

Polluting ‘til the Cows Come Home: How Agricultural Exceptionalism Allows CAFOs Free Range for Climate Harm

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ABSTRACT

Despite strong opposition under the Trump administration, recent U.S. climate policy proposals continue to focus on reducing the amount of greenhouse gases emitted by some of the most polluting sectors—from transportation to electricity generation—but one high-polluting industry has been overlooked for decades: animal agriculture. Although animal agriculture, especially beef production, accounts for a significant amount of highly potent greenhouse gases, including methane (“CH₄”) and nitrous oxide (“N₂O”), regulators have not sought to curb emissions from livestock and their waste. Instead, the sector enjoys numerous and longstanding freedoms from environmental regulation—part of a system that agricultural law scholars have deemed “agricultural exceptionalism”—perpetuated by virtue of our reliance on, and traditional notions of, agricultural production. However, agricultural trends over the past few decades have led to a model of highly concentrated and industrialized animal agriculture that bears little resemblance to the family farm. With the rise of Concentrated Animal Feeding Operations (“CAFOs”), facilities collocating hundreds to thousands of animals and their waste on small areas of land, the animal agriculture industry, more than ever, resembles the conventional model of a greenhouse gas-emitting source.

This Note expands upon the pervasive regime of agricultural exceptionalism and analyzes some of its ramifications in the climate context. In particular, this Note examines the scope of climate impacts from CAFOs, the failure of federal regulation to address those impacts, and the potential of alternative methods—namely, common law climate litigation—as a substitute for regulatory intervention.

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INTRODUCTION

The world is facing an existential climate emergency.¹ Recent climate reports warn of food shortages, wildfires, and inundated coastlines, among other dire consequences that may be unavoidable—absent an unprecedented transformation of the global economy.² Yet policy responses have been slow and may fail to prevent some of these most serious effects of climate change.³ Recently, climate policy in the United States has been particularly troublesome, as the Trump Administration has reversed some of the most significant Obama-era climate regulations.⁴ However, one major emitter of greenhouse gases has avoided the attention of policymakers for decades: the animal agriculture industry.

1. WILLIAM J. RIPPLE, CHRISTOPHER WOLF, THOMAS M. NEWSOME, PHOEBE BARNARD, & WILLIAM R. MOOMAW, *World Scientists' Warning of a Climate Emergency*, BIOSCIENCE, <https://perma.cc/JZ32-UK6Z>

2. See CORAL DAVENPORT, *Major Climate Report Describes a Strong Risk of Crisis as Early as 2040*, N.Y. TIMES (Oct. 7, 2018), <https://perma.cc/X3XK-TGXS> (reporting on a landmark special report by the Intergovernmental Panel on Climate Change).

3. See U.N. INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, SPECIAL REPORT: GLOBAL WARMING OF 1.5 °C, SUMMARY FOR POLICYMAKERS 4–10 (2018).

4. See Daniel Farber, *U.S. Climate Policy: Obama, Trump, and Beyond*, 10(2) REVISTA DE ESTUDOS CONSTITUCIONAIS, HERMENÉUTICA E TEORIA DO DIREITO 95 (2018).

Whereas much of the climate policy in the United States has been focused on reducing carbon dioxide (“CO₂”) emissions from fossil fuel consumption, relatively little attention has been paid to the livestock sector despite its standing as a significant national contributor of greenhouse gases.⁵ This may be explained by the theory of “agricultural exceptionalism”—a pervasive legal regime identified by agricultural law scholars that provides exceptions to the agriculture industry for everything from bankruptcy to environmental regulations.⁶ Driven by the well-meaning notion that agriculture is so essential to human survival that farmers should be entitled to exceptional legal and regulatory protections, the exceptions have been twisted to insulate large-scale, industrial agriculture.⁷ As one environmental law scholar puts it, the resulting system of active and passive safe harbors enjoyed by the agricultural industry has created a kind of “anti-law.”⁸

As this Note will demonstrate, the effect of agricultural exceptionalism in the climate context has been to permit large, industrial animal feeding operations to emit significant quantities of greenhouse gases, while simultaneously preventing environmental advocates from seeking redress for climate harms. Part I will develop the links between animal agriculture and climate change. Part II will examine how agricultural exceptionalism has led to the failure of federal regulation to address climate impacts. Finally, Part III will explore the possibilities and challenges of reaching emissions in federal and state courts.

I. ANIMAL AGRICULTURE IS A SIGNIFICANT CONTRIBUTOR TO CLIMATE CHANGE

The dominant model of animal agriculture in the United States has undergone a striking transformation within the last few decades.⁹ According to the U.S. Department of Agriculture, this transformation is defined by “increased farm size, changes in production technologies, increased enterprise specialization, and tighter vertical coordination between the stages of production.”¹⁰ Of particular consequence is the rise of large, industrial livestock production centers, known as Animal Feeding Operations (“AFOs”) or Concentrated Animal Feeding Operations (“CAFOs”), where animals are raised in confined conditions, rather than grazed in open pastures.¹¹ CAFOs generally lead to conditions that

5. See Christopher Hyner, *A Leading Cause of Everything: One Industry That is Destroying Our Planet and Our Ability to Thrive on It*, VT. J. OF ENVTL. L. (Oct. 23, 2015), <https://perma.cc/L86F-JUAK>.

6. See Susan A. Schneider, *A Reconsideration of Agricultural Law: A Call for the Law of Food, Farming, and Sustainability*, 34(3) WM. & MARY ENVTL. L. & POL’Y REV. 935, 935–36 (2010).

7. See Jason Foscolo & Michael Zimmerman, *Alternative Growth: Forsaking the False Economies of Industrial Agriculture*, 25 FORDHAM ENVTL. L. REV. 316, 316–17 (2014).

8. See J.B. RUHL, *Farms, Their Environmental Harms, and Environmental Laws*, 27 ECOLOGY L.Q. 263, 293 (2000).

9. See generally JAMES MACDONALD & WILLIAM D. MCBRIDE, *THE TRANSFORMATION OF U.S. LIVESTOCK AGRICULTURE: SCALE, EFFICIENCY, AND RISKS* (2009), <https://perma.cc/3DNK-JS2M>.

10. *Id.* at 1.

11. *Id.* at 1–3; see also 40 C.F.R. § 122.23(b) (defining AFOs and CAFOs).

“congregate animals, feed, manure, dead animals, and production operations on a small land area,” creating a number of environmental—not to mention ethical—dilemmas.¹² This Part focuses on the effect of air pollution from CAFOs on climate change.

A. ANIMAL AGRICULTURE IS A LEADING EMITTER OF GREENHOUSE GASES

Animal agriculture is a primary contributor to climate change. According to the United Nations Food and Agriculture Organization (“FAO”), the global livestock sector contributes 7.1 gigatons of CO₂ equivalent annually, representing 14.5 percent of all anthropogenic greenhouse gas emissions.¹³ This is roughly the same share as all transportation-related activities.¹⁴ Other reports estimate the total direct and indirect contribution of livestock agriculture may be much higher—up to fifty-one percent of global greenhouse gas emissions.¹⁵ In the United States, the Environmental Protection Agency (EPA) attributes nine percent of all greenhouse gas emissions to agriculture, including enteric fermentation in domestic livestock and livestock manure management.¹⁶ Beef production alone represents 3.3 percent of the total U.S. greenhouse gas emissions.¹⁷

Along with CO₂, methane (“CH₄”) and nitrous oxide (“N₂O”) are the primary greenhouse gases directly emitted by livestock and their waste.¹⁸ Together, they are the three most common greenhouse gases across all sectors.¹⁹ Although CO₂ is by far the most prevalent greenhouse gas in our atmosphere, each of the latter two gases possesses a much greater global warming potential—25 and 298 times greater than that of CO₂, respectively.²⁰ Due to this fact, non-CO₂ greenhouse gases currently contribute just a third of all anthropogenic CO₂ equivalent emissions, but represent thirty-five to forty-five percent of climate forcing, or “the

12. See Agricultural Animal Production, U.S. ENVTL. PROT. AGENCY, <https://perma.cc/XBV9-RYX8> (last visited Nov. 12, 2019).

13. PIERRE GERBER, HENNING STEINFELD, BENJAMIN HENDERSON, ANNE MOTTET, CAROLYN OPIO, JEROEN DIJKMAN, ALESANDRA FALCUCCI, & GIUSEPPE TEMPIO, *TACKLING CLIMATE CHANGE THROUGH LIVESTOCK: A GLOBAL ASSESSMENT OF EMISSIONS AND MITIGATION OPPORTUNITIES* xii (2013).

14. See HENNING STEINFELD, PIERRE GERBER, & T.D. WASSENAAR, *LIVESTOCK’S LONG SHADOW: ENVIRONMENTAL ISSUES AND OPTIONS* xxi (2006); *Global Greenhouse Gas Emissions Data*, U.S. ENVTL. PROT. AGENCY, <https://perma.cc/F3RY-8BVM> (last visited Nov. 10, 2019) (attributing 14% of global GHG emissions to “Transportation”).

15. See, e.g., ROBERT GOODLAND & JEFF ANHANG, *Livestock and Climate Change*, WORLD WATCH, (Nov./Dec. 2009), <https://perma.cc/M3MN-RCTR>.

16. U.S. ENVTL. PROT. AGENCY, *INVENTORY OF U.S. GREENHOUSE GAS EMISSIONS AND SINKS: 1990–2017 ES-20* (2019), available at <https://perma.cc/H3LE-H9U5>.

17. JAN SUSZKIW, *Study Clarifies U.S. Beef’s Resource Use and Greenhouse Gas Emissions*, U.S. DEP’T OF AGRIC. (Mar. 11, 2019), <https://perma.cc/KH9R-R9Z8> (last visited Dec. 20, 2019).

18. U.S. ENVTL. PROT. AGENCY, *supra* note 16, at ES-20–2.

19. *Id.* at ES–9.

20. *Id.* at ES–3.

change in radiant energy retained by Earth owing to emissions of long-lived greenhouse gases,” resulting from global emissions.²¹

CH₄, the most abundant non-CO₂ greenhouse gas, is primarily produced as a by-product of digestive processes among ruminants.²² Domestic ruminants—cattle, sheep, goats, and buffalo—likely outnumber wild populations by a significant amount, with 25 million domestic ruminants added to the global population annually.²³ CH₄ is also released from manure, which is commonly stored in lagoons or holding tanks that provide a direct pathway to the atmosphere.²⁴ These deep pools of liquid manure, common among CAFOs, create anaerobic conditions that increase the production of CH₄ as organic wastes break down.²⁵ In total, approximately 44 percent of annual emissions from the livestock sector are in the form of CH₄.²⁶

N₂O, the next most abundant non-CO₂ greenhouse gas, also results from livestock waste management.²⁷ Some N₂O is emitted during handling and storage of manure,²⁸ but the vast majority is released when manure is deposited or applied to soil.²⁹ Most manure collected at CAFOs will be applied to farmland as fertilizer, at which point processes of nitrification and denitrification create N₂O.³⁰

B. ANIMAL AGRICULTURE CAN PLAY A ROLE IN CLIMATE CHANGE MITIGATION

Reductions in greenhouse gas emissions in the livestock sector can be achieved by reducing production, consumption, or any combination of the two.³¹ In fact, a number of the sector’s unique characteristics, including the high global warming potential of the gases emitted and the relative inexpensiveness of voluntary shifts in diet, lend themselves to exceptionally efficient mitigation strategies. That being said, a number of barriers exist that may prevent the implementation of these strategies.

21. WILLIAM J. RIPPLE, PETE SMITH, HELMUT HABERL, STEPHEN A. MONTZKA, CLIVE MCALPINE, & DOUGLAS H. BOUCHER, *Commentary: Ruminants, Climate Change and Climate Policy*, 4 NATURE CLIMATE CHANGE 2, 2 (2014).

22. *Id.* (“Ruminant animals consist of both native and domesticated herbivores that consume plants and digest them through the process of enteric fermentation in a multi[-]chambered stomach.”); see U.S. ENVTL. PROT. AGENCY, *supra* note 16, at ES-7 (attributing more CH₄ emissions to enteric fermentation than any other source in the U.S.).

23. RIPPLE, SMITH, HABERL, MONTZKA, MCALPINE & BOUCHER, *supra* note 21.

24. CARRIE HRIBAR, UNDERSTANDING CONCENTRATED ANIMAL FEEDING OPERATIONS AND THEIR IMPACT ON COMMUNITIES 5 (2010), <https://perma.cc/4DT5-MFMD>.

25. *Id.* at 7.

26. GERBER, STEINFELD, HENDERSON, MOTTET, OPIO, DIJKMAN, FALCUCCI, & TEMPIO, *supra* note 13, at 15.

27. *Overview of Greenhouse Gases*, U.S. ENVTL. PROT. AGENCY, <https://perma.cc/FJ35-WRFV> (last visited Nov. 11, 2019).

28. STEINFELD, GERBER, WASSENAAR, *supra* note 14, at 108.

29. *Id.* at 109.

30. HRIBAR, *supra* note 24, at 5.

31. GERBER, STEINFELD, HENDERSON, MOTTET, OPIO, DIJKMAN, FALCUCCI, & TEMPIO, *supra* note 13, at 45.

1. Opportunities for Reducing Emissions from Animal Agriculture

As previously mentioned, climate mitigation in the animal agriculture sector can be achieved by addressing consumption, production, or both. Solutions that address consumption are generally based on lifestyle changes that reduce the amount of meat consumed, either through voluntary dietary restriction or by demand control mechanisms.³² On the other hand, solutions that target production are focused on the various facilities that make up the industrial livestock production chain, and include changes in livestock management practices and the introduction of new technologies.³³

Although this Note will primarily focus on the potential for mitigation of emissions resulting from production at the CAFO level, it bears mentioning that demand-side solutions may be equally necessary to achieve meaningful mitigation. Several significant studies modeling mitigation potential based on variations in dietary behavior have found that limiting meat consumption to levels consistent with nutritional recommendations could result in CO₂ equivalent savings between 2.15 and 5.6 gigatons per year.³⁴ This amount of emissions savings would be considerably more than the estimated savings from production-based mitigation strategies.³⁵ Thus, some studies suggest that even with ambitious mitigation strategies targeting livestock production, it may not be possible to limit global warming to less than two degrees Celsius without “radical” shifts in dietary levels of meat and dairy.³⁶

Notwithstanding the necessity of demand-side solutions, there is room for significant reductions in greenhouse gas emissions from the livestock producers themselves. Much of the sector’s potential for mitigation may be attributed to a lack of standards at a national and global scale, resulting in “high variability of emission intensity on a global and regional scale.”³⁷ According to the FAO, a reduction of up to thirty percent of the sector’s emissions (approximately 2.13 gigatons CO₂ equivalent) could be achieved if producers in a given livestock production system were to adopt the technologies and practices used by the ten percent of producers with the lowest emission intensity, assuming overall production remains constant.³⁸ This may be a conservative estimate of the reductions possible; FAO does not account for certain mitigation practices and technologies, such

32. See M. GILL, P. SMITH, & J.M. WILKINSON, *Mitigating Climate Change: The Role of Domestic Livestock*, 4(3) ANIMAL 323, 327 (2010).

33. *Id.* at 327–30.

34. See ROB BAILEY, ANTONY FROGGATT & LAURA WELLESLEY, *LIVESTOCK—CLIMATE CHANGE’S FORGOTTEN SECTOR: GLOBAL PUBLIC OPINION ON MEAT AND DAIRY CONSUMPTION* 12 (2014), available at <https://perma.cc/C38G-7HDJ>.

35. *Id.*

36. *See id.*

37. GERBER, STEINFELD, HENDERSON, MOTTET, OPIO, DIJKMAN, FALCUCCI, & TEMPIO, *supra* note 13, at 45.

38. *Id.* at 45–46.

as biodigesters and dietary supplements, which are currently available but have not been adopted by more than a few producers.³⁹

Regardless of the source, any reduction in CH₄ and N₂O emissions from livestock production and consumption has the potential for efficient and rapid mitigation of climate change effects. As previously mentioned, these gases have significantly higher global warming potentials and shorter atmospheric lifetimes than CO₂.⁴⁰ Consequently, these gases hold “the potential for more rapid reductions in radiative forcing than would be possible by controlling emissions of CO₂ alone.”⁴¹ Only by reducing CO₂ and non-CO₂ emissions simultaneously will climate forcing be reduced during this century.⁴²

2. Obstacles to Reducing Emissions from Animal Agriculture

Despite the potential for significant and efficient climate change mitigation in the livestock sector, a number of barriers are likely to prevent meaningful reductions in greenhouse gas emissions. These barriers exist on both sides of the equation—that is, they apply to mitigation strategies that target consumption as well as those that target production.

On the consumption side, potential mitigation will need to contend with rapidly rising demand for animal products. Global consumption of meat and dairy is expected to rise seventy-six and sixty-five percent, respectively, by 2050.⁴³ A growing population and rapid development in many parts of the world are driving this expansion.⁴⁴ As previously mentioned, limiting global warming below international targets will likely require radical shifts in worldwide dietary behavior. However, unlike other major emitting sectors, relatively few policies or initiatives have been implemented to encourage reductions in consumption of animal products.⁴⁵ Policymakers may be dissuaded from trying to address demand for animal products by concerns of public intolerance of intrusions into private consumer behavior, challenges posed by the cultural significance of animal products, and, not least of all, backlash from powerful industry interest groups.⁴⁶ However, many of the same barriers could be said to dissuade solutions in energy and transportation, two sectors that have nevertheless received significant mitigation attention.

From the production perspective, limited or nonexistent mitigation policies have resulted in agricultural systems that are unlikely to voluntarily reduce

39. *Id.* at 47.

40. U.S. ENVTL. PROT. AGENCY, *supra* note 16, at ES-3.

41. RIPPLE, SMITH, HABERL, MONTZKA, MCALPINE & BOUCHER, *supra* note 21, at 2.

42. *Id.*

43. BAILEY, FROGGATT & WELLESLEY, *supra* note 34, at 5.

44. See GERBER, STEINFELD, HENDERSON, MOTTET, OPIO, DIJKMAN, FALCUCCI, & TEMPIO, *supra* note 13, at xii.

45. BAILEY, FROGGATT & WELLESLEY, *supra* note 34, at 14–15.

46. *Id.* at 15.

greenhouse gas emissions. In the absence of financial incentives or regulations to limit emissions, livestock producers are only likely to invest in mitigation technologies or practices if they also result in increased profits or other production benefits.⁴⁷ Consequently, some form of intervention will likely be necessary to encourage adoption of mitigation practices, such as subsidization, regulation, education in the financial risks associated with climate change, or some combination thereof. Again, while these practices are common in other sectors, animal agriculture has received little attention from policymakers interested in addressing climate change.

II. AGRICULTURAL EXCEPTIONALISM HAS LED TO A FAILURE OF FEDERAL OVERSIGHT

A long history of agricultural exceptionalism in the federal sphere has resulted in a lack of environmental regulation capable of directly or indirectly reaching greenhouse gas emissions from CAFOs.⁴⁸ The environmental impacts of CAFOs are numerous and potentially implicate a variety of statutory programs, including the Clean Air Act (“CAA”), the Clean Water Act (“CWA”), the Resource Conservation and Recovery Act (“RCRA”), the Comprehensive Environmental Response, Compensation, and Liability Act (“CERCLA”), and the Emergency Planning and Community Right-to-Know Act (“EPCRA”).⁴⁹ EPA is responsible for administering these statutes.

Despite the existence of readily applicable regulatory frameworks, most of the polluting activities at CAFOs continue under minimal or wholly absent regulations. As agricultural law scholars note, “nearly every major federal environmental statute passed since the 1970s has included carve-outs for farms.”⁵⁰ Although Congress notably directed EPA to regulate CAFO water pollution under the CWA,⁵¹ no such requirement has been extended to air pollution under the CAA.⁵² This Part contends that the absence of federal protections against CAFO air pollutions is the result of both insufficient information and administrative concessions to the agricultural industry.

47. GERBER, STEINFELD, HENDERSON, MOTTET, OPIO, DIJKMAN, FALCUCCI, & TEMPPIO, *supra* note 13, at 60.

48. *See generally* Tarah Heinzen, *Stopping the Campaign to Deregulate Factory Farm Air Pollution*, 17 N.Y.U. ENVTL. L.J. 1482 (2009).

49. *See id.* at 1496–99.

50. Foscolo & Zimmerman, *supra* note 7, at 317.

51. 33 U.S.C. § 1362(14) (defining “point source” to include CAFOs). EPA regulates CAFOs under the CWA’s National Pollutant Discharge Elimination System (NPDES) permit program. *See id.* § 1342(a).

52. Sarah C. Wilson, *Hogwash! Why Industrial Animal Agriculture is Not Beyond the Scope of Clean Air Act Regulation*, 24 PACE ENVTL. L. REV. 439, 441 (2007).

A. FEDERAL REGULATORS LACK SUFFICIENT INFORMATION TO REGULATE CAFO AIR POLLUTION

At the federal level, regulation of animal agriculture has been stymied by scarcity of information on CAFOs. The Government Accountability Office (GAO) has recommended increased federal oversight of CAFO pollution since the early 2000s.⁵³ However, it has proven difficult for regulators to determine trends in these operations because no federal agency collects consistent, reliable information on CAFOs.⁵⁴ In fact, federal regulators lack even basic information, including the number and locations of CAFOs within the United States.⁵⁵ Rather, regulators have been working from estimations that run the risk of dramatically miscalculating pollution from CAFOs. In 2017, Iowa environmental regulators conducted the state’s first comprehensive survey of CAFOs, as required by a 2013 agreement with EPA, and were surprised to find roughly 5,000 more pig and cattle confinement lots than previously believed to be present in the state—an increase of nearly fifty percent from prior estimations.⁵⁶

1. EPA Lacks Adequate Information on CAFO Greenhouse Gas Emissions

The first step to establishing meaningful climate policy is to understand the extent and sources of greenhouse gas emissions. Unfortunately, EPA lacks such basic information for the livestock sector—the result of regulatory exceptions and deference to industry. Under the 2009 Mandatory Reporting of Greenhouse Gases rule, EPA requires greenhouse gas reporting for large sources emitting 25,000 metric tons or more of CO₂ equivalent per year.⁵⁷ The adopted version of the rule required the largest CAFOs to gather data and calculate their emissions of CH₄ and N₂O from manure management systems in the aggregate.⁵⁸ The rule exempted small CAFOs from reporting requirements, even if they exceeded the emissions thresholds.⁵⁹ Thus, according to EPA estimates, only about 100–110

53. See U.S. GOV’T ACCOUNTABILITY OFFICE, INCREASED EPA OVERSIGHT WILL IMPROVE ENVIRONMENTAL PROGRAM FOR CONCENTRATED ANIMAL FEEDING OPERATIONS 3–5 (2003), <https://perma.cc/XV76-TAZM>.

54. See U.S. GOV’T ACCOUNTABILITY OFFICE, EPA NEEDS MORE INFORMATION AND A CLEARLY DEFINED STRATEGY TO PROTECT AIR AND WATER QUALITY FROM POLLUTANTS OF CONCERN 4 (2008), <https://perma.cc/VD4Y-Z9EC>.

55. See Madelyn Beck, *There Isn’t A Comprehensive Map Of CAFOs, But Computers Could Change That*, KUNC (Apr. 8, 2019), <https://perma.cc/BJ65-EAXG> (last visited Nov. 13, 2019).

56. Donnelle Eller, *Iowa uses satellites to uncover 5,000 previously undetected animal confinements*, DES MOINES REGISTER (Sept. 15, 2017), <https://perma.cc/E7PR-DCEH> (last visited Nov. 13, 2019) (noting that 25 percent of the newly identified facilities were considered medium or large CAFOs, and thus may be subject to regulation).

57. 74 Fed. Reg. 56260, 56267 (Oct. 30, 2009).

58. 40 C.F.R. §§ 98.360–363 (2015).

59. *Id.* § 98.360(a).

CAFOs were covered by the rule.⁶⁰ However, even this small—yet potentially significant—subset of CAFOs manages to escape the reporting requirements due to a Congressional restriction “prohibiting the expenditure of funds for this purpose.”⁶¹ It is likely that Congress will continue to block the application of the reporting rule, effectively preventing EPA from utilizing its most direct tool to obtain information on greenhouse gas emissions from CAFOs.

Furthermore, in the absence of direct emissions reports from CAFOs, EPA lacks any established method for estimating emissions at these facilities and has been dragging its feet throughout the process to develop such methods.⁶² Without this information, industry members are uncertain if they are subject to regulation under federal clean air laws, and EPA is prevented from implementing its tools to reduce emissions threatening public health and the environment.⁶³ In 2005, EPA engaged the industry with a voluntary Air Compliance Agreement (described *infra* Part II.A.2), in part designed to fund a two-year National Air Emissions Monitoring Study (“NAEMS”) with the goal of collecting data sufficient to estimate air pollution emissions from large parts of the animal agriculture sector.⁶⁴ Critics of the agreement asserted that it allowed industry organizations to play a significant role in the design and implementation of the air emissions study, and could not possibly provide adequate data to support national emission estimations.⁶⁵

As of 2017, according to EPA’s Office of Inspector General, the agency had yet to finalize any emission estimation methodologies (“EEMs”) for AFOs.⁶⁶ EPA had previously expected that “by 2010 the AFO industry would have used the EEMs to assess their emissions, apply for any applicable CAA permits, and install any necessary emission reduction controls.”⁶⁷ As a result, AFOs currently do not have adequate EEMs to determine compliance with air pollution laws, and those who participated in the 2005 Air Compliance Agreement enjoy

60. See U.S. ENVTL. PROT. AGENCY, GUIDE FOR THE AGRICULTURE AND LIVESTOCK SECTORS—FINAL RULE: MANDATORY REPORTING OF GREENHOUSE GASES 2 (Nov. 2009), <https://perma.cc/NJ6H-RFZ6>.

61. See *Greenhouse Gas Reporting Program (GHGRP): Subpart JJ – Manure Management*, U.S. ENVTL. PROT. AGENCY, <https://perma.cc/TZ7H-8TPB> (“EPA is not implementing subpart JJ of 40 CFR Part 98 using funds provided in its appropriations due to a Congressional restriction prohibiting the expenditure of funds for this purpose.”).

62. TARAH HEINZEN, *Recent Developments in the Quantification and Regulation of Air Emissions from Animal Feeding Operations*, 2 CURRENT ENVTL. HEALTH REPS. 25, 27 (2015).

63. *Id.*

64. *Id.* at 27–28.

65. See *id.* at 28.

66. U.S. ENVTL. PROT. AGENCY, OFF. OF INSPECTOR GEN., ELEVEN YEARS AFTER AGREEMENT, EPA HAS NOT DEVELOPED RELIABLE EMISSION ESTIMATION METHODS TO DETERMINE WHETHER ANIMAL FEEDING OPERATIONS COMPLY WITH CLEAN AIR ACT AND OTHER STATUTES 11 (2017), <https://perma.cc/6CKK-BHKK>.

67. *Id.* at 10.

civil enforcement protections nearly a decade after their intended expiration.⁶⁸ Further, important agency actions have been correspondingly delayed, including responses to citizen petitions to regulate AFOs and a potentially critical determination of what constitutes a “source” in the AFO context.⁶⁹

2. Federal Deregulation Further Limits Access to CAFO Emission Information

In addition to a general lack of necessary information on CAFOs at the federal level, recent deregulatory efforts have further diminished reporting requirements. These efforts include exemptions for CAFOs from mandatory hazardous substance reporting programs, which do not directly regulate greenhouse gases, yet apply to at least one significant source of CAFO air pollution: manure management.

Next to the CAA, the two most important environmental statutes applicable to CAFO air emissions are CERCLA and EPCRA. Both of these statutes contain, *inter alia*, reporting requirements for air emissions of hazardous or extremely hazardous pollutants exceeding statutory thresholds.⁷⁰ These reporting requirements are designed to inform federal, state, and local emergency response authorities and communities.⁷¹ Both statutes also allow reduced reporting for “continuous”—that is, “stable in quantity and rate,” “occur[ing] without interruption or abatement,” and “routine, anticipated, and intermittent during normal operation”—releases.⁷² Rather than reporting each release on an individual basis, chronic emitters—like CAFOs—may opt to file an initial report and a first anniversary follow-up report, demonstrating that all releases above reportable quantities are consistent and predictable.⁷³ Importantly, EPCRA makes any release reports available to the general public.⁷⁴

Ammonia (“NH₄”) and hydrogen sulfide (“H₂S”), two main gases emitted by decomposing animal waste at CAFOs, are listed among the hazardous substances with reporting requirements under CERCLA and EPCRA.⁷⁵ Citizens and environmental groups have previously used reporting requirements under the statutes

68. *Id.* at 16–17 (stating that, per the agreement, “facilities [are] not required to determine whether CAA permitting and CERCLA/EPCRA reporting requirements apply to them until the EPA publishes final EEMs”).

69. *Id.* at 18.

70. Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. § 9603; Emergency Planning and Community Right-To-Know Act, 42 U.S.C. § 11004.

71. See *EPCRA Section 304: Emergency Planning and Community Right-to-Know Act (EPCRA) Emergency Release Notification Requirements*, U.S. ENVTL. PROT. AGENCY, <https://perma.cc/8PD6-RVNM> (last visited Nov. 14, 2019).

72. *CERCLA and EPCRA Continuous Release Reporting*, U.S. ENVTL. PROT. AGENCY, <https://perma.cc/XQ5H-YCMP> (last visited Nov. 14, 2019).

73. U.S. ENVTL. PROT. AGENCY, REPORTING REQUIREMENTS FOR CONTINUOUS RELEASES OF HAZARDOUS SUBSTANCES (2015), <https://perma.cc/A5Z2-8G4E>.

74. 42 U.S.C. § 11044 (2018).

75. 40 C.F.R. §§ 302.4 (2011), 355, App. A (2008).

to “gain insight into factory farm emissions, publicize information regarding these emissions, and use the resulting information to create pressure for air pollution reductions.”⁷⁶ However, industry groups have responded to increased citizen interest in CAFO air pollution with a sweeping campaign lobbying for special treatment.⁷⁷ This has led to federal deregulation that significantly undermines concerns over air emissions in the animal agriculture sector.

In 2005, EPA adopted a voluntary consent agreement in response to an industry proposal offering safe harbor for CAFOs under CAA, CERCLA, and EPCRA in exchange for cooperation in the NAEMS (described *supra* Part II.A.1).⁷⁸ More than 2,600 AFOs, representing over 14,000 individual farms,⁷⁹ had signed onto the consent agreement by 2008, when EPA formally issued a rule exempting all but the largest CAFOs from reporting air releases from animal waste under CERCLA and EPCRA, based on the belief that release notifications are unlikely to trigger government responses and, thus, are unnecessary.⁸⁰ Environmental groups challenged the rule, and in 2017, the D.C. Circuit rejected EPA’s determination that reporting requirements are unnecessary and vacated the CERCLA and EPCRA exemptions.⁸¹ The court emphasized the benefits of hazardous substance reporting to neighboring communities, including providing information about hazardous substances “rapidly released from the manure” during pit agitation that “may reach toxic levels or displace oxygen, increasing the risk to humans and livestock.”⁸²

Unfortunately, this victory for environmentalists and local communities was short lived. In 2018, Congress passed the Fair Agricultural Reporting Methods (“FARM”) Act, containing, *inter alia*, amendments to CERCLA that codify the previous exemptions from the 2008 CAFO Rule while going even further and extending exemptions to even the largest CAFOs.⁸³ EPA has subsequently used the Act’s CERCLA amendments as the basis for reinstating EPCRA exemptions

76. Heinzen, *supra* note 48, at 1487; see *Sierra Club v. Tyson Foods, Inc.*, 299 F. Supp. 2d 693, 705 (W.D. Ky. 2003) (holding citizen plaintiffs are injured by CAFO failures to report NH₄ emissions because information from reporting may be used to take precautions against the harms of toxic emissions exposure).

77. Heinzen, *supra* note 48, at 1488.

78. See *generally* Animal Feeding Operations Consent Agreement and Final Order, 70 Fed. Reg. 4958, 4959 (Jan. 31, 2005).

79. It is unclear how EPA defines AFOs and individual farms in this context. Consequently, as many as 14,000 CAFOs may have received amnesty. Heinzen, *supra* note 48, at 1507. See also 73 Fed. Reg. 76,948, 76,951–53 (Dec. 18, 2008).

80. 73 Fed. Reg. 76,948, 76,951–53 (Dec. 18, 2008).

81. *Waterkeeper All. v. EPA*, 853 F.3d 527, 537–38 (D.C. Cir. 2017).

82. *Id.* at 536.

83. Fair Agricultural Reporting Method (FARM) Act, Pub. L. No. 115–141, §§ 1101–03 (2018).

for all CAFOs in a new 2019 final rule.⁸⁴ Environmental groups continue to challenge the exemptions in court.⁸⁵

B. EPA REFUSES TO USE ITS CAA AUTHORITY TO REGULATE CAFOS

Putting aside the absence of sufficient information to establish reliable EEMs, the CAA provides EPA with a readily available framework to regulate CAFO greenhouse gas emissions. A variety of programs exist under the Act that EPA could potentially apply to CAFOs, including Prevention of Significant Deterioration (“PSD”), Title V, and New Source Performance Standards (“NSPS”). However, the agency has generally declined to enforce its clean air provisions against the livestock industry, assuming a policy of agricultural exceptionalism instead.⁸⁶

1. EPA has Authority to Regulate Greenhouse Gases under the CAA

Massachusetts v. EPA affirmed that EPA is authorized to regulate greenhouse gases as “air pollutants” under the CAA.⁸⁷ As a result of the decision, EPA issued an endangerment finding, stating that CO₂ and other greenhouse gases endanger public health and welfare through their contribution to climate change, which set off a chain reaction, inevitably leading to a broad duty to regulate greenhouse gas emissions under a variety of CAA programs.⁸⁸ In the 2010 “Triggering Rule,” EPA determined that application of greenhouse gas regulations to vehicles under Title II of the CAA required the agency to apply permitting requirements to stationary greenhouse gas emitters under the PSD and Title V programs.⁸⁹ Under the PSD program, EPA requires new major sources and modified existing major sources to apply for permits, which demonstrates application of the Best Available Control Technology (“BACT”).⁹⁰ Likewise, the Title V program requires general operating permits for all major sources; in this case, sources capable of emitting at least 100 tons per year of any regulated pollutant.⁹¹

The NSPS program provides another avenue for regulation of greenhouse gases, allowing EPA to regulate pollutants emitted from a listed source

84. 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. 27,533, 27,535 (June 13, 2019) (to be codified at 40 C.F.R. pt. 355).

85. *See, e.g.*, Complaint at 2–4, Rural Empowerment Association for Community Help v. EPA, No. 1:18-cv-02260 (D.D.C. Sept. 28, 2018), <https://perma.cc/4JN6-Q68S>.

86. *See generally* Wilson, *supra* note 52, at 439.

87. 549 U.S. 497, 532 (2007).

88. *See* Cecilia Segal, *Climate Regulation Under the Clean Air Act in the Wake of Utility Air Regulatory Group v. EPA*, 39 HARV. ENVTL. L. REV. 1, 2–3 (2015).

89. Reconsideration of Interpretation of Regulations That Determine Pollutants Covered by Clean Air Act Permitting Programs, 75 Fed. Reg. 17,004, 17,006–07 (Apr. 2, 2010).

90. ROY S. BELDEN, CLEAN AIR ACT 54–55 (2011).

91. *Id.* at 130.

category.⁹² Pursuant to §111 of the CAA, source categories are listed upon the Administrator's conclusion that such a source "causes, or contributes significantly to, air pollution which may reasonably be anticipated to endanger public health or welfare."⁹³ After the endangerment finding, EPA is required to establish new source standards for the specified category.⁹⁴ Such standards are often based on emissions reductions achievable in practice, or the "best demonstrated technology" ("BDT").⁹⁵ To date, EPA has listed more than ninety NSPS source categories, although CAFOs have not yet been listed.⁹⁶

2. EPA has Avoided Applying Stationary Source Regulations to CAFOs

After *Massachusetts v. EPA* and EPA's promulgation of greenhouse gas regulations for vehicles, the "vast majority" of CAFOs would have been subject to permitting requirements under the PSD and Title V programs due to their emissions of greenhouse gases.⁹⁷ Thus, these facilities would have been required to implement BACT, such as anaerobic digesters, lagoons covers, and aeration.⁹⁸ However, EPA and Congress took steps to limit the application of these programs.⁹⁹ For example, as with greenhouse gas reporting requirements, Congress has used the appropriations process to prohibit EPA from requiring Title V permits for greenhouse gas emissions from CAFOs.¹⁰⁰ The permit fees used to cover the cost of administering the program have been dubbed a "cow tax."¹⁰¹

Furthermore, EPA has focused on limiting permitting requirements for all potential sources of greenhouse gas emissions. In 2010, the agency responded to its own finding that permitting requirements would be triggered for a vast number of stationary sources of greenhouse gas emissions with a "Tailoring Rule" that imposed significantly higher thresholds for greenhouse gases than other pollutants.¹⁰² According to EPA, the rule would effectively exempt all agricultural

92. *Id.* at 79–82.

93. 42 U.S.C. § 7411(b)(1)(A) (2018).

94. *Id.* § 7411(b)(1)(B).

95. Belden, *supra* note 90, at 85.

96. *See* 40 C.F.R. § 60.

97. MARY JANE ANGELO, JASON J. CZARNEZKI & WILLIAM S. EUBANKS II, *FOOD, AGRICULTURE, AND ENVIRONMENTAL LAW* 167 (2013).

98. *Id.*

99. Bruce Myers & Linda Breggin, *Tackling the Problem of CAFOs and Climate Change: A New Path to Improved Animal Welfare?*, in *WHAT CAN ANIMAL LAW LEARN FROM ENVIRONMENTAL LAW?* 117, 133 (Randall S. Abate ed., 2015).

100. *Id.*; *see* discussion, *supra* Part II.A.1.

101. MEGAN STUBBS, *ENVIRONMENTAL REGULATION AND AGRICULTURE* 6 (2014), <https://perma.cc/9HJR-UEZF>.

102. *See* Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule, 75 Fed. Reg. 31,514, 31,516 (June 3, 2010). Under the rule, "the threshold initially is annual emissions of 75,000 tons of carbon dioxide equivalents, not 100 or 250 tons as required for other pollutants by the PSD and Title V permits." Stubbs, *supra* note 101, at 7.

sources from permitting requirements, due to the high threshold and exclusion of “fugitive emissions” from manure management systems.¹⁰³

Challenges to the Tailoring Rule reached the Supreme Court in *Utility Air Regulatory Group v. EPA*, whereupon the Court held that EPA “lacked authority to ‘tailor’ the Act’s unambiguous numerical thresholds to accommodate its greenhouse-gas-inclusive interpretation of the permitting triggers.”¹⁰⁴ In light of the “unworkable” problem posed by regulating greenhouse gas emissions pursuant to the lower standards, the Court also held that EPA may not use greenhouse gas pollutants as the sole basis for determining that a facility is a major source under the PSD and Title V programs.¹⁰⁵ However, the Court’s opinion affirmed EPA’s authority to regulate sources emitting more than *de minimis* greenhouse gases under PSD and Title V in connection with “anyway sources”—that is, those sources that are nevertheless covered by the permitting programs for emission of other conventional air pollutants.¹⁰⁶

The implication of the Court’s ruling is that EPA may still require BACT to control greenhouse gas emissions from CAFOs, so long as those facilities are otherwise regulated for their emission of particulate matter, volatile organic matter, or other listed non-greenhouse gases, like NH₄ or H₂S. As industrial livestock facilities continue to grow and concentrate, it becomes increasingly likely that some CAFOs will meet the emission thresholds for major sources, if they do not already.¹⁰⁷

EPA has also, thus far, neglected to take the more direct approach to regulating greenhouse gases from CAFOs under the NSPS program.¹⁰⁸ EPA has broad discretion to designate stationary sources of pollutants that endanger public health and welfare.¹⁰⁹ However, the Agency has not acted to designate CAFOs, despite petitions from non-profit organizations to do so.¹¹⁰ The Agency rejected such a petition in 2017, citing a need for “more accurate methodologies to estimate air emissions from CAFOs,” and pointing to the endlessly delayed EEMs from the NAEMS as evidence of “ongoing actions . . . in support of [EPA’s] comprehensive approach for addressing air emissions from CAFOs.”¹¹¹ EPA’s decision not to act on NSPS designation for CAFOs is particularly striking given that the

103. Stubbs, *supra* note 101, at 7.

104. *Util. Air Regulatory Grp. v. EPA*, 573 U.S. 302, 328 (2014).

105. *Id.* at 320-22.

106. *Id.* at 332-33.

107. See Angelo, Czarnezki & Eubanks, *supra* note 97, at 178.

108. Katrina A. Tomas, *Manure Management for Climate Change Mitigation: Regulating CAFO Greenhouse Gas Emissions Under the Clean Air Act*, 73 U. MIAMI L. REV. 531, 555 (2019).

109. *Id.* at 559.

110. See, e.g., Human Soc’y of the U.S. et al., Petition to List Concentrated Animal Feeding Operations Under Clean Air Act Section 111(b)(1)(A) [*sic*], and to Promulgate Standards for Performance Under Clean Air Act Sections 111(b)(1)(B) and 111(d), at 3-4, 7 (Sept. 21, 2009), <https://perma.cc/Y5B6-929Q>.

111. Letter from E. Scott Pruitt, Adm’r, Envtl. Prot. Agency, to Jonathan Lovvorn & Daniel Lutz, The Humane Soc’y of the United States, at 3-4 (Dec. 15, 2017), <https://perma.cc/ZLZ4-ZGNV>.

Agency has already listed a broad variety of source categories, some of which posse characteristics analogous to CAFOs. For example, EPA has issued performance standards for municipal waste landfills, which, like CAFOs, emit large amounts of CH₄ through waste management systems.¹¹²

Given the historical trend of agricultural exceptionalism that has placed agricultural interests above competing environmental concerns, it may be unlikely that EPA will decide to act to apply CAA stationary source requirements to CAFOs. However, it remains clear that EPA possesses the authority, except where Congress has specifically prohibited the use of funds, to apply such regulations should it choose to do so. Thus, continued pressure from advocacy groups may still compel EPA to take action, such as concluding its study of CAFO emissions and listing CAFOs as a source category under the CAA.

III. CLIMATE LITIGATION IS AN UNPROVEN SUBSTITUTE FOR FEDERAL REGULATION

In light of nonexistent federal oversight for animal agricultural sector emissions, some legal scholars have proposed that climate change litigation directed at CAFOs could potentially serve as an alternate track to achieve meaningful climate mitigation goals.¹¹³ Indeed, a growing number of litigants, frustrated by slow legislative and regulatory responses and having suffered the adverse impacts of rising sea levels and extreme weather events, have filed lawsuits against other polluting industries, often alleging various common law rights of action from trespass and negligence to private and public nuisance.¹¹⁴ Previous suits have targeted fossil fuel companies, power companies, and automobile manufacturers, alleging liability not just for emitting greenhouse gases, but also for promoting uses of their products that emit greenhouse gases, and concealing the serious threats posed by climate change.¹¹⁵ The primary goals of climate litigation include “forc[ing] government regulators to take steps to reduce GHGs, chang[ing] corporate behaviour, assign[ing] responsibility for impacts and chang[ing]

112. See generally *Municipal Solid Waste Landfills: New Source Performance Standards (NSPS), Emission Guidelines (EG) and Compliance Times*, U.S. ENVTL. PROT. AGENCY, <https://perma.cc/CMN9-Y6B2> (last visited Dec. 19, 2019).

113. See, e.g., Daniel E. Walters, *Animal Agriculture Liability for Climatic Nuisance: A Path Forward for Climate Litigation?*, 44 COLUM. J. ENVTL. L. 299, 301 (2019).

114. See Albert C. Lin & Michael Burger, *State Public Nuisance Claims and Climate Change Adaptation*, 36 PACE ENVTL. L. REV. 49, 54–55 (2018) (describing the current landscape of common law climate litigation); *Am. Elec. Power Co. v. Connecticut*, 564 U.S. 410, 429 (2011) (asserting federal and state public nuisance claims); *Kivalina v. ExxonMobil Corp.*, 696 F.3d 849, 853 (9th Cir. 2012) (asserting federal public nuisance claim); *California v. Gen. Motors Corp.*, No. C06–05755 MJJ, 2007 WL 2726871 at *2 (N.D. Cal. Sept. 17, 2007) (asserting federal and state public nuisance claims).

115. Lin & Burger, *supra* note 114, at 55.

public debate about climate change issues.”¹¹⁶ So far, the success of litigation in achieving these goals has been subject to debate.¹¹⁷

Although environmental advocates have yet to test the waters of climate liability in the agricultural sector, it is fair to expect that such litigation will largely follow the model established by litigation in other sectors. Of all the theories available for climate litigants, this Part will focus on public nuisance as the most likely to succeed. That being said, such efforts are likely to face the same obstacles as climate litigation in other industries and may introduce some additional barriers given the industry’s exceptional treatment.

A. CAFOS FACE THE SAME BARRIERS TO FEDERAL PUBLIC NUISANCE LITIGATION AS
OTHER INDUSTRIES

Of the tort theories available to climate litigants, public nuisance—focusing on harms to the general public rather than individuals—is regarded by some as the most promising.¹¹⁸ At the basic level, public nuisance requires proof of “an unreasonable interference with a right common to the general public.”¹¹⁹ The doctrine generally includes “rights in health, safety, and comfort that are not necessarily tied to land or a particular resource.”¹²⁰ Thus, the theory is particularly appealing to address climate harms from CAFOs, in addition to sources of greenhouse gases more generally. In particular, public nuisance focuses the injury analysis on the general public, rather than individual landowners—which may be too few, given the mainly rural industry, or too uncertain, given the difficulty of attributing specific harms from climate change to specific emitters.

In theory, a public nuisance suit against a CAFO would likely look similar to previous suits against defendants in other industries, with some notable distinctions. The primary differences in litigation strategy would likely be caused by the structure of the animal agriculture industry.¹²¹

The first challenge for climate litigants will be deciding where to focus their efforts; by best estimate, there are roughly 20,000 CAFOs in the United States.¹²² Fortunately, the animal agriculture industry is highly integrated. In fact, just four companies control more than eighty-three percent of the national beef industry: Tyson Foods, Inc.; Cargill, Inc.; National Beef Packing Company LLL; and JBS

116. SABRINA MCCORMICK, ROBERT L. GLICKSMAN, SAMUEL SIMMENS, LEROY PADDOCK, DANIEL KIM & BRITTANY WHITED, *Strategies in and outcomes of climate change litigation in the United States*, 8 NATURE CLIMATE CHANGE 829, 829 (2018).

117. *Id.*

118. Lin & Burger, *supra* note 114, at 56.

119. RESTATEMENT (SECOND) OF TORTS § 821B(1) (AM. LAW INST. 1979).

120. Albert C. Lin, *Public Trust and Public Nuisance: Common Law Peas in a Pod?*, 45 U.C. DAVIS L. REV. 1075, 1078 (2012).

121. Amit Liran, *Holding The Animal Agriculture Industry Accountable For Climate Change: Merits Of A Public Nuisance Claim Under California And Federal Law*, 30 VILL. ENVTL. L.J. 1, 9 (2019).

122. See U.S. ENVTL. PROT. AGENCY, NPDES CAFO PERMITTING STATUS REPORT: NATIONAL SUMMARY, ENDEAR 2018 (Dec. 31, 2018), <https://perma.cc/E549-QD4S>.

USA Holdings, Inc. By targeting a handful of controlling companies, litigants may be able to establish liability for the vast majority of CAFO emissions and concentrate their efforts on “deep pocket” defendants.¹²³ However, if litigants are unable to establish liability for a select few controlling companies, the disaggregated structure of the nationwide network of CAFOs may make it more difficult to aggregate the climate harms that follow from emission of greenhouse gases than in historically concentrated industries, like fossil fuels.

In practice, judicial responses to public nuisance theories of climate liability have thus far been mixed, mostly limiting the litigation of climate claims on procedural grounds.¹²⁴ The most significant ruling came in 2011, when the Supreme Court directly considered the availability of federal public nuisance claims to address greenhouse gas emissions in *American Electric Power Co. v. Connecticut* (“*AEP*”).¹²⁵ In *AEP*, a coalition of states, led by Connecticut, sought an injunction against electric power companies collectively responsible for one-tenth of U.S. CO₂ emissions.¹²⁶ The Court held that federal nuisance claims are unavailable for greenhouse emissions, explaining that EPA’s delegated authority under CAA displaces any federal common law right of action.¹²⁷ Importantly, the test for displacement of federal common law is “whether [congressional legislation] ‘speaks directly to [the] question’ at issue.”¹²⁸ That is, the “relevant question . . . is ‘whether the field has been occupied, not whether it has been occupied in a particular manner.’”¹²⁹ Thus, displacement may persist, regardless of whether EPA actually utilizes its authority to regulate under the CAA.

Although displacement has become a seemingly insurmountable barrier for climate litigation against fossil fuel companies, some legal scholars have proposed that it may be overcome by CAFO litigation.¹³⁰ Some argue that the CAA does not provide a workable framework for regulating the climate change impacts of animal agriculture, unlike electric generation and transportation.¹³¹ According to this theory, the organization of the animal agriculture sector, although more concentrated and vertically integrated than ever before, is still sufficiently disaggregated to avoid the thresholds for triggering CAA permitting requirements under PSD and Title V.¹³² Thus, under *AEP*, CAFO litigation would survive displacement because the CAA does not “speak[] directly” to emissions from the livestock sector. This line of thought is analogous to the court’s reasoning in *AEP*

123. See Liran, *supra* note 121, at 9–11.

124. See Lin & Burger, *supra* note 114, at 57.

125. *Am. Elec. Power Co. v. Connecticut*, 564 U.S. 410 (2011).

126. *Id.* at 418.

127. *Id.* at 424.

128. *Id.* (quoting *Mobil Oil Corp. v. Higginbottom*, 436 U.S. 618, 625 (1978)).

129. *Id.* at 426.

130. See, e.g., Walters, *supra* note 113, at 14–19; Liran, *supra* note 121.

131. Walters, *supra* note 113, at 320.

132. *Id.* at 320–23.

that “we each emit CO₂ merely by breathing,” yet Congress never intended EPA to apply the CAA to such emissions.¹³³

However, as discussed in the previous Part, while Congress and EPA seem to think that the CAA could reach emissions from CAFOs, both have taken steps to limit the Act’s application to CAFOs in practice.¹³⁴ For example, rather than deny that EPA has the delegated authority to require the permitting of CAFOs under Title V, Congress has used the appropriations process to prohibit use of funds for this purpose. Similarly, EPA has maintained that it lacks adequate information to regulate CAFOs under the CAA, not that it lacks the authority to do so. As legal scholars have noted, it is well within the scope of the CAA to regulate emissions from CAFOs.¹³⁵ Furthermore, at least some of the largest CAFOs may, in fact, meet the statutory thresholds for CAA permitting requirements.¹³⁶ Although *UARG* prohibits EPA from requiring permits from stationary sources solely on the basis of greenhouse gas emissions, the Agency may regulate those gases in connection with “anyway sources.”¹³⁷ Additionally, EPA may choose to regulate livestock greenhouse gas emissions directly by designate CAFOs as a source category under the NSPS program.

Thus, the relevant question under *AEP*, “whether the field has been occupied, not whether it has been occupied in a particular manner,” will most likely be decided in favor of displacement.¹³⁸ However, this does not mean that federal climate litigation is without merit. Daniel E. Walters identifies a number of indirect effects of litigation that may justify the effort even in the face of an “insuperable barrier” to judgment on the merits.¹³⁹ Such indirect benefits include “prodding” federal actors to fill the policy gap created by government “underreach,” encouraging innovation and self-regulation by industry, and changing public perception and consumer behavior.¹⁴⁰

B. STATE LAW PRESENTS UNIQUE BARRIERS TO NUISANCE LIABILITY FOR CAFOS

One question left open after *AEP* is whether litigants can avoid the displacement issue by pursuing state common law claims of public nuisance.¹⁴¹ In the opinion for the Court in *AEP*, Justice Ginsburg wrote: “In light of our holding that the Clean Air Act displaces federal common law, the availability *vel non* of a state lawsuit depends, *inter alia*, on the preemptive effect of the federal Act. . . .

133. *Am. Elec. Power Co.*, 564 U.S. at 426.

134. See discussion, *supra* Part II.B.

135. See, e.g., Tomas, *supra* note 108; Wilson, *supra* note 52.

136. See Angelo, Czarnezki & Eubanks, *supra* note 97, at 178.

137. See *Util. Air Regulatory Grp. v. EPA*, 573 U.S. 302, 332–33 (2014).

138. See *Am. Elec. Power Co.*, 564 U.S. at 426.

139. Walters, *supra* note 113, at 335.

140. *Id.* at 335–38.

141. See Michael Burger, *Do State Common Law Nuisance Claims for Climate Change-Related Harms Even Exist Anymore?*, CLIMATE LAW BLOG, SABIN CENTER FOR CLIMATE CHANGE LAW (Sept. 14, 2017), <https://perma.cc/PT8M-PTTC>, (last visited Nov. 15, 2019).

None of the parties have briefed preemption or otherwise addressed the availability of a claim under state nuisance law. We therefore leave the matter open for consideration.”¹⁴² The courts have yet to speak definitively on the issue of preemption.¹⁴³ Rather, climate litigation since *AEP* has followed a similar pattern of removal to federal courts and displacement under the CAA.¹⁴⁴

Assuming, *arguendo*, that litigants are able to bring public nuisance claims against CAFOs in state court, those claims may still face an uphill battle against state protections for agriculture that embody the industry’s exceptional treatment. Most notably, ubiquitous “right-to-farm” laws have significantly limited state nuisance doctrines.¹⁴⁵ Present in all fifty states, these statutes provide agricultural operations, including animal agriculture, with protection from liability for nuisance claims.¹⁴⁶ Originally devised as a codification of the common law “coming to the nuisance” defense and intended to protect longstanding rural agricultural operations from increasing urbanization in the 1970s, these laws are more frequently being used to shield industrial farming operations by reducing the ability of rural populations to sue for pollution.¹⁴⁷

Although untested in the climate context, right-to-farm laws may present a particular problem for litigation targeting greenhouse gas emissions from CAFOs under nuisance theories. First, such laws apply to both private and public nuisances.¹⁴⁸ Second, the laws generally limit nuisance recovery to anticipatory injunctions.¹⁴⁹ Accordingly, litigants will be able to seek an injunction for greenhouse gas emissions from CAFOs in the construction or planning phase, but may be prevented from establishing liability for existing CAFOs. Plaintiffs may attempt to circumvent right-to-farm statutes by challenging their applicability or constitutionality. However, the success of such attempts has been mixed.¹⁵⁰

It appears that agricultural exceptionalism, responsible for the general lack of regulation for greenhouse gas emissions from CAFOs, may likewise limit judicial redress for climate harms. The most likely effect is a continuation of unrestrained pollution in the sector. After all, as one legal scholar puts it: “If an agricultural

142. *Am. Elec. Power Co.*, 564 U.S. at 429.

143. Burger, *supra* note 141.

144. *Id.*

145. See generally Jonathan Morris, *One Ought Not Have So Delicate a Nose: CAFOs, Agricultural Nuisance, and the Rise of the Right to Farm*, 47 ENVTL. L. 261 (2017).

146. *Id.* at 276–77.

147. See Loka Ashwood & Danielle Diamond, *Opinion: Right-to-Farm laws run counter to rural culture and property rights*, ENVTL. HEALTH NEWS (Apr. 11, 2019), <https://perma.cc/7HVU-E4AV> (last visited Nov. 15, 2019).

148. TIMOTHY D. BATES, *THE RIGHT TO FARM ACT: WHEN CAN BARRING NUISANCE ACTIONS OR ZONING ENFORCEMENT CONSTITUTE AN UNCONSTITUTIONAL TAKING? OR SOMETHING’S ROTTEN IN THE STATE OF IOWA 2*, <https://perma.cc/B7U3-CY9C>.

149. Morris, *supra* note 145, at 281.

150. *Id.* at 280. See *e.g.*, *Bormann v. Bd. of Supervisors*, 584 N.W.2d 309, 311 (Iowa 1998) (holding Iowa’s right-to-farm law an unconstitutional taking), *but see* *Labrayere v. Bohr Farm, LLC*, 458 S.W.3d 319 (Mo. 2015) (holding Missouri’s right-to-farm statute constitutional).

facility is compliant with state and federal laws and is effectively insulated from nuisance liability, what reason does it have to consider the harm suffered by neighbors as a result of its operations?"¹⁵¹

CONCLUSION

The pervasive system of agricultural exceptionalism has prevented both regulatory and judicial solutions to the climate harms caused by CAFOs. Although large-scale, industrial animal feeding operations have become the norm in the livestock industry, they are able to take advantage of environmental carve-outs that were originally meant to only protect small farmers. Thus, some of the largest national contributors to climate change lack any significant incentives to reduce greenhouse gas emissions.

Meanwhile, environmental advocates lack any demonstrated option to establish climate liability for CAFOs. Federal common law litigation is likely to run into the same procedural barriers that have plagued climate suits focusing on other industries. Additionally, ubiquitous protections for agriculture under state law may prevent other avenues to establishing liability.

Given the current legal landscape, environmental advocates seeking to address animal agriculture's contributions to climate change may choose to "prod" EPA to gather adequate information and regulate CAFOs under the CAA's PSD, Title V, or NSPS programs. This may be accomplished directly, by putting pressure on EPA to finalize EEMs or by petitioning EPA to list CAFOs as a regulated source category, or indirectly, by bringing climate suits against the animal agriculture industry, the uncertainty of reaching the merits notwithstanding, to engage public and regulatory discussion.

Despite the difficulty of reaching greenhouse gas emissions from CAFOs within a system of pervasive agricultural exceptionalism, it is imperative that no industry is allowed to pollute freely in the face of the existential issue posed by climate change.

151. Morris, *supra* note 145, at 286.