAFOs, it must be acknowledged that powerful interests support industrialized agriculture. Considering more than a half-century of federal farm policy promoting agricultural consolidation and increased yields at the expense of all else, a likely objection to the FARM SAFE Act is that it would never gain the support necessary to pass Congress. It can be hard to imagine stopping the relentless expansion of industrialized agriculture in the United States, especially when it seems that even conclusive scientific evidence is insufficient to convince federal legislators to make a significant policy shift. However, such a change is not unprecedented.

Starting in the 1950s, scientific reports began demonstrating the causal connection between smoking and lung cancer. It would take forty years, however, before the large number of lawsuits brought by states seeking recovery for smoking-related public health expenses forced the four largest U.S. tobacco companies to agree to the Tobacco Master Settlement Agreement.[89] One year later, a second agreement established the National Tobacco Grower Settlement Trust Fund to provide $5.15 billion over twelve years to compensate tobacco-producing states for expected losses to their tobacco producers.[90] Then in 2004, with tobacco finally recognized as such a great harm to the public health that government support for its production could no longer be justified, Congress passed the Fair and

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87. PEW COMM'N ON INDUS. FARM ANIMAL PROD., *supra* note 10, at 16; *see also* H. Claire Brown, *As Tyson Continues Its Push to Privatize Plant Inspections, Five Workers Were Just Hospitalized After a Chemical Spill*, THE COUNTER (June 20, 2019, 4:38 PM), https://perma.cc/82BP-535V.

88. IOWA STATE UNIV. & THE UNIV. OF IOWA STUDY GRP., *supra* note 2, at 11; JOHNS HOPKINS CTR. FOR A LIVABLE FUTURE, ACTION 8: REQUIRING REMOVAL OF EXEMPTIONS FOR AGRICULTURAL OPERATIONS FROM THE OCCUPATIONAL SAFETY AND HEALTH ACT 1–2 (2020). This Article and the proposed FARM SAFE legislation do not include provisions relating to occupational health and safety due to scope and jurisdiction issues. Any legislative attempt to address the OSHA issues would need to require OSHA to establish permissible exposure standards for workers who spend prolonged periods exposed to ammonia, hydrogen sulfide, and methane emissions. Although the Occupational Safety and Health Act of 1970 does not specifically limit OSHA's ability to regulate agricultural operations, congressional appropriators frequently include limiting language in appropriations acts to exempt small farms from OSHA enforcement and discourage OSHA involvement with agricultural operations. This Article is similarly unable to address the extensive agricultural labor issues relating to noncitizen workers, whether documented or undocumented.

89. *See* PUB. HEALTH LAW CTR., THE MASTER SETTLEMENT AGREEMENT: AN OVERVIEW 1–2 (2019).

90. U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-01-851, TOBACCO SETTLEMENT: STATES' USE OF MASTER SETTLEMENT AGREEMENT PAYMENTS 58–61 (2001).

Equitable Tobacco Reform Act of 2004 (Title VI of Public Law 108-357), ending federal price support loans and production controls (marketing quotas and acreage allotments) for tobacco.[91] The law required ten years of quarterly assessments on tobacco product manufacturers and importers, apportioned according to gross domestic volume market share.[92] The amounts collected were paid out through the Tobacco Transition Payment Program to an estimated 416,000 individuals who held tobacco quotas and 57,000 active tobacco producers (all of whom were also quota holders).[93] Payments continued through the end of the fiscal year 2014.[94]

By 2015, the number of U.S. tobacco producers had fallen to nearly 4,300, from a 2002 high of nearly 57,000 individuals who either grew tobacco or had the federal right to do so.[95] The United States went from being the second-largest global producer of tobacco in 1994 to the fourth.[96] However, due to market consolidation, higher prices, and international exports, overall tobacco revenue actually increased.[97] Although the Tobacco Transition Payment Program did not end U.S. tobacco production or smoking, it did eliminate significant federal price support programs and substantially decreased the overall number of U.S. tobacco producers. The legislation proposed in this Article uses a similar tactic to phase out CAFOs in the United States and, in their place, promote sustainable agricultural systems.

Congress ended federal support for tobacco production only after overwhelming scientific evidence proved a direct link between tobacco use and the public health crisis of smoking-related diseases, the costs of which were borne largely by state governments.[98] Similarly, the evidence about the negative effects of CAFOs has become incontrovertible; the time to act is now.[99] Although industrialized agriculture in general causes significant environmental and public health harms, CAFOs represent the most egregious form of livestock production as

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91. Fair and Equitable Tobacco Reform Act of 2004, Pub. L. No. 108-357, § 601, 118 Stat. 1418, 1521–36 (codified as amended at 7 U.S.C. §§ 518–518f). For a review of federal price support loans and production controls before the Act, see U.S. DEP'T OF AGRIC., ECON. RESEARCH SERV., STATISTICAL BULL. NO. 869, U.S. TOBACCO STATISTICS, 1935-92, at 3, 160–63, 167–68 (1994).

92. 7 U.S.C. § 518d(b).

93. JASPER WOMACH, CONG. RESEARCH SERV., RS22046, TOBACCO QUOTA BUYOUT 5 (2005).

94. *Id.*; Nathan Bomey, *Thousands of Farmers Stopped Growing Tobacco After Deregulation Payouts*, USA TODAY (Sept. 2, 2015, 7:09 PM), https://perma.cc/2VCX-SA5P.

95. Bomey, *supra* note 94.

96. *Growing*, TOBACCO ATLAS, https://perma.cc/UF6K-LMZG (last visited Sep. 8, 2020).

97. Jennifer Maloney & Saabira Chaudhuri, *Tobacco's Surprise Rebound — Booming U.S. Cigarette Makers Shrug Off Regulation and the Decline of Smokers by Boosting Prices*, WALL ST. J., Apr. 24, 2017, at A1.

98. U.S. DEP'T OF HEALTH AND HUMAN SERVS., THE HEALTH CONSEQUENCES OF SMOKING—50 YEARS OF PROGRESS 23–24, 31–32 (2014).

99. Tobacco production in the United States received direct federal support, which is not the case for CAFOs. However, CAFOs are the direct beneficiaries of federal support for feed grains and lack federal oversight of agricultural production, particularly water and air emissions.

measured by pollution emissions and impacts on worker safety, human health, and animal welfare. The FARM SAFE Act this Article proposes is a comprehensive legislative effort to support holistic agricultural practices to achieve a sustainable, positive future for the U.S. environment, public health, and food security.

IV. SUSTAINABLE AGRICULTURE IS THE FUTURE OF FOOD SECURITY

CAFOs are neither a viable nor a logical approach to achieving a safe, sustainable U.S. food supply—which is why they are already a failing model. As has been shown, cheap meat is not actually cheap when the environmental and health costs of industrialized production methods are taken into account. Moreover, industrialized agriculture like CAFOs, sometimes promoted as a job creator for depressed rural America, is actually a significant cause of the decline in the rural standard of living and quality of life. As the true costs of cheap animal-based protein are more widely understood, consumers will be less and less willing to see their tax dollars used to prop up activities that damage their rivers and lakes, poison their drinking water and air, and sicken their children. The impact of these consumer shifts should not be underestimated; changes to agricultural practices are already happening, from humane standards for egg production to increased demand for organic food and plant-based proteins. Additional changes are imminent. For instance, although milk production has been increasing, U.S. dairy consumption is down—one of the factors in the record-setting 1.4 billion-pound U.S. cheese surplus.[100]

States are also recognizing that the damages caused by CAFOs outweigh the benefits. Oregon considered two bills to increase permitting requirements and environmental enforcement of air and water emissions from dairies with at least 2,500 cows.[101] The bills gained traction after a dairy farm with 30,000 cows was found to have more than 200 violations of its wastewater permit, including overflowing manure lagoons, improper application of manure to fields, and failure to report spills and leaks.[102] Of particular interest is that both bills "declare large dairies to be industrial, rather than agricultural or farming operations," which would eliminate their ability to qualify for certain state agricultural exemptions and would subject them to local siting and health and safety requirements.[103] One of the bills would also require new dairy CAFOs to post bonds "as security against environmental, health or animal welfare costs, such as costs due to manure spills, improper disposal of animals, excessive manure applications, cleaning up

100. Samantha Raphelson, *Nobody Is Moving Our Cheese: American Surplus Reaches Record High*, NAT'L PUB. RADIO (Jan. 9, 2019, 5:58 AM), https://perma.cc/JQU7-ZXGC.

101. Tracy Loew, *Oregon Bills Seek Nation's Toughest Dairy Recommendations*, STATESMAN J. (Dec. 12, 2018, 4:55 PM), https://perma.cc/C92D-XYLZ.

102. Tracy Loew, *Oregon Megadairy Lost Valley Farm Fined $187,320 for 224 Environmental Violations*, STATESMAN J. (Oct. 16, 2018, 3:34 PM), https://perma.cc/J69X-TQ6Z.

103. Loew, *supra* note 101.

abandoned facilities, or relocating animals after a facility closure."[104] In another notable development, Wisconsin appears to be taking a bipartisan interest in increasing CAFO permitting fees to account for their role in the widespread contamination of drinking water in the State.[105] Although these state-level efforts are notable, they do not provide a comprehensive solution to what is a national problem.

As stated by the Executive Director of the Pew Commission on Industrial Farm Animal Production, "The present system of producing food animals in the United States is not sustainable and presents an unacceptable level of risk to public health and damage to the environment, as well as unnecessary harm to the animals we raise for food."[106] The FARM SAFE Act proposed in this Article would tackle the negative consequences of industrialized agriculture while providing federal support where it is needed most—to promote proven sustainable agricultural practices that protect the environment and public health and help to ensure long-term food security and safety.

The FARM SAFE Act is about much more than eliminating bad practices of large agribusiness; it would commit the resources of the federal government—taxpayer funds and agency efforts—to assisting agricultural operations that grow food sustainably. Moreover, the FARM SAFE Act would provide support exclusively to small and midsized agricultural producers whose success or failure dramatically impacts their rural communities. Over time, the changes would restore contaminated watersheds, create new jobs, and revitalize rural America.

Sustainable agriculture has the potential of being a true positive for U.S. agriculture. Consider, for example, the USDA organic program, which successfully created an entirely new, internationally recognized brand with ever-growing market power.[107] With USDA organic-certified food now featured on grocery shelves from Whole Foods to Walmart,[108] the success of the organic program has demonstrated that agricultural producers are willing to embrace new production methods when they are compensated for them. In the case of the organic program, this compensation has come in the form of transition assistance and the ability to label and charge a premium for food produced under specific production and handling

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104. *Id.*

105. Steven Verburg, *Tony Evers, Republicans Both Looking to Get Factory Farms to Pay for Cleaner Water*, WIS. STATE J. (Mar. 17, 2019), https://perma.cc/WL95-GMDG.

106. PEW COMM'N ON INDUS. FARM ANIMAL PROD., *supra* note 10, at viii. The report further notes that CAFOs are increasingly found worldwide, often in countries with even fewer regulations and enforcement actions than in the United States. *Id.* at 9.

107. The organic certification program was established under the Organic Foods Production Act of 1990, 7 U.S.C. §§ 6501–6522. For more information, see the USDA Organic website at https://perma.cc/39A2-DNHR.

108. Jessica Wohl, *Wal-Mart Aims to Push Organic Foods into Mainstream*, CHI. TRIB. (Apr. 10, 2014), https://perma.cc/M8YL-5EPH.

standards, such as prohibitions on synthetic fertilizers and genetic engineering, as well as proactive management of soil fertility.[109]

The federal government created the industrial agricultural complex through law and taxpayer dollars; legislative change can redirect those same assets to create a sustainable agricultural infrastructure. Instead of continuing to support a model that benefits the corporate few at the expense of society as a whole, the United States must promote agricultural practices that are proven to minimize environmental harm and public health effects while promoting good stewardship of the soil, water, animals, and other farm inputs. As the watersheds are restored and agricultural operations diversify, opportunities now lost will be reclaimed, from the return of recreation and tourism to restoring jobs whose loss has devastated the rural economy.

These are not new concepts, nor is the realization that industrial agriculture is unsustainable.[110] As the climate grows more unstable and already strained global resources become even more scarce, the goal of agricultural production must change from producing cheap food quickly to producing nutrient-rich food sustainably.[111] Climate changes are likely to make monoculture crop production untenable—even in the near future—and will exacerbate the already dire effects of large-scale agriculture on water quality as more severe storms will mean more flooding, more fertilizer runoff, and more overflowing manure lagoons. Increasing biodiversity, as well as diversity in production methods, will be necessary to survive unexpected disruptions from weather, pests, and socioeconomic difficulties.[112]

V. PROPOSED LEGISLATION

A. DEFINING SUSTAINABLE AGRICULTURE

The purpose of the FARM SAFE Act is to eliminate the most egregiously polluting industrialized livestock operations while supporting sustainable

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109. *E.g.*, NAT'L ORGANIC PROGRAM, U.S. DEP'T OF AGRIC., ORGANIC PRODUCTION AND HANDLING STANDARDS (2016), https://perma.cc/D5XY-B7UM.

110. PEW COMM'N ON INDUS. FARM ANIMAL PROD., *supra* note 10, at 51 (quoting Aldo Leopold in 1945, describing industrialized agriculture as "humanly desolate and economically unstable.").

111. *Id.* at 51–55 (noting that "America's successful industrial economy of the past century was based on the availability of *cheap* energy, a relatively *stable* climate, and *abundant* fresh water, and current methods have assumed the continued availability of these resources" and that because each of these assumptions is threatened, industrial agriculture must adopt new production methods).

112. "To achieve nutrient adequacy, food diversity is an essential aspect of diet quality, and diversity in agricultural production systems can stimulate long-term productivity, stability, ecosystem services to and from agricultural lands, and resilience to shocks (e.g., pests and diseases, climate, or price shocks)." Mario Herrero et al., *Farming and the Geography of Nutrient Production for Human Use: A Transdisciplinary Analysis*, 1 LANCET PLANETARY HEALTH e33, e38 (2017), https://perma.cc/ZVV7-3Z7U. *See also* Delphine Renard & David Tilman, Letter, *National Food Production Stabilized by Crop Diversity*, 571 NATURE 257, 257 (2019) (finding that crop diversity directly correlates to national food security and food supply stability).

agricultural and environmental practices necessary to achieve long-term food security and rural revitalization. The core of the Act, therefore, is grounded in how the term "sustainable agriculture" is defined.

Congress defined the term in the Food, Agriculture, Conservation, and Trade Act of 1990 ("FACT") as follows:

> (19) The term "sustainable agriculture" means an integrated system of plant and animal production practices having a site-specific application that will, over the long-term—
>
> (A) satisfy human food and fiber needs;
>
> (B) enhance environmental quality and the natural resource base upon which the agriculture economy depends;
>
> (C) make the most efficient use of nonrenewable resources and on-farm resources and integrate, where appropriate, natural biological cycles and controls;
>
> (D) sustain the economic viability of farm operations; and
>
> (E) enhance the quality of life for farmers and society as a whole.[113]

This definition is admittedly vague about which specific practices it encompasses.[114] However, the role of Congress is to set overall policy in legislation, which the appropriate administrative agency then interprets into operational detail using its subject matter expertise and that of other independent groups. Many such groups have conducted and continue to conduct extensive research into sustainable agricultural practices.[115] There is widespread consensus, for instance, on the importance of using cover crops and no-till or conservation tillage practices to improve soil health, on using saturated buffer strips to reduce pesticide and fertilizer runoff, and on adopting extended crop rotation and diversified agricultural operations with management-intensive or managed rotational grazing instead of separating crops and livestock into monoculture fields for one and CAFOs for the other.[116]

The primary benefit of incorporating the FACT definition of sustainable agriculture in the FARM SAFE Act is that the USDA has already devoted

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113. Food, Agriculture, Conservation, and Trade Act of 1990 § 1603, 7 U.S.C. § 3103.

114. For an overview of the issues underlying the term, see ALT. FARMING SYS. INFO. CTR., SPECIAL REFERENCE BRIEFS SERIES NO. SRB 99-02, UPDATES SRB 94-05, SUSTAINABLE AGRICULTURE: DEFINITIONS AND TERMS, https://perma.cc/GHE9-V7SQ; UNION OF CONCERNED SCIENTISTS, *What is Sustainable Agriculture?* (Apr. 10, 2017), https://perma.cc/N3EC-YLUE.

115. *E.g.*, PEW COMM'N ON INDUS. FARM ANIMAL PROD., *supra* note 10, at 53–55; DUANE HOVORKA, IZAAK WALTON LEAGUE OF AMERICA, LEVERAGING CONSERVATION DOLLARS 3 (2018) (assessment of various sustainable agricultural practices produced by a conservation organization); UNION OF CONCERNED SCIENTISTS, *supra* note 114. *See generally Sustainable Agriculture II*, 363 PHILOSOPHICAL TRANSACTIONS OF THE ROYAL SOCIETY B 681 (2008).

116. *See* PEW COMM'N ON INDUS. FARM ANIMAL PROD., *supra* note 10, at 53–55; HOVORKA, *supra* note 115; UNION OF CONCERNED SCIENTISTS, *supra* note 114; *Sustainable Agriculture II*, *supra* note 115.

considerable effort to interpreting the term, which means that carrying out new programs based on the definition should take less time for the agency to implement than starting from scratch would. FACT established a number of programs under which the Secretary of Agriculture was required to conduct—or to assist states, institutions of higher education, or nonprofits to conduct—sustainable agriculture research and education programs.[117] FACT also required the Secretary to "develop and make available handbooks and technical guides, and any other educational materials that are appropriate for describing sustainable agriculture production systems and practices"; these educational materials were required to be detailed, practical, widely available, and usable directly by agricultural producers.[118] The Secretary was also directed to establish a National Training Program in Sustainable Agriculture to teach USDA field agents how to provide training to "farmers and urban residents who need information on sustainable agriculture."[119]

As a result of FACT and other legislation, the USDA has issued clarifying regulations and established programs relating to sustainable agriculture.[120] The National Institute of Food and Agriculture provides competitive grants and coordinates the Sustainable Agriculture Research and Education program through regional host institutions.[121] The Agriculture and Food Research Initiative's Sustainable Agricultural Systems program area provides funding to institutions of higher education to support programs that:

> promote transformational changes in the U.S. food and agriculture system within the next 25 years . . . and that will significantly improve the supply of abundant, affordable, safe, nutritious, and accessible food, while providing sustainable opportunities for expansion of the bioeconomy through novel animal, crop, and forest products and supporting technologies.[122]

The Alternative Farming Systems Information Center ("AFSIC") of the National Agricultural Library has been providing information about sustainable and alternative agriculture systems since 1985.[123] Recognizing that the USDA has already done considerable work related to sustainable agriculture, the FARM

117. Food, Agriculture, Conservation, and Trade Act of 1990, 7 U.S.C. §§ 5801–5832.

118. 7 U.S.C. § 5831.

119. 7 U.S.C. § 5832.

120. *E.g.*, NAT'L SUSTAINABLE AGRIC. COAL., GROWING OPPORTUNITY: A GUIDE TO USDA SUSTAINABLE FARMING PROGRAMS 2 (2017).

121. *Sustainable Agricultural Research and Education (SARE) Regional Host Institution*, NAT'L INST. OF FOOD AND AGRIC., https://perma.cc/275F-HF9N (last visited Sept. 6, 2020).

122. *Agricultural and Food Research Initiative – Sustainable Agricultural Systems*, NAT'L INST. OF FOOD AND AGRIC., https://perma.cc/P5EL-L92Q (last visited Sept. 6, 2020); SUSTAINABLE AGRIC. RES. AND EDUC., https://perma.cc/T9RR-8VNA (last visited Sept. 7, 2020).

123. *AFSIC History Timeline*, NAT'L AGRIC. LIBRARY, https://perma.cc/4YBL-UQ98 (last visited Sept. 7, 2020).

SAFE Act would incorporate the FACT definition into the term "sustainable agriculture operation."[124]

B. PRIORITIZING SMALL AND MIDSIZED FARMS

The FARM SAFE Act would target federal support to "sustainable agriculture operations," which are defined as small and midsized agricultural producers that practice "sustainable agriculture" as defined in FACT. This size limitation would ensure that federal taxpayer-funded assistance is provided not to CAFOs or other large-scale operations that are more industrial than agricultural, but to the farmers who need support the most: small and midsized producers whose success or failure dramatically impacts their communities. This change would enable more food to be produced using sustainable practices rather than continuing to support "cheap food" that is only cheap due to the massive negative externalities to public health and the environment, which are currently subsidized by federal law and borne by private citizens and society at large.

Like with "sustainable agriculture," defining who qualifies as a "small or midsized producer" is certain to be a contentious issue, which is why the FARM SAFE Act delegates to the Secretary of Agriculture the responsibility to define the term in accordance with the farm typology of the Economic Research Service ("ERS"). This brings the new sustainable agriculture program in line with other USDA programs targeted to these producers.[125] The ERS divides farms into groups based on annual gross cash farm income ("GCFI").[126] Small family farms have a GCFI of less than $350,000, midsize family farms have a GCFI of at least $350,000 but less than $1 million, large-scale family farms have a GCFI of between $1 and $5 million, and very large farms exceed even that.[127] Due to the consolidation of U.S. farms over the last several decades, there are just over 2 million U.S. farms, of which the 65,300 large and very large-scale farms make up 51 percent of the total value of U.S. agricultural production, while almost 1 million

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124. A legitimate argument can be made that the USDA's history of pro-agribusiness decisions suggests that the agency may be unenthusiastic to implement a program dedicated to supporting small and midsized agricultural producers at the expense of large-scale industrialized operations. *See, e.g.*, Jessica McKenzie, *Regenerative Agriculture Could Save Soil, Water, and the Climate. Here's How the U.S. Government Actively Discourages It*, THE COUNTER (Mar. 14, 2019, 12:06 PM), https://perma.cc/GW7S-YUQ8. However, the USDA is the federal agency tasked with supporting U.S. agriculture; while it may need to be redirected and reformed, there is no easy or quick alternative to using its procedures and personnel.

125. *E.g.*, *Small and Mid-Sized Farmer Resources*, U.S. DEP'T OF AGRIC., https://perma.cc/VJW7-9DAL (last visited Sept. 7, 2020).

126. GCFI is "a measure of the farm's revenue before deducting expenses that include sales of crops and livestock, Government payments, and other farm-related cash income, including fees from production contracts." ECON. RESEARCH SERV, *Farm Structure* (Jan. 16, 2020), https://perma.cc/BBY2-X8G5. For an extensive analysis of how the ERS derived and updated its farm typology, see ROBERT A. HOPPE & JAMES M. MACDONALD, U.S. DEP'T OF AGRIC., ECON. RESEARCH SERV., ECON. INFO. BULL. NO. 110, iii–iv (2013).

127. ECON. RESEARCH SERV, *supra* note 126; HOPPE & MACDONALD, *supra* note 126, at iii–iv.

"small farms" make up less than 1 percent.[128] That leaves midsized farms squeezed in between and increasingly at risk. The FARM SAFE Act would help this critical class of agricultural producers.

C. OVERVIEW OF POLICY MEASURES

The FARM SAFE Act contains two broad categories of policy measures to achieve the goal of redirecting federal support away from industrialized agriculture and towards sustainable agriculture.[129] The first category consists of those policies that directly regulate and restrict the harm caused by industrialized agriculture. The second consists of those policies that remove direct and indirect incentives that benefit industrialized agriculture while using the savings to support what the FARM SAFE Act calls "sustainable agriculture operations": small and midsized agricultural producers who use sustainable production systems, such as producers who are certified organic or diversified producers who raise livestock in a pasture-based rotational grazing operation and grow their own feed grains.[130]

1. First Category: Regulate and Restrict the Harm

The first category of policy measures to take effect under the FARM SAFE Act would address the harm that agricultural activities in general and CAFOs in particular cause to the environment and public health. These legislative measures

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128. MACDONALD, HOPPE & NEWTON, *supra* note 34, at 5.

129. Many provisions in the FARM SAFE Act are based on recommendations from the Union of Concerned Scientists, the Pew Commission on Industrial Farm Animal Production, and the Iowa State University and the University of Iowa Study Group. *E.g.*, DOUG GURIAN-SHERMAN, *supra* note 21, at ch. 2, 4; PEW COMM'N ON INDUS. FARM ANIMAL PROD., *supra* note 10, at 60–95. Conceptually, the overall approach of the FARM SAFE Act somewhat tracks the three-step strategy described in Helen Harwatt, *supra* note 6, at 533.

130. There are many other interesting ideas to reform industrialized agriculture not included in the FARM SAFE Act, but four are of particular note. First, establishing a new agency to oversee all federal food inspection and safety activities, which are currently spread across fifteen federal agencies. *E.g.*, PEW COMM'N ON INDUS. FARM ANIMAL PROD., *supra* note 10, at 71 (Public Health Recommendation #10); *Food Safety – High Risk Issue*, U.S. GOV'T ACCOUNTABILITY OFFICE, https://perma.cc/7M6Q-JB32 (last visited Sept. 7, 2020); U.S. GOV'T ACCOUNTABILITY OFF., GAO/T-RCED-99-256, FOOD SAFETY: U.S. NEEDS A SINGLE AGENCY TO ADMINISTER A UNIFIED, RISK-BASED INSPECTION SYSTEM 1 (1999)). Second, reducing nitrogen pollution by establishing standards and incentives for fertilizer manufacturers based on the Corporate Average Fuel Economy scheme. *E.g.*, David R. Kanter & Timothy D. Searchinger, *A Technology-Forcing Approach to Reduce Nitrogen Pollution*, 1 NATURE SUSTAINABILITY 544, 544 (2018). Third, federal CAFO siting requirements and zoning standards. *E.g.*, PEW COMM'N ON INDUS. FARM ANIMAL PROD., *supra* note 10, at 75–78 (Environment Recommendations #1 and 2), 89–91 (Community Impact Recommendation #1). And fourth, strengthening the Packers and Stockyards Act of 1921 to help level the playing field between farmers and meatpackers. *E.g.*, Title II of the Farm System Reform Act of 2019 (Senate Bill 3221). Although these ideas may hold considerable promise, they would either require extensive legislative changes that go beyond the scope of this Article or would impact areas of state and local legal authority that are challenging to address in federal legislation without controversial and risky preemption provisions.

would remove existing provisions of law that exempt many agricultural operations from environmental compliance while shifting the liability burden for harm caused by these operations from society at large to the operations themselves.

This first category primarily consists of prescriptive performance standards based on existing environmental law. In the language of the 2010 report of the Organization for Economic Co-Operation and Development ("OECD") entitled *Guidelines for Cost-effective Agri-environmental Policy Measures* ("OECD Guidelines"),[131] this category would target the worst environmental offenders through on performance-based standards rather than attempting to control inputs.[132]

The main legislative changes encompassed by this first category of policy measures include the following:

a. Amending the Clean Water Act so that agricultural activities are subject to all requirements and prohibitions regarding discharges of pollutants that affect water quality, including treatment of CAFOs as point sources of pollution and eliminating an exemption that allows certain operations to self-attest that they do not discharge waste.[133]
b. Amending the Clean Air Act ("CAA") so that agricultural operations are considered stationary sources subject to existing air emissions requirements and prohibitions, CAFOs are required to obtain air permits for their emissions of gases such as methane, and farm equipment is no longer exempted from state standards for new nonroad engines or nonroad vehicles.[134]
c. Amending the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA") so that animal agriculture operations are required to report air emissions from manure under that Act and to eliminate a reporting exemption for registered pesticide products and air emissions from animal waste at farms. The legislation would also prohibit the EPA Administrator from giving effect to a rule that extended agricultural

131. Accessible online at https://read.oecd-ilibrary.org/agriculture-and-food/guidelines-for-cost-effective-agri-environmental-policy-measures_9789264086845-en#page1. The OECD consists of thirty-six member countries (including the United States, Mexico, Canada, and most of the European Union) that work to bring together the best thinking and practices in the most developed countries "to promote policies that will improve the economic and social well-being of people around the world." *Who We Are*, ORG. FOR ECON. CO-OPERATION AND DEV. [OECD], https://perma.cc/KHL3-DGFD (last visited Sept. 14, 2020).

132. OECD, *Guidelines for Cost-effective Agri-Environmental Policy Measures* 29–30 (June 18, 2010) [hereinafter OECD Guidelines], https://perma.cc/N7RY-R2LD.

133. This change echoes the Pew Commission on Industrial Farm Animal Production's Environment Recommendations #1(a) and (m). PEW COMM'N ON INDUS. FARM ANIMAL PROD., *supra* note 10, at 75, 77 (recommending the enforcement of all relevant provisions of the Clean Water Act and Clean Air Act and requiring operations without a permit to "prove they are not discharging waste" instead of self-attesting).

134. Amending the CAA in this way would allow the EPA to, for example, "design a standardized approach for regulating air pollution from IFAP facilities," whose air emissions are currently "unregulated at the federal level," as recommended by the Pew Commission on Industrial Farm Animal Production. *Id*. at 75 (Environment Recommendation #1(f)).

reporting exemptions to the Emergency Preparedness and Community Right-To-Know Act ("EPCRA").

d. Amending the definitions of "owner or operator" in the Clean Water Act, the CAA, and CERCLA, so that, in the case of CAFOs or other agricultural operations operating under contracts that dictate production methods, responsible corporate officers of the contractor/integrator may be held liable for emissions and discharges from the contract production operation.
e. Requiring the EPA and the USDA to conduct or fund research to help establish animal density and waste management standards that take into account the cumulative effect of agricultural emissions and discharges on surrounding ecosystems and watersheds,[135] and to require all CAFOs to have nutrient management plans that incorporate waste management and disposal techniques and best practices.[136]
f. Requiring the EPA and OSHA to conduct or fund research on the public health and environmental effects of agricultural emissions on agricultural workers and surrounding communities and to establish best practices for agricultural producers to reduce negative effects, such as better waste management techniques.[137]

2. Second Category: Support Sustainable Agriculture

The second category of policy measures to take effect under the FARM SAFE Act would repeal the federal supports that directly or indirectly incentivize the expansion and profitability of industrialized agriculture in the United States and use the savings to support sustainable agriculture operations. In the language of the OECD Guidelines, this category would represent a policy instrument mix that combines performance-based payment programs to create stewardship incentives with income support payments for societally desirable forms of agricultural production as well as educational programs and technical assistance.

The main legislative changes encompassed by this second category of policy measures include the following:

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135. This change echoes the Pew Commission on Industrial Farm Animal Production's Environment Recommendations #1(h)–(i). *Id*. at 75 (advocating for the federal government to "develop criteria for allowable levels of animal density and appropriate waste management methods" and to "monitor IFAP's effects on entire watersheds . . . since IFAP can have a cumulative effect on the health of a watershed").

136. This change echoes the Pew Commission on Industrial Farm Animal Production's Environment Recommendations #3(a). *Id*. at 79 (advocating Nutrient Management Plans for all IFAP facilities).

137. This change reflects several recommendations from the Pew Commission on Industrial Farm Animal Production's, including Public Health Recommendation #8 (advocating increasing research of IFAP on the health of nearby residents and workers) and Environment Recommendations #2 (advocating for the development and implementation of a new farm waste system), #3(b) (advocating for data collection, tracking, and sharing on soil, water, and air emissions and corresponding health outcomes), and #4 (advocating for funding waste handling system research). *Id*. at 69, 77, 79–80, 81.

a. Limiting commodity payments, conservation incentives, and crop insurance subsidies exclusively to persons with approved plans for the transition to, and implementation and maintenance of, a sustainable agriculture operation. The legislation would provide a transition period and graduated penalties for plan violations. The Secretary of Agriculture would be required to establish standards by regulation for sustainable agriculture plans and to provide technical assistance for the development, revision, and implementation process. Plans would be certified through a sustainable agriculture certification program similar to that used by the organic certification program.
b. Requiring federal school food programs to source all of their commodity and food product purchases from sustainable agriculture operations, thus leveraging federal funds and programs in support of sustainably produced food rather than focusing only on least-cost procurement and supporting the market prices of overproduced foods. This would ensure that federal resources are spent to support agricultural production methods that benefit the U.S. environment, health, and economy, rather than being directed to large corporate entities. The Secretary of Agriculture would be required to provide technical assistance and training on the new requirements and allowed to approve five-year transition plans to full compliance for school food authorities that demonstrate that the new requirements would cause unreasonable hardship.
c. Limiting Farm Service Agency guaranteed real estate, operation, and emergency loans so they would only be available to sustainable agriculture operations while establishing a competitive grant program to provide technical assistance, training, and transition support payments to assist producers transitioning to sustainable agriculture operations, with a priority on assisting socially disadvantaged farmers and ranchers as well as sustainable agriculture operations located in underserved and economically distressed areas in rural areas.

VI. DETERMINING THE EFFICACY OF THE LEGISLATIVE PROPOSALS IN THE FARM SAFE ACT

Legislation is only valuable to the extent that it accomplishes its objectives. Therefore, before the legislative text is presented, the efficacy of the legislative proposals in the FARM SAFE Act will be analyzed against the five policy performance metrics described in the OECD Guidelines. OECD published its Guidelines to help policymakers design and implement cost-effective policies relating to agriculture and the environment and to present a variety of potential options to choose from in addressing any particular agri-environmental issue. The Guidelines include new material as well as incorporating extensive prior research, making them an excellent resource for determining the efficacy of proposed policy measures.

A. MEETING THE ENVIRONMENTAL EFFECTIVENESS OECD METRIC

The first OECD metric relates to environmental effectiveness and considers how likely the proposed policy measures are to achieve the desired environmental goals.[138] The Guidelines state that the likelihood of environmental effectiveness is enhanced by "an explicit statement of the environmental goals and selection of measurable environmental indicators or environmental practices that empirically have been shown to lead to the desired environmental outcomes."[139] As discussed in the first part of this Article, there is extensive evidence of the current impact of industrialized agriculture on the U.S. environment, from the presence of nitrates in rural Iowa and North Carolina well water to the hypoxic dead zones in the Gulf of Mexico and the Chesapeake Bay. There is also extensive evidence that sustainable agriculture operations have far fewer negative environmental impacts.

The environmental goals to be achieved by the first category of proposed policy measures in the FARM SAFE Act are already established in existing U.S. law and administrative agency regulations, which, if enforced against agricultural operations, would result in the desired positive changes by significantly reducing agricultural pressures on human health and the environment. As has been done with regulating industrial polluters, the goal of these policies is to establish and achieve state indicators, not to enforce particular management schemes. If CAFOs are able to meet the established environmental and health standards by radically changing their methods, that would be acceptable. The second category of proposed policies moves beyond merely avoiding worst practices and least desirable outcomes and shifts the focus to supporting and promoting best practices and most desirable outcomes. This is the stage where environmental effectiveness will be the highest.

B. MEETING THE COST–EFFECTIVENESS OECD METRIC

The second OECD metric examines whether the new agri-environmental policies minimize costs relative to environmental and societal gains, focusing specifically on costs to the agricultural operations, their supply chains, and consumers.[140] The first policy category in the FARM SAFE Act requires agricultural operations to meet current environmental standards and will likely result in substantial costs incurred by large-scale industrialized livestock producers. In fact, one goal of the policies is to ensure that CAFOs are held responsible for their true operational costs, which may naturally shift U.S. agriculture to smaller-scale and less damaging production methods. This will almost certainly raise the consumer price of meat, as current U.S. animal-based protein prices are unrealistically low due to the societally subsidized industrialized livestock production system. When

138. OECD, *supra* note 132, at 16.
139. *Id*.
140. *Id*. at 17–18.

that system is forced to assume the true costs of producing "cheap meat," including liability for the health and environmental harms CAFOs cause, the financial burden will shift to meat-eating consumers. This may decrease overall U.S. animal-based protein consumption, resulting in societal cost savings from improved public health and the general quality and duration of life.[141]

As CAFOs begin to disappear, the second stage of proposed policies will take over, spreading the remaining costs of what the OECD Guidelines call "landscape-level outcomes" across U.S. agriculture.[142] Cost-effectiveness will be achieved because the operations with the largest impacts (such as CAFOs) will bear the brunt of the transition, while smaller and more sustainable operations will need to make fewer changes to reach the desired environmental outcomes.[143]

C. MEETING THE ADMINISTRATIVE COSTS OECD METRIC

The third OECD metric looks at "public sector costs and capacities (policy-related transaction costs)."[144] The policies contained in the FARM SAFE Act will increase the administrative costs for expanded regulatory compliance efforts, though the increase will be somewhat limited by targeting those activities to CAFOs, the most egregious of industrialized agricultural operations. There also will be increased costs associated with designing and implementing effective regulatory regimes to carry out the policies. The second category of proposed policies will have fewer administrative costs. The OECD Guidelines recommend that outright bans are often more administratively cost-effective and feasible than monitoring compliance with more expansive regulatory systems.[145] It may be difficult for existing U.S. agencies to timely establish and carry out the administrative compliance and enforcement system necessary to undertake monitoring and investigation, particularly with regards to the strict liability provisions. If determined more feasible, most of the first category of policies in the FARM SAFE Act could be replaced with what the OECD Guidelines call a "second-best

141. The societal health effects of reducing meat consumption are well-documented. *E.g.*, Lauren Cassani Davis, *The Economic Case for Worldwide Vegetarianism*, THE ATLANTIC (Mar. 28, 2016), https://perma.cc/UJ8T-GTGW. The individual consumer also would save on household food expenditures by switching to plant-based proteins. *E.g.*, Mary M. Flynn & Andrew R. Schiff, *Economical Healthy Diets (2012): Including Lean Animal Protein Costs More than Using Extra Virgin Olive Oil*, J. HUNGER & ENVTL. NUTRITION 467, 467–68 (2015).

142. OECD, *supra* note 132, at 17–18.

143. *Id.* As shown earlier in this Article, transition assistance payments were important to ending federal support of tobacco production and are currently used to assist producers in moving to organic production. The Farm System Reform Act of 2019, introduced by Senator Booker, establishes a $10 billion grant program for debt forgiveness and transition assistance for owners (not integrators) of animal feeding operations of all sizes (section 103 of Senate Bill 3221). The FARM SAFE Act proposed in this Article takes a more comprehensive approach that would transition federal support to sustainable agriculture in general and provides targeted transition support payments to socially disadvantaged producers as well as those located in underserved and economically distressed rural areas.

144. OECD, *supra* note 132, at 18–19.

145. OECD, *supra* note 132, at 18–19, 31–32.

solution," such as an outright ban on CAFOs and shifting of investigative costs to private lawsuits rather than administrative agency enforcement.[146] It would be important in that case to ensure that existing federal supports are carefully analyzed as many agricultural programs involve contracts between the federal government and agricultural producers; unilaterally breaching those contracts would result in lawsuits that the staggered process proposed in the FARM SAFE Act would avoid.

D. MEETING THE ANCILLARY COSTS AND BENEFITS OECD METRIC

The fourth OECD metric requires examination of the additional costs and benefits of the proposed policy measures, such as gaining new environmental, economic, or societal benefits or losing existing benefits.[147] Both categories of policy measures in the FARM SAFE Act would result in improved human health, worker safety, water quality, air quality, and food safety, and in associated reductions in public health and environmental clean-up costs. Over time, the second category should result in increased food security because making U.S. agriculture more diversified and sustainable will positively impact soil conservation and decentralize agricultural production, reducing food transportation costs (and associated environmental harms) and lessening the chance that an animal disease outbreak will decimate an entire region's livestock production or that the regional effects of climate change will destroy an entire agricultural sector.

Ancillary benefits to the FARM SAFE Act may be increased employment (fewer industrial-scale farms will require more people engaged in agriculture), improved biodiversity and habitat (particularly in aquatic ecosystems and watersheds), increased recreational benefits (as areas currently closed to fishing or swimming due to pollution are restored), and better success in meeting global climate change targets.[148] As the OECD Guidelines discuss, policy coordination will be key across the many administrative agencies involved in implementing and enforcing the proposed policies efficiently and effectively.

E. MEETING THE EQUITY OECD METRIC

The last OECD metric is "the equity of the distribution of economic costs and benefits between and among different groups (producers, consumers, and

146. The Farm System Reform Act of 2019 would take this approach, placing an immediate moratorium on large CAFOs and prohibiting their operation entirely after January 1, 2040, as well as establishing a civil right of action for private enforcement of a new shift in environmental responsibilities and liabilities from contract growers to their controlling integrators (Sections 102 and 104(c) of Senate Bill 3221).

147. OECD, *supra* note 132, at 19–20.

148. For an example of some of the benefits from sustainable grazing, see Laurent Belsie, *Habitat Meets Profit as Ranchers Restore Native Prairies*, THE CHRISTIAN SCI. MONITOR (June 14, 2019), https://perma.cc/KL9F-EYNT.

taxpayers)."[149] As already discussed, the FARM SAFE Act is likely to have a significant effect primarily on CAFOs and other types of large-scale industrialized agricultural operations. However, it is necessary to reset the economic scale, currently unfairly imbalanced towards the financial well-being of production agriculture at the expense of U.S. society, environment, and public health.

CONCLUSION

The largest challenge with both categories of proposed policies will be convincing lawmakers and the public that a seismic change in U.S. agricultural production practices is necessary and in the best interests of the United States as a whole, from the individual consumer level (decreased health costs and improved quality of life) up to the federal use of taxpayer dollars in support of agricultural systems that will have the most positive impact on long-term food safety, security, and sustainability (as well as environment and health). Change is both possible and necessary. It took decades of effort before Congress acted on tobacco supports, and before the USDA organic certification program was established. It is critical that Congress acts now to leverage the tremendous influence of the federal government and support sustainable agriculture, which will ultimately benefit the U.S. health, environment, and economy.

149. OECD, *supra* note 132, at 20.

FARM AND RURAL MODEL FOR SUSTAINABLE AGRICULTURE THROUGH FEDERAL ENFORCEMENT ACT

A BILL

To eliminate the most egregiously polluting industrialized livestock operations while supporting sustainable agricultural and environmental practices necessary to achieve long-term food security and rural revitalization, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE; TABLE OF CONTENTS.

(a) SHORT TITLE.—This Act may be cited as the "Farm And Rural Model for Sustainable Agriculture through Federal Enforcement Act" or "FARM SAFE Act".

(b) TABLE OF CONTENTS.—The table of contents of this Act is as follows:

SEC. 2. SUSTAINABLE AGRICULTURE OPERATIONS.

(a) COMMODITIES.—Title I of the Agriculture Improvement Act of 2018 (132 Stat. 4500; Public Law 115-334) is amended by adding at the end the following:

"Subtitle H—Sustainable Agriculture Operations

"SEC. 1801. SUSTAINABLE AGRICULTURE OPERATIONS.

"(a) DEFINITIONS.—In this subtitle:

"(1) SUSTAINABLE AGRICULTURE.—The term 'sustainable agriculture' has the meaning given the term in section 1603 of the Food, Agriculture, Conservation, and Trade Act of 1990 (7 U.S.C. 3103).

"(2) SUSTAINABLE AGRICULTURE OPERATION.—The term 'sustainable agriculture operation' means a small or midsize agricultural producer (as defined by the Secretary in accordance with the farm typology of the Economic Research Service) that practices sustainable agriculture.

"(3) SUSTAINABLE AGRICULTURE PLAN.—The term 'sustainable agriculture plan' means a plan approved by the Secretary under section 1802 for the transition to, and implementation and maintenance of, a sustainable agriculture operation.

"(b) PROGRAM INELIGIBILITY.—Except as provided in subsection (d), and notwithstanding any other provision of law, any person other than a sustainable agriculture operation that in any crop year produces an agricultural commodity

shall be ineligible for each payment, loan, or other benefit described in section 1211(a) of the Food Security Act of 1985 (16 U.S.C. 3811(a)).

"(c) AUTHORITY.—The Secretary shall have, and shall not delegate to any private person or entity, authority to determine whether a person has complied with this section.

"(d) EXEMPTIONS.—

"(1) OPERATIONS NEW TO COMPLIANCE.—Notwithstanding subsection (b), in the case of a person who is subject to that subsection for the first time solely due to the amendment made by section 2 of the FARM SAFE Act, any person who produces an agricultural commodity on land that is the basis of a payment, loan, or other benefit described in section 1211(a) of the Food Security Act of 1985 (16 U.S.C. 3811(a)) shall have 5 calendar, crop, or reinsurance years, as appropriate, after the date on which the payment, loan, or other benefit becomes subject to subsection (b) of this section to develop and comply with an approved sustainable agriculture plan so as to maintain eligibility for the payment, loan, or other benefit.

"(2) EXISTING OPERATIONS WITH PRIOR VIOLATIONS.—

"(A) IN GENERAL.—Notwithstanding subsection (b), in the case of a person who the Secretary determines would have been in violation of that subsection if the person had continued participation in the programs requiring compliance at any time after the date of enactment of the FARM SAFE Act and is currently in violation of that subsection, the person shall have 2 calendar, crop, or reinsurance years, as appropriate, after the date on which the payment, loan, or other benefit becomes subject to subsection (b) of this section to develop and comply with an approved sustainable agriculture plan so as to maintain eligibility for the payment, loan, or other benefit.

"(B) APPLICABLE REINSURANCE YEAR.—Ineligibility for a payment described in section 1211(a)(1)(E) of the Food Security Act of 1985 (16 U.S.C. 3811(a)(1)(E)) for a violation under this subparagraph during a crop year shall—

"(i) only apply to reinsurance years subsequent to the date of a final determination of a violation, including all administrative appeals; and

"(ii) not apply to the existing reinsurance year or any reinsurance year prior to the date of the final determination.

"(3) PRIOR PLANTED CROPS.—No person shall become ineligible under subsection (b) for a loan, payment, or other benefit as the result of the production of a crop of an agricultural commodity—

"(A) planted before the date of enactment of the FARM SAFE Act; or

"(B) planted during any crop year beginning before the date of enactment of the FARM SAFE Act.

"(e) GRADUATED PENALTIES.—

"(1) IN GENERAL.—Except as otherwise provided in this subsection, no person shall become ineligible under subsection (b) for a loan, payment, or benefit as a result of the failure of the person actively to apply a sustainable agriculture plan, if the Secretary determines that the person has acted in good faith and without an intent to violate this section.

"(2) CONSULTATION.—

"(A) IN GENERAL.—In making a determination under paragraph (1), the Secretary shall consult with the applicable—

"(i) State Executive Director, with the technical concurrence of the State Conservationist; or

"(ii) district director, with the technical concurrence of the area conservationist.

"(B) AVAILABILITY.—The results of any consultation under subparagraph (A) shall be made available to the public.

"(3) PERIOD FOR IMPLEMENTATION.—A person who meets the requirements of paragraph (1) shall be allowed a reasonable period of time, as determined by the Secretary but not to exceed 1 year, during which to implement the measures and practices necessary to be considered to be actively applying the sustainable agriculture plan of the person.

"(4) PENALTIES.—

"(A) APPLICATION.—This paragraph applies if the Secretary determines that—

"(i) a person has failed to comply with subsection (b) with respect to sustainable agriculture practices, and has acted in good faith and without an intent to violate that subsection; or

"(ii) the violation—

"(I) is technical and minor in nature; and

"(II) has a minimal effect on the purposes of the sustainable agriculture plan applicable to the land on which the violation has occurred.

"(B) REDUCTION.—In any case in which this paragraph applies to a person, the Secretary shall, in lieu of applying the ineligibility provisions of subsection (b), reduce program benefits described in section 1211(a) of the Food Security Act of 1985 (16 U.S.C. 3811(a)) that the person would otherwise be eligible to receive in a crop year by an amount commensurate with the seriousness of the violation, as determined by the Secretary.

"(5) SUBSEQUENT CROP YEARS.—Any person whose benefits are reduced for any crop year under this subsection shall continue to be eligible for all of the benefits described in section 1211(a) of the Food Security Act of 1985 (16 U.S.C. 3811(a)) for any subsequent crop year if, prior to the beginning of the subsequent crop year, the Secretary determines that the person is actively applying a sustainable agriculture plan according to the schedule specified in the plan.

"(6) LIMITATION.—In making determinations under paragraph (1), the Secretary may not exempt any person from the application of subsection (b) more than once in any five-year period.

"SEC. 1802. SUSTAINABLE AGRICULTURE PLANS.

"(a) DEVELOPMENT.—

"(1) IN GENERAL.—An agricultural producer shall develop a sustainable agriculture plan in accordance with standards established by the Secretary through regulation to ensure the practice of sustainable agriculture.

"(2) REQUIREMENTS.—The Secretary shall ensure that standards established under paragraph (1)—

"(A) are updated not less frequently than once every five years to take into account the latest scientific knowledge;

"(B) allow for regional variations based on local ecology and resource conditions; and

"(C) are technically and economically feasible.

"(3) FEASIBILITY.—In establishing standards under paragraph (2), the Secretary shall ensure that the term 'technically and economically feasible', as used in paragraph (2)(C), is not applied in a manner that limits the development or use of innovative sustainable agriculture practices.

"(b) COMPLIANCE.—For the purpose of determining the eligibility of a person for program benefits specified in section 1211(a) of the Food Security Act of 1985 (16 U.S.C. 3811(a)) at the time application is made for the benefits, the Secretary shall require the person to have current certification as a sustainable agriculture operation, as verified by a USDA-accredited certifying agent in accordance with the program established under section 1803.

"(c) LABELING.— A sustainable agriculture plan shall contain provisions designed to ensure that agricultural products that are sold or labeled as sustainably produced under section 1803(e) are produced in a manner that is consistent with the standards established under subsection (a).

"(d) TECHNICAL ASSISTANCE.—The Secretary shall provide technical assistance to a person throughout the development, revision, and application of the sustainable agriculture plan of the person.

"(e) ENCOURAGEMENT OF ON-FARM RESEARCH.—To encourage on-farm research into sustainable agriculture practices, the Secretary may allow a person to include in the sustainable agriculture plan of the person, on a field trial basis, practices that are not currently approved but that the Secretary considers have a reasonable likelihood of success.

"SEC. 1803. CERTIFICATION PROGRAM.

"(a) IN GENERAL.—The Secretary shall establish a sustainable agriculture certification program to certify the production of agricultural commodities in accordance with a sustainable agriculture plan under this subtitle.

"(b) STATE PROGRAM.— In establishing the program under subsection (a), the Secretary shall permit each State to implement a State sustainable agriculture certification program for producers of agricultural commodities that have been produced in the State in accordance with a sustainable agriculture plan under this subtitle.

"(c) CERTIFICATION.—The Secretary shall implement the program established under subsection (a) through certifying agents that may certify an agricultural operation that meets the requirements of this subtitle and the requirements of the sustainable agriculture certification program of the State (if applicable) as certified sustainable agriculture operation.

"(d) REQUIREMENTS.—The Secretary shall develop the program under subsection (a)—

"(1) based on the organic certification program established under the Organic Foods Production Act of 1990 (7 U.S.C. 6501 et seq.); and

"(2) in consultation with—

"(A) individuals with expertise in sustainable agriculture and regenerative agriculture practices;

"(B) individuals who own or operate active sustainable agriculture operations;

"(C) individuals with expertise in the fields of agriculture, environmental protection, ecology, and resource conservation;

"(D) individuals who own or operate a certified organic farm (as defined in section 2103 of the Organic Foods Production Act of 1990 (7 U.S.C. 6502);

"(E) representatives of State organic certification programs (as defined in section 2103 of the Organic Foods Production Act of 1990 (7 U.S.C. 6502); and

"(F) individuals who represent public interest groups specializing in sustainability.

"(e) LABELING AND MARKETING.—

"(1) IN GENERAL.—The Secretary shall develop standards, including a label and market information, that may be used by a certified sustainable agriculture operation to market products of that operation.

"(2) USDA SEAL.—The label developed under paragraph (1) may incorporate the Department of Agriculture seal.

"(3) IMPORTED PRODUCTS.—Imported agricultural products may be sold or labeled as sustainably produced if the Secretary determines that such products have been produced and handled under a sustainable agriculture certification program that provides safeguards and guidelines governing the production of such products that are at least equivalent to the requirements of this section.

"(4) STATE PROGRAM.—A State sustainable agriculture certification program implemented under subsection (b) may contain additional guidelines governing the production of products sold or labeled as sustainably produced in that State.

"(5) INELIGIBILITY.—

"(A) IN GENERAL.—Any person that carries out an activity described in subparagraph (B), after notice and an opportunity to be heard, shall not be eligible, for the 5-year period beginning on the date of the occurrence, to receive a certification under this section with respect to any farm or handling operation in which the person has an interest.

"(B) DESCRIPTION OF ACTIVITIES.—An activity referred to in subparagraph (A) is—

"(i) making a false statement to the Secretary, a governing State official, or a certifying agent;

"(ii) attempting to have a label indicating that an agricultural product is sustainably produced affixed to an agricultural product that a person knows, or should have reason to know, to have been produced or handled in a manner that is not in accordance with this section; or

"(iii) otherwise violating the purposes of the applicable sustainable agriculture certification program, as determined by the Secretary.

"(6) REPORTING OF VIOLATIONS.—A certifying agent shall immediately report any violation of this title to the Secretary or the applicable governing State official.

"(f) VIOLATIONS BY CERTIFYING AGENT.—A certifying agent that is a private person that violates the provisions of this section or falsely or negligently certifies any farming or handling operation that does not meet the terms and conditions of the applicable sustainable agriculture program as an sustainable agriculture operation, as determined by the Secretary or the applicable governing State official shall, after notice and an opportunity to be heard—

"(1) lose accreditation as a certifying agent under this section; and

"(2) be ineligible to be accredited as a certifying agent under this section for a period of not less than 3 years, beginning on the date of the determination.".

(b) NUTRITION.—Section 12 of the Richard B. Russell National School Lunch Act (42 U.S.C. 1760) is amended by inserting after subsection (j) the following:

"(k) SUSTAINABLE PROCUREMENT.—

"(1) DEFINITION OF SUSTAINABLE AGRICULTURE OPERATION.—In this subsection, the term 'sustainable agriculture operation' has the meaning given the term in section 1801(a) of the Agriculture Improvement Act of 2018 (Public Law 115-334).

"(2) REQUIREMENTS.—

"(A) IN GENERAL.—Subject to subparagraph (B), the Secretary shall require that a school food authority purchase, to the maximum extent practicable, agricultural commodities and food products of agricultural commodities produced by sustainable agriculture operations for use in the school lunch program under this Act or the school breakfast program under section 4 of the Child Nutrition Act of 1966 (42 U.S.C. 1773).

"(B) LIMITATION.—In a case in which a school food authority demonstrates to the Secretary that procurement in accordance with subparagraph (A) would cause unreasonable hardship, as determined by the Secretary, the Secretary may approve a plan of the school food authority to allow the school food authority to transition into full compliance over a period not to exceed 5 years.

"(C) TRAINING.—In carrying out subsection (m), the Secretary shall provide technical assistance and training to States, State agencies, schools, and school food authorities in the procurement activities required under subparagraph (A).

"(3) REGULATIONS.—Not later than 1 year after the date of enactment of the FARM SAFE Act, the Secretary shall issue such regulations and implementing guidance as are necessary to carry out this subsection.".

(c) CREDIT AND RURAL DEVELOPMENT.—

(1) REAL ESTATE LOANS.—Section 302(a)(1) of the Consolidated Farm and Rural Development Act (7 U.S.C. 1922(a)(1)) is amended in the second sentence—

(A) by striking "and (D)" and inserting "(D)"; and

(B) by striking the period at the end and inserting ", and (E) be a sustainable agriculture operation.".

(2) OPERATING LOANS.—Section 311(a)(1) of the Consolidated Farm and Rural Development Act (7 U.S.C. 1941(a)(1)) is amended in the second sentence—

(A) by striking "and (D)" and inserting "(D)"; and

(B) by striking the period at the end and inserting ", and (E) be a sustainable agriculture operation.".

(3) EMERGENCY LOANS.—Section 321(a)(1) of the Consolidated Farm and Rural Development Act (7 U.S.C. 1961(a)(1)) is amended in the second sentence—

(A) by striking "and (D)" and inserting "(D)"; and

(B) by striking the period at the end and inserting ", and (E) be a sustainable agriculture operation.".

(4) DEFINITION OF SUSTAINABLE AGRICULTURE OPERATION.—Section 343(a) of the Consolidated Farm and Rural Development Act (7 U.S.C. 1991 (a)) is amended by adding at the end the following:

"(14) SUSTAINABLE AGRICULTURE OPERATION.—The term 'sustainable agriculture operation' has the meaning given the term in section 1801(a) of the Agriculture Improvement Act of 2018 (Public Law 115-334).".

(5) TECHNICAL ASSISTANCE AND TRAINING.—Subtitle D of the Consolidated Farm and Rural Development Act is amended by inserting after section 374 (7 U.S.C. 2008i) the following:

"SEC. 375. SUSTAINABLE AGRICULTURE OPERATION TRANSITION.

"(a) DEFINITIONS.—In this section, the terms 'socially disadvantaged farmer or rancher' and 'socially disadvantaged group' have the meanings given the terms in section 355(e)).

"(b) IN GENERAL.—The Secretary shall make competitive grants to public bodies, private nonprofit corporations, economic development authorities, institutions of higher education, federally recognized Indian Tribes, and rural cooperatives for the purpose of providing to agricultural producers that are transitioning to sustainable agriculture operations—

"(1) technical assistance and training; and

"(2) transition support payments in accordance with subsection (d).

"(c) SELECTION PRIORITY.—In selecting recipients of grants under this section, the Secretary shall give priority to grant applicants that—

"(1) have experience in providing technical assistance and training to promote and assist the transition to sustainable agriculture operations in rural areas or to socially disadvantaged farmers or ranchers;

"(2) commit to providing technical assistance and other services to socially disadvantaged groups or to underserved and economically distressed areas in rural areas of the United States; and

"(3) demonstrate a commitment—

"(A) to share best practices with other organizations involved in rural economic development or sustainable agriculture efforts; and

"(B) to develop multiorganization and multistate approaches to addressing the transition to sustainable agriculture operations, especially among socially disadvantaged groups and in underserved and economically distressed areas in rural areas of the United States.

"(d) TRANSITION SUPPORT PAYMENTS.—

"(1) IN GENERAL.—Subject to paragraph (2), a grant recipient under this section may provide transition support payments to agricultural producers transitioning to sustainable agriculture operations that are—

"(A) socially disadvantaged farmers or ranchers; or

"(B) located in underserved and economically distressed areas in rural areas of the United States.

"(2) MATCHING FUNDS.—To be eligible to provide transition support payments under paragraph (1), a grant recipient shall provide 25 percent in matching funds from non-Federal sources.

"(3) USE OF FUNDS.—An agricultural producer may use transition support payments received under this subsection to develop and implement a sustainable agriculture plan, as defined in section 1801(a) of the Agriculture Improvement Act of 2018 (Public Law 115-334).

"(4) LIMITATION.—An agricultural producer may receive no more than 3 years of transition support payments under this subsection.

"(d) FUNDING.— On October 1, [20XX], and each subsequent October 1 through October 1, [20XX+2], out of any funds in the Treasury not otherwise appropriated, the Secretary of the Treasury shall transfer to the Secretary to carry out this subsection, [$_____], to remain available until the end of the subsequent fiscal year.".

SEC. 3. CLEAN WATER.

(a) NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM.—Section 402 (*l*) of the Federal Water Pollution Control Act (33 U.S.C. 1342(*l*)) is amended—

(1) by striking paragraph (1); and

(2) by redesignating paragraphs (2) and (3) as paragraphs (1) and (2), respectively.

(b) PERMITS FOR DREDGED OR FILL MATERIAL.—Section 404(f)(1) of the Federal Water Pollution Control Act (33 U.S.C. 1344(f)(1)) is amended—

(1) in subparagraph (C), by striking "farm or";

(2) by striking subparagraph (A); and

(3) by redesignating subparagraphs (B) through (F) as subparagraphs (A) through (E), respectively.

(c) DEFINITIONS OF PERSON AND POINT SOURCE.—Section 502 of the Federal Water Pollution Control Act (33 U.S.C. 1362) is amended—

(1) in paragraph (5)—

(A) by striking "(5) The term" and inserting the following:

"(5) PERSON.—

"(A) IN GENERAL.—The term"; and

(B) by adding at the end the following:

"(B) RESPONSIBLE CORPORATE OFFICER.—In the case of a concentrated animal feeding operation, or other farm or ranch for which the agricultural producer operates under a production contract that determines production inputs and methods, the term 'person' also includes any responsible corporate officer of the contractor."; and

(2) in paragraph (14)—

(A) the first sentence, by inserting "farm or ranch," after "concentrated animal feeding operation,"; and

(B) by striking the second sentence.

SEC. 4. CLEAN AIR.

(a) HAZARDOUS AIR POLLUTANTS AND PREVENTION OF ACCIDENTAL RELEASES.—Section 112(r) of the Clean Air Act (42 U.S.C. 7412(r)) is amended—

(1) in paragraph (2)—

(A) by redesignating subparagraphs (B) through (D) as subparagraphs (C) through (E), respectively; and

(B) by inserting after paragraph (A) the following:

"(B) OWNER OR OPERATOR.—In this subsection, the term 'owner or operator' means—

"(i) any person who owns, leases, operates, controls, or supervises a stationary source; and

"(ii) in the case of a concentrated animal feeding operation, or other farm or ranch for which the agricultural producer operates under a production contract that determines production inputs and methods, any responsible corporate officer of the contractor."; and

(2) in paragraph (5), by striking the second sentence.

(b) STATE STANDARDS FOR NONROAD ENGINES OR VEHICLES.—Section 209(e)(1)(A) of the Clean Air Act (42 U.S.C. 7543(e)(1)(A)) is amended by striking "or used in farm equipment".

SEC. 5. HAZARDOUS SUBSTANCES RELEASES, LIABILITY, COMPENSATION.

(a) DEFINITION OF OWNER OR OPERATOR.—Section 101(20) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S.C. 9601(20)) is amended by adding at the end the following:

"(I) OWNER OR OPERATOR.—Notwithstanding any other provision of this Act, in the case of a concentrated animal feeding operation, or other farm or ranch for which the agricultural producer operates under a production contract that determines production inputs and methods, the term 'owner or operator' includes any responsible corporate officer of the contractor.".

(b) APPLICABILITY TO REGISTERED PESTICIDE PRODUCTS AND AIR EMISSIONS FROM ANIMAL WASTE AT FARMS.—Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S.C. 9603) is amended—

(1) by striking subsection (e); and

(2) by redesignating subsection (f) as subsection (e).

(c) EPCRA RULE PROHIBITION.—The Administrator of the Environmental Protection Agency may not take any action to implement, enforce, or otherwise give effect to the rule entitled "Amendment to Emergency Release Notification Regulations on Reporting Exemption for Air Emissions From Animal Waste at Farms; Emergency Planning and Community Right-to Know Act" (84 Fed. Reg. 27533 (June 13, 2019)), and the Administrator may not promulgate any substantially similar rule.

SEC. 6. RESEARCH AND REPORTS.

(a) DEFINITIONS.—In this section:

(1) ADMINISTRATOR.—The term "Administrator" means the Administrator of the Environmental Protection Agency.

(2) SECRETARY.—The term "Secretary" means the Secretary of Agriculture.

(b) ANIMAL DENSITY AND WASTE MANAGEMENT STANDARDS; CAFO NUTRIENT MANAGEMENT PLANS.—

(1) IN GENERAL.—The Administrator, in consultation with the Secretary, shall conduct, or provide funding to institutions of higher education or other nonprofit organizations to conduct, research on the cumulative effects on public health and the environment of different animal density and waste management standards for livestock operations, including effects on agricultural workers, surrounding communities, and connected ecosystems, including watersheds.

(2) REGULATIONS.— Not later than 3 years after the date of enactment of this Act and based on the results of the research conducted under paragraph (1), the Administrator shall publish proposed regulations that—

(A) include mandatory animal density and waste management standards by livestock operation type and size; and

(B) require all concentrated animal feeding operations to have nutrient management plans that incorporate waste management and disposal techniques and best practices.

(3) REPORT.—Not later than 30 days after the date on which the Administrator publishes proposed regulations described in paragraph (2), the Administrator shall submit to the appropriate committees of Congress a report that describes—

(A) the research conducted under paragraph (1);

(B) the regulations proposed under paragraph (2); and

(C) any legislative changes necessary to enable the Administrator to enforce the standards.

(c) EFFECTS OF AGRICULTURAL EMISSIONS.—

(1) IN GENERAL.—The Administrator, in consultation with the Assistant Secretary of Labor for Occupational Safety and Health, shall conduct, or provide funding to institutions of higher education or other nonprofit organizations to conduct, research on the effects on public health and the environment of agricultural emissions from different types and sizes of agricultural operations, including effects on agricultural workers, surrounding communities, and connected ecosystems, including watersheds.

(2) BEST PRACTICES.—

(A) IN GENERAL.—Based on the results of the research conducted under paragraph (1), the Administrator shall develop best practices that agricultural producers may use to reduce the quantity and negative effects of agricultural emissions, such as specific waste management techniques by livestock operations type and size.

(B) REQUIREMENTS.—The Administrator shall—

(i) make available on the website of the Administrator the best practices described in subparagraph (A); and

(ii) in coordination with the extension activities of the Secretary, provide technical assistance to agricultural producers to implement the best practices.

(3) REPORT.—Not later than 3 years after the date of enactment of this Act, the Administrator shall submit to the appropriate committees of Congress a report that describes—

(A) the research conducted under paragraph (1);

(B) the best practices developed under paragraph (2);

(C) any administrative actions, including guidance and rulemakings, that the Administrator proposes to reduce the quantity and negative effects of agricultural emissions, with a timeframe for those actions; and

(D) any legislative changes necessary to reduce the quantity and negative effects of agricultural emissions.