Anthropocene Accountability Litigation: Confronting Common Enemies to Promote a Just Transition

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This article offers a new perspective in the quest for climate justice. Myriad accountability lawsuits in the U.S. have been filed against the fossil fuel and industrial animal agriculture industries in the past few years, but these efforts have proceeded without coordination between the environmental and animal law fields. There has been no scholarly inquiry that unites the efforts to seek relief from "common enemies" for exacerbating the climate change crisis while profiting from their operations. The article first reviews the climate change impacts from the fossil fuel and industrial animal agriculture industries and examines how federal regulatory gaps and subsidies enable and exacerbate the climate change impacts from these industries. It then reviews legal theories in common law accountability litigation against these industries that seek damages for the harms these industries cause to public health and welfare, the environment, and animals. The article proposes that accountability litigation against the fossil fuel and industrial animal agriculture industries can facilitate a transition away from reliance on fossil fuels and factory farms to more sustainable alternatives. Positive outcomes from several related contexts including tobacco litigation, the phaseout of harmful substances in environmental regulation, and the COVID-19 crisis support the urgent need for this "just transition."

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I. INTRODUCTION

One of Mark Twain's widely cited aphorisms has haunting relevance for our time: "Truth is stranger than fiction, but it is because Fiction is obliged to stick to possibilities; Truth isn't."[1] As the Anthropocene era[2] continues to wield extensive and catastrophic disruption to humans, animals, and the

1. MARK TWAIN, FOLLOWING THE EQUATOR: A JOURNEY AROUND THE WORLD 156 (1897).

2. The "Anthropocene era" is the period in environmental and geological history beginning roughly at the turn of the twenty-first century during which humanity has "caused mass extinctions of plant and animal species, polluted the oceans and altered the atmosphere, among other lasting impacts" as a result of the consumption-focused lifestyles of the past several decades. *See* Joseph Stromberg, *What Is the Anthropocene and Are We in It?*, SMITHSONIAN MAG. (Jan. 2013), *available at* https://perma.cc/W33Z-A9EQ.

environment at an ever-increasing pace, the trajectory of this destruction has the makings of a future more grim than a science fiction novel could fathom.[3] This dystopian future was conveyed in painstaking detail in the Intergovernmental Panel on Climate Change's (IPCC's) 1.5° C Report in October 2018.[4] The report warns that the global community only has until about 2030 to apply ambitious mitigation efforts to stave off some of the most severe climate change impacts projected for later this century.[5]

In response to these current and projected climate change-induced disruptions, a wide range of social and legal responses[6] have emerged in the popular consciousness within the past decade to address climate change mitigation and adaptation measures while the clock ticks obtrusively in the background.[7] Naomi Klein—a proponent for rapid social mobilization demanding aggressive action on climate change—described the "justice" underpinnings of climate change accountability efforts against private sector entities by analogizing to other accountability campaigns: "Just as tobacco companies have been obliged to pay the costs of helping people to quit smoking, and BP has had to pay for a large portion of the cleanup in the Gulf of Mexico, it is high time for the 'polluter pays' principle to be

3. In 2020 alone, in the midst of an unprecedented global pandemic, a toxic cocktail of extreme weather events fueled by climate change unleashed its fury across the U.S. and the world, including a first-ever, two-at-one-time hurricane threat in the Gulf of Mexico; record-setting wildfires raging in California and Brazil; and record-high temperatures across the globe, including 129° F in California's Death Valley and an unthinkable 100° F in Siberia. *See* Bob Berwyn, *10 Days of Extremes: From Record Heat to Wildfires to the One-Two Punch of Hurricane Laura*, INSIDE CLIMATE NEWS (Aug. 29, 2020), *available at* https://perma.cc/A3PU-P2UY; Scottie Andrew, *Temperatures in an Arctic Siberian town hit 100 degrees, a new high*, CNN (June 22, 2020), *available at* https://perma.cc/W9F6-Y6K7.

4. UN INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, GLOBAL WARMING OF 1.5° C (2018), *available at* https://perma.cc/NW4G-YBAT [hereinafter IPCC 1.5° C REPORT].

5. *Id*.

6. Examples of these social and legal responses include the climate justice movement and the intersectional coalition supporting the Green New Deal (i.e., race, gender, environmental, social justice, and workers' rights movements).

7. The "ticking clock" metaphor has become a prominent reference point in the wake of the IPCC's stark warning in its 2018 report urging ambitious mitigation techniques to slow the onslaught of climate change impacts, without which the world will have no recourse but to brace for and adapt to devastating impacts. *See* IPCC 1.5° C REPORT, *supra* note 4; Bob Berwyn, *IPCC: Radical Energy Transformation Needed to Avoid 1.5 Degrees Global Warming*, INSIDE CLIMATE NEWS (Oct. 8, 2020), *available at* https://perma.cc/R5ME-4C2W. This ticking clock metaphor is also reflected on the "doomsday clock" website. *Doomsday Clock*, BULL. ATOMIC SCI., *available at* https://perma.cc/AM62-M52E (last accessed Jan. 11, 2021).

applied to climate change."[8] In an era of gross wealth disparity and profound social inequalities, there is a growing campaign that seeks increased transparency and accountability from public and private entities regarding their activities that contribute to climate change impacts, as well as their failure to regulate or accept responsibility for those impacts.

"Anthropocene accountability litigation" is one significant component of this mobilization. Anthropocene accountability litigation refers to two categories of claims: (1) suits seeking to compel governmental entities to regulate in the first instance or to regulate more ambitiously; and (2) suits against private sector entities to recover damages for the impacts of their activities on the environment, public health, or both. This article examines the latter type of suit against the backdrop of prior and pending litigation adverse to other industries, such as the tobacco and opioid industries. This line of cases involves four components: (1) an industry whose activities impose negative externalities[9] on the public while reaping significant profits; (2) an absence of regulation to restrain or discourage the industry from continuing to engage in that behavior; (3) reliance on a common law legal theory to impose liability on that industry for the harm it is causing; and (4) evidence, in many instances, of these industry actors' deliberate deception of the public through

8. NAOMI KLEIN, ON FIRE: THE (BURNING) CASE FOR A GREEN NEW DEAL 88 (2019).

9. Externalities can be positive or negative. A negative externality occurs "when an economic transaction imposes a cost to [an] uninvolved third party. A negative externality occurs when the social cost is greater than the production cost or private cost." *Energy Education*, UNIVERSITY OF CALGARY, *available at* https://perma.cc/38YR-L2ZC (last accessed Aug. 23, 2020). For example, fossil fuels and factory farm meats and dairy products impose burdensome negative externalities because they are "cheap" in the marketplace but "costly" to society by causing significant harm to the environment, animals, and human health and safety. The following quote offers a further illustration:

> I was driving through Maine one late summer day when I stopped to admire a river running through a pretty wooded area. I noticed big, slick bubbles of industrial discharge corroding the vegetation along the riverbank, and I wondered: Who wants this to happen? Not the owners of the company, the shareholders. Not the managers or employees, who want to live in a healthy environment. Not the board of directors, not the community, not the government. I could not think of anyone connected with the company emitting the effluent who wanted the result I saw. This was an unintended consequence of the corporate structure. The very aspects of the company's design that made it so robust, so able to survive changes in leadership, in the economy, in technology, were the aspects that led to this result[:] pollution that no one wanted, and everyone would pay for.

ROBERT A.G. MONKS & NELL MINOW, POWER AND ACCOUNTABILITY 3 (1991).

misuse of information or failure to disclose information, which exacerbates impacts or threats of impacts to the public.

In particular, this article examines suits against the fossil fuel industry and concentrated animal feeding operations (CAFOs). These industries are inherently unsustainable, and their negative social, environmental, and economic externalities far exceed the benefits of the products that the industries provide.[10] This reality was especially true in 2020. The COVID-19 pandemic exposed the gaps in the social safety net and the tenuousness of surviving another mass catastrophe. And it underscored an already growing understanding of the urgent need to transition to clean and renewable energy and a plant-based diet to ensure a sustainable future for the planet.[11]

The environmental destruction from these two industries did not occur by coincidence; rather, it was done with the federal government's blessing. The fossil fuel and animal agriculture industries are two of the most powerful lobbying forces in the nation. They have worked tirelessly to secure this privileged treatment of lax regulation and generous financial support from the federal government.[12] First, existing federal law does not regulate greenhouse gas emissions from the fossil fuel industry or CAFOs, both of which are leading sources of greenhouse gas emissions. As such, these entities are operating legally as they continue to contribute substantially to global climate change and

10. Some opponents of accountability litigation against the fossil fuel industry argue that these lawsuits are scapegoating an industry that provides valuable service to society by powering the energy sector of the economy; however, the burdens of their operations far outweigh the benefits. For further discussion of the merits of this line of cases, see *infra* Part IV.A.

11. *See* Rowan Jacobsen, *This Is the Beginning of the End of the Beef Industry*, OUTSIDE (July 31, 2019), *available at* https://perma.cc/S8EU-LAYL (noting the meteoric rise in popularity of Beyond Meat and Impossible Food products and the corresponding high performance of their stocks).

12. To appreciate the overwhelming lobbying influence of these two industries, one need only compare their privileged treatment to the treatment of other industries under U.S. federal environmental laws. Other private sector actors are subject to strict regulatory regimes grounded in transparency and accountability under the Clean Air Act; the Clean Water Act; the Resource Conservation and Recovery Act; the Comprehensive Environmental Response, Compensation and Liability Act; and others, so it is difficult to see an alternative explanation for this privileging of these two industries. Though the fossil fuel industry is accountable for other aspects of its impacts on the environment, the exclusion of accountability for its massive greenhouse gas emissions has enabled the industry to remain viable and unjustifiably profitable for decades beyond the point at which a transition should have occurred.

its destructive impacts, many of which are felt in the United States. In addition, CAFOs benefit from gaping loopholes in otherwise effective federal environmental laws like the Clean Air Act and Clean Water Act, which exempt many CAFOs from regulation. Second, fossil fuel companies and CAFOs are not merely protected from regulation that should have constrained their activities decades ago, but the federal government also generously enables their destructive activities through federal subsidies. Third, creative common law tort lawsuits against these entities have made little progress to date because these industries are insulated by defendant-friendly procedural protections including standing and jurisdictional barriers, the federal displacement doctrine that dismissed federal common law claims against the fossil fuel industry seeking damages for climate change impacts, and state right-to-farm laws that limit the ability to sue CAFOs.[13]

The federal government—Congress, the Executive, and the courts—has a disturbing track-record of safeguarding private sector entities that cause extensive public harm. The automobile industry, for example, has a legacy of harm to public health through air pollution and public denials of these impacts, and yet the industry has received significant government support. Unlike the fossil fuel and animal agriculture industries in 2021, however, the automobile industry eventually succumbed to effective bipartisan federal legislation in the form of the Clean Air Act in 1970.[14] Such effective bipartisan initiatives may not be achievable in Congress in the near future after three decades of failed attempts to regulate climate change. Consequently, Anthropocene accountability litigation is necessary as the alternative path to secure responsibility for harmful impacts and goad industries to change destructive practices. Moreover, unlike the automobile industry, these two industries will need to be phased out and shut down over the next few decades, rather than subject to conventional regulation. The ticking clock of impending climate catastrophe will not

13. *See, e.g.,* Comer v. Murphy, 585 F.3d 855 (5th Cir. 2009); Native Village of Kivalina v. ExxonMobil Corp., 696 F.3d 849 (9th Cir. 2012).

14. 42 U.S.C. §§ 7604-7671q (2018). *See generally* Elizabeth Hallinan & Jeffrey D. Pierce, *Learning From Patchwork Environmental Regulation: What Animal Advocates Might Learn From the Varied History of the Clean Air Act*, *in* WHAT CAN ANIMAL LAW LEARN FROM ENVIRONMENTAL LAW? 333, 333 (Randall S. Abate ed., 2d ed. 2020).

permit the luxury of any further delays in achieving "just transitions"[15] in both of these industries.

A number of recent lawsuits seek to break through the federal government's protective circle, which enables these destructive private sector entities. Collaboration is essential to realize the threat of massive common law liability and incentivize cooperative federal regulation. This two-headed dragon of fossil fuel and industrial animal agriculture can be slayed only if the animal and environmental law movements work together. These movements share a growing common space regarding the need to regulate CAFOs to reduce the industry's environmental destruction and animal abuse.[16] Their common enemies in fossil fuel companies (primarily an environmental threat with consequences for animals) and industrial animal agriculture operations (primarily an animal protection issue with environmental consequences) are most effectively targeted with shared theories and collaboratively devised modes of execution because just transitions in our energy and food systems are two sides of the same coin.[17] In addition, the current line of Anthropocene accountability litigation against the fossil fuel industry is blazing a valuable trail on which suits against CAFOs can follow.

This article unites two strands of inquiry: one in the field of climate justice, and the other at the intersection of animal law and environmental law. It addresses the use of creative strategies under common law and statutory law to seek to hold fossil fuel companies and CAFOs accountable for their role as common enemies in harming humans, the environment, and animals by exacerbating climate change while profiting from their operations. Some recent scholarly writing addresses

15. *See generally* Charlotte Blattner, *Just Transition for Agriculture? A Critical Step in Tackling Climate Change*, 9 J. AGRIC., FOOD SYSTEMS, & COMMUNITY DEV'T 53 (2020), *available at* https://perma.cc/26W7-ZR5H.

16. *See generally* Linda Breggin & Bruce Myers, *Tackling the Problem of CAFOs and Climate Change: A New Path to Improved Animal Welfare?*, *in* WHAT CAN ANIMAL LAW LEARN FROM ENVIRONMENTAL LAW?, *supra* note 14, at 371, 371–406.

17. *See* Recognizing the Duty of the Federal Government to Create a Green New Deal, H. Res. 109, 116th Cong., 7–9 (introduced on Feb. 7, 2019 by Rep. Alexandria Ocasio-Cortez (D-NY)), https://www.congress.gov/bill/116th-congress/house-resolution/109/text [hereinafter Green New Deal] (calling for ambitious transitions toward clean and renewable energy and a just and sustainable food system within the same legal instrument).

cutting-edge lawsuits against these industries, but there is no scholarly inquiry that unites the theories from the environmental law (fossil fuel companies) and animal law (CAFOs) domains into one analysis. This article explores how the two movements can collaborate in addressing methane emissions from factory farms and reduce demand for the drivers of our meat-based diets in the U.S. Transforming our energy and food systems in a radical manner in the near future is essential and it will not happen without an aggressive, multi-faceted strategy that includes Anthropocene accountability litigation.

Part II of this article briefly addresses the nature and scope of the climate change impacts from the fossil fuel and industrial animal agriculture industries. Part III discusses how federal regulatory gaps and subsidies enable and exacerbate the climate change impacts from these two industries. Part IV reviews the stages of and legal theories in the Anthropocene accountability litigation against the fossil fuel and industrial animal agriculture industries. Part V proposes a strategy to enhance the accountability of the fossil fuel industry and industrial animal agriculture industries. It calls for a coordinated effort to phase out reliance on fossil fuels and factory farms and promote a just transition by drawing on past successes and current opportunities in related contexts.

II. CLIMATE CHANGE IMPACTS FROM FOSSIL FUELS AND INDUSTRIAL ANIMAL AGRICULTURE

The substantial greenhouse gas (GHG) emissions from the fossil fuel and animal agriculture industries, and the associated impact on climate change, is the most significant common feature of these industries. Greenhouse gases, also known as gases contributing to the greenhouse effect that propels the climate change crisis, include water vapor (H_2O), carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and hydrofluorocarbons (HFCs).[18] Each gas has a "global warming

18. *The Causes of Climate Change*, NASA, *available at* https://perma.cc/9Y3D-PTBR (last accessed Feb. 12, 2020). HFCs are synthetic compounds that were developed as a stratospheric ozone-friendly substitute for CFCs, but they are by far the most potent greenhouse gas. *See* Justine Calma, *Humans Put Out More Methane Than Previously Thought*, THE VERGE (Feb. 12, 2020), *available at* https://www.theverge.com/2020/2/19/

potential," which is a measure of the warming impact over a period of time relative to the impact of 1 ton of carbon dioxide. A higher potential number indicates that the gas absorbs more energy, persists in the atmosphere longer, or both.[19] Methane has a global warming potential of 28–36.[20] Specifically, methane has a heat capacity 80 times stronger than carbon dioxide, but a shorter lifespan in the atmosphere, with a persistence of around 12 years.[21] Nitrous oxide persists for about 114 years with a global warming potential 265–298 times stronger than carbon dioxide.[22]

Water vapor is the most abundant greenhouse gas and the amount of water vapor increases as the Earth's atmosphere warms because it reacts to the changes in temperature.[23] Carbon dioxide, on the other hand, is the most well-known and long-lived GHG; it can persist in the atmosphere for around 200 years.[24] It is released through natural processes (respiration and volcano eruptions) and anthropocentric activities (e.g., deforestation, land use changes, burning of fossil fuels).[25] Since the beginning of the Industrial Revolution, however, carbon dioxide concentrations have steadily increased due to human activity.[26]

Methane is also produced both naturally and through human activities including decomposition of waste in landfills, agriculture, rice cultivation, and ruminant digestion and manure management of livestock.[27] Although it is less abundant in the atmosphere and has a shorter life span, methane is a

21143597/methane-greenhouse-gas-oil-underestimate-leaks. In October 2016, nearly 200 countries signed on to the Kigali Amendment to the Montreal Protocol to address rapid phaseout of HFCs. Press Release, The White House, Fact Sheet: Nearly 200 Countries Reach a Global Deal to Phase Down Potent Greenhouses Gases and Avoid 0.5 C of Warming (Oct. 15, 2016), *available at* https://perma.cc/ZL24-J3PF.

19. *Understanding Global Warming Potentials*, EPA, *available at* https://perma.cc/P7ZT-DGTE (last accessed Jan. 22, 2021).

20. Duncan Clark, *How long do greenhouse gasses stay in the air?*, GUARDIAN (Jan. 16, 2012), *available at* https://perma.cc/TZY3-WVTL.

21. *Id.*

22. *Understanding Global Warming Potentials*, EPA, *available at* https://perma.cc/WK4Q-B2F3 (last accessed Jan. 22, 2021).

23. *Id.*; *The Causes of Climate Change*, EPA, *available at* https://perma.cc/8534-WRFU (last accessed Jan. 22, 2021).

24. Clark, *supra* note 20.

25. *Id.*

26. *Id.*

27. *Id.*

significantly more potent greenhouse gas than carbon dioxide.[28] Worse still, recent studies have concluded that methane is being released into the atmosphere from a variety of sources in quantities 40% higher than expected.[29] Finally, nitrous oxide is a powerful GHG produced by fossil fuel combustion, soil cultivation practices (commercial and organic fertilizers), nitric acid production, and biomass burning.[30]

Part II addresses the sources of GHGs in these industries and the impacts that they cause. The lifespan of these gases underscores the urgent need for aggressive action against the fossil fuel and industrial animal agriculture industries. Even if global GHG emissions were to stop tomorrow and into the future, the remainder of the century would still endure severe disruption from climate change impacts caused by GHGs emitted several decades ago.

A. Fossil Fuel Industry

Fossil fuels—oil, gas, and coal—account for one-third of global greenhouse gas emissions.[31] In 2018, 89% of global carbon dioxide came from fossil fuels and industry.[32] Fossil fuels are non-renewable energy sources that supply roughly 80% of the world's energy.[33] With the exception of HFCs, the burning of fossil fuels accelerates the release of all GHGs, directly or indirectly.

Oil makes up about one-third of the world's total carbon emissions and is a major source of GHGs.[34] When oil is extracted from shale or tar sands, it is then processed in oil refineries, which transform the crude oil into gasoline, liquefied petroleum gas, pesticides, fertilizers, pharmaceuticals, and plastics.[35] Oil

28. *The Causes of Climate Change, supra* note 23.

29. *See* Calma, *Humans Put Out More Methane Than Previously Thought, supra* note 18.

30. *Id.*

31. Matthew Taylor & Jonathan Watts, *Revealed: The 20 firms behind a third of all carbon emissions*, GUARDIAN (Oct. 9, 2019), *available at* https://perma.cc/3JRQ-VD9B.

32. *Fossil Fuels and Climate Change: The Facts*, CLIENT EARTH (Dec. 19, 2019), *available at* https://perma.cc/FYP2-T73K.

33. *Id.*

34. *Id.*

35. *Fossil Fuels*, ENVTL. AND ENERGY STUDY INST., *available at* https://perma.cc/VD9K-2Q9N (last accessed Jan. 11, 2021).

releases large amounts of carbon when burned.[36] In 2017, petroleum alone was responsible for 45% of GHG emissions in the United States.[37] In 2018, the U.S. consumed 20.5 million barrels per day.[38] Even though the resource is produced in the United States, only a small amount of petroleum produced in the United States is directly consumed here; the majority of it is exported.[39]

Natural gas is widely promoted as a cleaner fossil fuel. Natural gas makes up 20% of the world's total carbon emissions,[40] and is responsible for 29% of U.S. greenhouse gas emissions.[41] It releases about 30% less carbon dioxide than oil and 43% less than coal, and emits much less nitrogen oxide.[42] Despite its reputation as a cleaner source of energy than oil or coal, natural gas is a significant source of methane emissions, which have increased during the fracking boom in the past two decades.[43] Fracking also causes a range of other forms of pollution including drinking water contamination and documented increases in seismic activity in the vicinity of fracking sites throughout the U.S.[44]

Coal is the most damaging fossil fuel to the environment. Coal combustion accounts for 23% of U.S. greenhouse gas emissions,[45] and is primarily used to generate electricity. Apart from its significant contribution to GHG emissions, the combustion of coal also releases other air pollutants such as sulfur dioxide and mercury.[46] The coal mining process itself also causes a wide range of environmentally damaging effects.[47] Coal is becoming increasingly unpopular in the United States and is

36. *Id.*
37. *Id.*
38. *Frequently Asked Questions*, U.S. ENERGY INFORMATION ADMIN., *available at* https://perma.cc/E7LD-85DW (last accessed Jan. 23, 2021).
39. *Id.*
40. *Fossil Fuels and Climate Change*, *supra* note 32.
41. *Id.*
42. *Id.*
43. *See* Nicholas Kusnetz, *Is Natural Gas Really Helping the U.S. Cut Emissions*?, INSIDE CLIMATE NEWS (Jan. 30, 2020), *available at* https://perma.cc/L2YR-6CEB; Stephen Leahy, *Fracking boom tied to methane spike in Earth's atmosphere*, NAT'L GEOGRAPHIC (Aug. 15, 2019), *available at* https://perma.cc/92JP-TY7P.
44. John Wihbey, *Pros and Cons of Fracking: 5 Key Issues*, YALE CLIMATE CONNECTIONS (May 27, 2015), *available at* https://perma.cc/XH43-TAKM.
45. *Fossil Fuels and Climate Change*, *supra* note 32.
46. *Id.*
47. *Id.*

slowly being phased out of the country's energy system. Transitions away from coal are moving more rapidly outside the U.S. in such countries as Germany,[48] Canada, and the U.K.[49]

Fossil fuel combustion as the focus of global energy demand also perpetuates a massive environmental justice problem. Nearly two-thirds of the total industrial carbon dioxide and methane emissions can be traced to 90 of the major industrial carbon producers.[50] The fact that a small number of multinational fossil fuel companies have become exceedingly wealthy at the expense of the Earth's biological systems and its most vulnerable human communities is an extraordinary environmental injustice. Anthropocene accountability litigation seeks to remedy this injustice by seeking to have these multinational fossil fuel companies contribute to the climate change adaptation costs that their activities have caused.

A transition away from reliance on fossils is underway, but it needs to happen much faster to ensure that global climate change mitigation goals are attained. One positive sign of this transition is that in winter 2020 in the U.S., renewable energy generated more electricity than coal-fired power plants.[51] Much work remains, however, in transitioning away from fossil fuel reliance to clean and renewable energy sources within the time frame prescribed in the IPCC 1.5° Report.[52]

48. Julian Wettengel, *Spelling Out the Coal Exit – Germany's phase-out plan*, CLEAN ENERGY WIRE (July 3, 2020), *available at* https://perma.cc/MF44-CQXF (discussing Germany's "coal exit law," enacted in July 2020, which seeks to phase out coal-fired power generation in the country by 2038 at the latest).

49. *Coal Phase-out: The Powering Past Coal Alliance*, GOVERNMENT OF CANADA, *available at* https://perma.cc/U2VP-HBXS (last accessed Jan. 22, 2021) (founded by Canada and the U.K, the Alliance seeks to "accelerate clean growth and climate protection by rapidly phasing-out traditional coal-fired electricity").

50. Brenda Ekwurzel, et al., *The rise in global atmospheric CO_2, surface temperature, and sea level from emissions traced to major carbon producers*, 144 CLIMATIC CHANGE 579–590 (2017); *see also* Taylor & Watts, *supra* note 31.

51. Dennis Wamsted, *IEEFA U.S.: Renewables generated more energy than coal in February*, INST. FOR ENERGY ECON. & FIN. ANALYSIS (Mar. 6, 2020), *available at* https://perma.cc/QMF6-5GE2.

52. For example, the Green New Deal calls for meeting 100% of the nation's power demand with clean and renewable sources by 2030 and for net zero global greenhouse gas emissions by 2050. Green New Deal, *supra* note 17, at 3, 7.

B. Concentrated Animal Feeding Operations (CAFOs)

The hallmark of the industrial animal agriculture industry in the U.S is the concentrated animal feeding operation (CAFO). A CAFO is a high-density facility that houses hundreds or thousands of animals in confinement, where the animals are brought feed, as opposed to grazing on land.[53] These facilities are also known as intensive livestock operations or, colloquially, as "factory farms." A shocking fact from an animal welfare, environmental, and public health perspective is that more than 90% of all farm animals in the U.S. reside on factory farms.[54]

The destructive legacy of CAFOs poses negative public health consequences both on the societal level (e.g., antibiotic resistance, added hormones, zoonotic diseases) and to individuals directly, largely due to the effects of a meat-based diet (e.g., heart disease, obesity, diabetes). This high public health burden on society disproportionately affects the workers in these facilities and minority and low-income communities who are often in the vicinity of these factory farms. Horrific confinement conditions and treatment of animals present a range of animal welfare concerns and devastating environmental impacts in the form of air, water, and land-based pollution. For example, one dairy farm of about 2,500 cows is estimated to produce the equivalent amount of waste as a city with a population of 411,000 residents.[55] Finally, and most importantly for purposes of this article, the climate change

53. *Animal Feeding Operations*, USDA, *available at* https://perma.cc/X8BM-26TM (last accessed Jan. 27, 2021) ("A CAFO is [a facility that houses] more than 1000 animal units…confined on site for more than 45 days during the year. Any [facility] that discharges manure or wastewater into a natural or man-made ditch, stream or other waterway is defined as a CAFO, regardless of size."). An "animal unit" is "an animal equivalent of 1000 pounds live weight and equates to 1000 head of beef cattle, 700 dairy cows, 2500 swine weighing more than 55 lbs., 125 thousand broiler chickens, or 82 thousand laying hens or pullets." *Id.*

54. Jacy Reese Anthis, *U.S. Factory Farm Estimates*, SENTIENCE INSTITUTE (Apr. 11, 2019), *available at* https://perma.cc/N525-6H5N.

55. EPA, RISK ASSESSMENT EVALUATION FOR CONCENTRATED ANIMAL FEEDING OPERATIONS 7 (May 2004). For a detailed discussion of the wide range of animal, environmental, and public health impacts from CAFOs, see generally Lindsay Walton & Kristen King Jaiven, *Regulating Concentrated Animal Feeding Operations for the Well-Being of Farm Animals, Consumers, and the Environment, in* WHAT CAN ANIMAL LAW LEARN FROM ENVIRONMENTAL LAW?, *supra* note 14, at 205, 205. For a compelling portrayal of the climate change and other environmental impacts from CAFOs, *see* COWSPIRACY: THE SUSTAINABILITY SECRET (Appian Way Productions 2014); *see also* UNION OF CONCERNED SCIENTISTS, THE HIDDEN COSTS OF CAFOs (2008).

impacts from these facilities wield tremendous harm.[56] CAFOs emit carbon dioxide, methane, and nitrous oxide. The main source of N_2O emissions is the production and use of feed fertilizer, along with ruminant digestion.[57] On a global level, CAFOs annually account for 9% of human-induced CO_2 emissions, 37% of methane emissions, and 65% of N_2O emissions.[58] Moreover, the animal agricultural industry today consumes 70% of global fresh water, utilizes 38% of global arable land, and causes 14% of the world's GHG emissions.[59]

These water- and land-intensive operations contribute to global climate change in addition to and apart from direct contributions to global climate change through GHG emissions. For example, 5,214 gallons of potable water are required to produce one pound of beef.[60] These water demands threaten the stability of the potable water supply.[61] CAFOs' land-intensive operations pose an additional problem. Every second, 1–2 acres of land are cleared for animal agriculture, leaving less space available for an exponentially growing human population.[62] Fifty percent of the Earth's habitable land is used for agriculture. Of such land, 77% is used for animal agriculture.[63] The land-intensity of CAFOs exacerbates climate change by reducing the Earth's natural capacity to absorb carbon.

Through deforestation, draining of wetlands, nitrogen oxide emissions from the use of massive amounts of pesticides, and the release of methane from billions of animals, animal agriculture in general significantly contributes to the concentration of GHGs

56. For a portrayal of the climate change and other environmental impacts from CAFOs, see UNION OF CONCERNED SCIENTISTS, *supra* note 55.

57. R.L. Thompson, et al., *Acceleration of global N2O emissions seen from two decades of atmospheric inversion*, 9 NATURE CLIMATE CHANGE 993 (2019).

58. Lisa Friedman, Kendra Pierre-Louis & Somini Sengupta, *The Meat Question, By the Numbers*, N.Y. TIMES (Jan. 25, 2018), *available at* https://perma.cc/5WFE-EUHP.

59. UNEP, INTERNATIONAL PANEL FOR SUSTAINABLE RESOURCE MANAGEMENT, ASSESSING THE ENVIRONMENTAL IMPACTS OF CONSUMPTION AND PRODUCTION: PRIORITY PRODUCTS AND MATERIALS 2 (2010).

60. DAVID N. CASSUTO, ANIMALS & SOCIETY INSTITUTE, THE CAFO HOTHOUSE: CLIMATE CHANGE, INDUSTRIAL AGRICULTURE, AND THE LAW (2010).

61. *The Impact of Climate Change on Water Resources,* WATER FOOTPRINT CALCULATOR (Oct. 12, 2018), *available at* https://perma.cc/HX4Z-4R6Y.

62. Haley Hansel, *How Animal Agriculture Affects Our Planet*, PACHAMAMA ALL. (Feb. 2, 2018), *available at* https://perma.cc/YM8A-HMSJ.

63. Natasha Brooks, *Chart Shows What the World's Land Is Used For…and It Explains Exactly Why So Many People Are Going Hungry*, ONE GREEN PLANET (Jan. 1, 2017), *available at* https://perma.cc/2KR3-KH8W.

in the atmosphere. Ruminant production is the largest source of global anthropogenic methane emissions.[64] Globally, emissions of carbon and methane from livestock-related activities account for roughly 14.5% of GHG emissions—more than the entire global transportation industry.[65] U.S. agriculture is responsible for 35% of domestic methane emissions and 80% of domestic nitrous oxide emissions.[66]

In the United States, animal agriculture is a $100 billion industry.[67] CAFOs dominate the animal agriculture landscape in the U.S., which has shifted to fewer and much larger farms.[68] Today, approximately 99% of meat and other animal products in the United States are from factory farms,[69] and the number of CAFOs in the United States continues to grow.[70] Only four corporations have controlled over 85% of beef production in the United States; Tyson and Smithfield have controlled over one-half of the pork production; and Dean Foods has controlled 40% of the milk production.[71] CAFOs have replaced family farms,

64. Katrina Tomas, *Manure Management for Climate Change Mitigation: Regulating CAFO Greenhouse Gas Emissions Under the Clean Air Act*, 73 U. MIAMI L. REV. 531, 533 (2019).

65. *Major Cuts of Greenhouse Gas Emissions From Livestock Within Reach*, U.N. FOOD & AGRIC. ORG. (Sept. 26, 2013), *available* at https://perma.cc/8CLP-5TS9 [hereinafter FAO]; *see also* Sara J. Scherr & Sajal Sthapit, *Mitigating Climate Change Through Food and Land Use* 5 (2009).

66. Tomas, *supra* note 64, at 533.

67. CLAUDIA COPELAND, AIR QUALITY ISSUES AND ANIMAL AGRICULTURE: A PRIMER 1 (2014), *available at* https://perma.cc/C3P6-YPKQ.

68. NAT'L AGRIC. STATISTICS SERV., 2012 CENSUS OF AGRIC., U.S. SUMMARY & STATE DATA 1, GEOGRAPHIC AREA SERIES, PT. 51 (May 2014), *available at* https://perma.cc/8N3V-J674.

69. Jason R. Richards & Erica L. Richards, *Cheap Meat: How Factory Farming Is Harming Our Health, the Environment, and the Economy,* 4 KY. J. EQUINE, AGRIC. & NAT. RESOURCES L. 31, 32-33 (2012). Analysis uses data from the 2017 U.S. Department of Agriculture's (USDA's) *Census of Agriculture*, which was released on April 11, 2019. The most recent previous data available was for 2012, which showed around 98.66% of U.S. farmed animals lived on factory farms compared to the current figure of 98.74%. The analysis relied on EPA regulations for what constitutes a CAFO in combination with USDA data on how many animals live on farms of various sizes.

70. The number of CAFOs has increased in the United States over the past seven years, bringing the total to just under 20,000, according to EPA. From 2011 to 2017, the United States saw more than 1,400 new CAFOs. Christopher Walljasper, *Large Animal Feeding Operations on the Rise*, INVESTIGATE MIDWEST.ORG (June 7, 2018), *available at* https://perma.cc/J5WD-AJ4R.

71. DOUG GURIAN-SHERMAN, UNION OF CONCERNED SCIENTISTS, CAFOs UNCOVERED, THE UNTOLD COSTS OF CONFINED ANIMAL FEEDING OPERATIONS 13 (2008). In a small yet promising victory on the path to a just transition, Dean Foods filed for Chapter 11 bankruptcy in November 2019. Amelia Lucas, *Dean Foods, America's Biggest Milk*

which simply cannot compete in this marketplace dominated by corporate giants.

The livestock sector could reduce GHG emissions by 30% with the proper equipment and management techniques and thus make an important contribution to international efforts to decrease climate change.[72] Use of selective breeding techniques or use of carefully controlled animal diets can also help reduce or control methane emissions from livestock.[73]

III. REGULATORY GAPS AND SUBSIDIES

Part III addresses the two dimensions of the federal government's facilitation of the fossil fuel and animal agriculture industries' destructive climate change impacts. Each industry's activity has profound impacts in its own right; however, when federal subsidies, regulatory gaps, and loopholes enable these activities, the impacts are significantly exacerbated through the federal government's complicity. Part III examines these regulatory gaps and subsidies in the fossil fuel industry context first and then in animal agriculture. The parallel illustrations of federal government abdication of regulatory responsibility in, first, the fossil fuel industry and then the animal agriculture context are striking.

A. Fossil Fuel Industry

There is a conspicuous absence of federal regulation of the fossil fuel industry's climate change impacts. Worse still, most

Producer, Files for Bankruptcy, NBC NEWS (Nov. 12, 2019), *available at* https://perma.cc/52EZ-78QC.

72. FAO, *supra* note 65. Manure management releases nitrous oxide and methane totaling 16% of all agriculture emissions in the United States. Tomas, *supra* note 64, at 534. When livestock waste is left as a solid, it decomposes aerobically and produces little to no methane. *Id.* at 538. When the waste is gathered and stored in a lagoon, it creates an anaerobic environment and releases amounts that are 90% higher than when it is left to decompose as a solid. *Id.* A new bipartisan initiative in this regard is the Growing Climate Solutions Act, introduced in the U.S. Senate on June 4, 2020. The bill would reward farmers for engaging in climate-friendly practices like improved manure management. Rebecca Thiele, *Sen. Mike Braun's Bill Could Help Reward Climate-Friendly Farmers*, NPR (June 5, 2020), *available at* https://perma.cc/ECN3-FMFD.

73. *See generally Livestock with Less Methane: Scientists Seek Ways to Reduce Greenhouse Gas Emissions*, CBC (July 19, 2018), https://perma.cc/ZC36-T6EK. Methane is produced from belching and exhalation of ruminants (cows, sheep, and goats), which is responsible for 32% of all agriculture emissions and 25.9% of methane emissions in the United States. Tomas, *supra* note 64, at 533-34.

of the regulation in place is designed to enhance the fossil fuel industry's activities or exempt the industry from climate change and other environmental regulation.

The executive branch has been the "enabler-in-chief" of the fossil fuel industry during the Trump administration. On March 28, 2017, President Trump issued Executive Order 13783, "Promoting Energy Independence and Economic Growth," which established a federal policy that executive agencies should review all existing regulations "that potentially burden the development or use of domestically produced energy resources, with particular attention to oil, natural gas, coal, and nuclear energy" and to "suspend, revise, or rescind those that unduly burden the development of domestic energy resources."[74] This Executive Order was implemented to direct the U.S. Environmental Protection Agency (EPA) and the Bureau of Land Management (BLM) to immediately review federal rules establishing greenhouse gas emission standards.[75]

Other executive agencies also softened review of the fossil fuel industry's environmental impacts under the Trump administration. For example, the Federal Energy Regulation Commission (FERC) narrowed its interpretation of the National Environmental Policy Act's (NEPA's) requirements. FERC is responsible for regulating interstate transmission of electricity, natural gas, and oil. Among other responsibilities, FERC reviews and approves pipelines and facilities, hydropower projects, and transmission projects; monitors the energy market; enforces the regulatory requirements; and oversees environment matters related to energy.[76] With respect to climate change regulation, FERC has concluded that it is not required to consider upstream and downstream[77] environmental effects of

74. Nadra Rahman & Jessica Wentz, *The Price of Climate Deregulation: Adding Up the Costs and Benefits of Federal Greenhouse Gas Emission Standards*, SABIN CTR. FOR CLIMATE CHANGE L., COLUM. L. SCH., 1-2 (Aug. 2017), *available at* https://perma.cc/C4FL-AYM4 (quoting E.O. 13783, Mar. 28, 2017).

75. *Id*. at 2.

76. *What FERC Does*, FEDERAL ENERGY REGULATORY COMM'N, *available at* https://perma.cc/D4E2-FNQK (last accessed Jan. 27, 2021).

77. "Upstream" environmental effects arise from the extractive processes to access fossil fuel resources, whereas "downstream" environmental effects arise from the production of the fossil fuel products that are ultimately delivered to the consumer. Leslie Kramer, *Upstream vs. Downstream Oil & Gas Operations: What's the Difference?*, INVESTOPEDIA (Feb, 25, 2020), *available at* https://perma.cc/Q3MU-HP25.

pipelines when approving them.[78] FERC reasoned that including such an analysis of environmental impacts is beyond its responsibility under NEPA.[79] However, some courts, including the U.S. Court of Appeals for the D.C. Circuit, have concluded that FERC is required to conduct environmental review of the downstream environmental costs in its environmental assessments required by NEPA.[80]

The Affordable Clean Energy rule offers another example. The Obama administration's Clean Power Plan[81] was intended to reduce carbon pollution from existing power plants. The policy required states to meet targets for cutting GHG emissions from power plants and aimed to reduce U.S. power sector emissions 32% below 2005 levels by 2030.[82] The EPA projected the net monetized benefits of the rule would reach $7 billion in 2020, $28 billion in 2025, and $46 billion in 2030.[83] The EPA also expected 38,000 to 60,000 new jobs in 2020, which is considerably more than the 13,000 jobs that would have been lost in the fossil fuel industry.[84]

Unfortunately, in 2019, EPA replaced the Clean Power Plan with a weaker version known as the Affordable Clean Energy rule. Under the Affordable Clean Energy rule, EPA is required to implement a standard known as the "best system of emission reduction" to produce more energy from the same amount of fuel, thereby lowering carbon. This new rule would reduce power sector emissions between 0.7% and 1.5% by 2030. The Trump administration was barred from completely repealing the Clean Power Plan by the Supreme Court's ruling in *Massachusetts v. EPA*, which required the EPA to protect public health through policy that considers greenhouse gases.[85]

78. *FERC Failing to Consider Climate Impacts in Gas Pipeline Approvals*, ENV'T & ENERGY INST. (June 15, 2018), *available at* https://perma.cc/Y5A8-XWB2.

79. *Id.*

80. *Id.*

81. For a description of what the Clean Power Plan required, see *What Is the Clean Power Plan?*, NRDC (Sept. 29, 2017), *available at* https://perma.cc/B6DV-GU4A.

82. *Id.*

83. Rahman & Wentz, *supra* note 74, at 7.

84. *Id.* at 8.

85. 549 U.S. 497 (2007). On June 30, 2020, the House Select Committee on the Climate Crisis released a comprehensive report that outlines an ambitious call for a transition to clean energy, net zero economy-wide emissions, adaptable and resilient food systems, reentry into the Paris Agreement, and environmental justice for vulnerable communities. *See generally* H. SELECT COMM. ON CLIMATE CHANGE, 116TH CONG.,

The fossil fuel industry's privileged status is also evident from the generous $20 billion in annual federal subsidies it receives, 20% of which is allocated to coal with the remaining 80% applied to natural gas and crude oil.[86] The U.S. has a long history of intervening in energy markets by providing subsidies to promote the production of cheap and abundant fossil fuel sources of energy, and these subsidies have allowed the energy sector to experience significant economic growth.[87]

The federal government provides both direct and indirect subsidies to the fossil fuel industry. Subsidies come in multiple forms including direct benefits from the tax code designed to support and reward domestic fossil fuel production and federal aid to the fossil fuel industry through programs like discounted costs for leasing land for oil and gas development.[88] Additional direct subsidies come in the form of governmental funding for research and development in the fossil fuel industry. The Department of Energy (DOE) also provides annual grants directed toward the fossil fuel industry.[89]

Indirect subsidies are aimed at business and industry generally (not exclusive to the fossil fuel industry). The DOE also provides loans through the Advanced Fossil Loan Program Office to innovative energy, tribal energy, and advanced auto manufacturing projects.[90] Although the DOE seeks to finance first-of-kind renewable energy and energy efficiency technologies, it has a designated $8 billion in loans to promote fossil fuel projects.[91] Subsidies granted to the fossil fuel industry were originally implemented to encourage domestic energy production and domestic energy sources.[92] The idea was to lower the cost of fuel production while promoting the innovation of new domestic energy sources in the United States.[93] The tax code

SOLVING THE CLIMATE CRISIS: THE CONGRESSIONAL ACTION PLAN FOR A CLEAN ENERGY ECONOMY AND A HEALTHY, RESILIENT AND JUST AMERICA (2020), *available at* https://perma.cc/V29A-LPXQ.

86. ENV'T & ENERGY INST., FACT SHEET: FOSSIL FUEL SUBSIDIES: A CLOSER LOOK AT TAX BREAKS AND SOCIETAL COSTS (2019), *available at* https://perma.cc/XBH8-AQXK.

87. *Id*.

88. *Id*.

89. *Id*.

90. *Id*.

91. *Id*.

92. *Id.*

93. *Id.*

today continues to call on taxpayer money to fund this system of royalties even though the original intentions for the subsidies are no longer supported by current industry needs.[94] In fact, subsidies have kept some industry operations running longer than they otherwise would have without subsidies. Government subsidies should shift the focus from the fossil fuel industry onto renewable energy technologies to mitigate climate change, but the political will to take on the oil industry has not yet been mobilized.

Subsidizing an industry causing trillions of dollars of global negative impacts is illogical and self-destructive. Subsidized energy policy should balance providing affordable and reliable power with health, climate, and environmental considerations. Newer and cleaner renewable alternatives exist and are price competitive with the traditional, subsidized fossil fuels.[95] The 116th Congress's House Select Committee on the Climate Crisis published a report with recommendations on how to address the climate crisis.[96] With the support of the new Democratically controlled Congress and new climate-focused cabinet appointments, it is likely that the Biden administration will resume U.S. engagement in international climate change negotiations and implement responses to the climate crisis early in the new administration's tenure.[97]

Recently, lawmakers and the public have been reevaluating the suitability, scale, and effectiveness of fossil fuel tax subsidies.[98] Subsidies undermine long-term policy goals of reducing GHG emissions from fossil fuels.[99] According to the International Monetary Fund, "fossil fuels account for 85 percent of all global subsidies," and reducing these subsidies "would have lowered global carbon emissions by 28 percent and fossil fuel air pollution deaths by 46 percent, and increased government revenue by 3.8 percent of GDP."[100] One positive sign

94. DAVID COADY ET AL., INT'L MONETARY FUND, GLOBAL FOSSIL FUEL SUBSIDIES REMAIN LARGE: AN UPDATE BASED ON COUNTRY-LEVEL ESTIMATES (2019), *available at* https://perma.cc/XWL5-X9ZL.

95. ENV'T & ENERGY INST., *supra* note 86.

96. H. SELECT COMM. ON CLIMATE CHANGE, 116TH CONG., *supra* note 85.

97. *Id.*

98. *Id.*

99. *Id.*

100. COADY ET AL., *supra* note 94. *See also* INT'L ENERGY AGENCY, *Energy Subsidies: Tracking the Impact of Fossil-Fuel Subsidies*, *available at* https://perma.cc/P6A2-6736

in the U.S. is the Off Fossil Fuels for a Better Future Act (H.R. 3671), introduced in the 115th Congress, which seeks to eliminate subsidies for the fossil fuel industry.[101]

B. CAFOs

Like the fossil fuel industry, the animal agriculture industry imposes massive environmental and public health burdens on society while dodging accountability for these impacts. First, the animal agriculture industry is shrouded in secrecy by design. For example, the U.S. Department of Agriculture (USDA) is prohibited from disclosing farm-specific information provided to it by agricultural producers in connection with federal farm subsidy programs.[102] Second, the U.S. has very limited federal environmental regulations in place for the livestock industry. Animal agriculture is exempt from most environmental regulations on the theory that food is vital for human survival and should receive special legal status and regulation advantage. In practice, the agriculture industry has operated largely beyond regulatory reach. Third, federal environmental regulatory instruments are riddled with gaps that further enable these harmful impacts. Although CAFOs take advantage of regulatory gaps in multiple environmental laws, this section will focus on the regulatory gaps under the Clean Air Act (CAA) that have enabled CAFOs to dodge regulation of their significant air emissions that contribute to the global climate change crisis.

The CAA's regulatory framework is especially troubling because it has allowed CAFOs, clearly sources of significant GHG emissions, to operate largely beyond regulatory reach. Under the Air Compliance Agreement of 2005 (the Agreement), EPA agreed to compromise its ability to regulate animal agriculture.[103] The Agreement allows the EPA to provide

(last accessed Jan. 27, 2021) (noting that although global fossil fuel subsidies dropped in 2019, much work remains in transitioning to a global renewable energy economy).

101. H.R. 3671, 115th Cong. (introduced on Sept. 1, 2017 by Rep. Tulsi Gabbard (D-HI)).

102. 7 U.S.C. § 8791 (2018). For a critique, see Rena Steinzor & Yee Huang, *Agricultural Secrecy—Going Dark Down on the Farm: How Legalized Secrecy Gives Agribusiness a Federally Funded Free Ride*, CTR. FOR PROGRESSIVE REFORM (2012), *available at* https://perma.cc/2TJ8-ZGXX.

103. Animal Feeding Operations Consent Agreement and Final Order, 70 Fed. Reg. 4957, 4958 (Jan. 31, 2005).

CAFOs temporary immunity from civil liability (although not from criminal liability) under CAA Title I, Parts C and D; Title V; and under the CAA's State Implementation Plans for major and minor sources.[104] In exchange, some CAFOs agreed to allow EPA to monitor their facilities.[105] As long as the monitoring system is in place, this sweetheart deal provides CAFOs a shield from civil liability under not only these sections of the CAA, but also the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the Emergency Planning and Community Right-to-Know Act (EPCRA).[106]

Nevertheless, EPA has the authority to use the CAA to regulate the industry's GHG emissions as it does other large sources of air pollutants, especially given the dangerous levels of methane emissions.[107] Carbon dioxide, methane, and nitrous oxide are not listed among the Agreement's exempted pollutants (the four listed pollutants are volatile organic compounds, hydrogen sulfide, particular matter, and ammonia).[108] Both methane and nitrous oxide are already classified as pollutants by the EPA. EPA claims it is unable to establish emission thresholds for these GHGs because it lacks adequate, accurate, and scientifically credible data.[109] Even though EPA has been monitoring CAFOs through the Agreement since 2005, the agency maintains that it needs more information on the industry before determining the appropriate regulatory path forward to address emissions. The EPA Office of Inspector General has concluded that "[u]ntil the EPA develops sound methods to estimate emissions, the agency cannot reliably determine whether animal feeding operations comply with applicable Clean Air Act requirements."[110]

If CAFOs were subject to regulation, EPA could set legal national threshold-emission standards for the agriculture

104. *Id.* at 4963.
105. *Id.*
106. *Id.*
107. Myers & Breggin, *supra* note 16, at 131.
108. *Id.*
109. *Id.*
110. EPA, OFFICE OF INSPECTOR GENERAL, 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, REPORT NO. 17-P-0396 (2017), *available at* https://perma.cc/6CKK-BHKR.

industry and livestock facilities.[111] The CAA has three provisions that EPA could use to control GHG emissions from CAFOs: Sections 108, 109, and 111.[112] CAA Sections 108 and 109 set the limits for acceptable pollutant concentrations in the air by region, while CAA Section 111 sets the limits for pollutant concentrations for individual stationary sources.[113] Considering, first, Sections 108 and 109, CAFOs could fall under the EPA's regulations through the CAA's New Source Review Prevention of Significant Deterioration Program (PSD program).[114] The PSD program applies to new or modified major stationary sources; to qualify as major source emitters, stationary facilities must emit more than 100 tons per year of regulated pollutant from statutorily listed facilities, or 250 tons per year of regulated pollutant from any other facility.[115] Qualifying facilities must obtain a PSD program permit—and a comprehensive CAA Title V permit for "major sources" of air pollution—that considers the maximum permissible concentrations of specific air pollutants in the region's ambient air. The CAA tasks EPA with formulating these maximum permissible concentration standards, called National Ambient Air Quality Standards (NAAQS), for air pollutants.

CAA Sections 108–110 set the limits of EPA's regulatory authority for NAAQS, and for listing each air pollutant "which may reasonably be anticipated to endanger public health or welfare," known as criteria pollutants.[116] To date, EPA has issued NAAQS for six criteria pollutants. Because GHGs are not currently listed as NAAQS, they are arguably beyond the scope of EPA's regulatory authority. Such regulatory authority cannot be expanded without clear congressional authorization.[117]

111. Myers & Breggin, *supra* note 16, at 131.

112. Tomas, *supra* note 64, at 535.

113. 42 U.S.C. §§ 7408, 7409, 7411 (2018). In addition, note that the CAA addresses stationary sources of air pollution separately from mobile sources like cars.

114. Myers & Breggin, *supra* note 16, at 131-34.

115. 42 U.S.C. § 7479(1) (2018).

116. 42 U.S.C. § 7408(a)(1)(A) (2018).

117. Grace Weatherall, HARV. L. SCH. ENV'T & ENERGY L. PROGRAM, *Immediate Executive Action: Unexplored Options for Addressing Climate Change Under the Existing Clean Air Act* (2020), *available at* https://perma.cc/K4JR-J59J ("In developing a NAAQS program for GHGs, EPA would need to both (1) develop a NAAQS implementation rule, or series of rules, capable of surviving judicial review; and (2) respond to the various problematic practical implications of regulating GHGs under the NAAQS program."); *see* FDA v. Brown & Williamson Tobacco Corp., 529 U.S. 120, 160 (2000).

Advocates of regulating GHGs as criteria pollutants argue that, by listing GHGs under the NAAQS program, Congress and the EPA could address GHG emissions from most sectors of the economy and change the trajectory of pollution from existing sources.[118]

This is the only mechanism under CAA Sections 108–110 that could achieve GHG regulation. The U.S. Supreme Court in *Utility Air Regulatory Group v. EPA*[119] held that EPA could not treat GHGs as pollutants for the purposes of defining a "major emitting facility" (like CAFOs) in the PSD context or a "major source" in the Title V context. The Court concluded that the text of the CAA could neither compel nor permit EPA to obtain a PSD or Title V permit on the basis of potential GHG emissions.[120] This reasoning is grounded in EPA's past practice of giving the term "air pollutant" a narrow, context-appropriate meaning.[121] Additionally, the Court reasoned that EPA had acknowledged on multiple occasions that applying the PSD and Title V permitting requirements to GHGs would be inconsistent with the CAA's structure and design.[122]

On the other hand, CAA Section 111 grants EPA significant discretion to regulate through New Source Performance Standards (NSPS).[123] CAA Section 111(d) can be read to apply

118. *See* Weatherall, *supra* note 117.

119. Util. Air Reg. Grp. v. EPA, 573 U.S. 302 (2014).

120. *Id*. at 312.

121. *Id*. at 314.

122. *Id*. at 320.

123. SOUTHERN ALL. FOR CLEAN ENERGY, BACKGROUND ON ESTABLISHING NEW SOURCE PERFORMANCE STANDARDS (NSPS) UNDER THE CLEAN AIR ACT (2011), *available at* https://perma.cc/JEF6-RSR2. Under the Clean Water Act, similar loopholes exist. First, animal feeding operations (AFOs) must be large enough to be considered CAFOs to be regulated under the CWA's National Pollutant Discharge Elimination System (NPDES), which is a permitting program that regulates discharge from point sources. Second, large CAFOs (over 1,000 animal units) and medium CAFOs (301-1,000 animal units) must fulfill a potential to discharge pollutants (other than during storm events). Once that threshold is met, these facilities must also meet one of two additional requirements: (1) discharges occur through a man-made structure or (2) discharges must come into contact with the animals before it is discharged into U.S. waters. Concentrated Animal Feeding Operations, 40 C.F.R. § 122.23 (2019). Only after all of these requirements are satisfied is an NPDES permit from the EPA required. Small CAFOs can be subject to NPDES only on a case-by-case basis so long as they have potential to pollute. *Id.* Environmental reporting requirements are also relaxed for CAFOs. For example, NEPA requires that the Farm Service Agency perform environmental reviews on all CAFOs before granting loans. However, in 2016, the FSA exempted medium-sized CAFOs from environmental review, deeming them not environmentally damaging.

to new and existing sources of GHG emissions because any air pollutant can be read to include GHGs, as long as it is not already regulated under CAA Sections 108, 109, or 112 (hazardous pollutants).[124] EPA can regulate specific pollutants emitted from a single source category if EPA lists CAFOs as its own category of stationary source that "cause[], or contribute[] significantly to, air pollution, which may reasonably be anticipated to endanger public health or welfare."[125] Methane and nitrous oxide would likely qualify as emissions that endanger the public health and welfare, especially considering that similarly dangerous pollutants are already listed. To list a category of pollutant, EPA would have to make an endangerment finding and promulgate performance standards or new sources in the category.[126] Moreover, under this section, states are given the flexibility to reduce GHG emissions on an individual basis. Thus, EPA's agency discretion appears to be the only obstacle that has prevented CAA Section 111 regulation of these sources.[127]

Also, like the fossil fuel industry, the industrial animal agriculture industry benefits from significant federal subsidies. The Farm Bill, which is renewed about every five years, allocates subsidy dollars to farmers. Direct subsidies are delivered through the federal Environmental Quality Incentives Program (EQIP) with the intention of reducing the environmental damage caused by CAFOs. Indirect subsidies are passed to

Animal Legal Defense Fund, *Challenging FSA's Medium-sized CAFO Exemptions*, Sept. 12, 2019, *available at* https://perma.cc/4EX4-4VXU. Other exemptions followed under CERCLA and EPCRA. The Fair Agricultural Reporting Method (FARM) Act of 2018 exempts CAFOs from reporting discharges under CERCLA of hazardous wastes like ammonia and hydrogen sulfide into the air to federal agencies. As of 2019, such discharges are exempt from EPCRA reporting requirements to state and local agencies. Leah Douglas, *A breathtaking lack of oversight for air emissions from animal farms*, FOOD & ENV'T REPORTING NETWORK (Dec. 20, 2019), *available at* https://perma.cc/2JT4-D96L.

124. See SOUTHERN ALL. FOR CLEAN ENERGY, *supra* note 123, at 1.

125. 42 U.S.C. § 7411(b)(1)(A) (2018).

126. Tomas, *supra* note 64, at 555.

127. In 2017, EPA decided not to exercise its authority to list CAFOs as a stationary source requiring new source performance standards under CAA Section 111. It indicated that it needed to continue gathering data under the 2005 Air Compliance Agreement. Denial of Petition to List Concentrated Animal Feeding Operations Under Clean Air Act Section 111, 40 C.F.R. Pt. 60 (Dec. 26, 2017).

CAFOs in the form of artificially low cost for feed for the livestock.[128]

Agricultural subsidies were originally created to help low-income farmers and aid rural development. Subsidies were especially important to help farmers through the Dust Bowl and the Great Depression of 1929.[129] The underlying principle is to pay farmers to ensure that the supply did not exceed the demand and to prevent overproduction.[130] Several decades later, subsidies have only succeeded in facilitating the production of cheap meat at a very high societal cost. Without animal agriculture taxpayer-funded subsidies, prices of factory-farmed animals' products would be more representative and the demand for these products would decline, yielding positive outcomes for agricultural animals, the environment, and human health. Animal agriculture subsidies should be reallocated to assist farmers to transition from industrial animal agriculture to products that are less energy intensive and that produce little or no GHG emissions.[131]

Even though CAFOs are not currently regulated at the federal level, they could be regulated at the state and local levels. CAFO emissions at the state and local levels can be addressed with legislation, ballot initiatives, state constitutions, or environmental regulations. However, states face risk in implementing stricter regulations because such regulation may lead these factory farms to move their activities to a state that has less stringent policies. This could create a deterioration of standards known as the "race to the bottom," which was a significant problem in the U.S. prior to the existing framework of federal environmental laws enacted in the 1970s and 1980s. Piecemeal state regulation and race-to-the-bottom governance

128. See GURIAN-SHERMAN, *supra* note 71, at 28.

129. Kimberly Amadeo, *Farm Subsidies with Pros, Cons, and Impact*, THE BALANCE (Nov. 10, 2020), *available at* https://perma.cc/ZXF3-SSXL ("President Franklin D. Roosevelt included farm subsidies in the New Deal. They were originally created to help farmers ravaged by the Dust Bowl and the Great Depression of 1929.").

130. *Id.*

131. The Food Agriculture Organization of the United Nations (FAO) has recommended the removal of subsidies as one measure to limit climate change impacts from the agricultural sector. *See* FOOD AND AGRIC. ORG. OF THE UNITED NATIONS, WORLD AGRICULTURE: TOWARD 2015/2030: SUMMARY REPORT 78, 80 (2002), *available at* https://perma.cc/E7QE-DFUK (discussing climate change impacts from agriculture and recommending removal of subsidies as one measure for reform).

also risks placing low-income communities and communities of color at an even greater risk of environmental injustice and climate injustice. The impact of climate change and rollbacks to protective regulation do not affect everyone equally. The inequality lies in where people live, where they get their food resources, and what they rely on for economic stability, all of which are tied to larger institutionalized caste structures.

IV. ACCOUNTABILITY LITIGATION AGAINST THE FOSSIL FUEL INDUSTRY AND CAFOS

Part IV addresses a recent line of Anthropocene accountability litigation against the fossil fuel industry and CAFOs. The theory underlying the lawsuits against the fossil fuel industry is that these companies have been allowed to secure significant profits at the expense of the environment and public health by engaging in unregulated emissions of GHGs that have substantially contributed to global climate change and caused significant impacts nationwide. States, counties, and cities have filed lawsuits seeking to recover damages from these fossil fuel companies to compensate these governmental units to help address the significant climate adaptation costs that these governmental units will face in the years ahead. The litigation against CAFOs presented public nuisance and climate justice theories,[132] and additional lawsuits are proceeding against USDA under NEPA and other legal theories for the agency's alleged failure to protect the public from threats that CAFOs pose. Although litigation against these industries is proceeding under different theories and seeking different remedies, these challenges share a common foundation in seeking to leverage the common law to secure enhanced accountability for these industries' substantial contribution to global climate change and local environmental impacts. These parallel efforts in the courts would be much more effective if advocates from each line of cases would collaborate and learn from each other.

132. NEPA litigation is also proceeding against the USDA for its failure to protect the public from the threats that CAFOs pose. A discussion of these cases is beyond the scope of this article. For more information, *see* Complaint, Dakota Rural Action v. USDA, No. 1:18-cv-02852 (D.D.C. Dec. 5, 2018) (opposing USDA's categorical exclusion of Farm Service Agency's funding of medium-sized CAFOs from NEPA review).

A. Suits Against the Fossil Fuel Industry

This section addresses suits against fossil fuel companies seeking to hold them accountable for climate change adaptation costs that states and cities face in response to climate change impacts. In the past two decades, these cases have shifted between targeting the government and the private sector as defendants. They have also alternated between seeking injunctive relief and damages. Prior to considering this line of cases, this section offers a brief history of previous climate change accountability litigation to provide a contextual foundation for this current line of cases against the fossil fuel industry.

These climate change cases initially sought injunctive relief against the federal government. In 2007, the U.S. Supreme Court ruled in *Massachusetts v. EPA*[133] that EPA had a duty to regulate carbon dioxide as an air pollutant under the CAA to protect public health. The plaintiffs – Massachusetts and several other states, local governments, and private organizations – alleged that EPA ignored its responsibility under the CAA to regulate carbon dioxide emissions from new motor vehicles. In a groundbreaking outcome, the Court concluded that Massachusetts had standing to bring the claim and that EPA had a statutory duty to regulate.

The focus then shifted to injunctive relief against the private sector under a creative public nuisance theory, integrated with the narrow federal common law doctrine of interstate pollution. This theory, however, has not been accepted by federal courts. In *American Elec. Power Co. v. Connecticut* (*AEP*),[134] eight states and New York City sued electric power corporations that owned and operated fossil-fuel-fired power plants for contributing to a public nuisance from their GHG emissions that contributed considerably to global climate change. The plaintiffs sought an injunction requiring the companies to reduce their GHG emissions by a specific percentage. The Court held that "The Clean Air Act and the EPA action the Act authorizes displace

133. Massachusetts v. EPA, 549 U.S. 497 (2007).
134. American Elec. Power Co. v. Connecticut, 564 U.S. 410 (2011).

any federal common-law right to seek abatement of carbon-dioxide emissions from fossil-fuel fired power plants."[135]

The *AEP* doctrine is known as "federal displacement," and bars the application of federal common law when a federal statute directly addresses the issue in question.[136] In an effort to maintain the separation of powers, courts are careful to only fill gaps in legal regimes established by the political branches of government[137] and refrain from "legislating from the bench."[138] Courts have concluded in several climate change litigation cases that they are not the appropriate branch of government to determine rights and assign liability for climate change-related damages associated with fossil fuels.[139]

The reasoning from *AEP* found its way into another case, *Native Village of Kivalina v. ExxonMobil*, but this time seeking damages from the private sector.[140] The Native Village of Kivalina, a tiny and vulnerable community of 400 Native Alaskans threatened by sea level rise, sued 24 multinational fossil fuel companies for the approximately $400 million in relocation costs that the Village residents were projected to face within approximately a decade from the time the complaint was filed. The plaintiffs embraced the federal common law public nuisance theory from *AEP*, but also relied on a line of cases that sought damages rather than injunctive relief as the remedy in this context.[141] The U.S. Court of Appeals for the Ninth Circuit

135. *Id*. at 424.

136. Michael Burger & Jessica Wentz, *Holding Fossil Fuel Companies Accountable for Their Contribution to Climate Change: Where Does the Law Stand?*, 74 BULL. ATOMIC SCI. 397, 399 (2018).

137. *Id*. at 399.

138. *Is Legislating from the Bench Bad?*, CIVICS NATION (Apr. 26, 2018), *available at* https://perma.cc/32P8-JT4T (describing "legislating from the bench" as a situation where "instead of interpreting laws, the Supreme Court goes outside expected responsibility to . . . effectively *create* law by critiquing and possibly condemning laws passed by Congress.").

139. *See generally* Burger & Wentz, *supra* note 136; *but see* Laura Burgers, *Should Judges Make Climate Law?* 9 TRANSNAT'L ENVTL. L. 55 (2020) (arguing that the recent climate change litigation explosion could enhance the democratic legitimacy of judicial lawmaking on climate change issues because "a sound environment is a constitutional value and is therefore a prerequisite for democracy.").

140. Native Village of Kivalina v. ExxonMobil Corp., 696 F.3d 849 (9th Cir. 2012).

141. *See, e.g.*, Comer v. Murphy Oil USA, Inc., 718 F.3d 460 (5th Cir. 2013); California v. General Motors Corp., No. C06-05755 MJJ (N.D. Cal. Sept. 17, 2007) (order granting defendants' motion to dismiss), *available at* https://perma.cc/3722-3333; *see generally*, Randall S. Abate, *Public Nuisance Suits for the Climate Justice Movement: The Right Thing and the Right Time*, 85 WASH. L. REV. 197, 214-23 (2010) (discussing the evolution

affirmed the district court's decision to dismiss the case on federal displacement, standing, and political question doctrine grounds.[142]

In the wake of these disappointing defeats in this first round of litigation against the fossil fuel industry, the climate accountability litigation movement sought to address its weak spots; it fashioned new legal theories to assign liability to the fossil fuel industry for its contribution to climate change impacts and adaptation costs. One immediate adjustment in the legal theory was that these accountability lawsuits against the fossil fuel industry needed to be filed in state court in light of the federal displacement reasoning in the *AEP* decision, regardless of whether the plaintiffs sought injunctive relief or damages. Perhaps more importantly, however, the plaintiffs in these cases needed stronger science to connect the contributions of these multinational corporations to specific global climate change impacts. The field of "climate attribution science" advanced rapidly in the intervening years and supported connections between these private sector actors' GHG emissions and specific weather events that were happening at the local level throughout the world.[143] In September 2015, the Carbon Majors petition before the Commission on Human Rights of the Philippines[144] used climate attribution science in a human rights

of this public nuisance line of climate justice litigation). Most recently, youth plaintiffs in *Juliana v. United States* relied on an expanded view of the public trust doctrine to assert that the federal government has a duty to regulate climate change and that the plaintiffs have a right to a stable climate grounded in the Due Process Clause that would be violated if the federal government failed to act. In January 2020, the U.S. Court of Appeals for the Ninth Circuit concluded on political question doctrine grounds that the federal judiciary cannot compel the federal government to regulate climate change because it cannot provide the youth plaintiffs a remedy for their climate change injuries. *See* Juliana v. United States, 947 F.3d 1159 (9th Cir. 2020).

142. Native Village of Kivalina v. ExxonMobil Corp., 696 F.3d 849 at 853.

143. Another significant development in climate attribution science occurred in the wake of Hurricane Harvey. *See generally* Henry Fountain, *Scientists Link Hurricane Harvey's Record Rainfall to Climate Change*, N.Y. TIMES (Dec. 13, 2017), *available at* https://perma.cc/M2R9-YAQP (noting that "[t]wo research groups found that the record rainfall as Harvey stalled over Texas in late August, which totaled more than 50 inches in some areas, was as much as 38 percent higher than would be expected in a world that was not warming.").

144. For a discussion of the Carbon Majors petition proceedings, *see* RANDALL S. ABATE, CLIMATE CHANGE AND THE VOICELESS: PROTECTING FUTURE GENERATIONS, WILDLIFE, AND NATURAL RESOURCES 33-42 (2019). For a critical analysis of whether the law is doing enough to hold carbon majors accountable, *see generally* Lisa Benjamim, *The*

proceeding against these major multinational companies, collectively referenced as "the carbon majors." A new line of accountability cases has emerged[145] using this new and compelling climate attribution science.[146]

In the past few years more than a dozen county and municipal governments have filed accountability suits against fossil fuel companies for damages resulting from climate change.[147] Similar suits have been filed by the attorneys general of Massachusetts, Rhode Island, Minnesota, and the District of Columbia.[148] The plaintiffs in these cases seek to recover the climate adaptation costs they face in response to a wide range of climate change impacts, including sea level rise, flooding, and wildfires.

The plaintiffs in these cases generally assert that the defendant fossil fuel companies not only "knowingly contributed to climate change by extracting and selling fossil fuels," but also lied about the science of climate change and lobbied against policies aimed to provide mitigation.[149] These complaints have asserted a combination of theories including public nuisance, private nuisance, negligence, trespass, failure to warn, and consumer protection.[150] Plaintiffs seeking accountability face several obstacles: (1) overcoming defendants' efforts to remove these cases to federal court, (2) determining whether and to what extent harmful impacts associated with climate change can be

Responsibilities of Carbon Major Companies: Are They (and Is the Law) Doing Enough? 5 TRANSNAT'L ENVTL. L. 353 (2016).

145. *See generally* Rebecca Byrnes, *Will Companies Be Held Liable for Climate Change?,* BRINK (Nov. 25, 2019), *available at* https://perma.cc/K4GQ-6MNX.

146. A 2014 article is considered to have been instrumental in this breakthrough in climate attribution science. *See generally* Richard Heede, *Tracing Anthropogenic Carbon Dioxide and Methane Emissions to Fossil Fuel and Cement Producers, 1854-2010*, 122 CLIMATIC CHANGE 229 (2014), https://link.springer.com/article/10.1007/s10584-013-0986-y.

147. Cities and counties in California, Colorado, Maryland, New Jersey, New York, and Washington have filed suits as of this writing.

148. For a description of the status of this line of cases, *see Status of Climate Liability Lawsuits*, CTR. FOR CLIMATE INTEGRITY (Nov. 19, 2020), *available at* https://perma.cc/EVJ4-HUS3 [hereinafter *Status of Climate Liability Lawsuits*]; David Hasemyer, *Fossil Fuels on Trial: Where the Major Climate Change Lawsuits Stand Today*, INSIDE CLIMATE NEWS (Jan. 20, 2020), *available at* https://perma.cc/R9MX-DQQB.

149. Burger & Wentz, *supra* note 136, at 1; CENTER FOR CLIMATE INTEGRITY, *supra* note 148.

150. *Id*.

attributed to specific actors or conduct, and (3) avoiding dismissal on political question doctrine grounds.[151]

The following cases against largely the same set of fossil fuel companies illustrate different combinations of the legal theories mentioned above. In one of the earliest in this line of cases, *County of San Mateo v. Chevron Corp.*,[152] the County of San Mateo, along with other cities and counties, filed six complaints in California state court against thirty-seven fossil fuel companies, alleging that the defendants have known for nearly fifty years that their business practices and use of fossil fuels create GHGs that are harmful to the environment and a major contributor to the climate change crisis. In disregard of this knowledge, the defendants have continued to profit and promote the use of fossil fuels and the plaintiffs have suffered the consequences. The plaintiffs filed claims for public nuisance, strict liability for failure to warn, strict liability for design defects, private nuisance, negligence, negligent failure to warn, and trespass. The county continues to seek relief in this suit to ensure that the defendants are held responsible for the costs that are implicated by the rising sea levels rather than the state and taxpayers.

Several other cases have been filed within two years of this writing. In June 2019, Baltimore officials filed a lawsuit in Maryland state court captioned *Mayor and City Council of Baltimore v. BP P.L.C.*[153] A 2019 report[154] from the Center for Climate Integrity found that coastal and tidal communities in the lower forty-eight states will have to spend more than $400 billion by 2040 to pay for seawalls needed to protect infrastructure, property, and lives from climate-driven sea-level rise. The estimated cost for Baltimore is $123.9 million. Baltimore argued that the corporate defendants' products, and campaign to deceive the public that spanned decades, have made the city vulnerable to a range of threats from climate change, including flooding, extreme weather, and sea-level rise. The city relied on state law claims including: (1)

151. *See generally id*.

152. No. 17-CIV-03222 (Super. Ct. San Mateo Cty. July 17, 2017).

153. Mayor of Baltimore v. BP P.L.C., 1:18-cv-02357-ELH (Cir. Ct. Baltimore City, July 20, 2018).

154. CTR. FOR CLIMATE INTEGRITY, HIGH TIDE TAX: THE PRICE TO PROTECT COASTAL COMMUNITIES FROM RISING SEAS (2019), *available at* https://perma.cc/EYA2-RUXS.

public and private nuisance and negligent failure to warn, with respect to these companies' production and sale of fossil fuels; and (2) deceiving the public about the climate change implications of the companies' actions. The city seeks monetary damages, civil penalties, and equitable relief.

One month later, in *Rhode Island v. Chevron Corp.*,[155] Rhode Island filed suit against 21 fossil fuel companies alleging state law tort claims, including public nuisance. The state sought damages that the defendants have and will cause on nonfederal property and natural resources in Rhode Island. The complaint alleges that climate change impacts from defendants' activities include damages to man-made infrastructure, homes, businesses, and electrical grids. The state asserted that it is bearing a risk much greater than other states as the sea level along its coast is rising four times faster than the national average.

In October 2019, in *Board of County Commissioners of San Miguel County and City of Boulder v. Suncor Energy*, the City of Boulder and the County of San Miguel sued Suncor Energy seeking monetary damages pro rata from the sellers of fossil fuels. The plaintiffs allege damages to public and private property resulting from the defendant's role in contributing to climate change. The plaintiffs asserted claims based on public nuisance, private nuisance, trespass and unjust enrichment in violation of the Colorado Consumer Protection Act, and civil conspiracy. The plaintiffs alleged that they are facing substantial and rising costs to protect people and property within the state from the dangers of climate change.

A flurry of cases was filed in September 2020. The city of Hoboken, New Jersey, filed its complaint against the fossil fuel industry defendants on September 2, 2020.[156] The lawsuit comes one month after this city suffered two floods that should have occurred only once in fifty years based on scientific projections.

155. C.A. No. PC-2018-4716 (R.I. Super. Ct. July 2, 2018).

156. For a discussion of the Hoboken complaint and how it builds on the line of accountability cases against the fossil fuel industry that preceded it, see generally David Hasemyer, *'At the Forefront of Climate Change,' Hoboken, New Jersey, Seeks Damages From ExxonMobil*, INSIDE CLIMATE NEWS (Sept. 3, 2020), *available at* https://perma.cc/CN9J-3TNK; Michael Sol Warren, *N.J. City Makes History, Is First to Sue Oil Giants for Climate Change Damages*, NJ.COM (Sept. 2, 2020), *available at* https://perma.cc/3QQN-QH7A.

Located across the Hudson River from Midtown Manhattan, this city of 53,000 residents sustained $100 million in damages from Hurricane Sandy.[157] Within two weeks of the Hoboken suit, similar suits were filed by the city of Charleston, South Carolina;[158] Delaware;[159] and Connecticut.[160]

These cases have gained significant traction. First, in October 2019, the Supreme Court refused to halt these climate accountability cases against the fossil fuel industry.[161] Second, the plaintiffs have fared well on appeal against the defendants' efforts to have the cases heard in federal court. On March 6, 2020, the Fourth Circuit concluded that the City of Baltimore's lawsuit could be heard in Maryland state court.[162] On May 27, 2020, in a consolidated appeal, the Ninth Circuit concluded that cases filed by the Cities of Oakland and San Francisco and the County of San Mateo should be addressed in California state court.[163] And on July 7, 2020, the Tenth Circuit ruled that the City of Boulder's case will remain in Colorado state court.[164] These outcomes are major victories for the plaintiffs as these cases progress to trial in state court.

There are five reasons why this line of cases will likely fare better than the tort-based climate litigation against the private sector defendants that preceded it. First, the extent of the contribution that these fossil fuel industry defendants have made to global climate change is much more significant compared to the power plants in the *AEP* case.[165] Second, the increasing strength of the climate attribution science, which has

157. UNION OF CONCERNED SCIENTISTS, THE POST-SANDY RESILIENCE OF HOBOKEN, NEW JERSEY (2014), *available at* https://perma.cc/8WHL-MLRA.

158. Mikaela Porter, *Charleston Sues 'Big Oil' for Flooding in SC Lowcountry Caused by Global Warming*, POST & COURIER (Sept. 9, 2020), *available at* https://perma.cc/G2C2-P6BL.

159. Rachel Frazin, *Delaware Sues Major Oil Companies over Climate Change,* THE HILL (Sept. 10, 2020), *available at* https://perma.cc/R9GU-THWL.

160. Karen Savage, *Connecticut Becomes Latest State to Sue Exxon for Climate Deception*, CLIMATE DOCKET (Sept. 14, 2020), *available at* https://perma.cc/D24Y-MUXZ.

161. Ellen M. Gilmer, *Supreme Court Won't Halt Climate Cases Against Oil Companies (1)*, BLOOMBERG L. (Oct. 22, 2019), *available at* https://perma.cc/ZG5R-LS6K.

162. Baltimore v. BP P.L.C., 531 F.2d 452 (4th Cir, 2020).

163. City of Oakland v. BP P.L.C., 960 F.3d 570 (9th Cir. 2020).

164. Bd. of Cty. Comm'rs v. Suncor Energy (U.S.A.) Inc., 965 F.3d 792 (10th Cir. 2020).

165. Douglas Starr, *Just 90 Companies Are to Blame for Most Climate Change, This 'Carbon Accountant' Says*, SCI. MAG. (Aug. 26, 2015), *available at* https://perma.cc/5D9H-A5NA (noting that nearly two-thirds of anthropogenic carbon emissions can be linked to just ninety companies and government-run industries).

become more conclusive since the first line of cases was filed, makes this line of cases much more compelling.[166] Third, the extensive evidence of what the fossil fuel industry defendants knew and how they tried to deceive the public through a campaign seeking to dilute the certainty behind the science is damning. This is perhaps the strongest factor in the strength of the new cases because efforts to mislead are relevant in determining whether there has been a public nuisance.[167] Fourth, if these proceedings remain in state court, the outcomes will not be bound by the unfavorable federal law precedent and federal displacement reasoning from *AEP* and *Kivalina*. Fifth, the dismissal for lack of standing in *Kivalina* is not an issue in these cases because the governmental plaintiffs (states, counties, and cities) have standing to sue on behalf of the citizens in their jurisdictions to address threats from climate change based on the "special solicitude" reasoning from *Massachusetts v. EPA*.[168]

Encouragingly, these efforts in the courts have started to attract attention and gain momentum outside the court system. For example, on March 16, 2020, the New Jersey Senate adopted Resolution No. 57 on climate accountability for the fossil fuel industry.[169] The resolution urges the New Jersey Attorney General to file an accountability lawsuit against the fossil fuel industry defendants to seek damages for their contribution to the costs of climate adaptation in New Jersey.[170] In addition, the

166. *See generally* Michael Burger et al., *The Law and Science of Climate Change Attribution,* 45 COLUM. J. ENVTL. L. 1 (2020); Ekwurzel, *supra* note 50.

167. Ann Carlson, The Case for Climate Liability: Recent appellate decisions on holding fossil fuel producers accountable for climate damages, Remarks at Stanford Law School (July 9, 2020), *available* at https://stanford.zoom.us/rec/play/uZ0rfrugqW83H4aX5gSDUPMrW426LP2s1XQbq6ZfzknmVSJWOwWmMOQSN-RQWPgnnx4NQM9fxdnZgk60 (noting that the role of awareness of harms was significant in the tobacco litigation given defendants' marketing of tobacco products to youth in an effort to get them hooked early).

168. *See* Massachusetts v. EPA, 549 U.S. 497, 520 (2007). While that reasoning could have been extended to the quasi-sovereign status of the Native Village of Kivalina, the Ninth Circuit declined to do so in that case.

169. S. Res. 57, 219th Legis. (N.J. 2020).

170. *Id.*; *see also Political, Business, and Legal Voices Call for New Jersey to Hold Climate Polluters Accountable*, PAY UP CLIMATE POLLUTERS BLOG (Aug. 13, 2020), *available at* https://payupclimatepolluters.org/blog/political-business-and-legal-voices-call-for-new-jersey-to-hold-climate-polluters-accountable.

U.S. Conference of Mayors passed a resolution in July 2019,[171] which was co-sponsored by the mayors of Oakland, Richmond, Santa Cruz, San Leandro, and Torrance, California; Baltimore, Maryland; Boulder, Colorado; Austin, Texas; Honolulu, Hawaii; Salt Lake City, Utah; and St. Petersburg, Florida.[172] Several of these cities have filed lawsuits against fossil fuel companies in this line of climate accountability litigation.[173] The mayors' resolution opposes any federal or state legislation that would grant fossil fuel companies immunity from climate liability lawsuits.[174] An example of such a legislative initiative is the Baker-Schultz Carbon Dividends Plan,[175] which would tax carbon emitters and return the proceeds to the American public.[176] The measure, however, includes a dangerous waiver of the right to sue fossil fuel companies for climate change impacts.[177]

The Baker-Schultz liability immunity measure is yet another example of the impact of accountability litigation against the fossil fuel industry. The fossil fuel industry is eager to bargain to remove the threat of potentially massive payouts from these lawsuits, yet in a cautious and predictable manner that enables them to plan to protect their profit margins. Unfortunately for these corporate giants, this self-interested strategy will not prevail in the long run as they remain highly vulnerable to multi-million-dollar damage awards in the pending climate accountability litigation.

B. Suits Against CAFOs

Similar suits have been filed against CAFOs seeking to hold these facilities accountable for the harms that they cause to the

171. U.S. Conference of Mayors, Supporting Cities' Rights and Efforts to Mitigate Climate Change Damages and Protect Taxpayers from Related Adaptation Costs, Res. No. 65 (July 1, 2019), *available at* https://perma.cc/UGN2-VGZN.

172. Karen Savage, *Mayors Group Votes to Support Cities' Right to Sue Oil Industry for Climate Damages*, CLIMATE DOCKET (July 1, 2019), *available at* https://www.climatedocket.com/2019/07/01/mayors-climate-liability/.

173. *Id.*

174. *Id.*

175. *The Conservative Case for Carbon Dividends*, CLIMATE LEADERSHIP COUNCIL (Feb. 2017), *available at* https://www.clcouncil.org/media/2017/03/The-Conservative-Case-for-Carbon-Dividends.pdf.

176. *Id.*

177. *Id.*; *see also* Savage, *supra* note 160.

environment and to public health and welfare.[178] These cases differ from the lawsuits against the fossil fuel industry described in the previous section in three ways. First, these cases are premised almost exclusively on nuisance and trespass theories. Second, these cases have been thwarted in part by right-to-farm laws[179] that limit the private accountability actions that may be filed against CAFOs. Third and most importantly for the purposes of this article, these actions are not connected directly to climate change impacts like those against the fossil fuel industry. The connection between the fossil fuel industry and climate change is explicit and well known; however, the connection between CAFOs and climate remains dangerously below the public's radar and must be pursued more aggressively.

Cases brought directly against CAFOs for climate change impacts have been slow to appear. Lawsuits against federal regulators for their failure to address climate change impacts from CAFOs, however, have emerged as a first step in industrial agriculture accountability litigation, much like *Massachusetts v. EPA* was the first step to limit fossil fuels' impact on climate change. For example, in 2015, a lawsuit was filed against EPA for its failure to regulate emissions from factory farms.[180] This theory, known as "regulatory avoidance,"[181] prevailed in *Massachusetts v. EPA* and can prevail in the CAFO climate change context in much the same way. As in *Massachusetts v. EPA*, the argument would be that EPA has a duty to regulate GHGs from these facilities (as described in Part III.B., *supra*) and that the agency abdicated that duty in refraining from

178. *See generally* Robbin Marks, NATURAL RESOURCES DEFENSE COUNCIL, CESSPOOLS OF SHAME: HOW FACTORY FARM LAGOONS AND SPRAYFIELDS THREATEN ENVIRONMENTAL AND PUBLIC HEALTH (2001), *available at* https://perma.cc/RM9W-Q64C (discussing the public health and environmental impacts of lagoons and spray-fields on CAFOs).

179. For a helpful discussion on the background and motivation behind right-to-farm laws, *see generally* Jonathan Morris, *"One Ought Not to Have So Delicate a Nose": CAFOs, Agricultural Nuisance, and the Rise of the Right to Farm*, 47 ENVTL. L. 261 (2017).

180. Katie Valentine, *Groups Sue EPA Over Failure to Regulate Emissions from Factory Farms*, THINK PROGRESS (Jan. 30, 2015), *available at* https://perma.cc/9ZA8-6XHY.

181. *See generally* Lisa Winebarger & Liz Hallinan, *Is Never Good for You? The Law of Regulatory Avoidance and Challenging the Abdication of Federal Farm Animal Welfare Protection*, *in* WHAT CAN ANIMAL LAW LEARN FROM ENVIRONMENTAL LAW?, *supra* note 14, at 146, 146–170.

regulating. This type of lawsuit can offer great promise to promote accountability for CAFOs' emissions of GHGs.

Environmental justice theories have also been used against state governmental agencies to seek relief from the impacts of CAFOs. For example, in 2014, the North Carolina Environmental Justice Network, the Rural Empowerment Association for Community Help, and Waterkeeper Alliance filed a complaint against the North Carolina Department of Environmental Quality (DEQ) under Title VI of the Civil Rights Act of 1964.[182] The plaintiffs asserted that the state DEQ provided unjust and inadequate oversight of CAFO waste control systems, which caused disproportionate impacts on minority communities. The allegations included poor air quality and polluted surface and groundwater. The complaint sought to compel the DEQ to revise its permitting program, which allows storage of swine waste in open-air pits, to comply with Title VI.

The EPA opened an investigation that was put on hold in 2015 when the parties agreed to engage in alternative dispute resolution. In the resolution, DEQ committed to new policies to ensure compliance with federal civil rights laws. In addition, the agency agreed to provide language access services, and to develop an environmental justice tool to examine demographic, health, and environmental characteristics of communities impacted by DEQ policies.

Finally, lawsuits against CAFOs under state common law nuisance and trespass theories have been successful in several states and are on the rise.[183] For example, in an early case, *Commonwealth v. Van Sickle*,[184] a facility housing at least 1,000 hogs outside the city of Philadelphia was held to constitute a nuisance. The stench from the facility stopped pedestrians from walking down the street comfortably and decreased property

182. Title VI provides that "[n]o person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance." 42 U.S.C. § 2000d (2018).

183. *See generally* P. Derek Peterson et al., *Large Jury Verdicts in Hog Nuisance Cases Signal CAFO Litigation Is Rising*, PERKINS COIE (Aug. 9, 2018), *available at* https://www.perkinscoie.com/en/news-insights/large-jury-verdicts-in-hog-nuisance-cases-signal-cafo-litigation.html (discussing $473 million verdict against Murphy-Brown for nuisances from its industrial hog operations).

184. 1 Brightly 69 (Pa. 1845).

values in the area.[185] In the modern CAFO context in eastern North Carolina, rural residents sued and prevailed against the world's largest hog producer for allegations regarding waste and odors at the hog farms.[186] These cases involved similar complaints against different hog farms owned by Murphy-Brown LLC, a subsidiary of Smithfield Foods. The court determined Murphy-Brown's operations constituted a nuisance and awarded plaintiffs collective damages of approximately $574 million, which was subsequently altered to comply with North Carolina's cap on punitive damages.[187] There are more than 20 other pending cases against Murphy-Brown involving 89 hog operations in the state.[188]

Pushback from CAFO companies and individual facility owners resulted in amendments to state right-to-farm laws to include provisions that make it harder to sue CAFOs.[189] Right-to-farm laws earned the nickname "right to harm" laws because of the enlarged scope of authority that CAFOs have been granted to severely impact public health, environmental integrity, and the property values of the vulnerable communities that surround them.[190] These laws typically apply only to situations where the harm has not resulted from the plaintiff's "coming to the nuisance."[191] In other words, if the facility existed prior to the plaintiff's arrival within the affected area, the claim cannot proceed.[192] These laws now exist in some form in all 50 states.[193]

185. Morris, *supra* note 179, at 270.

186. McKiver v. Murphy-Brown, LLC, 980 F.3d 937 (4th Cir. 2020); Barry Yeoman, *Here Are the Rural Residents who Sued the World's Largest Hog Producer Over Waste and Odors – and Won,* FOOD & ENV'T REPORTING NETWORK (Dec. 20, 2019), *available at* https://perma.cc/ZVM9-336V.

187. Leah Douglas, *Big Ag Is Pushing to Restrict Neighbors' Ability to Sue Farms*, NPR (Apr. 12, 2019), *available at* https://perma.cc/K2CZ-PHMX.

188. *Id.*

189. *Id.* Similarly, in Iowa, a trial court awarded damages of $100,000 for loss of past enjoyment, $300,000 for loss of future enjoyment, and $125,000 for diminution of property value after Prestage Farms built a 2000+ hog confinement facility 2,200 feet from the plaintiff's property. In 2016, the appellate court affirmed the district court's decision. McIlrath v. Prestage Farms of Iowa, L.L.C., No. 15-1599, 2016 WL 6902328 (Iowa Ct. App. 2016).

190. For a compelling documentary by this title conveying these harsh and unjust realities, and how frontline communities are fighting back, see RIGHT TO HARM (Hour Glass Films 2019), *available at* https://righttoharm.film/.

191. Morris, *supra* note 179, at 279.

192. *Id.*

193. Rusty Rumley, *A Comparison of the General Provisions Found in Right-to-Farm Statutes*, 12 VT. J. ENVTL. L. 327, 350 (2011).

In October 2020, the U.S. Supreme Court denied a petition for certiorari by Indiana families seeking to have the Court address the constitutionality of Indiana's Right to Farm Act.[194] The Act prevents homeowners from suing for any remedy when large CAFOs are sited near their homes.[195] Although the plaintiffs allege that the Indiana law constitutes an unconstitutional taking of private property without just compensation under the Fifth Amendment, by denying certiorari, the Court allows the appellate court's decision that a plaintiff "came to the nuisance" by not anticipating the horrors of factory farming and moving away before the CAFO was built.[196]

The deck is stacked against plaintiffs seeking justice against CAFOs. The animal agriculture industry's GHG emissions are enormous, and climate change accountability litigation against CAFOs has not yet taken hold.[197] As discussed in Part III.B., *supra*, these facilities could be regulated under the Clean Air Act for their emissions, but Congress has elected not to do so. Congress's inaction could cause a federal displacement problem for cases seeking federal common law recovery against these facilities.[198] Nevertheless, state tort claims are proceeding

194. Himsel v. Himsel, 122 N.E.3d 935 (Ind. Ct. App. 2019), *cert. denied sub nom.* Himsel v. 4/9 Livestock, L.L.C., *141* S. Ct. 364 (2020). *See also* Sarah Bowman, *U.S. Supreme Court Rejects Petition Challenging Indiana's Right to Farm Law*, INDY STAR (Oct. 7, 2020), *available at*https://perma.cc/9R9B-BRP7 .

195. Sarah Bowman, *Right to Farm: Indiana Families Ask U.S. Supreme Court to Weigh in on Case Over Factory Farm*, INDY STAR (July 24, 2020), *available at* https://perma.cc/HW67-F5X4.

196. Roger A. McEowen, *Coming-To-The-Nuisance by Staying Put—or, When 200 Equals 8,000*, AGRIC. L. AND TAX'N BLOG (May 6, 2019), *available at* https://perma.cc/Y2U4-PZ6A; *see also* Himsel v. Himsel, 122 N.E.3d 935 (Ind. Ct. App. 2019).

197. One promising development for litigants seeking accountability for harm from CAFOs came in a concurring opinion in a Fourth Circuit decision in November 2020 upholding a 2018 jury verdict finding Murphy-Brown LLC liable for compensatory and punitive damages. Judge Wilkinson stated in his concurring opinion: "What was missing from Kinlaw Farms—and from Murphy-Brown—was the recognition that treating animals better will benefit humans. What was neglected is that animal welfare and human welfare, far from advancing at cross-purposes, are actually integrally connected. The decades-long transition to concentrated animal feeding operations [CAFOs] lays bare this connection, and the consequences of its breach, with startling clarity." *See* Barry Yeoman, *'Suffocating closeness': US judge condemns 'appalling conditions' on industrial farms,* GUARDIAN (Nov. 20, 2020), *available at* https://perma.cc/RSB6-UTS2.

198. *But see* Daniel E. Walters, *Animal Agriculture Liability for Climate Nuisance: A Path Forward for Climate Change Litigation?,* 44 COLUM. J. ENVTL. L. 299 (2019) (arguing that a properly pled federal common law nuisance action against CAFOs may

effectively in the accountability litigation against the fossil fuel industry, so it appears that such state law claims could similarly proceed against CAFOs for their GHG emissions. Moreover, these lawsuits, like those proceeding against the fossil fuel industry, could apply pressure to the animal agriculture industry and Congress to regulate CAFO GHGs emissions, especially methane, even if the suits themselves are unsuccessful.

V. STRATEGIC COLLABORATION AGAINST COMMON ENEMIES

The accountability litigation against defendants in the fossil fuel and CAFO contexts is proceeding in a manner that fails to recognize common ground and opportunities for collaboration. Part V addresses proposals to maximize the potential impact of accountability litigation for mutual gain. The ultimate purposes of these lawsuits are equity and environmental protection, but the strategic goals are threefold: (1) enhance public information to support social mobilization on these issues; (2) enact ambitious intersectional regulatory responses to address climate change within the timeframe mandated by climate science; and (3) engage the private sector to become part of the solution while remaining profitable. Profitability in our energy and food sectors does not need to be synonymous with short-sighted, wasteful, and unrelentingly destructive greed.

Subpart A addresses how the just transition sought by environmentalists and animal-rights advocates should harness their common interest in public health and safety to campaign against the climate change impacts of the fossil fuel and industrial agriculture industries. Successful accountability litigation against the tobacco and opioid industries was premised on the need to combat these industries' severe and widespread threat to public health and welfare. Similarly, U.S. environmental law has a long history of success in addressing environmental crises when public health and safety concerns were the driving force for the regulatory action. For example, the ambitious pollution-control mandates of many of the federal

be able to overcome the federal displacement barrier in climate change public nuisance suits under federal common law).

environmental statutes were enacted in the 1970s on this foundation.

Subpart B examines another valuable foundation on which these two movements may collaborate. They can seek to leverage mandatory phaseouts to sustainable alternatives, which were achieved in other contexts such as the phaseout of lead under the Clean Air Act and the phaseout of chlorofluorocarbons (CFCs) under the Montreal Protocol's stratospheric ozone depletion regime. Both contexts recognized an imminent public health threat, which was followed by swift regulatory action to transition away from these harmful substances. The fossil fuel and industrial animal agriculture industries need to be phased out in a similar top-down manner, yet leaders lack the political will to make progress on such regulation for either industry. Accountability litigation against both industries can generate publicity and promote political will to move forward in this effort. Examples of top-down efforts that could be mobilized from victories in these accountability lawsuits are the Green New Deal;[199] the Climate Equity Act, co-sponsored by then-Senator Kamala Harris (D-CA) and Representative Alexandria Ocasio-Cortez (D-NY);[200] and the Farm System Reform Act, co-sponsored by Senator Cory Booker (D-NJ) and Senator Elizabeth Warren (D-MA).[201] These legislative initiatives represent different sides of the same issue, and the trajectory of these litigation efforts needs to be managed with those shared goals in mind. A just transition must represent a full mobilization away from the harmful status quo across all sectors of society that contributed to the climate change crisis. The fossil fuel and industrial animal agricultural industries are common and primary enemies in this regard.

Subpart C builds on the need to transition away from reliance on fossil fuels and CAFOs by considering how the COVID-19 crisis provides a valuable opportunity to raise awareness and build momentum to secure legislative responses

199. H.R. Res. 109, 116th Cong. (2019); Marianne Lavelle, *House Democrats' Climate Plan Embraces Much of Green New Deal, But Not a Ban on Fracking*, INSIDE CLIMATE NEWS (July 1, 2020), *available at* https://perma.cc/V23F-FTBV.

200. Rebecca Beitsch, *Harris, Ocasio-Cortez Push Climate Equity Bill with Green New Deal Roots*, THE HILL (Aug. 6, 2020), *available at*https://perma.cc/Z87M-B4LZ.

201. Jordan Davidson, *Factory Farming Ban Proposed by Senators Booker, Warren*, ECO WATCH (May 11, 2020), *available at* https://perma.cc/S287-QDYG.

to these common threats to a sustainable future. Even before the COVID-19 crisis took hold in 2020, social movement mobilization was already underway in public health, energy, and food contexts, including "flight shaming"[202] and "meat shaming"[203] efforts to shift away from the status quo and pursue sustainable alternatives in the form of clean and renewable energy and plant-based foods.

Subpart D offers a four-part roadmap for a shared vision away from the fossil fuel and industrial agriculture industries' harm to public health and welfare. It proposes to: (1) redirect destructive subsidies to these industries to parties that promote transitions to clean and renewable energy and plant-based foods; (2) implement carrots and sticks to encourage positive—and punish destructive—activities to help phase out these industries; (3) follow the coal industry's path to promote a just transition for oil, gas, and animal agriculture; and (4) scale up California's regulation of methane on state dairy farms at the federal level as an interim step toward implementing a factory farm phaseout law.

A. Leverage Public Health Protection Focus of Prior Legislation and Litigation

Three components illustrate the importance of a public health and welfare foundation in confronting these common enemies. First, this section addresses the public health foundation of federal environmental laws in the 1970s. Second, it examines how accountability litigation against the tobacco, opioid, and plastics industries can blaze a trail from effective litigation to subsequent legislation. Third, the section presents a roadmap for how the fossil fuel and animal agriculture industries can receive the "tobacco treatment" to promote accountability through litigation and compel long-overdue legislative responses.

202. Jessica Baron, *Flight-Shaming Is Now a Thing—Will it Keep You From Traveling?*, FORBES (July 2, 2019), *available at* https://perma.cc/BS4J-FB4P.

203. *See* Maria Chiorando, *'Meat Shamers' Are Going Too Far, Suggests Major Newspaper*, PLANT BASED NEWS (Aug. 15, 2019), *available at* https://perma.cc/MR8L-8M63; Amy Walker, *Goldsmiths Bans Beef from University Cafes to Tackle Climate Crisis*, GUARDIAN (Aug. 12, 2019), *available at* https://perma.cc/FM3Z-3ERG; Damian Carrington, *Avoiding Meat and Dairy Is 'Single Biggest Way' to Reduce Your Impact on Earth*, GUARDIAN (May 31, 2018), *available at* https://perma.cc/G26T-JFPH.

1. Federal Environmental Laws in the 1970s

Much like the crescendo of social unrest that predated the explosion of federal environmental legislation in the 1970s, we find ourselves, once again, needing enhanced environmental regulation to "protect ourselves from ourselves."[204] Fifty years later, we have reached another critical point of reckoning in U.S. environmental governance, and this time the stakes are much higher. Rather than confronting a national crisis of polluted air, water, and land, we now face an international climate change crisis that threatens the sustainability of the planet and the human race. In essence, as Oliver Morton noted, "humans are … so powerful that they have become a force of nature—and forces of nature are by definition those things beyond the power of humans to control."[205]

Anthropocene accountability litigation represents a small but essential first step in this herculean task—a critical wedge to propel a shift in environmental regulation of these common enemies in the private sector and goad federal and state governments to pursue a just transition away from the environmental and public health crises that these industries have wielded. This transition in the U.S. to hold multinational industry actors accountable for their climate change impacts will have positive ripple effects around the globe in combating this daunting global crisis.

Pollution was not aggressively regulated in the 1970s because we cared about the environment's intrinsic value, but because we cared about our health. The remarkably effective federal environmental statutes in the 1970s were simply an effort to protect ourselves from a public health and safety crisis that was caused by rampant environmental contamination flowing from explosive economic growth. A common but unfortunate theme in these crises separated by half a century is that we have not learned to value the intrinsic value of the environment. Likewise, aggressive action on climate change in

204. This characterization refers to the need for environmental regulation to intervene to protect humans from public health and welfare impacts arising from our continued exploitation of the environment in the Anthropocene Era. *See* Emilie Karrick Surrusco, *50 Years On, Earth Day's Legal Legacy Looms Large*, EARTHJUSTICE (Apr. 15, 2020), *available at* https://perma.cc/5LVP-QXGQ.

205. OLIVER MORTON, THE PLANET REMADE: HOW GEOENGINEERING COULD CHANGE THE WORLD 220 (2017).

2021 will not be revolutionized by a spontaneous awakening of our innate love for Mother Earth. And fifty years later, the same impetus to regulate to "save ourselves from ourselves" is the best hope we have to curtail the climate crisis and postpone its most destructive impacts.

2. The Public Health Foundation of Prior Anthropocene Accountability Litigation

Anthropocene accountability litigation traces its origins to the 1970s. Public health crises exploded with the twentieth century's rampant industrialization and the toxic residues of its products and processes, compelling actions such as asbestos and lead paint litigation. The most notorious and illustrative context of accountability litigation involved the tobacco industry, which had been tremendously profitable and socially embraced yet destructive to public health and welfare. The litigation that ultimately led to the demise of the tobacco industry offers valuable lessons for tackling the fossil fuel and industrial animal agriculture industries. First, widespread health and welfare impacts from the tobacco industry were brought to the public's attention, which helped inspire the accountability litigation against the industry. Then, after a series of lawsuits filed by individual plaintiffs were unsuccessful, states initially sued the tobacco industry. The states ultimately secured a $246 billion settlement in which the tobacco industry agreed to changes in the sale and marketing of cigarettes.[206]

Recent successful litigation against the opioid industry offers another comparable strategy.[207] Like tobacco, the opioid industry created and profited from a grave threat to public health and safety. Johnson & Johnson received a $17.2 billion adverse verdict for simply providing the narcotics that other companies ultimately used to manufacture and distribute opioids to doctors. The Oklahoma court overseeing the lawsuit emphasized that Johnson & Johnson knew the narcotics were harmful and failed to protect the public by disseminating

206. Eric Larsen, *Making Big Oil Pay for Climate Change May Be Impossible,* BLOOMBERG GREEN (Jan. 24, 2020), *available at* https://perma.cc/LU5Q-QS9F.

207. *See* Jacqueline Howard & Wayne Drash, *Oklahoma Wins Case Against Drugmaker in Historic Opioid Trial,* CNN (Aug. 27, 2019), *available at* https://perma.cc/8QHE-UY7K.

information about that harm because doing so would have impacted their profits. Like the tobacco litigation, the opioid litigation offers a compelling parallel to a potential public nuisance suit against fossil fuel and CAFO companies. These earlier actions support imposing legal accountability on a private sector industry that, with knowledge of the risk to the public, continued to act in a way that threatens public health and safety on a massive scale. This scenario bears striking resemblance to the climate change context: fossil fuel companies knew that they were engaging in harmful activities that would exacerbate climate change and cause severe environmental destruction. Instead of providing information to the public regarding known risks, they instead engaged in a deception and misinformation campaign about the reliability of climate change science.[208]

Public nuisance claims involve assertions of unreasonable interference with a right common to the general public. While these claims have been made with varying degrees of success in lead paint, asbestos, opioids, and tobacco contexts, it remains to be seen whether the successes from these earlier contexts can be readily applied to succeed in litigation against the fossil fuel and animal agriculture industries.

Some commentators have argued that liability for climate change impacts is "far greater" than the contexts that preceded it and that "courts have been known to shy away from their responsibility and pass the buck to another branch of government."[209] Yet climate justice organization leaders like Richard Wiles, Executive Director of the Climate Integrity Project, see it differently. Commenting on the City of Baltimore's lawsuit against twenty-six multinational fossil fuel companies,[210] he noted: "Taxpayers in Baltimore can no longer afford to foot the bill for damages knowingly caused by climate

208. *See How the Opioid Ruling Could Help Sue Big Oil Companies*, MSNBC (Sept. 16, 2019), *available at* https://perma.cc/28DP-Q54V (interview with UCLA Law School professor Ann Carlson discussing the connections between the opioid litigation and the fossil fuel climate accountability litigation).

209. *Id.* (internal citations omitted).

210. The U.S. Supreme Court heard arguments in the case on January 19, 2021. *See* Christine Condon, *U.S. Supreme Court Hears Arguments in Baltimore's Climate Change Lawsuit Against Fossil Fuel Companies*, BALT. SUN (Jan. 19, 2021), *available at* https://perma.cc/6JLU-E9ZW.

polluters, nor should they have to . . . [t]he people of Baltimore deserve their day in court."[211]

These differences of opinion notwithstanding, it is widely acknowledged that litigation is a blunt instrument with which to address the climate change crisis. Nevertheless, litigation can play a vital role in raising public awareness about the inequities of the status quo and the need for aggressive regulation of the fossil fuel and animal agriculture industries. The tobacco and opioid contexts started with litigation and culminated with regulation, which is a valuable path for the just transition necessary in the fossil fuel and industrial animal agriculture industries.

3. Applying the "Tobacco Treatment" to the Fossil Fuel Industry and CAFOs

The success of the tobacco litigation rests on a foundation of consumer protection. Consumer protection also drives the accountability litigation against the fossil fuel industry, which could readily build on the tobacco's legacy.[212] Similarly, the "tobacco treatment" could be applied to reducing demand for the animal agriculture industry.[213] The litigation and subsequent regulation that prompted a transition away from heavy tobacco use in the U.S. bears many similarities to the needed transition away from industrial agriculture based on the health impacts of a meat-based diet. For example, "food consumption, like tobacco, is primed for norm-shifting because it occurs in socially conspicuous environments. Indeed, while place-based bans and information regulation were essential in lowering the prevalence of smoking, the same strategies may be even more effective in reducing meat demand."[214] Per capita meat consumption in the

211. Jessica Corbett, *On 'Front Lines of Climate Change,' Baltimore Lawsuit Aims to Hold 26 Fossil Fuel Companies Accountable*, COMMON DREAMS (July 20, 2018), *available at* https://perma.cc/RN4A-7QTW. For a range of additional perspectives supporting these accountability lawsuits against the fossil fuel industry, see *Monmouth University panel makes the case for climate accountability in New Jersey*, PAY UP CLIMATE POLLUTERS BLOG (Aug. 25, 2020), *available at* https://perma.cc/TVU2-LFSB.

212. Alexandria Herr & Zoya Teirstein, *Two New Climate Lawsuits Give Big Oil the Tobacco Treatment*, GRIST (June 29, 2020), *available at* https://perma.cc/P83R-SJLF.

213. Lingxi Chenyang, *Is Meat the New Tobacco? Regulating Food Demand in the Age of Climate* Change, 49 ENVT'L. L. REP. 10934, 10934 (2019).

214. *Id.*

U.S. is "three times the global average and far above the recommended nutritional quantity."[215]

While the pending litigation efforts against the fossil fuel and animal agriculture industries continue to unfold, public nuisance litigation against the plastics industry is already the next frontier of this accountability litigation. Earth Island Institute has sued consumer products manufacturers seeking damages and costs of abating microplastics pollution on California's beaches and in California's waterways.[216] The plaintiff alleges that companies that sell products in single-use-plastic packaging "failed to use sustainable packaging materials, misled the public regarding the causes of plastic pollution, and falsely advertised the recyclability of their products."[217]

The defendants in the plastics litigation rely on a familiar line of criticism of accountability litigation commonly expressed in fossil fuel industry lawsuits. The argument is that there is limited value in victories in this type of litigation that allegedly seek to demonize purveyors of legal products on a piecemeal basis at the local level to gain traction in addressing a global problem.[218] But the dynamic in each context is the same—a slow or nonexistent regulatory response to a pressing environmental problem requires litigation to prompt appropriate and overdue legislative action. The industry fears the prospect of an unpredictable and large liability judgment like the tobacco settlement, which is another reason why these accountability lawsuits are so effective in promoting regulatory reform. The

215. *Id.* at 10935 (citing Joseph Poore & Thomas Nemecek, *Reducing Food's Environmental Impacts Through Producers and Consumers*, 360 SCI. 987, 991 (2018)).

216. Douglas A. Henderson, et al., *INSIGHT: Is Plastics Litigation the Next Public Nuisance?*, BLOOMBERG L. (Apr. 23, 2020), *available at* https://perma.cc/4B9Z-EVK7.

217. *Id.*

218. "If allowed to proceed, *Earth Island* and any follow-on lawsuits would almost certainly lead to a patchwork of multiple—and very likely different—answers to a large-scale environmental issue that is already being addressed by national governments across the globe. Regardless of competing views around the manufacture and use of plastics, is that truly the most productive and efficient approach to the issue? A similar public-nuisance theory was advanced in California state court to address alleged local impacts of the global problem of climate change. In denying plaintiffs' request to send their case back to state court (while expressing doubt about the judiciary's role in addressing climate change), federal Judge William Alsup in California rightly observed that 'fifty different answers to the same fundamental global issue would be unworkable.' Surely the multi-faceted plastics industry deserves a future more coherent and secure than one that might be carved by a jury in a single public nuisance case." Henderson, *supra* note 216.

industry ultimately is left with no choice but to self-regulate[219] or seek uniform regulation from Congress to avoid the uncertainty that the specter of significant potential liability in litigation presents.[220]

B. Implement Mandatory Phaseouts to Sustainable Alternatives

Two powerful examples from other environmental phaseout contexts—one domestic and the other global—are instructive for addressing fossil fuel and industrial animal agriculture regulation. The first example is the regulation of leaded gasoline under the Clean Air Act and the second example is the regulation of CFCs under the Montreal Protocol regime.

Lead was in widespread use in many products for several decades before environmental regulation addressed the public health and welfare threats that it posed. The overdue regulatory response took the form of a mandatory phaseout of the use of lead in gasoline. During the early 1900s, General Motors Corporation (GM) engineers discovered that a compound, tetraethyl lead, eliminated the "knocking" noises that internal combustion engines produced when running.[221] Other additives were found to work, but GM found the use of tetraethyl lead more profitable.[222] Yet, although this gasoline additive was profitable for the automotive industry, it was highly destructive to human health and the environment.

The regulatory response was overdue, in part, because of industry efforts to downplay the risks that lead posed. Following GM's discovery of tetraethyl lead's benefits, companies soon

219. For a discussion of BP's abrupt and surprising decision to cut its oil and gas production by 40 percent, reduce its carbon emissions by about a third, and increase capital spending on low-carbon energy tenfold, *see infra* note 234.

220. In a similar vein, the history of the federal Clean Air Act involved putting pressure on industry not by litigation but by forcing companies to navigate a patchwork of state and local laws with inconsistent air pollution control requirements, which interfered with the companies' desire to conduct business on a national level. As such, the industry sought uniform air pollution regulation from Congress. Hallinan & Pierce, *supra* note 14, at 343 ("Differing or inconsistent air pollution standards set at the state and local levels were perceived as a serious threat to Detroit's assembly lines.").

221. William Kovarik, *Ethyl-Leaded Gasoline: How a Classic Occupational Disease Became an International Public Health Disaster,* 11 INT'L J. OCCUP. ENVT'L. HEALTH 384, 384–85 (2005).

222. *Id.*

began to produce it commercially. Many workers at these production plants became gravely ill, which led the U.S. Surgeon General to impose a moratorium on production in 1925.[223] Despite the health impacts, the U.S. Public Health Service declared tetraethyl lead safe for general use in 1926.[224] For an additional half century, tetraethyl lead continued to be used in gasoline, while automobile and oil companies denied its toxicity.[225] Finally, in the 1970s, the EPA required the automotive industry to phase out lead-compatible engines in the cars they sold.[226] Gasoline companies were given five years to make the transition to unleaded fuel.[227] The removal of tetraethyl lead from gasoline concluded a lengthy battle to protect human health and the environment. Remarkably, one decade after the regulation took effect, airborne lead concentrations throughout the country had decreased by nearly 90%.[228] The EPA declared "[t]he elimination of lead from gasoline as one of the great[est] environmental . . . [successes] of all time" due to the "[t]housands of tons of lead" that had been removed from the air.[229]

Given the victory in the fight to remove lead from gasoline overcame political inertia and industry deception on lead elimination in the U.S., the same lessons could be applied to transitioning away from the status quo of fossil fuels and animal agriculture consumption. The scale of these challenges is certainly distinguishable, but the removal of lead from gasoline was the first step to open the door to the eventual removal of lead from other products such as paint. Likewise, mandatory

223. Herbert Needleman, *The Removal of Lead From Gasoline: Historical and Personal Reflections,* 84 ENVTL. RES. 20, 20 (2000).

224. *Id.* The U.S. Public Health Service (PHS) was established in 1912 to administer federal programs to protect and improve the nation's physical and mental health. The PHS was reorganized to become the U.S. Department of Health and Human Services (HHS) in 1979. *See generally* PUBLIC HEALTH SERVICE, RECORDS OF THE PUBLIC HEALTH SERVICE [PHS], 90.1 ADMINISTRATIVE HISTORY, 1912-1968, *available at* https://perma.cc/3UER-6HQN.

225. Kovarik, *supra* note 221, at 385.

226. Needleman, *supra* note 223, at 27–28.

227. Press Release, EPA, Leaded Gas Phaseout (Jan. 29, 1996), *available at* https://perma.cc/ZF64-NJTG.

228. *Id.; see also* RICHARD G. NEWELL & KRISTIAN ROBERTS, THE U.S. EXPERIENCE WITH THE PHASEDOWN OF LEAD IN GASOLINE (2003) (evaluating the costs and benefits of the phaseout of lead in gasoline).

229. Leaded Gas Phaseout, *supra* note 227.

phaseouts of components of the fossil fuel industry's stranglehold on the energy system (such as starting with the phaseout of coal) and targeting unnecessarily intensive production processes (such as phasing out CAFOs) could be valuable starting points for a just transition in both of these industries.

The Montreal Protocol on Substances that Deplete the Ozone Layer is widely regarded as one of the most successful international environmental treaties. [230] Three key ingredients explain its success: (1) clear and conclusive science, (2) economic feasibility, and (3) political will. The scientific relationship between the release of CFCs and the depletion of the stratospheric ozone layer was strong. The science was so strong that the international community was willing to impose an active phaseout regime for a problem that had not yet manifested concretely through observation of NASA images of the ozone hole, which came years after the foundation for international cooperation to address stratospheric ozone depletion, the Vienna Convention for the Protection of the Ozone Layer, was laid.[231] The economic feasibility for this abrupt and aggressive phaseout regime was present because CFC production represented a very small fraction of the global economy and a suitable alternative was available so that lifestyle sacrifices would not be necessary. The scientific and economic realities helped build necessary political will to attack this invisible enemy because the stakes of inaction were too high—failure to act could destroy biological life on the planet due to ultraviolet-b radiation.

These two success stories are grounded in two cornerstone principles of environmental law: the "polluter pays" principle and the precautionary principle. In the case of leaded gasoline, the industry responsible for the public health and environmental impacts from that activity was held accountable and required to eliminate the source of the harm in an active phaseout schedule. The "polluter pays" principle was applied, and a just result was

230. The Montreal Protocol on Substances that Deplete the Ozone Layer, 26 I.L.M. 1541 (entered into force Jan. 1, 1989).

231. 26 I.L.M. 1529 (entered into force Sept. 22, 1988). For a valuable discussion of the history and significance of the success of the international response to the stratospheric ozone depletion challenge, *see generally* RICHARD ELLIOT BENEDICK, OZONE DIPLOMACY: NEW DIRECTIONS IN SAFEGUARDING THE PLANET (1998).

achieved. In the case of CFCs, the international community applied the precautionary principle based on the severe future threat that a failure to regulate posed to justify aggressive current phaseout regulation.

The polluter pays principle needs to be applied to the fossil fuel and animal agriculture industries. Under the Clean Air Act and Clean Water Act, regulated industries must report their emissions and discharges and are held strictly liable for exceeding prescribed limitations for those discharges and emissions. Violators are potentially subject to injunctions, civil penalties, and criminal penalties. By contrast, the fossil fuel industry does not have to report or account for any of its GHG emissions, the release of which is accelerating the global climate change crisis. Consumers would likely seek out clean and renewable sources if the fossil fuel industry were subject to regulation for its GHG emissions and penalties for failures to comply. Regulation would cause the industry to pass on its increased operating costs to the consumer who would in turn question their continued use of those products at the higher price point.[232] Regulatory gaps and subsidies, however, have enabled fossil fuel products to remain unreasonably inexpensive, which in turn has enabled the unrestrained acceleration of the climate crisis. Similarly, if regulation forced CAFOs to internalize the environmental, animal, and human health and welfare costs that they create—and thereby incur higher production costs—these costs would pass to the consumer.[233] This more expensive price could accurately reflect the "true cost" of the factory-farmed cheeseburger and allow the consumer to fairly choose between the traditional meat and a comparably priced, sustainable source of meat, or a meat-free alternative.[234]

232. However, "[s]ocial protection and targeted support are necessary to mitigate the impact of higher fuel prices on poor households." ANNA ZINECKER, GLOBAL SUBSIDIES INITIATIVE. HOW FOSSIL FUEL SUBSIDY REFORM COULD GET US ON TARGET TOWARDS UNIVERSAL ENERGY ACCESS (2018). Higher fossil fuel costs for consumers without social support compounds inequalities and increases "energy poverty" in lower-income communities and countries. *See* Portland State University, *Shifts to Renewable Energy can Drive up Energy Poverty, Study Finds*, SCI. DAILY, (July 12, 2019), *available at* https://perma.cc/4ABW-87WC.

233. GURIAN-SHERMAN, *supra* note 71, at 17.

234. This simplified example does not address disparate access to healthy and affordable meat alternatives or to the time it often takes to prepare filling plant-based meals. *See* Angela Hilmers et al, *Neighborhood Disparities in Access to Healthy Foods and Their Effects on Environmental Justice*, 102(9) AM. J. PUBLIC HEALTH 1644 (2012).

Consumers would likely seek more sustainable food choices when the adjustments in the market occur based on this liability scheme.

The precautionary principle is also necessary to ensure effective phaseouts of components of the fossil fuel and animal agriculture industries. Modern climate change science is more conclusive and established than the ozone depletion science of the 1980s. Climate scientists' projections for climate impacts have been hauntingly accurate over the past few decades and they portend a dystopian future of unprecedented economic, social, and environmental upheaval. The precautionary principle would require that aggressive regulation be required now to stave off that worst version of that future, much of which is already out of humans' regulatory control. The IPCC issued a clear and grim warning regarding the time humanity has left (about a decade) to make meaningful advances to diminish the severity of the climate changed future that awaits us.[235] Yet manufactured uncertainty by the fossil fuel industry's "science" and the false "jobs vs. the environment" dichotomy of climate-denialist politicians have precluded this clear case for the precautionary principle, despite ample evidence that a transition to a sustainable energy and food system offers a future that is ultimately more profitable than the status quo.

Nevertheless, the status quo is where we remain, decades too late. Cheap fossil fuel products and cheap meat comprise a shared poison root system that the U.S. must address to promote a just transition. Accountability litigation and phaseout regulation have an impressive track record in establishing remedies to defective systems. Lessons from lead and CFCs offer valuable insights in moving on from this country's stubborn addiction to fossil fuels and industrial animal agriculture.

C. The COVID-19 Crisis and Accelerated Phaseouts

Transitions away from fossil fuels and industrial animal agriculture were already underway before the COVID-19

While unequal access to jobs, energy, and sustainable food must be addressed to achieve a just transition, these lie beyond the scope of this Article.

235. *See* UN INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, GLOBAL WARMING OF 1.5 °C: SUMMARY FOR POLICYMAKERS, in IPCC 1.5° C REPORT, *supra* note 4.

pandemic;[236] however, these transitions were not progressing with sufficient speed. Ultimately, the fossil fuel and animal agriculture industries must discontinue their harmful activities within the next decade. While climate change impacts will continue from the actions industry has already taken for decades into the future, an aggressive phaseout of both industries' activities is the only way to ensure any hope for a sustainable future. Accountability litigation against both industries is only a first step, a foot in the door to secure leverage for effective and collaborative climate victories beyond the courtroom and into the social movement and legislative arenas. The global emergency of COVID-19 can inform and accelerate transitions away from the fossil fuel and animal agriculture industries in response to the global climate change emergency.

The COVID-19 pandemic has been devastating on many levels: a staggering death toll, unprecedented economic impacts, and long-term social and cultural upheavals that have lacerated every sector of society. Amid these tragedies, however, the pandemic poses a rare opportunity to advance the accountability litigation agenda beyond merely securing these industries' financial responsibility for the climate adaptation challenges that their activities have caused and will continue to cause.

First, the lockdowns across the nation (and the globe) underscored what can be achieved in an emergency. For example, telecommuting and virtual conferencing will be necessary to enhance climate change mitigation efforts. The pandemic's public health lockdowns pushed many firms to quickly reconsider and adjust their attendance and travel policies. In a short period of time, the significant reductions in GHG emissions from the lockdowns yielded tangible local benefits, such as improved air quality and the rebound of certain species' populations.[237]

Second, the response to COVID-19 caused both the fossil fuel and industrial agriculture industries to suffer massive financial

236. *See, e.g.*, Jazmin Goodwin, *Borden Becomes Second Dairy Producer to File for Bankruptcy*, USA TODAY (Jan. 6, 2020), *available at* https://perma.cc/42X5-8ZMY.

237. *See, e.g., NASA Model Reveals How Much COVID-related Pollution Levels Deviated from the Norm*, NASA (Nov. 17, 2020), *available at* https://perma.cc/B9E4-UEHX; *The Great Nature Rebound – How Nature Steps up when People Step Back and Both Benefit*, RAPID TRANSITION ALLIANCE (Apr. 23, 2020), *available at* https://perma.cc/RU22-GFCW.

setbacks. These financial impacts, at least in part, have caused significant and surprising transitions away from the status quo, which offer the potential for a just transition toward a Green New Deal sooner than expected. In other words, these industries were already retooling and scrambling to remain financially viable prior to the COVID-19 crisis and, at least for some companies in both industries, the pandemic has exacerbated financial pressures to discontinue dirty business practices. As an example, meat shortages at the beginning of the pandemic accelerated the transition to plant-based meats. In March and April 2020, sales of alternative meat products in grocery stores climbed by 264%, as meat suppliers struggled to continue operations. A number of meat-packing plants had to temporarily close after such plants became COVID-19 hotspots, while farmers across the Midwest and Southeast were forced to kill and discard "tens of thousands of animals" because of the sudden slowdown in production.[238]

The economic landscape for the fossil fuel industry is equally grim. In July 2020, Royal Dutch Shell announced that it would "slash the value of its oil and gas assets by up to $22 billion amid a crash in oil prices."[239] Shell's eye-opening announcement came just two weeks after BP declared that it would "reduce the value of its assets by up to $17.5 billion."[240] BP and Shell acknowledged that these decisions were prompted by the recession that emerged from the COVID-19 pandemic, and in response to enhanced efforts to address global climate change.[241] Nevertheless, it will take more to floor these corporate giants, virtually all of whom have announced their ongoing commitment to fossil fuel extraction and production

238. Matt Simon, *COVID-19 Is Accelerating the Rise of Faux Meat*, WIRED (May 19, 2020), *available at* https://perma.cc/Z3T5-CACZ. *See also* Tammy Grubb, *Coronavirus Outbreaks at Processors Force NC Farmers to Start Killing 1.5M Chickens*, THE NEWS & OBSERVER (May 23, 2020), https://www.newsobserver.com/news/business/article242944156.html.

239. Nicholas Kusnetz, *BP and Shell Write-Off Billions in Assets, Citing COVID-19 and Climate Change,* INSIDE CLIMATE NEWS (July 2, 2020), *available at* https://perma.cc/4R89-UN6T.

240. *Id.*

241. *Id.*

despite tens of billions of dollars in collective losses in 2020 alone.[242]

The COVID-19 crisis also emphasized another commonality between the fossil fuel and animal agriculture industries: reckless disregard for public health in pursuit of profit. It was well known before the pandemic that the fossil fuel industry attempted to evade its responsibility to inform the public of the dangerous consequences of its products. However, the supply chain disruption and egregious employee policies of industrial animal agriculture during the early months of the pandemic focused public attention to an unusual degree on the meat industry's recklessness. Like the fossil fuel industry, animal agriculture knows, and has known for decades, of the threat its business poses to public health from, and in addition to, climate change.[243] The fossil fuel industry not only failed to inform the public of these threats, but exacerbated the public harm through deception and secrecy.[244] Similarly, the growing public awareness of the animal agriculture industry's supply chain disruption problems, extraordinary legislative support, secrecy, and failure to inform and protect the public should accelerate the transition to a plant-based food system on public health and moral grounds. In addition to the animal welfare and environmental concerns associated with the horrific waste and pollution caused by the supply chain disruptions in the meat and dairy industries, the animal agriculture industry threatened the public health system in other ways. For example, lawsuits have been filed against the Department of Agriculture (USDA) for failing to require testing of factory farms' products for the virus prior to distribution to the public[245] and for authorizing increased slaughter-line speeds at pig slaughterhouses, which

242. Nicholas Kusnetz, *Big Oil Took a Big Hit from the Coronavirus, Earnings Reports* Show, INSIDE CLIMATE NEWS (July 31, 2020), *available at* https://perma.cc/9FTY-7NAV.

243. *See* UNION OF CONCERNED SCIENTISTS, HOLDING MAJOR FOSSIL FUEL COMPANIES ACCOUNTABLE FOR NEARLY 40 YEARS OF CLIMATE DECEPTION AND HARM (2016), *available at* https://perma.cc/TS3W-QRMU; Claas Kirchhelle, *Pharming Animals: A Global History of Antibiotics in Food Production (1935–2017),* 4 PALGRAVE COMM'NS (2018).

244. Many of the cases in the pending accountability litigation against the fossil fuel industry described in Part IV, *supra*, are premised in part on this information.

245. Press Release, Physicians' Comm. for Responsible Med., Doctors Sue USDA for Ignoring Concerns About Potential Presence of SARS-CoV-2 on Meat and Poultry Products (Aug. 12, 2020), *available at* https://perma.cc/8LWC-MRZB.

increases threats to workers and animals in these facilities and endangers the health of the consumers.[246] In non-pandemic times, CAFOs are alleged to threaten human health by causing or exacerbating asthma, increasing antibiotic resistance in surrounding communities, and impairing important drinking water supplies, yet state and federal governments regularly support and protect the industry over public health.[247]

Despite this apparent storm of momentum against the fossil fuel and animal agriculture industries in 2020, challenges remain. To capitalize on the momentum in support of transition, we must avoid these pitfalls. The first is the human tendency to cling to the status quo during times of upheaval. To the extent that these transitions pose real or perceived risks, they will be difficult to pursue because abrupt adjustments tend to make humans risk averse, at least in the short term. Troubling manifestations of this tendency to entrench the status quo emerged early in the COVID-19 crisis: The massive recession accompanying the pandemic prompted the Trump administration to prop up the fossil fuel and industrial animal agriculture industries. The federal government's efforts to bootstrap the widespread societal destruction from the fossil fuel and animal agriculture industries at the expense of public health, the environment, and animal welfare must stop. Claims abound that abrupt transitions away from the status quo are too costly. In this case, however, clinging to the status quo will be much more costly and harmful to the nation in the long term. From a moral perspective, continued support of these industries and flagrantly disregarding the harm that they cause to all sectors of society is no different from providing hostile nations with nuclear technology. Both efforts can be considered to be "sowing the seeds of our own destruction."

246. *See* Hannah Bugga, *Mercy for Animals Is Suing the USDA over its Cruel New Slaughterhouse Policy*, MERCY FOR ANIMALS (Dec. 18, 2019), *available at* https://perma.cc/E7JC-B5T8 (describing lawsuit filing by several animal advocacy groups challenging the USDA's approval of increased speed of pig slaughter lines and removing slaughterhouse inspectors as a move that prioritizes factory farm profits over the protection of animals, workers, consumers, and the environment); AJ Albrecht, *COVID-19 Crisis Again Highlights Need to Reduce Slaughter-Line Speeds*, MERCY FOR ANIMALS (Apr. 9, 2020), *available at* https://perma.cc/4PWT-XSK3.

247. *See generally* Lindsay Walton & Kristen King Jaiven, *Regulating Concentrated Animal Feeding Operations for the Well-Being of Farm Animals, Consumers, and the Environment*, 50 ENV'T L. REP. (ENV'T LAW INST.) 10485 (2020).

Related to these knee-jerk efforts to prop up harmful industries, the second challenge to transition momentum is the danger of short-term economic thinking. One prominent example is the withdrawal of New York's ambitious Restore Mother Nature Bond Act, which would have authorized $3 billion in funding to promote coastal resilience by reducing flood risks associated with climate change and avoid vulnerability that city residents faced during and after Hurricane Sandy.[248] Unfortunately, the State Governor withdrew this visionary initiative from the ballot because the costs of the measure were perceived to be too great in light of the economic shortfalls from the COVID-19 crisis.[249] This ill-conceived move is tantamount to saying that "climate change regulation is too expensive, so let's stop trying." Shelving the Act is unwise as both environmental and economic disaster policy. The Endangered Species Act (ESA) mandate is instructive on environmental policy and offers a beacon of hope amid this scourge of regulatory inertia. The ESA succeeded in its ambitious species protection mandate because it was bold and uncompromising by design: the Supreme Court described its purpose as to "halt and reverse species extinction, *at whatever the cost*."[250] Similarly, President Franklin D. Roosevelt thankfully did not refrain from engaging in a comprehensive federal response to the Great Depression in the 1930s out of fear that such an effort would be too expensive. This type of vision and singular focus is essential to emerge from the COVID-19 pandemic stronger, more environmentally resilient, and as a healthier society. If there ever was a time to do the right thing at "whatever the cost," now is the time.[251]

In another glaring example of failing to do the right thing in times of economic hardship, India is considering a return to reliance on coal to reboot the economy after the COVID-19 pandemic. U.N. Secretary-General António Guterres warned that this approach can only lead to "further economic contraction

248. Kristoffer Tigue, *Covid Killed New York's Coastal Resilience Bill. People of Color Could Bear Much of the Cost*, INSIDE CLIMATE NEWS (Aug. 16, 2020), *available at* https://perma.cc/EDK6-CEHE.

249. *Id. See also Restore Mother Nature Bond Act*, N.Y. OFFICE OF THE GOVERNOR (last accessed Jan. 27, 2021), *available at* https://perma.cc/FF2G-P7FJ.

250. *See* Tenn. Valley Auth. v. Hill, 437 U.S. 153, 184 (1978) (emphasis added).

251. *Id.*

and damaging health consequences."[252] The Secretary-General referenced with disappointment India's recent effort to privatize 41 coal mines in an attempt to revive the sector, but concluded hopefully by noting: "India can become a true global superpower in the fight against climate change, if it speeds up its shift from fossil fuels to renewable energy."[253]

Notwithstanding these challenges, one recent and highly significant development offers hope that a significant transition away from the status quo of fossil fuel dependence may be on the horizon. On August 4, 2020, BP announced that it will "transform itself by halting oil and gas exploration in new countries, slashing oil and gas production by 40 percent, lowering carbon emissions by about a third, and boosting capital spending on low-carbon energy tenfold to $5 billion a year."[254] More encouraging still, its stock rose nearly 8% on the day of the announcement.[255] While BP currently stands alone in the industry in making this important move, economic and social pressures could soon prompt other oil and gas giants to follow suit to remain competitive.[256] Ultimately, this "bold" move is simply strategic—and not a moral awakening—a business decision that motivates multinational corporations to make such decisions that incidentally benefit the public. In other words, a direct regulatory mandate is not always necessary to motivate businesses to make decisions that ultimately protect the public. The ominous threat of the pending accountability lawsuits surely factored into BP's decision.

Professor Dan Farber made several valuable observations about the import of BP's "surprising pivot" in a blog post on *Legal Planet*:

252. Antonio Guterres, U.N. Sec'y-Gen., Remarks to 19th Darbari Seth Memorial Lecture "The Rise of Renewables: Shining a Light on a Sustainable Future" (Aug. 28, 2020), *available at* https://perma.cc/YVY8-5LEC.

253. *Id.*

254. Steven Mufson, *BP Built its Business on Oil and Gas. Now Climate Change is Taking it Apart,* WASH. POST (Aug. 4, 2020), *available at* https://perma.cc/7BR5-PC94.

255. *Id.*

256. Feeling the immediate effects of the pandemic, ExxonMobil lost $1.1 billion and Chevron lost $8.3 billion in the second quarter of 2020. Unlike BP, however, these two oil giants plan to proceed with business as usual for the time being. Scott Carpenter, *ExxonMobil and Chevron Post Record Losses In Oil Price Rout*, FORBES (July 31, 2020), *available at* https://perma.cc/8XSD-49RU.

> The oil business faces several problems. Prices were highly volatile even before the coronavirus hit. Oil production is highly exposed to disruption by Middle East politics and other international crises. Unexpected market falls, like the one we are seeing today, can imperil companies that are financially overstretched and turn expensive projects into white elephants.
>
> The future of the industry is clouded due to the rapid growth of renewable energy and energy storage. Part of the threat is from climate policy, but part of[it] is simply from innovations that make renewable energy increasingly price-competitive. Moreover, in countries like China, public pressure to reduce air pollution also drives a move toward electric vehicles. The intense interest of the auto industry in electric vehicles is not a good sign for the oil industry.[257]

With all of these factors operating on the fossil fuel industry, the COVID-19 pandemic could tip the scale in favor of a long-overdue transition away from fossil fuel and factory farm dependence. It is becoming too costly and counterproductive for these companies to cling to the status quo and to remain profitable. The pandemic "has fundamentally altered the energy industry"[258] at a time when the clean and renewable energy sector is expected to continue to grow[259] and plant-based meats and milks are enjoying explosive growth. Last, and perhaps most significantly, "the coronavirus pandemic has also reminded us of our collective capacity to make change when the political will exists."[260] Ideally, the COVID-19 pandemic will initiate significant and long-term transitions that allow collective

257. Dan Farber, *BP's Surprising Pivot*, LEGAL PLANET (Aug. 6, 2020), *available at* https://perma.cc/TYT7-HNSN.

258. Mark Scully, *Another Gas Plant Would Be a Mistake*, HARTFORD COURANT (Sept. 4, 2020), *available at* https://perma.cc/SEW7-DTFF.

259. *Id.*

260. *See id.* (criticizing the proposed construction of a 650-megawatt electricity generating power plant powered by fracked gas in Connecticut, noting that the climate impact of gas is even worse than coal because the "drilling, fracking and transportation of gas results in so-called 'fugitive' emissions of methane, a primary component of fossil gas that is 86 times stronger than carbon dioxide at trapping heat over a 20-year period).

mitigation, preparation, and adaptation with lighter burdens than shouldered in this global emergency.

D. Strategies for a Shared Path to a Just Transition

If sustainability movements and accountability methods can apply collective and strategic force, the fortress walls of these two destructive industries may crumble soon. Subpart D offers a roadmap for implementing a shared vision for a just transition away from these industries' harm to public health and welfare. The first step is to disable destructive subsidies that enable continued destructive impacts from both the fossil fuel and animal agriculture industries and transition to subsidies that promote transitions to clean and renewable energy and sustainable foods. Second, implement carrots (i.e., incentives) and sticks (i.e., disincentives or punishments) more broadly to encourage a range of positive activities and punish destructive activities. Third, plan to scale up California's regulation of methane on dairy farms to the federal level and, ultimately, implement legislation to phase out factory farms. Fourth, follow the model of coal to promote a just transition model for oil and gas and animal agriculture.

The purpose of government subsidies is to assist industries and other organizations to promote the public good. In the case of agricultural subsidies in the United States, subsidies should help the food system meet consumer demand safely and healthfully, rather than encourage destructive industrial animal agriculture.[261] As a first step and an alternative to the current system, federal subsidies should promote a transition from large-scale animal agriculture to small-scale farms and encourage production of plant-based and sustainable products. Two valuable steps in this direction are the Canadian government's $100 million financing of a plant-based facility in Winnipeg[262] and Governor Jared Polis urging the Colorado Department of Agriculture to transition toward producing crops to support the emerging plant-based meat industry in the state,

261. *See generally* FOOD AND AGRIC. ORG. OF THE UNITED NATIONS, WORLD AGRICULTURE, *supra* note 131, at 78, 80 (discussing climate change impacts from agriculture and recommending removal of subsidies as one measure for reform).

262. Glen Dawkins, *Feds Pump $100M into Local Plant-based Protein Production Facility*, WINNIPEG SUN, (June 23, 2020), *available at* https://perma.cc/6K9D-J87T.

noting that "meatless meat is poised to be a leading industry in the future, akin to marijuana, hemp, and blockchain technology."[263]

Second, governmental bodies, especially the federal government, need to exercise their authority to shape consumer choices about products that are harmful to public health and welfare through the use of "carrots" and "sticks." While these measures alone surely will not solve the climate change crisis, they can be effective in building social movement momentum for a just transition. For example, when consumers are offered a tax break for purchasing a hybrid vehicle or installing solar panels on their homes, it allows the consumer to reflect on the public health and welfare values that are promoted with these incentives and inspires necessary dialogue. Many possible carrots can be implemented across many sectors of the economy to promote the transition away from fossil fuel and industrial animal agriculture dependence.[264] These measures can be complemented by sticks to promote the same values from the opposite direction. For example, harmful and unsustainable industries should be heavily taxed, not propped up with federal subsidies. Examples of such disincentives could be greenhouse gas taxes on meat and air travel to encourage transitions to plant-based sources in our food system and renewable energy transportation methods to promote a sustainable future.[265]

The third step would be to tackle one near-term goal of the accountability litigation efforts against the animal agriculture industry and regulate methane emissions from these facilities. This initiative is already underway in California on dairy farms and could be readily expanded to all CAFOs and scaled up to the federal level. [266] Advocates who use accountability lawsuits to

263. Anna Starostinetskaya, *Colorado Governor Urges Colorado Agriculture Industry to Go Meatless*, VEGNEWS (Aug. 16, 2019), *available at* https://perma.cc/VAB2-JMYA.

264. One example is a pending bill introduced by Sen. Mike Braun (R-IN) called the "Growing Climate Solutions Act," which would reward climate-friendly farming. *Issues: Growing Climate Solutions Act Set to be Introduced in U.S. Senate*, OFFICE OF U.S. SENATOR MIKE BRAUN (June 4, 2020), *available at* https://perma.cc/BS7Q-SLW3.

265. *See, e.g.,* Cordelia Christiane Bahr, *Greenhouse Gas Taxes on Meat Products: A Legal Perspective*, 4 TRANSNAT'L ENVTL. L. 153 (2015).

266. S.B. 1383, 2015 Leg., Reg. Sess. (Cal. 2016), *available at* https://perma.cc/73N7-5D24. For opposing perspectives on the value of California's regulation of methane at dairy farms, compare Bloomberg View, *California is Smart to Regulate Cow Farts*, THE TRIBUNE (Dec. 4, 2017, 2:08 PM), *available at* https://perma.cc/QB2T-8F7U, with Steffani

combat methane emissions from these facilities should consider a public nuisance claim.[267] These cases would be able to proceed down the trail blazed by the pending line of fossil fuel industry accountability cases and capitalize on successful strategies in these suits. The end goal would be the same as in the fossil fuel industry cases: another "stick." Threats of potentially large damage awards could motivate two favorable outcomes: the industry may succumb to the pressure and opt to self-regulate and transition to sustainable alternatives like BP did or the industry may approach Congress to seek uniform regulation of its emissions rather than face the uncertainty of large damage awards in ongoing accountability litigation efforts.

Fourth, the transition away from reliance on the oil and gas industry—and from reliance on industrial animal agriculture—follows logically on the coattails of coal's lost favor. Coal was the first pillar of the fossil fuel fortress to shake loose. Air pollution, respiratory illnesses, and environmental and safety issues related to the extraction process were underlying problems that were known for decades, but when coal's potent impact on climate change became widely understood, its legacy rapidly came to an end.[268] Again, as Farber put it, "[t]he coal industry was strong enough to kill climate legislation in 2010, but it probably wouldn't be today. Oil may find itself in a similar position down the road."[269] Climate change is the ultimate existential threat that the country faces. Both the fossil fuel and animal agriculture industries are making this challenge more difficult while cleaner and sustainable alternatives await their turn in our energy and food systems.

One of the biggest impediments to the necessary transition to clean and renewable energy sources and a plant-based diet is the argument that it will cause harmful economic impacts overall and loss of jobs in these particular industries. A just transition, however, recognizes that workers from these

Fausone, *Senate Bill 1383 Stinks: California's Attempt to Regulate Dairy Cattle Methane Emissions*, 9 CHICAGO-KENT J. ENVTL. & ENERGY L. 1 (2019).

267. *See* Walters, *supra* note 198.

268. The coal industry's rapid decline is evident in the fact that coal consumption in 2020 was only half of what it was in 2007. *U.S. Coal Consumption Continues to Decline Across All Sectors*, ENERGY INFO. ADMIN. (June 16, 2020), *available at* https://perma.cc/8Q4H-WPFP.

269. Farber, *supra* note 257.

industries must be supported in transitioning to related jobs in sustainable industries.[270] For example, a just transition initiative in Canada involved facilitating placement of coal workers in clean and renewable energy jobs.[271] This just transition initiative needs to be applied to the fossil fuel and industrial animal agriculture industries in the United States. The Green New Deal embraces this strategy in recognizing that climate change is the ultimate intersectional issue and must be addressed through multiple regulatory mechanisms and not be perceived as solely an environmental problem. Climate change is the quintessential societal problem—like providing affordable healthcare or addressing systemic racism—and should be addressed in a comprehensive manner. Accountability litigation against these industries helps expose the exploitation of the environment, animals, and vulnerable communities to build the necessary political will for this ambitious and essential regulatory response.

VI. CONCLUSION

The "web of life" is not a metaphor; it is a reflection of the biological and cultural interdependence of all life on the planet.[272] Challenges such as biodiversity loss, extreme weather events, and water scarcity are not siloed problems. To address these interconnected problems effectively, strategies that adopt a broader lens and address shared foundations of a problem are most effective. Given that fossil fuel combustion and industrial animal agriculture are two of the largest contributors to climate

270. The just transition movement for the U.S. coal industry is proceeding slowly. It faces serious obstacles, many of which have been compounded by the COVID-19 pandemic. *See* Elizabeth McGowan, *Coal's Collapse Under COVID-19 Adds Urgency to Just Transition Movement*, ENERGY NEWS NETWORK (June 8, 2020), *available at* https://perma.cc/QDK2-L47W.

271. *See generally* GOV'T OF CANADA, FINAL REPORT BY THE TASK FORCE ON JUST TRANSITION FOR CANADIAN COAL POWER WORKERS AND COMMUNITIES (2018) (implementing the Government of Canada's decision to phase out traditional coal-fired electricity by 2030, the first-of-its-kind task force identifies "possible solutions that could support a just and fair transition for Canadian coal power workers and communities.").

272. *See generally* FRITJOF CAPRA, THE WEB OF LIFE: A NEW SCIENTIFIC UNDERSTANDING OF LIVING SYSTEMS (1996) (recognizing that the major problems of our time cannot be understood in isolation because they are systemic, interconnected, and interdependent problems; for example, population growth is tied to poverty and the extinction of plant and animal species is inextricably linked to debt in developing countries).

change, addressing them as connected threats rather than independent problems to be addressed by different advocacy efforts is the proper way forward. Operating in silos is counterproductive in this era of urgently necessary transformation of our economy and society.

First, these industries' harmful activities are enabled by government subsidies and regulatory gaps and loopholes. Animal and environmental advocacy movements need to work from a shared playbook to disable and redirect these subsidies as an essential first step in the just transition. This difficult problem cannot begin to be addressed until the government stops enabling the industries' harm to human health, especially in frontline communities; animals; and the environment. This challenge is ultimately about fairness. Kate Sears, the former Marin County supervisor involved in one of the pending California suits against the fossil fuel industry, described the equitable foundation of the complaint: "Our lawsuit … is about fairness and accountability. It's about standing up for residents and businesses and property and livelihoods that are now at risk and who will pick up the tab for the damages these fossil fuel companies are causing."[273] Sears distilled the essence of the case to "what they knew, when they knew it, and what they did with that information."[274] She further observed that instead of sharing what they knew with the public, which might have provided the public with an opportunity to make choices different from those that were made, these companies instead launched campaigns to create doubt about whether climate change was real.[275] The animal agriculture industry operates behind a similar veil of government-enabled secrecy and public misinformation campaigns.

Second, the movements that seek to phase out these harmful industries need each other to more effectively achieve their objectives. Our energy and food systems are inextricably linked and need to be "fixed" in a coordinated and collaborative manner.

273. Kate Sears, Marin County Supervisor, The Case for Climate Liability: Recent Appellate Decisions on Holding Fossil Fuel Producers Accountable for Climate Damages, Remarks at Stanford Law School, July 9, 2020, *available at* https://perma.cc/X3JB-NJ35.

274. *Id.*

275. *Id.* For additional information on the Marin County lawsuit, see generally Richard Halsted, *Two Bay Area Counties Sue 37 Fossil Fuel Companies Over Sea-Rise*, MERCURY NEWS, (July 21, 2017), *available at* https://perma.cc/K9NR-XCGW.

This is not always easy. Many animal protection advocates embrace the environmental protection movement's objectives; the environmental protection movement, however, is not as regularly aligned with the animal protection movement's objectives. For effective, long-term success, environmentalists must embrace the animal law movement's advocacy regarding the environmental, animal, and public health and welfare benefits of a transition to a plant-based diet.[276] Likewise, the transition to clean and renewable energy is not just an environmental advocate's responsibility. In addition, there are several issues where each movement becomes unfortunately entrenched in their perspectives when there is a clash of values, such as with invasive species management. The ground straddled by these movements is, and must be mutually considered, common for maximum gain. Climate change regulation, especially the need for enhanced regulation of methane, is an expansive shared foundation on which these two movements can align and strategize in a common cause against common enemies.

Naomi Klein optimistically observed that "The Green New Deal . . . is already showing that it has the power to mobilize a truly intersectional mass movement behind it – not despite its sweeping ambition, but precisely because of it."[277] This vision of our potential sustainable future will not happen quickly and will require cultural mobilization to an extent greater than the response to COVID-19 pandemic.[278] Perhaps the greatest obstacle on the path toward that goal is the pervasive feeling of helplessness that set in over the past decade, "a feeling that it's all too late, we've left it too long, and we'll never get the job done

276. For example, a "global vegan diet (of conventional crops) would reduce dietary emissions by 87 percent, compared to a token 8 percent for 'sustainable meat and dairy.'" James McWilliams, *Agnostic Carnivores and Global Warming: Why Enviros Go After Coal and Not Cows*, FREAKONOMICS (Nov. 16, 2011), *available at* https://perma.cc/F8MF-5PXD. Pointing to this close connection between livestock production and climate change, some commentators have expressed frustration with the lack of response from environmentalists. *Id.*; *see also* Marc Gunther, *Why Won't Environmental Foundations (and Nonprofits) Go After Meat?*, NONPROFIT CHRON. (May 15, 2016), *available at* https://perma.cc/H55W-V4TW.

277. KLEIN, *supra* note 8, at 289.

278. The urgent call to action in the IPCC's 1.5° C Report speaks in such terms in demanding "rapid, far-reaching and unprecedented changes in all aspects of society." IPCC 1.5° C REPORT, *supra* note 4.

on such a short time line."[279] The most promising strategy to overcome that sense of helplessness and reach the ambitious goal of a just transition in our energy and food systems is to identify the foundations of the problem and aggressively seek to phase them out with a mix of social movement pressure, accountability litigation, and ambitious regulation at all levels of governance that recognizes the intersectional roots of these challenges.

Mark Twain's observation about truth and fiction is more relevant than ever in these unprecedented times. In a time of global climate crisis that is evident every day in both affluent and vulnerable areas of the country, the fossil fuel and industrial animal agriculture industries are an increasingly significant problem. Not only are they not cooperating to transition away from their harmful activities, but they are also becoming more entrenched, more deceptive, and more determined to maintain the status quo. For example, slaughterhouse conveyor lines in the animal agriculture industry were already gruesomely inhumane, a catastrophic public health and welfare threat, and the likely source of the next zoonotic disease pandemic. And yet in 2019, at a time when these enterprises should be aggressively phased out, the USDA granted the meat industry permission to increase the speed of these slaughterhouse lines, creating an even greater threat to public health, animals, and the workers at these facilities amid a deadly pandemic.[280] Yet the Green New Deal and just transition opportunities in the coming decade present the American public with an expansive opportunity to rewrite this potentially bleak future and close the door on the harm and deception of the dark years of the fossil fuel and animal agriculture industries' impact in this country.

279. *Id*. at 291.

280. *Animal Law Litigation Clinic Files Lawsuit Against USDA*, LEWIS & CLARK L. SCH. (Dec. 18, 2019), *available at* https://perma.cc/3UHX-3QBF.