

ARTICLES

STATE CLIMATE SUPERFUNDS

*Rachel Rothschild**

The harmful effects of climate change have already arrived in cities and states across America, with disasters increasing markedly in recent years along with more gradual environmental changes like sea-level rise and drought. To protect populations and natural resources, significant funding will be necessary for preventative measures as well as disaster response.

At present, it is states and ordinary taxpayers who must shoulder the enormous costs and planning for climate adaptation. A number of state legislators, however, have recently proposed enacting new laws that would require the companies who have most profited from fossil fuel usage to assist in funding climate adaptation projects. Based on prior liability regimes to deal with hazardous waste harms, these “state climate superfunds” aim to address the unfair distribution of climate adaptation costs and provide an essential complement to regulation of future greenhouse gas emissions.

Drawing on historical, economic, and political science literature, this Article examines these novel proposals and the potential constitutional issues with states passing such laws. It argues that the local nature of climate change harms, the historic role states have played in protecting the environment, and the benefits from decentralized policy experimentation support state leadership on climate superfunds. While certain constitutional provisions and doctrines could limit state authority to draft these laws in particular ways, the Article describes how states can design climate superfunds to conform with prior legal precedents and reasonably balance the competing values at stake as we adapt to a warmer world.

INTRODUCTION	586
I. THE CLIMATE CHANGE CHALLENGE FOR STATE GOVERNMENTS.....	596
A. State Financial Burdens From Climate Change	597
B. The State Climate Superfund Concept.....	602
II. A FEDERALIST APPROACH TO CLIMATE ADAPTATION	607

A. A Global Problem With Local Harms	608
B. States' Historic Role in Natural Resource Management and Public Health	615
C. The Benefits of Policy Experimentation	620
III. THE CONSTITUTIONALITY OF STATE CLIMATE LIABILITY LAWS	624
A. Dual Federal and State Authority on Climate Change	627
B. Balancing Local Benefits with Burdens on Commerce	635
C. The Question of Procedural Fairness.....	641
IV. DESIGNING A STATE CLIMATE SUPERFUND	656
A. Responsible Parties.....	657
B. Cost Recovery Demands.....	662
C. The Period of Retroactivity	665
D. Qualifying Expenditures	667
CONCLUSION.....	670

INTRODUCTION

On a summer day in July 2023, the skies over Vermont turned apocalyptic. A massive thunderstorm dumped two months of rainfall over the state in about twenty four hours, leading to flash floods that washed away roads, bridges, and homes.¹ The capital city's water system failed,²

* Assistant Professor, University of Michigan Law School. I want to express my sincere thanks to Nick Bagley, Eric Biber, Sam Bookman, Dan Crane, Michael Gerrard, Don Herzog, Alex Klass, Doug Kysar, Rob Glicksman, Mike Livermore, Nina Mendelson, Anthony Moffa, Julian Mortenson, Bill Novak, Adam Pritchard, Ricky Revesz, Jim Salzman, and Katrina Wyman for their comments on drafts and to participants in workshops at the University of Michigan, University of California, Berkeley, and Pace University's Haub Law School for thoughtful conversations about this Article. Jim and Mike deserve special mention for encouraging me to pursue the project and expressing confidence in its contribution to the field at an early stage of development. For superb research assistance, thanks to Shanthi Chackalackal, Henry Evans, Sumita Ganesh, Haley Rogers, and Kate Wely. The editors at the *Columbia Law Review* have been fantastic partners in shepherding this piece through publication; many thanks to Caroline Mann, who served as my lead Articles Editor, as well as Managing Editors Claire Atkerson, Sam Hernandez, Laurel Kruger, Kenzo Okazaki, and Angela Zhao, Editor-in-Chief Adam Burns, and Executive Managing Editor Margaret Broihier. I am also indebted to the anonymous reviewers who considered the piece before its acceptance.

I wrote this article at a moment when legal academics and lawyers who specialize in climate law have faced targeted attacks for their work. I have not been immune from such harassment, and while this is not the place to recount my experiences, I want to thank those who helped ensure that I was able to finish this article in the face of considerable personal challenges because of my research on state climate superfunds. I am forever grateful to attorneys Lauren Kurtz, Chris Marchesano, and Jacob Metz-Lerman at the Climate Science Legal Defense Fund and to attorney Sarah Prescott, who served as my extraordinary legal team. I deeply appreciate all the law professors and lawyers—too many to name here—who helped me navigate the situation over the past two years, as well as

thousands of people lost their homes and businesses,³ hundreds of citizens required rescue,⁴ and the state narrowly avoided a dam breach that would have closed multiple evacuation routes and threatened severe damage and loss of life.⁵ As it was, the recovery process took many months and cost hundreds of millions of dollars, with devastating effects on families and businesses.⁶ One woman and her two children lived without walls or floors for months in the aftermath of the flood; despite spending \$40,000 from her savings to try to rebuild their farmhouse, she and her children feared they could not salvage the property and would lose their home.⁷ While the federal government provided a considerable amount of funding to assist with the recovery, Vermont was on the hook for \$153 million—an enormous sum for one of the smallest states in the nation to rebuild from a single storm.⁸ In each of the following two years, on almost exactly the same day, Vermont experienced another episode of catastrophic flash flooding.⁹ The total amount of damage from these extreme weather events has now exceeded \$1 billion.¹⁰

those who spoke out publicly about the harassment I have received. And I cannot adequately express my thanks to colleagues at the University of Michigan Law School who raised funds to help cover my legal bills. I hope one day to pay it all forward.

1. Lyric Li, Brady Dennis, Justine McDaniel, Anumita Kaur & Susan Levine, *Northeast Storms Dump Over 2 Months' Worth of Rain on Vermont: Live Weather Updates*, Wash. Post (July 11, 2023), <https://www.washingtonpost.com/weather/2023/07/11/vermont-flooding-new-york-northeast-rain/> (on file with the *Columbia Law Review*).

2. *Id.*

3. Justine McDaniel & Joanna Slater, *More Than 100 Rescued in Vermont Floods as Search Efforts Continue*, Wash. Post (July 11, 2023), <https://www.washingtonpost.com/climate-environment/2023/07/11/vermont-flood-rescues-officials-brace-rain/> (on file with the *Columbia Law Review*).

4. Peter Banacos, *The Great Vermont Flood of 10–11 July 2023: Preliminary Meteorological Summary*, Nat'l Weather Serv. (Aug. 5, 2023), <https://www.weather.gov/btv/The-Great-Vermont-Flood-of-10-11-July-2023-Preliminary-Meteorological-Summary> [<https://perma.cc/4BMD-MTYV>].

5. See Chloe Mayer, *Vermont Flood Disaster Fears as Officials Warn Wrightsville Dam at Capacity*, Newsweek (July 11, 2023), <https://www.newsweek.com/vermont-floods-wrightsville-dam-warning-capacity-1812160> (on file with the *Columbia Law Review*).

6. Vermont Public Specials, *Montpelier Businesses Face Challenges One Year After Flood* (aired July 9, 2024), <https://www.vermontpublic.org/shows/vermont-public-television-specials/episodes/montpelier-businesses-face-challenges-one-year-after-flood-cf9xvk> (on file with the *Columbia Law Review*) (describing about 140 small businesses in Vermont's capital sustaining more than \$20 million in damages from the flood).

7. Lisa Rathke, *2 Vermont Communities Devastated by Summer Flooding Seek \$3.5M to Elevate Homes for Victims*, Associated Press (Mar. 20, 2024), <https://www.wbur.org/news/2024/03/20/vermont-flooding-housing-crisis-funding> [<https://perma.cc/L3YN-BU5B>].

8. See *Rising Danger: The Cost of Flooding*, St. Vt., https://floodready.vermont.gov/flood_costs (last visited Jan. 19, 2026) [<https://perma.cc/D3E8-D44P>].

9. Pat Bradley, *Vermont Governor Recalls Two Flood Events Exactly One Year Apart and Tours Continuing Recovery Work*, WAMC Ne. Pub. Radio (July 10, 2025), <https://www.wamc.org/news/2025-07-10/vermont-governor-recalls-two-flood-events-exactly-one-year-apart-and-tours-continuing-recovery-work> [<https://perma.cc/P7W3-RW5E>]; Associated Press, *Vermont Communities Face Third Consecutive Summer of Severe Flooding, Damage*

The effects of climate change no longer await Americans in a future world that we might still avoid.¹¹ They have arrived in cities and states across the country just like Vermont.¹² Since the 1970s, U.S. temperatures have risen about two degrees Fahrenheit, resulting in more frequent episodes of severe precipitation, poorer air quality, and greater risk of insect-borne diseases.¹³ Warming in the United States is happening about 60% faster than the rest of the globe, leaving the country more susceptible than other parts of the world to particular climate effects.¹⁴ Even under the most ambitious plans for rapidly reducing greenhouse gas emissions, we cannot avoid some harms from climate change because of warming from past emissions.¹⁵ These effects include more extreme weather events, sea-level rise, coastal erosion, and floods.¹⁶

Extensive, Fox 11 News (July 11, 2025), <https://fox11online.com/news/nation-world/vermont-communities-face-third-consecutive-summer-of-severe-flooding-damage-extensive-burlington-extreme-weather-rain-waterways-national-weather-service-climate-change> (on file with the *Columbia Law Review*).

10. See Bradley, *supra* note 9.

11. See Intergovernmental Panel on Climate Change, Climate Change 2023 Synthesis Report: Summary for Policymakers 23 (2023), https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_SPM.pdf [<https://perma.cc/8QDP-W7DK>] (“Overshooting 1.5°C will result in irreversible adverse impacts on certain ecosystems with low resilience, such as polar, mountain, and coastal ecosystems, impacted by ice-sheet melt, glacier melt, or by accelerating and higher committed sea level rise.”); Press Release, World Meteorological Org., Global Climate Predictions Show Temperatures Expected to Remain at or Near Record Levels in Coming 5 Years (May 26, 2025), <https://wmo.int/news/media-centre/global-climate-predictions-show-temperatures-expected-remain-or-near-record-levels-coming-5-years> [<https://perma.cc/KSSQ-K3ZF>] (explaining that the five-year global average warming between 2025 and 2029 is likely to exceed 1.5 degrees Celsius).

12. Chelsea Harvey, ‘Biggest, Baddest’ Rainfall Events Are Getting Worse, E&E News (July 25, 2025), <https://subscriber.politicopro.com/article/eenews/2025/07/25/biggest-baddest-rainfall-events-are-getting-worse-00471671> [<https://perma.cc/5GT6-XB9T>] (“[H]eavy precipitation events are among the clearest symptoms of climate change Copious studies warn that they’re already happening more often and becoming more intense, and they’ll continue to worsen as global temperatures rise.”).

13. Earth Day: Fastest-Warming Cities and Record Clean Investment, Climate Cent. (Apr. 17, 2024), <https://www.climatecentral.org/climate-matters/earth-day-fastest-warming-cities> [<https://perma.cc/SA43-BVZR>].

14. Wenying Su et al., Climate Trends, in U.S. Glob. Change Rsch. Program, Fifth National Climate Assessment 2-2, 2-4 (Allison R. Crimmins, Christopher W. Avery, David R. Easterling, Kenneth E. Kunkel, Brooke C. Stewart & Thomas K. Maycock eds., 2023), https://toolkit.climate.gov/sites/default/files/2025-07/NCA5_2023_FullReport.pdf (on file with the *Columbia Law Review*); see also Sachi Kitajima Mulkey, Claire Brown & Mira Rojanasakul, The World Is Warming Up. And It’s Happening Faster., N.Y. Times (June 26, 2025), <https://www.nytimes.com/2025/06/26/climate/climate-heat-intensity.html> (on file with the *Columbia Law Review*) (describing how increasing temperatures have corresponded with even “larger increase[s] in atmospheric extremes, like extreme downpours and severe droughts and wildfires” (internal quotation marks omitted) (quoting Daniel Swain, Climate Scientist, Univ. of Ca.)).

15. See Naiming Yuan, Christian L.E. Franzke, Feilin Xiong, Zuntao Fu & Wenjie Dong, The Impact of Long-Term Memory on the Climate Response to Greenhouse Gas Emissions, *Clim. & Atmos. Sci.*, Sep. 12, 2022, at 1 (“[E]ven if no more carbon dioxide were emitted to the

The reelection of President Donald Trump to a second term has only increased the need for Americans to adapt to climate change. The Trump Administration is ending even modest steps to limit greenhouse gas emissions domestically, rolling back climate regulations for power plants and motor vehicles.¹⁷ The President has also begun the process of withdrawing from the Paris Climate Accords, as he did in his first administration,¹⁸ even though the United States is the largest historical emitter of greenhouse gases and remains the largest emitter per capita.¹⁹ The timing of these setbacks in

atmosphere now, or more realistically speaking, if the target of carbon neutralization were achieved, the global temperature may still rise for decades to reach an equilibrium state.”); see also Intergovernmental Panel on Climate Change, Special Report: Global Warming of 1.5 °C, at 51 (2022), https://www.ipcc.ch/site/assets/uploads/sites/2/2022/06/SR15_Full_Report_HR.pdf, [<https://perma.cc/HE93-XZ43>] (explaining that, while it may still be possible to avoid increasing global average temperatures above 1.5 degrees Celsius, we have already exceeded 1 degree warming, and past emissions will likely lead to an additional rise in temperatures and environmental effects like sea-level rise). The reason for this delay is thermal inertia in the planet’s oceans. See Jesse F. Abrams et al., Committed Global Warming Risks Triggering Multiple Climate Tipping Points, *Earth’s Future*, Nov. 2023, at 1, 2. Scientists first identified the possibility of such a delay in the environmental effects of greenhouse gas emissions in the 1980s, should fossil fuel use continue. These scientists included those working for the oil industry. See James E. Hansen et al., Global Warming in the Pipeline, *Oxford Open Climate Change*, Nov. 2, 2023, at 1, 2 (“[T]he danger caused by climate’s delayed response and the need for anticipatory action to alter the course of fossil fuel development was apparent to scientists and the fossil fuel industry 40 years ago.”).

16. While there is some uncertainty regarding the severity of certain climate harms, such as the exact amount of warming that will trigger tipping points like cessation of ocean circulation patterns, at present, there is well-accepted scientific research indicating that we have surpassed the amount of warming that will cause dramatic changes to the planet. For example, recent studies have shown that the melting of the West Antarctic ice sheet is all but certain, which will cause significant sea-level rise and damage to coastal cities. See Kaitlin A. Naughten, Paul R. Holland & Jan De Rydt, Unavoidable Future Increase in West Antarctic Ice-Shelf Melting over the Twenty-First Century, 13 *Nat. Clim. Chang.* 1222, 1223 (2023). Researchers have also documented how ocean warming has intensified recent hurricanes. See, e.g., Daniel M. Gilford, Joseph Giguere & Andrew J. Pershing, Human-Caused Ocean Warming Has Intensified Recent Hurricanes, *Env’t Rsch.*, Nov. 20, 2024, at 1, 16. On the challenges with predicting tipping points like changes to ocean circulation patterns, see Anand Gnanadesikan et al., Tipping Points in Overturning Circulation Mediated by Ocean Mixing and the Configuration and Magnitude of the Hydrological Cycle: A Simple Model, 54 *J. Phys. Oceanogr.* 1389, 1390 (2024).

17. See Rescission of the Greenhouse Gas Endangerment Finding and Motor Vehicle Greenhouse Gas Emission Standards Under the Clean Air Act, 91 Fed. Reg. 7686 (Feb. 18, 2026) (to be codified at 40 C.F.R. pts. 85, 86, 600, 1036, 1037, 1039); Sean Reilly, Trump Admin Advances Climate Reg Overhaul, *E&E News* (July 2, 2025), <https://subscriber.politicopro.com/article/eenews/2025/07/02/trump-admin-advances-overhaul-for-basis-of-climate-rules-cw-00435083> (on file with the *Columbia Law Review*); see also Lisa Friedman, Brad Plumer, Rebecca F. Elliott & Eric Lipton, Trump Signs Orders to Promote Fossil Fuels and End Climate Policies, *N.Y. Times* (Jan. 20, 2025), <https://www.nytimes.com/2025/01/20/climate/trump-emergency-oil-gas.html> (on file with the *Columbia Law Review*).

18. Friedman et al., *supra* note 17.

19. Michon Scott, Does It Matter How Much the United States Reduces Its Carbon Dioxide Emissions If China Doesn’t Do the Same?, *Nat’l Oceanic & Atmospheric Admin.* (Aug. 30, 2023), <https://www.climate.gov/news-features/climate-qa/does-it-matter-how-much-united->

reducing greenhouse gas emissions could not be worse. The United States was already facing a narrow window to avoid serious effects from climate change.²⁰ Even if a new president tries to restart the process of regulating greenhouse gas emissions in 2028, the federal government likely would not be able to implement meaningful federal emissions controls until well into the 2030s because of the plodding nature of the federal regulatory process and lengthy judicial review.²¹ The absence of U.S. leadership on climate reductions may make it difficult to ensure that other countries fulfill their commitments to reduce greenhouse gases.²² All of this indicates that we are headed to a place where a warming world will upend the lives of Americans.²³

Adapting to climate harms will not only require profound changes to our day-to-day experiences—they will cost money. As one example, climate change is intensifying storms, leading to more and more episodes of flash flooding just like Vermont experienced in 2023.²⁴ The National Oceanic and Atmospheric Administration (NOAA) estimates that approximately one third of flood damage between 1995 and 2023 is attributable to climate change, totaling about \$84 billion in 2023 alone.²⁵

states-reduces-its-carbon-dioxide-emissions [https://perma.cc/DE4C-DNJB]; Who Releases the Most Greenhouse Gases?, CFR Educ. (Oct. 10, 2024), https://education.cfr.org/learn/reading/who-releases-most-greenhouse-gases [https://perma.cc/G3AD-DEEE].

20. Brady Dennis, U.N. Report Warns Nations Have ‘Rapidly Narrowing Window’ to Cut Emissions, *Wash. Post* (Sep. 8, 2023), https://www.washingtonpost.com/climate-environment/2023/09/08/un-climate-report-cut-emissions/ (on file with the *Columbia Law Review*); Chris Mooney & Harry Stevens, The U.S. Plan to Avoid Extreme Climate Change Is Running Out of Time, *Wash. Post* (July 18, 2022), https://www.washingtonpost.com/climate-environment/2022/07/18/climate-change-manchin-math/ (on file with the *Columbia Law Review*); Brad Plumer, Raymond Zhong & Lisa Friedman, Time Is Running Out to Avert a Harrowing Future, *Climate Panel Warns*, *N.Y. Times* (Feb. 28, 2022), https://www.nytimes.com/2022/02/28/climate/climate-change-ipcc-un-report.html (on file with the *Columbia Law Review*).

21. See Bethany A. Davis Noll & Richard L. Revesz, Regulation in Transition, 104 *Minn. L. Rev.* 1, 55 (2019) (discussing the long process of agency rulemaking and judicial review).

22. See Kate Abnett & Virginia Furness, Trump’s Paris Climate Exit Will Hit Harder Than in 2017, *Reuters* (Jan. 21, 2025), https://www.reuters.com/world/trumps-paris-climate-exit-will-hit-harder-than-2017-2025-01-21/ (on file with the *Columbia Law Review*) (explaining that U.S. withdrawal will increase the chance of global warming escalating, slow U.S. climate funding internationally, and leave investors struggling to navigate the divergence between European and U.S. green rules).

23. See Alexa K. Jay et al., Overview: Understanding Risks, Impacts, and Responses, in *U.S. Glob. Change Rsch. Program*, supra note 14, at 1-5 to -36.

24. For a recent, tragic example, see Rebecca Hersher & Lauren Sommer, Floods Are Getting More Dangerous Around the Country, *NPR*, https://www.npr.org/2025/07/07/nx-s1-5459755/texas-floods-climate-change [https://perma.cc/A26D-H4MV] (last updated July 15, 2025) (connecting an extreme flooding episode in Texas on July 4, 2025, that killed dozens of people to a trend of increasing extreme rain storms resulting from climate change); see also supra notes 1–10 and accompanying text (discussing Vermont floods).

25. Elizabeth A. Payton et al., Water, in *U.S. Glob. Change Rsch. Program*, supra note 14, at 4-17 fig.4-12.

Yet flooding is only one of many harmful environmental and public health effects that will demand significant financial resources in the coming years. Climate change will also exacerbate numerous other natural disasters, such as wildfires, hurricanes, and heat waves, in addition to the more gradual harms such as sea-level rise, water scarcity, and crop losses.²⁶

Who will pay for the costs of responding to these disasters and environmental changes?²⁷ At present, taxpayers will be solely responsible for shouldering the severe financial burden of climate adaptation even though present and future populations have had a limited role in causing our predicament.²⁸ This inequitable distribution of climate adaptation costs represents a profound economic, ethical, and policy failure.²⁹ As documented by decades of scientific research,³⁰ the combustion of coal, oil, and natural gas over the course of the twentieth and twenty-first centuries is the primary cause of global warming.³¹

26. On the refinement of techniques to attribute individual natural disasters to climate change, see Noah S. Diffenbaugh et al., *Quantifying the Influence of Global Warming on Unprecedented Extreme Climate Events*, 114 PNAS 4881, 4881 (2017). For a review of efforts to quantify the effects of climate on various societal outcomes, including on the economy and public health, see Tamma A. Carleton & Solomon M. Hsiang, *Social and Economic Impacts of Climate*, *Science*, Sep. 9, 2016, at 1, 11 (2016) (“[N]ew empirical measurements suggest that current climatic conditions impose substantial economic and social burdens on modern populations and that future climate change will further increase these ongoing costs considerably.”).

27. Cf. Rebecca Henderson, *Reimagining Capitalism in a World on Fire* 20 (2021) (“Energy is cheap because we don’t pay its full costs.”).

28. On the ethics of placing the burden of climate change on present and future generations, see Richard L. Revesz & Michael A. Livermore, *Retaking Rationality: How Cost-Benefit Analysis Can Better Protect the Environment and Our Health* 101, 107–17 (2008).

29. For the ways in which climate justice concepts have drawn from the environmental justice movement, see David Schlosberg & Lisette B. Collins, *From Environmental to Climate Justice: Climate Change and the Discourse of Environmental Justice*, 5 WIREs Climate Change 359, 362 (2014). The inequitable distribution of climate adaptation costs is also a classic market failure, as companies are able to socialize the harms and costs of their activities while reaping private benefits. See R.H. Coase, *The Problem of Social Cost*, 3 J.L. & Econ. 1, 1–6 (1960) (theorizing that scenarios in which corporations are able to fully externalize their costs without incurring reciprocal costs “would not endure” in a functioning market economy).

30. See Naomi Oreskes, *The Scientific Consensus on Climate Change*, 306 *Science* 1686, 1686 (2004) (noting that, as of 2004, “all major scientific bodies in the United States” were in “scientific consensus on the reality of anthropogenic climate change”).

31. See Intergovernmental Panel on Climate Change, *Climate Change 2022: Mitigation of Climate Change* 231 (2022) (explaining that about 62% of total greenhouse gas emissions from 1850 to 2019 occurred after 1970, with about 42% of total emissions occurring after 1990 and about 17% between 2010 and 2019); see also *id.* at fig.2.7(a) (showing the relative contributions of coal, oil, and gas to carbon dioxide emissions each year from 1850 to 2019, with the bulk of contributions occurring after 1950); Simon Pirani, *Burning Up: A Global History of Fossil Fuel Consumption* 54 (2018) (explaining that the vast majority of fossil fuel use has occurred since 1950 and that, between 1950 and 2000, it increased fivefold); Pierre Friedlingstein et al., *Global Carbon Budget 2020*, 12

Companies that sell these products have netted large profits, with the top twelve firms earning more than \$20 trillion in the last three decades.³² Regulations to curb future emissions will not remedy this extreme imbalance between fossil fuel companies' revenues and the American public's financial burden in paying for climate adaptation.

To address this issue, Vermont passed a first-of-its-kind law in May 2024 that will require fossil fuel companies to help pay for climate adaptation.³³ Called the Climate Superfund Act, it will shift a portion of the state's climate adaptation costs to the companies most culpable for our current crisis.³⁴ Modeled on federal and state laws for hazardous waste, the state climate superfund program could support projects designed to avoid, moderate, or repair damage resulting from past fossil fuel use.³⁵ It is based on a longstanding legal doctrine known as the "polluter pays" principle, which stipulates that the entities responsible for pollution should be financially liable for the resulting harms.³⁶ The Vermont law requires companies to pay a portion of the state's climate change driven spending so long as they are responsible for selling fossil fuels above a specified level. The threshold is high enough

Earth Sys. Sci. Data 3269, 3304 tbl.8 (2020) (illustrating cumulative fossil fuel carbon dioxide emissions since 1750, with the greatest emissions occurring in the period between 1959 and 2019); Leandro Vigna, Johannes Friedrich & Thomas Damassa, *The History of Carbon Dioxide Emissions*, World Res. Inst. (June 3, 2024), <https://www.wri.org/insights/history-carbon-dioxide-emissions> [<https://perma.cc/4L7V-YB5Z>].

32. Carl-Friedrich Schleussner, Marina Andrijevic, Jarmo Kikstra, Richard Heede, Joeri Rogelj, Holly Simpkin & Sylvia Schmidt, *Climate Analytics, Carbon Majors' Trillion Dollar Damages 11* (2023), <https://ca1-clm.edcdn.com/assets/Carbon-majors%E2%80%99-trillion-dollar-damages-final.pdf?v=1700110774> [<https://perma.cc/C72K-Z3RZ>].

33. S. 259, 2023–2024 Gen. Assemb., Reg. Sess. (Vt. 2024).

34. Leah Sarnoff, *Vermont Officially Becomes 1st State to Charge Big Oil for Climate Change Damage*, ABC News (May 30, 2024), <https://abcnews.go.com/US/vermont-bill-charge-big-oil-climate-change-damage/story?id=110148158> [<https://perma.cc/X22S-DHUS>].

35. For an analysis of the ways in which climate adaptation legislation can build on the model of hazardous waste liability laws, see Anthony Moffa, *From Comprehensive Liability to Climate Liability: The Case for a Climate Adaptation Resilience and Liability Act (CARLA)*, 47 *Harv. Env't L. Rev.* 473, 477 (2023) (explaining that the paper will "make the first scholarly case for a Climate Adaptation Resilience and Liability Act," a climate adaptation law, "by comparison to . . . CERCLA," a hazardous waste liability law).

36. Boris N. Mamlyuk, *Analyzing the Polluter Pays Principle through Law and Economics*, 18 *Se. Env't L.J.* 39, 41–42 (2009); see also Jonathan Remy Nash, *Too Much Market?: Conflict Between Tradable Pollution Allowances and the "Polluter Pays" Principle*, 24 *Harv. Env't L. Rev.* 465, 466 (2000) (stating that the polluter pays principle "underlies much of modern environmental law"). The Organisation for Economic Cooperation and Development (OECD) originally developed the polluter pays concept in the early 1970s as a way of avoiding distortions in international trade, as well as addressing the market failure of pollution. See OECD, *The "Polluter-Pays" Principle and the Instruments for Allocating Environmental Costs*, in *The Polluter Pays Principle* 22, 22 (1975), https://www.oecd.org/content/dam/oecd/en/publications/reports/1975/01/the-polluter-pays-principle_g1gh8f8f/9789264044845-en.pdf (on file with the *Columbia Law Review*).

to limit liability to only the largest, most profitable fossil fuel corporations, such as Exxon Mobil and Chevron.

Other states have begun to follow Vermont's lead as they grapple with the effects of global warming. In December 2024, New York's governor signed a similar bill to establish a state climate superfund over two years after state legislators first suggested creating such a program.³⁷ State legislators in nearly a dozen other states have also drafted and introduced similar bills in the last few years as their states face mounting environmental and public health threats from global warming.³⁸ Given the severity of the climate crisis and the failure of numerous federal efforts to adequately address the problem, these state initiatives may become the most significant environmental legislation in a generation.³⁹

This Article examines the development of state climate superfund laws and explores the legal and policy issues raised by such legislation, including the choices states will need to make about how to design these laws and the potential legal challenges they will face. In addition to analyzing the history of similar environmental legislation and litigation over its constitutionality, the Article also draws on the author's

37. H. Claire Brown, *New York Legislators Pass Climate Superfund Bill*, Wall St. J. (June 11, 2024), <https://www.wsj.com/articles/new-york-legislators-pass-climate-superfund-bill-4547b80e> (on file with the *Columbia Law Review*); Hilary Howard, *Hochul Signs Law that Penalizes Companies for Greenhouse Gas Emissions*, N.Y. Times (Dec. 26, 2024), <https://www.nytimes.com/2024/12/26/nyregion/hochul-climate-change-superfund-law.html> (on file with the *Columbia Law Review*); Press Release, Liz Krueger, Krueger, Dinowitz Introduce Nation-Leading Climate Change Superfund Act, N.Y. St. Senate (May 26, 2022), <https://www.nysenate.gov/newsroom/video/liz-krueger/krueger-dinowitz-introduce-nation-leading-climate-change-superfund-act> [<https://perma.cc/BV7H-8EDF>].

38. The list of states is growing and currently includes California, Connecticut, Hawaii, Illinois, Maryland, Massachusetts, New Jersey, Oregon, Rhode Island, Tennessee, and Virginia. See Alex Brown, *Climate Disasters Are on the Rise. These States Want to Make Oil Companies Pay.*, Stateline (Mar. 31, 2025), <https://stateline.org/2025/03/31/climate-disasters-are-on-the-rise-these-states-want-to-make-oil-companies-pay/> (on file with the *Columbia Law Review*); Karen Zraick, *Climate 'Superfund' Bills Spread Nationwide, Despite Legal Battles*, N.Y. Times (Feb. 6, 2026), <https://www.nytimes.com/2026/02/06/climate/climate-superfund-laws-bills.html> (on file with the *Columbia Law Review*).

39. The relative significance of legislation is, of course, subjective. But the only other major contender in the area of environmental law would have been the 2023 Inflation Reduction Act, which sought to use the federal government's spending power to spur clean energy development. Congress and President Trump, however, repealed most of these provisions before they had a chance to make a large difference in reducing greenhouse gas emissions, despite the benefits of the bill going to mostly Republican states and districts. For an analysis of the effects of this repeal, see Jesse D. Jenkins, Jamil Farbes & Ben Haley, *Impacts of the One Big Beautiful Bill on the US Energy Transition—Summary Report 4* (2025), https://zenodo.org/records/15801701/files/REPEAT_OBBB_07-03-25.pdf (on file with the *Columbia Law Review*) (explaining that the repeal will raise greenhouse gas emissions as well as household energy expenses while reducing energy capacity); see also Lisa Friedman, *Repeal of Clean Energy Law Will Mean a Hotter Planet, Scientists Warn*, N.Y. Times (June 20, 2025), <https://www.nytimes.com/2025/06/20/climate/inflation-reduction-act-climate-change-heat.html> (on file with the *Columbia Law Review*).

experience providing legal advice and assistance to states seeking to pass these laws.⁴⁰

Industry groups, notably the American Petroleum Institute and U.S. Chamber of Commerce, have argued that state climate superfunds are unconstitutional on multiple grounds.⁴¹ They are currently suing both Vermont and New York to stop implementation of the laws alongside twenty two Republican state attorneys general.⁴² In an unprecedented step, the Department of Justice (DOJ) has brought a similar lawsuit against Vermont and New York, arguing that the federal government has exclusive authority to address climate change.⁴³ The extraordinary effort to prevent states from enacting these laws makes clear the considerable legal and financial stakes of state climate superfunds. Beyond the implications for balancing federal and state authority over environmental issues, this litigation could have consequences for other horizontal and

40. Since joining the University of Michigan, the author has provided this legal advice completely pro bono. Prior to her professorship, the author worked as a legal fellow at the Institute for Policy Integrity, which received funding from a philanthropic organization—the Rockefeller Family Fund—to provide legal advice about state climate superfund legislation. That grant was \$25,000 and helped to defray a portion of the author’s annual salary as well as administrative overhead.

The author further declares that she has received no funding in connection with this Article and that no environmental organizations or state legislators have provided feedback, input, or oversight of any kind regarding its contents. The views in this Article are the author’s own and should not be taken to represent the position of any state official involved in drafting these laws or organizations advocating for or against their passage.

41. Complaint for Declaratory and Injunctive Relief at 4–7, *Chamber of Com. v. James*, No. 1:25-cv-01738 (S.D.N.Y. filed Feb. 28, 2025), Dkt. No. 1 (arguing that state climate superfunds violate the Due Process Clause of the Fourteenth Amendment, the Takings Clause of the Fifth Amendment, the Commerce clause, and the Eighth Amendment’s prohibition on excessive fines); Complaint for Declaratory and Injunctive Relief at 3–5, *Chamber of Com. v. Moore*, No. 2:24-cv-01513-mkl (D. Vt. filed Dec. 30, 2024), Dkt. No. 1 (same); see also Memorandum in Opposition, *Am. Petroleum Inst., Senate Budget S. 4008 B, Transportation, Economic Development and Environmental Conservation Budget (TED), Part III “Climate Change Superfund Act”* (Mar. 2023) (on file with the *Columbia Law Review*) (same).

42. Complaint for Declaratory and Injunctive Relief, *West Virginia v. James*, No. 1:25-cv-00168-BKS-DJS (N.D.N.Y. filed Feb. 6, 2025), 2025 WL 430926 (filed by the attorneys general of twenty two states). Republican attorneys general subsequently intervened in the ongoing Chamber of Commerce and American Petroleum Institute litigation against Vermont. See Complaint in Intervention for Declaratory and Injunctive Relief, *Chamber of Com. v. Moore*, No. 2:24-cv-01513-mkl (D. Vt. filed May 1, 2025), Dkt. No. 27-2 (filed by attorneys general of twenty four states; Alaska and Indiana joined the Vermont lawsuit and were not originally parties to the New York lawsuit); see also Adam Aton, *Red States Follow Trump’s Fight Against Climate Superfund Law in Vermont*, E&E News (May 2, 2025), <https://www.eenews.net/articles/red-states-follow-trumps-fight-against-climate-superfund-law-in-vermont/> (on file with the *Columbia Law Review*).

43. Adam Aton, *DOJ Sues to Block State ‘Climate Superfunds’*, E&E News (May 2, 2025), <https://subscriber.politicopro.com/article/eenews/2025/05/02/doj-sues-to-block-state-climate-superfunds-00323012> (on file with the *Columbia Law Review*).

vertical federalism disputes.⁴⁴ Should states be able to impose civil penalties on an out-of-state abortion provider if she mails mifepristone into another state?⁴⁵ What about state liability for hackers who obtain private material from someone in another state and share it without consent?⁴⁶ Though answering these questions is outside the scope of this Article, it is worth noting that federalism disputes over state climate superfunds could influence constitutional doctrines governing a wide range of state lawmaking authority.⁴⁷

The Article begins by detailing the growing costs of climate change to states and how these financial challenges have led lawmakers to consider passing climate superfund bills. These legislative initiatives will become even more important in the coming years should President Trump follow through on his threat to significantly reduce or eliminate federal disaster assistance.⁴⁸ Part II provides a historical and theoretical justification for state leadership on climate superfund legislation, including states' longstanding role in protecting their residents and natural resources from external threats as well as the benefits of policy innovation through state experimentation with superfund design. It also argues that climate change, while global in its origins, is inherently a matter of local concern because of its diverse, unequal effects on natural

44. On the emergence of legal scholarship about “horizontal federalism,” see Heather K. Gerken & Ari Holtzblatt, *The Political Safeguards of Horizontal Federalism*, 113 *Mich. L. Rev.* 57, 59–65 (2014) (noting how “courts and scholars have neglected federalism’s horizontal dimensions” and providing a “political-safeguards account for horizontal federalism”). For a discussion of the problem of “fair weather” federalism, see Jonathan H. Adler, *Are Nebraska and Oklahoma Just Fair-Weather Federalists?*, *Wash. Post* (Dec. 19, 2024), <https://www.washingtonpost.com/news/volokh-conspiracy/wp/2014/12/19/are-nebraska-and-oklahoma-just-fair-weather-federalists/> (on file with the *Columbia Law Review*) (“Principled arguments for state autonomy necessarily allow for one state to make policy choices that those in other states may not like.”).

45. See, e.g., Katherine Florey, *Dobbs and the Civil Dimension of Extraterritorial Abortion Regulation*, 98 *N.Y.U. L. Rev.* 485, 488 (2023) (explaining that “few constitutional obstacles” currently exist if states wish to impose civil liability on out-of-state abortion providers).

46. Such information could include business, medical, or personal data. For an example involving personal photos, see Amanda L. Cecil, Note, *Taking Back the Internet: Imposing Civil Liability on Interactive Computer Services in an Attempt to Provide an Adequate Remedy to Victims of Nonconsensual Pornography*, 71 *Wash. & Lee L. Rev.* 2513, 2515 (2014) (describing how a woman in Texas was victimized by a hacker who shared partially nude photos without her consent).

47. See, e.g., Allan Erbsen, *Horizontal Federalism*, 93 *Minn. L. Rev.* 493, 495–96 (2008) (providing a model for analyzing jurisprudence on horizontal federalism issues).

48. Indeed, Project 2025—a blueprint for Trump’s second term—recommended shifting more natural disaster costs to states. See Christopher Flavelle, *Trump Says States Should Manage Disasters and Weighs Shuttering FEMA*, *N.Y. Times* (Jan. 24, 2025), <https://www.nytimes.com/live/2025/01/24/us/los-angeles-wildfires-california> (on file with the *Columbia Law Review*) (citing President Trump’s hiring of the chief architect of Project 2025 as head of OMB, and the President’s statement suggesting that “you want to use your state to fix” problems such as the 2024 California wildfires, and “recommend[ing] that FEMA go away” (internal quotation marks omitted)).

resources and public health. The local nature of the harm further supports state leadership in holding responsible parties accountable.

Fossil fuel companies, Republican attorneys general, and the DOJ have challenged these laws on a number of constitutional grounds, such as claiming that state climate superfunds infringe on companies' due process rights, violate the dormant Commerce Clause, and are preempted by federal legislation.⁴⁹ Part III examines these legal issues and analyzes whether state climate superfunds differ in relevant respects from other environmental legislation that has survived similar constitutional challenges. Part IV concludes by exploring the key decisions states are facing as they draft such legislation, including how to define "responsible parties" liable for cost recovery demands, how to apportion liability among fossil fuel companies, and how to distribute funds among various adaptation projects. It offers economic, ethical, and policy rationales for designing the laws in certain ways and suggests the best options for states to recoup a fair portion of their costs while ensuring these laws stand up to legal scrutiny.

I. THE CLIMATE CHANGE CHALLENGE FOR STATE GOVERNMENTS

Climate change is typically viewed as an international problem that is best addressed through the cooperation of national governments.⁵⁰ Under our federalist system, however, states will have primary responsibility for coping with the resulting environmental effects. This Part explores the financial crisis state governments will face because of climate change expenses, including the costs of adapting infrastructure and recovering from increasingly severe natural disasters.⁵¹ The immense

49. On the embedded normative values in such constitutional disputes, see Robert Post & Reva Siegel, *Roe Rage: Democratic Constitutionalism and Backlash*, 42 Harv. C.R.-C.L. L. Rev. 373, 378 (2007) (explaining that legal interpretation of open-ended provisions "typically involves the expression of national values like equality, liberty, dignity, family, or faith").

50. See, e.g., Steven Cohen, *The Uses and Limits of Global Climate Conferences*, Colum. Climate Sch.: State of the Planet (Dec. 26, 2023), <https://news.climate.columbia.edu/2023/12/26/the-uses-and-limits-of-global-climate-conferences/> [<https://perma.cc/R9XV-P7E9>] (explaining that the "logic behind a global treaty is that climate change is a global problem that can only be addressed through global action"). It is important to note, however, that the failures of international, "top-down" approaches to reducing greenhouse gas emissions have already led to a shift towards more "bottom-up" mechanisms for controlling these pollutants. For a helpful summary of this shift, see *Developments in the Law, Introduction*, 135 Harv. L. Rev. 1524, 1530–33 (2022).

51. Methods to assess how climate change exacerbates economic damage from extreme weather events were first proposed over two decades ago. Since then, there have been significant advances in attributing the costs of natural disasters to climate change. See David J. Frame, Michael F. Wehner, Ilan Noy & Suzanne M. Rosier, *The Economic Costs of Hurricane Harvey Attributable to Climate Change*, 160 *Clim. Change* 271, 272 (2020) (discussing the evolution of climate change attribution and metrics used to evaluate Hurricane Harvey); Geert Jan van Oldenborgh et al., *Pathways and Pitfalls in Extreme Event Attribution*, *Clim. Change*, May 10, 2021, at 1, 2 ("Despite the extreme

burden on state budgets has spurred interest in passing state climate superfund laws to recoup some of these expenses from fossil fuel companies, given that they have socialized the costs of climate change while obtaining large private profits.⁵² Despite significant political polarization on federal climate legislation, there is reason to hope that states can successfully pass climate superfund laws given the clear threat to their budgets, lower partisanship over issues of adaptation funding, and one-party control in many states.⁵³

A. *State Financial Burdens From Climate Change*

States will need to play a significant role in responding to the environmental and public health effects of climate change.⁵⁴ Rising temperatures will increase the number and severity of natural disasters, and when they occur, states are expected to be the first to respond to both the event itself and any financial needs that arise.⁵⁵ In recent years, the United States has experienced an extreme weather event causing over \$1 billion in damages every three weeks, with total expenditures across the country now rising above \$150 billion annually.⁵⁶ These expenses from natural disasters have increased in recent years as average temperatures have risen⁵⁷ and are separate from the costs of transitioning to a cleaner energy economy through emissions reductions.

event attribution branch of climate science only originating in the twenty-first century, there is already a wealth of literature on it.”).

52. The problem of market failures has been a longstanding focus in environmental economics and law. For a helpful overview of the topic as well as a proposal to move towards a rights-based approach to environmental law that would require compensation for harms that could not be addressed through control technology, see E. Donald Elliott & Daniel C. Esty, *The End Environmental Externalities Manifesto: A Rights-Based Foundation for Environmental Law*, 29 N.Y.U. Env't L.J. 505, 517 (2021).

53. For an overview of such state efforts, see Martin Lockman & Emma Shumway, *State “Climate Superfund” Bills: What You Need to Know*, Sabin Ctr. for Climate Change L. (Mar. 14, 2024), <https://blogs.law.columbia.edu/climatechange/2024/03/14/state-climate-superfund-bills-what-you-need-to-know/> [<https://perma.cc/V797-73XV>].

54. See Leo Garcia, *The Cost of Catastrophe: State Budgeting for Natural Disasters*, Nat'l Conf. St. Legislators (Dec. 21, 2022), <https://www.ncsl.org/state-legislatures-news/details/the-cost-of-catastrophe-state-budgeting-for-natural-disasters> (on file with the *Columbia Law Review*) (highlighting the critical role that state governments play in disaster recovery).

55. The Pew Charitable Trs., *How States Pay for Natural Disasters in an Era of Rising Costs* 2 (2020), <https://www.pewtrusts.org/-/media/assets/2020/05/how-states-pay-for-natural-disasters-in-an-era-of-rising-costs.pdf> [<https://perma.cc/4HL2-HMFK>].

56. Elisabeth Buchwald, *Climate Change Is Costing the US \$150 Billion a Year. Here's What That Looks Like*, CNN Bus. (Nov. 30, 2023), <https://www.cnn.com/2023/11/30/economy/what-150-billion-climate-change-damage-looks-like/index.html> [<https://perma.cc/DUN2-NE2B>]; see also Adam B. Smith, *2024: An Active Year of U.S. Billion-Dollar Weather and Climate Disasters*, Nat'l Oceanic Atmospheric Admin. (Jan. 10, 2025), <https://www.climate.gov/news-features/blogs/beyond-data/2024-active-year-us-billion-dollar-weather-and-climate-disasters> [<https://perma.cc/J86T-6JGC>].

57. See Daniel M. Gilford, Andrew Pershing, Benjamin H. Strauss, Karsten Haustein & Friederike E.L. Otto, *A Multi-Method Framework for Global Real-Time Climate*

The financial burden on states from responding to the effects of climate change will only grow in the coming years. For instance, insurers are ending policies in areas prone to disasters like wildfires or hurricanes, leaving residents dependent on state-backed programs.⁵⁸ And states cannot simply turn to the federal government if these costs become unmanageable. The federal government generally assists states with expenses from natural disasters only if their costs rise above a specified threshold;⁵⁹ states are otherwise expected to manage recovery-related expenditures through their own budgets. The growing number of extreme weather events, and their burgeoning costs, has led federal administrators to warn that even current levels of federal assistance are “unsustainable” and states should prepare to shoulder a larger burden of these costs.⁶⁰ As noted above, President Trump has recently indicated that he may reduce or eliminate existing federal natural disaster relief, further straining state capacity to absorb these expenses.⁶¹

In addition to strengthening their ability to cope with immediate, severe natural disasters, states will also need to respond to climate change by investing in adaptation projects that address the more gradual—but still severe—effects of a warming planet. Expensive state and local projects will include modernizing wastewater and drinking facilities,⁶²

Attribution, 8 *Adv. in Stat. Climatol. Meteorol. & Oceanogr.* 135, 136 (2022) (“Climate attribution studies have shown that a host of weather and climate related events . . . have been influenced by anthropogenic climate change since the preindustrial period.”); Smith, *supra* note 56 (explaining that while some of the increase in costs in areas vulnerable to natural disasters can be explained by population growth, human-caused climate change is also playing a role).

58. See Liz Farmer, *Amid Rising Costs, States Scramble to Budget for Natural Disasters*, *Route Fifty* (Feb. 28, 2024), <https://www.route-fifty.com/finance/2024/02/amid-rising-costs-states-scramble-budget-natural-disasters/394544/> [<https://perma.cc/NZM3-9TJR>].

59. Cong. Rsch. Serv., *A Brief Overview of FEMA’s Public Assistance Program 2*, https://www.everycrsreport.com/files/2025-06-11_IF11529_4b342ac0429f675274fda3542b0fb74fbd1741db.pdf [<https://perma.cc/MGR2-W8PR>] (last updated June 11, 2025) (explaining that “generally FEMA recommends the provision of [public assistance] only if the estimated cost of assistance exceeds certain thresholds,” though the President retains discretion to issue such funding). See also *The Pew Charitable Trs.*, *supra* note 55, at 3 (warning that federal policy proposals to raise such thresholds would have serious implications for how states budget for disaster costs). On the potential further downsizing of federal disaster assistance, see Gabe Cohen, *Exclusive: Trump’s FEMA Council to Recommend Dramatic Downsizing and Overhaul—But Not Elimination—of the Agency*, *CNN* (Dec. 10, 2025), <https://www.cnn.com/2025/12/10/politics/fema-council-report-recommend-downsizing-overhaul> (on file with the *Columbia Law Review*) (describing a leaked report from the Trump Administration’s FEMA review council that would raise the bar for states to qualify for aid).

60. *The Pew Charitable Trs.*, *supra* note 55, at 2–3 (quoting then-acting FEMA Administrator Peter Gaynor as warning that “[t]he only way we can survive as a nation . . . is to set aside pre-disaster money and build state and local capacity” (internal quotation marks omitted)).

61. See *supra* note 48 and accompanying text.

62. See, e.g., Thomas P. DiNapoli, *N.Y. St. Comptroller, New York’s Local Governments Adapting to Climate Change: Challenges, Solutions and Costs*, 1–4 (2023),

relocating or raising roads and highways,⁶³ and building sea walls to protect shorelines.⁶⁴ In Florida, the cost of sea walls alone is expected to nearly total the state's annual budget.⁶⁵ Despite their upfront costs, adaptation projects that protect critical infrastructure can save states significant money in the long run. For example, a recent study by the U.S. Chamber of Commerce and Allstate found that each dollar invested in disaster preparation saved communities \$13 in economic impact, damage, and cleanup costs after an event.⁶⁶ While the federal government provided some assistance through recent legislation like the Inflation Reduction Act and Infrastructure Investment and Jobs Act, this support has been nowhere near enough to meet state climate adaptation expenses.⁶⁷ And the current Administration has now issued a freeze on federal funding to states as part of the President's plan to "unleash[] American energy," provoking legal challenges and a potential constitutional crisis over the President's authority to impound funds.⁶⁸

At the same time as states must cope with a growing financial burden from climate change, state and local governments are likely to see their budgets decline because of the problem. For instance, property losses from climate change related flooding and sea-level rise will reduce the available tax base in some states.⁶⁹ Various economic sectors that provide

<https://www.osc.ny.gov/files/local-government/publications/pdf/climate-change-2023.pdf> [https://perma.cc/KKQ8-P8ZH].

63. See, e.g., Lianne Yu, *The Cost of Climate Change in Hawaii*, *Haw. Bus. Mag.* (Sep. 6, 2018), <https://www.hawaiiibusiness.com/cost-of-climate-change/> [https://perma.cc/CT85-KVNN].

64. See, e.g., Ctr. for Climate Integrity & Pay Up Climate Polluters, *Climate Costs in 2040: Florida* (2019), <https://www.climatecosts2040.org/files/state/FL.pdf> [https://perma.cc/PB9V-VREE] (last visited Jan. 19, 2026).

65. See *id.*

66. *The Preparedness Payoff: The Economic Benefits of Investing in Climate Resilience*, U.S. Chamber of Com. 4 (2024), https://www.uschamber.com/assets/documents/USCC_2024_Allstate_Climate_Resiliency_Report.pdf [https://perma.cc/3UQD-K8CN].

67. See Jeff Masters, *The U.S. Is Nowhere Near Ready for Climate Change*, *Yale Climate Connections* (June 25, 2024), <http://yaleclimateconnections.org/2024/06/the-u-s-is-nowhere-near-ready-for-climate-change/> [https://perma.cc/A323-LSE5] ("Despite some recent progress . . . government programs to bolster public infrastructure and move people out of flood zones are drastically underfunded The situation has now reached the point where the government can't possibly make whole all those wiped out by a disaster[.]").

68. Exec. Order No. 14154, 90 Fed. Reg. 8353 (Jan. 29, 2025). See also, e.g., *Request for Emergency Temporary Restraining Order Under Federal Rule of Civil Procedure 65(b) at 31–35*, *New York v. Donald Trump*, No. 1:25-cv-00039-JJM-PAS (D.R.I. filed Jan. 28, 2025), 2025 WL 494371 (arguing that the federal government's efforts to freeze this funding to states is an unconstitutional usurpation of Congress's spending power).

69. See, e.g., Linda Shi, William Butler, Tisha Holmes, Ryan Thomas, Anthony Milordis, Jonathan Ignatowski, Yousuf Mahid & Austin M. Aldag, *Can Florida's Coast Survive Its Reliance on Development?: Fiscal Vulnerability and Funding Woes Under Sea Level Rise*, 90 *J. Am. Plan. Ass'n* 367, 369 (2024); Linda Shi & Andrew M. Varuzzo, *Surging Seas, Rising Fiscal Stress: Exploring Municipal Fiscal Vulnerability to Climate Change*, *Cities*, May 2020, at 1, 3; Union of Concerned Scientists, *Underwater: Rising Seas, Chronic Floods, and the*

much needed revenue for state budgets through sales taxes are also likely to experience significant declines, such as tourism, agriculture, and fisheries.⁷⁰ Many states are already facing budget woes that were temporarily patched through federal funding during the COVID-19 pandemic.⁷¹ Aging populations and decreased immigration will further deepen the coming budgetary crisis, reducing income tax revenue and increasing the need for healthcare spending.⁷² The federal government is facing similar financial risks from climate change and long-term population trends, with the Office of Management and Budget (OMB) recently noting that the federal budget

is directly and substantially at risk from expected lost revenues and increasing expenditures due to climate change damages in coming decades, such as increasing costs from physical damages to our Nation's infrastructure and healthcare expenditures, the instability of certain subsidized insurance programs, growing costs of disaster relief, and accelerating instability that threatens global security.⁷³

Without some type of policy intervention, the financial burden of climate change will fall on individual citizens through a combination of increased state taxes and direct personal expenditures.⁷⁴ California, for instance, is currently facing severe budget shortfalls because of rising inflation and a slowdown in its technology industry.⁷⁵ To ensure that the

Implications for US Coastal Real Estate 3, 13–14 (2018), <https://www.ucs.org/sites/default/files/attach/2018/06/underwater-analysis-full-report.pdf> [<https://perma.cc/PH9N-H5DB>].

70. See U.S. Glob. Change Rsch. Program, Fourth National Climate Assessment 25 (2018) (on file with the *Columbia Law Review*). For a particular example, see Daniel Scott & Robert Steiger, How Climate Change Is Damaging the US Ski Industry, 27 *Current Issues in Tourism* 3891, 3891 (2024).

71. See Josh Goodman, State Budget Problems Spread, The Pew Charitable Trs. (Jan. 9, 2024), <https://pew.org/3TTwA9A> [<https://perma.cc/4D26-ZC7W>] (“Some of the states reporting challenges suffer from chronic budget problems that were temporarily masked by federal assistance during the COVID-19 pandemic—but never went away.”).

72. State spending on healthcare benefits for pension holders is an especially acute strain on budgets. See, e.g., William G. Gale & Aaron Krupkin, Financing State and Local Pension Obligations: Issues and Options, Brookings Inst. (July 19, 2016), <https://www.brookings.edu/articles/financing-state-and-local-pension-obligations-issues-and-options/> [<https://perma.cc/WC6X-6ME3>].

73. OMB, Climate Financial Risk: The Federal Government's Budget Exposure to Financial Risk Due to Climate Change 1 (2024), https://www.whitehouse.gov/wp-content/uploads/2024/03/climate_budget_exposure_fy2025.pdf [<https://perma.cc/5UPD-2249>].

74. See Scott Medintz, Climate Change Could Cost Each American Born Today \$500,000, *Consumer Reps.* (Apr. 16, 2024), <https://www.consumerreports.org/home-garden/climate-change/the-per-person-financial-cost-of-climate-change-a6081217358/> [<https://perma.cc/S7QJ-D7MK>].

75. See Dan Walters, Even California's Iconic Industries Are Cutting Back in This Sluggish Economy, *Cal Matters* (Oct. 31, 2025), <https://calmatters.org/commentary/2025/10/california-sluggish-economy-cutbacks/> [<https://perma.cc/9WBU-WNKH>] (“One of the most troubling aspects of California's wheel-spinning economy is the turmoil in . . . high technology in the San Francisco Bay Area . . .”).

state can continue to fund climate adaptation efforts, state lawmakers are contemplating a ballot initiative to approve \$10 billion in bonds, costing taxpayers more than \$19 billion to pay off.⁷⁶ Meanwhile, homeowners across the United States are assuming more financial risk from natural disasters as insurers increase rates for home and automobile policies⁷⁷ or cease to offer any coverage at all.⁷⁸ As temperatures rise, households will need to spend a growing portion of their budgets on energy costs to cool their homes, a problem that is likely to most seriously harm low-income populations who spend a greater share of their monthly expenses on utilities.⁷⁹ This burden on individuals represents a severe market and ethical failure.⁸⁰ Younger generations will be financially responsible for dealing with environmental and health harms from fossil fuel use, representing a reverse transfer of wealth to the present.⁸¹

76. Adam Beam, California Legislature Votes to Ask Voters for Permission to Borrow \$20 Billion for Climate, Schools, Associated Press (July 3, 2024), <https://apnews.com/article/california-budget-deficit-bonds-climate-schools-348b9d64e0813355620bf26056cf0bba> [<https://perma.cc/LU94-QRRP>] (describing California’s need to “slash spending to cover deficits totaling more than \$78 billion over the past two years as revenues declined amid rising inflation and an economic slowdown in the state’s pivotal technology industry”).

77. See Michael Kolomatsky, As Natural Disasters Get Worse, So Do Home Insurance Premiums, N.Y. Times (Oct. 12, 2023), <https://www.nytimes.com/2023/10/12/realestate/as-natural-disasters-get-worse-so-do-home-insurance-premiums.html> (on file with the *Columbia Law Review*).

78. See Rob Wile & Jasmine Cui, Homeowners in California and Florida Are Running Out of Options to Protect Their Homes, NBC News (June 17, 2023), <https://www.nbcnews.com/business/consumer/homeowners-go-without-insurance-in-states-where-its-too-expensive-rcna88578> [<https://perma.cc/DK38-RF89>].

79. Press Release, U.S. Dep’t of the Treasury, Fact Sheet: The Impact of Climate Change on American Household Finances (Sep. 29, 2023), <https://home.treasury.gov/news/press-releases/jy1775> [<https://perma.cc/D24R-35BS>].

80. See Nicholas Stern, Towards a Carbon Neutral Economy: How Government Should Respond to Market Failures and Market Absence, *J. Gov’t & Econ.*, Summer 2022, at 1, 3–4 (detailing the unequal burden of the adverse impacts of climate change on lower-income populations in particular, implicating “deep issues of values” in climate policy responses). On intergenerational ethics in responding to climate change, see Phoebe C.M. Williams, Ben Marais, David Isaacs & Anne Preisz, Ethical Considerations Regarding the Effects of Climate Change and Planetary Health on Children, 57 *J. Paediatr. & Child Health* 1775, 1775 (2021) (“There is a very real risk that our lack of action to mitigate and adapt to climate change will result in today’s children . . . being the first to have poorer physical and mental health than the generations prior, creating a major ethical dilemma based on intergenerational health inequity.”).

81. Arguments that future economic growth will offset damages from climate change overlook numerous ways that climate change will reduce economic productivity. See Adrien Bilal & Diego R. Känzig, The Macroeconomic Impact of Climate Change: Global vs. Local Temperature 1 (Nat’l Bureau of Econ. Rsch., Working Paper No. 32,450, May 2024) (as revised in Jan. 2026), https://www.nber.org/system/files/working_papers/w32450/w32450.pdf [<https://perma.cc/P3W2-238A>] (estimating that a “permanent 1°C rise in global temperature lowers world GDP by over 20%,” an “order of magnitude larger than previously documented”). On the economic harms that could result from a temperature rise beyond 1.5 degrees Celsius, see Martin C. Hänsel, Moritz A. Drupp, Daniel J.A. Johansson, Frikk Nesje, Christian Azar, Mark C. Freeman, Ben Groom &

B. *The State Climate Superfund Concept*

Concerns about the unfair distribution of costs from climate change have been growing among city and state governments over the past several years.⁸² The desire to ensure fossil fuel companies shoulder some responsibility for damages to natural resources and public health has been a motivating factor behind numerous ongoing state tort suits against major fossil fuel companies. Several cities in New York and California first filed these lawsuits in 2017, and there are now nearly forty such suits underway.⁸³ The causes of action include public nuisance, private nuisance, failure to warn, design defect, trespass, unjust enrichment, deceptive advertising and marketing, consumer fraud, and conspiracy to commit fraud.⁸⁴ The

Thomas Sterner, Climate Economics Support for the UN Climate Targets, 10 Nat. Clim. Chang. 781, 786 (2020) (explaining that “damages from climate change not only hit output but also affect the capital stock and thus growth directly”). On the economic harms that climate change will pose for future populations in particular U.S. states, see Amir Jina, Climate Change & the U.S. Economic Future, Energy Pol’y Inst. 16–17 (2025), https://epic.uchicago.edu/wp-content/uploads/sites/5/2025/05/Climate-Change-the-U.S.-Economic-Future_Policy-Insight.pdf [<https://perma.cc/9XPZ-4W5D>] (outlining the financial damages caused by climate change across U.S. counties). On climate change wealth transfer, see Ann Sanson & Marco Belleomo, Children and Youth in the Climate Crisis, 45 Brit. J. Psych. Bull. 205, 205 (2021) (“[A]lthough predominantly caused by the current generation of adults, the worst consequences will occur during the lifetimes of today’s children and young people”); Wim Thiery et al., Intergenerational Inequities in Exposure to Climate Extremes, 374 Science 158, 159 (2021) (calculating that children born after 2010 will experience a four-fold increase in exposure to extreme weather events because of climate change if average temperatures exceed 1.5 degrees Celsius, a threshold we are about to surpass); David Fickling, The Great Climate Change Wealth Transfer Is Here, Bloomberg (July 9, 2024), <https://www.bloomberg.com/opinion/articles/2024-07-09/the-great-climate-change-wealth-transfer-is-here> (on file with the *Columbia Law Review*).

82. See Polluters Pay: How States Are Filling the Federal Climate Funding Gap in 2025, Nat’l Caucus of Env’t Legislators (Mar. 3, 2025), <https://ncel.net/articles/polluters-pay-how-states-are-filling-the-federal-climate-funding-gap-in-2025/> [<https://perma.cc/EU-E8-CC8J>] (explaining that states have been rethinking how to fund climate programs as taxpayers shoulder more costs from climate change).

83. Columbia University’s Sabin Center for Climate Change keeps an up-to-date catalogue of these lawsuits. See Climate Litigation Database, Sabin Ctr. For Climate Change L., <https://www.climatecasechart.com/search?cpl=category%2FCommon+Law+Claims+%28US%29> (on file with the *Columbia Law Review*) (last visited Mar. 11, 2026).

84. For the earliest lawsuits, see, e.g., First Amended Complaint at 5, *City of Oakland v. BP P.L.C.*, 325 F. Supp. 3d 1017 (N.D. Cal. 2018) (No. 3:17-cv-06011-WHA), Dkt. No. 199 (seeking order to “requir[e] Defendants to abate the global warming-induced . . . nuisance to which they have contributed”); Complaint at 3, *City of New York v. BP P.L.C.*, 325 F. Supp. 3d 466 (S.D.N.Y. 2018) (No. 1:18-cv-00182), 2018 WL 345319 (suing BP, Chevron, ConocoPhillips, Exxon, and Royal Dutch corporation for public nuisance, private nuisance, and trespass); Complaint at ii, *County of San Mateo v. Chevron Corp.*, No. 17-CIV-03222 (Cal. Super. Ct. filed July 17, 2017), 2017 WL 3048970 (bringing claims for public and private nuisance, strict liability for failure to warn and design defect, negligence, negligent failure to warn, and trespass). For more recent complaints, see, e.g., Complaint at 6, *People v. Exxon Mobil Corp.*, No. CGC-23-609134 (Cal. Super. Ct. filed Sep. 15, 2023), 2023 WL 6125050 (requesting defendants be ordered to “abate the massive public nuisance they created, contributed to, and/or assisted in the creation of,” through

defendants have argued that these suits cannot proceed in state court under state law, and the Supreme Court recently granted a certiorari petition to weigh in on these questions.⁸⁵

Amid the yearslong procedural morass in climate litigation,⁸⁶ lawmakers began exploring the possibility of passing legislation that would require fossil fuel companies to shoulder a portion of expenses related to climate adaptation.⁸⁷ Hazardous waste liability laws, first enacted in the 1980s, provided a potential model for how such a program might work.⁸⁸ After citizens faced health threats and property value loss from toxic chemicals on their land, states and the federal government passed legislation that requires responsible parties to directly remediate harm to natural resources or provide financial assistance for such efforts.⁸⁹ To implement these laws, government agencies locate damaged sites, identify the entities whose generation, transportation, use, and/or disposal of toxic chemicals contributed to the harm at the location, and then seek financial compensation to aid in recovery.⁹⁰ A climate superfund could work similarly, imposing fees on companies that are partly responsible for climate damages.⁹¹

The earliest attempts to pass climate superfund laws have emerged in states with solid Democratic majorities in the legislature, which reflects

a grant of “preliminary and permanent equitable relief,” among other remedies); First Amended Complaint at 5, *City of Honolulu v. Sunoco LP*, No. 1CCV-20-0000380 (Haw. Cir. Ct. filed Mar. 22, 2021), 2021 WL 12299817 (commencing action for public and private nuisance, strict liability for failure to warn, negligent failure to warn, and trespass).

85. See Karen Zraick, Supreme Court to Weigh Oil-Industry Effort to End a Major Climate Suit, *N.Y. Times* (Feb. 23, 2026), <https://www.nytimes.com/2026/02/23/climate/supreme-court-boulder-climate-lawsuit.html> (on file with the *Columbia Law Review*). The Supreme Court had previously rejected a similar petition. See Clark Mindock & Nate Raymond, US Supreme Court Rebuffs Exxon, Chevron Appeals in Climate Cases, *Reuters* (Apr. 24, 2023), <https://www.reuters.com/business/energy/us-supreme-court-rebuffs-exxon-chevron-appeals-climate-litigation-2023-04-24/> (on file with the *Columbia Law Review*).

86. See Lesley Clark, Climate Activists End 2023 With Major Court Wins, *E&E News* (Dec. 22, 2023), <https://www.eenews.net/articles/climate-activists-end-2023-with-major-court-wins/> [<https://perma.cc/XAC6-T5BZ>] (“The climate liability lawsuits have been mired in jurisdictional disputes for years.”).

87. See Krueger, *supra* note 37; Adam Aton & Lesley Clark, A Superfund for Climate? These States Are Pushing for It., *E&E News* (Mar. 6, 2024), <https://subscriber.politicopro.com/article/eenews/2024/03/06/a-superfund-for-climate-these-states-are-pushing-for-it-00144605> [<https://perma.cc/5JCU-86AG>].

88. See Moffa, *supra* note 35, at 506.

89. See Jeff Belfiglio, Hazardous Wastes: Preserving the Nuisance Remedy, 33 *Stan. L. Rev.* 675, 675 n.1 (1981) (describing the earliest state and federal legislation to create hazardous waste superfunds).

90. For an explanation of the CERCLA federal Superfund program implementation process, see EPA, The Superfund Enforcement Process: How It Works, <https://www.epa.gov/system/files/documents/2025-07/superfund-enforcement-fact-sheet-2025.pdf> [<https://perma.cc/GQ9F-FSBE>] (last updated July 1, 2025).

91. See Aton & Clark, *supra* note 87.

longstanding political polarization over climate change.⁹² New York legislators introduced the first state “climate superfund” bill in the spring of 2022,⁹³ with legislators in Massachusetts, Maryland, and Vermont following the year thereafter.⁹⁴ California legislators proposed similar legislation in the spring of 2024, with legislators in other Democratically controlled states expressing interest in developing their own versions of the law.⁹⁵ To date, it does not appear that any states with unified Republican control have discussed such legislation or introduced draft bills,⁹⁶ and as noted above, a group of Republican attorneys general have challenged the New York and Vermont laws.⁹⁷ We have thus moved quite far from the early 1990s, when climate change was a largely bipartisan issue.⁹⁸

The political polarization over climate at the national level, however, may not neatly replicate at the state level, particularly when it comes to climate adaptation laws.⁹⁹ Vermont’s version of a climate superfund law

92. Prior to the 1980s, Republican politicians did not consistently take positions on environmental policy that favored business interests over environmental protection. On this earlier history, see James Morton Turner & Andrew C. Isenberg, *The Republican Reversal: Conservatives and the Environment From Nixon to Trump* 29–33 (2018). On the emergence of an alliance between business interests and religious conservatives within the Republican Party, see Heather Cox Richardson, *To Make Men Free: A History of the Republican Party* 289–90 (2014).

93. Krueger, *supra* note 37.

94. Vt. Pub. Int. Rsch. Grp., *Make Big Oil Pay*, *VT Digger* (Oct. 5, 2023), <http://vtdigger.org/2023/10/05/make-big-oil-pay/> [<https://perma.cc/SG3X-3894>].

95. See Nat’l Caucus of Env’t Legislators, *supra* note 82.

96. Indeed, some Republican-led states have moved in the opposite direction, with Florida recently enacting a law that deleted all references to climate change and ended programs designed to promote renewable energy. See Coral Davenport, *DeSantis Signs Law Deleting Climate Change From Florida Policy*, *N.Y. Times* (May 15, 2024), <https://www.nytimes.com/2024/05/15/climate/desantis-climate-change-florida.html> (on file with the *Columbia Law Review*).

97. See *supra* note 42 and accompanying text.

98. Social science researchers have identified several factors contributing to political polarization on climate policies since the 1990s, including: 1) political campaign contributions from fossil fuel companies; 2) the inherent conflict between government intervention to address climate change and libertarian worldviews, which are more common among Republicans; and 3) the disproportionate number of Republican voters that reside in areas of the country with a large amount of fossil fuel company activities. See Matthew G. Burgess, Christian Suarez, Ashley Dancer, Lachlan J. Watkins & Renae E. Marshall, *Climate Change Opinion and Recent Presidential Elections*, *Ctr. for Soc. & Env’t Futures* 6 (2024), <https://static.poder360.com.br/2024/01/C-SEF-climate-pres-election-Jan17-2024.pdf> [<https://perma.cc/KZU7-QK3L>].

99. See Robin Bayes, Daniel Molden & James Druckman, *Support for Climate Change Adaptation Over Climate Change Mitigation Depends on Political Party Identification and How Adaptation Is Framed* 4 (Nw. Inst. for Pol’y Rsch., Working Paper No. WP-25-29, 2025), <https://www.ipr.northwestern.edu/documents/working-papers/2025/wp-25-19.pdf> [<https://perma.cc/8V3L-RBR6>] (“[C]onservative values may not conflict with, and may even promote, adaptation actions [at the state or local level]. While mitigation is a global collective action problem that implies large-scale government

passed with an overwhelming bipartisan supermajority that included state Republican legislators.¹⁰⁰ The state's Republican governor, Phil Scott, opted not to veto the law; while he merely allowed it to go into effect without his signature, his reservations about the legislation had more to do with the coming legal fight over climate superfunds than disagreement about its design or aims.¹⁰¹ In addition, a Republican state senator in Maine cosponsored a state climate superfund bill,¹⁰² and several Republican state attorneys general have not joined the litigation against Vermont and New York.¹⁰³

These hints of bipartisanship around state climate superfunds are striking in light of deepening political polarization over environmental policies and climate change.¹⁰⁴ They provide some reason for hope that

intervention, adaptation can be addressed in a variety of ways with local governance.” (citation omitted) (citing Nives Dolšak & Aseem Prakash, *The Politics of Climate Change Adaptation*, 42 *Ann. Rev. Env't & Res.* 317 (2018)).

100. See Adam Aton, *Vermont Republicans Warm to ‘Climate Superfund’ Bill*, E&E News (Apr. 1, 2024), <https://www.eenews.net/articles/vermont-republicans-warm-to-climate-superfund-bill/> (on file with the *Columbia Law Review*) (describing increasing support among Vermont Republicans for the idea of a state climate superfund, with most Republican dissent premised on concerns about the potential cost of litigating the bill against the oil industry); Dharna Noor, *Vermont Could Be the First State to Bill Oil Firms for Climate Damage*, Mother Jones (May 10, 2024), <https://www.motherjones.com/politics/2024/05/vermont-states-bill-charge-big-oil-industry-climate-damage-reparations-superfund> [<https://perma.cc/6L4A-869J>] (outlining significant bipartisan support for a state climate superfund in the Vermont legislature).

101. Letter from Governor Philip B. Scott to John Bloomer, Sec’y of the Vt. St. Senate (May 30, 2024), <https://governor.vermont.gov/sites/scott/files/documents/S.259%20without%20signature%20letter.pdf> (on file with the *Columbia Law Review*) (“Taking on ‘Big Oil’ should not be taken lightly . . . I’m . . . fearful that if we fail in this legal challenge, it will set precedent and hamper other states’ ability to recover damages.”).

102. S.P. 740, 132d Leg., 1st Spec. Sess. (Me. 2025) (identifying Republican senator Rick Bennett as a cosponsor). The Senator recently changed his party affiliation to independent when he announced his bid to run for governor. See Steve Mistler, *Longtime Republican Lawmaker Rick Bennett Joins Maine Gubernatorial Race as an Independent*, Me. Pub. Radio (June 24, 2025), <https://www.mainepublic.org/politics/2025-06-24/longtime-republican-lawmaker-rick-bennett-joins-maine-gubernatorial-race-as-an-independent> [<https://perma.cc/8CJF-LZX5>].

103. Republican state attorneys general in New Hampshire, Pennsylvania, and Virginia have not joined the lawsuits against Vermont and New York. Interestingly, the Republican attorneys general in New Hampshire and Virginia had previously opted to join a lawsuit against the Biden Administration over its greenhouse gas rule for power plants, which is further evidence that some Republican-led states may not move in lockstep when it comes to state climate adaptation laws. For the current list of Republican attorneys general, see *Meet the AGs, Republican Att’y’s Gen. Ass’n*, <https://republicanags.com/ags/> [<https://perma.cc/8D25-WQNP>] (last visited Jan. 19, 2026). For the initial challenge to the Biden Administration’s greenhouse gas rule for power plants, see *Petitioners’ Motion to Stay at 34, 37, West Virginia v. Env’t Prot. Agency*, No. 24-1120 (D.C. Cir. filed May 13, 2024), 2024 U.S. D.C. Cir. Motions LEXIS 316.

104. See E. Keith Smith, M. Julia Bognar & Adam P. Mayer, *Polarisation of Climate and Environmental Attitudes in the United States, 1973–2022*, *Clim. Action*, Oct. 2024, at 1, 3–4, 7.

local, immediate needs could motivate practical state solutions to the climate crisis.¹⁰⁵ Designed well, liability regimes like state climate superfunds can address Republicans' concerns about the costs of climate policies¹⁰⁶ as well as the desire to minimize government regulation.¹⁰⁷ And because they are expressly tied to community harms and place the burden of compliance on sophisticated corporate entities, state climate superfunds can have considerable fairness and efficiency advantages as policy instruments.¹⁰⁸ They can directly offset some of the costs that individual taxpayers will otherwise need to incur from climate change¹⁰⁹ while avoiding more polarized debates over how to mitigate greenhouse gas emissions.¹¹⁰

105. On the potential for more bipartisan support regarding state climate adaptation initiatives, see Patrick J. Egan & Megan Mullin, *US Partisan Polarization on Climate Change: Can Stalemate Give Way to Opportunity?*, 57 *PS: Pol. Sci. & Pol.* 33–34 (2024) (arguing that climate adaptation projects may be less politically polarized than mitigation projects because politicians do not have to attribute such actions to climate change and “Republican voters ultimately may suffer disproportionately from the climate crisis and therefore stand to benefit more from investments in adaptation”).

106. See Alec Tyson, *On Climate Change, Republicans Are Open to Some Policy Approaches, Even as They Assign the Issue Low Priority*, *Pew Rsch. Ctr.* (July 23, 2021), <https://www.pewresearch.org/short-reads/2021/07/23/on-climate-change-republicans-are-open-to-some-policy-approaches-even-as-they-assign-the-issue-low-priority/> [<https://perma.cc/FBV5-E6T6>] (noting that Republican voters place significant importance on “keeping consumer costs low” when assessing various climate policies); see also Marina Povitkina, Sverker Carlsson Jagers, Simon Matti & Johan Martinsson, *Why Are Carbon Taxes Unfair? Disentangling Public Perceptions of Fairness*, *Glob. Env't Change*, Sep. 2021, at 1, 3 (describing negative public perceptions about using carbon taxes to address climate change because taxes may have disproportionately adverse financial effects on individuals who have a greater need to use fossil fuels, such as those who don't live in an area with public transportation and thus require a car).

107. The desire to minimize complex regulations has driven Republican support for a carbon tax. While a state climate superfund is intended to impose retroactive liability and is not forward looking like a carbon tax, it has similar advantages in terms of simplicity. See James A. Baker, III, Henry M. Paulson, Jr., Martin Feldstein, George P. Shultz, Ted Halstead, Thomas Stephenson, N. Gregory Mankiw & Rob Walton, *The Conservative Case for Carbon Dividends*, *Climate Leadership Council* 1 (2017), <https://clcouncil.org/media/2017/03/The-Conservative-Case-for-Carbon-Dividends.pdf> [<https://perma.cc/D3CQ-V39Y>] (arguing that a carbon tax is the “most efficient and effective way to reduce carbon emissions,” with the additional deregulatory benefit of “phas[ing] out” significant portions of the EPA's regulatory authority).

108. A major criticism of climate policies is their regressive effects on lower-income citizens; by offsetting other costs, state climate superfunds can better ameliorate this issue. For this critique, and the way that distributing funds can remedy the problem, see Zohar Goshen, Assaf Hamdani & Alex Raskolnikov, *Poor ESG: Regressive Effects of Climate Stewardship*, 51 *BYU L. Rev.* (forthcoming 2026), <https://ssrn.com/abstract=4771137> [<https://perma.cc/2HQX-E9Z8>] (exploring how various government approaches compare in terms of remedying the regressive economic effects of climate policies).

109. See *infra* section IV.D.

110. On partisan polarization over mitigation measures, see Renae Marshall & Matthew G. Burgess, *Advancing Bipartisan Decarbonization Policies: Lessons From State-Level Successes and Failures*, *Clim. Change*, Mar. 31, 2022, at 1, 2, 9–12 (2022) (finding

II. A FEDERALIST APPROACH TO CLIMATE ADAPTATION

Environmental law scholars have spilled a great deal of ink over issues of federalism in pollution regulation, liability laws, and natural resource management.¹¹¹ Indeed, the topic of federalism has been a key focus of the field in the decades since environmental law emerged as a major area of scholarship.¹¹² It can be more efficient, effective, or democratically responsive for one level of government to assume primary responsibility for an environmental problem.¹¹³ But *which* level of government should take the lead on a particular environmental issue is likely to depend on many unique variables, a fact that is reflected in the diversity of approaches within environmental law and the cooperative design of many federal statutes.¹¹⁴

Given the potential benefits and drawbacks of state leadership on climate adaptation,¹¹⁵ it is essential to assess whether states are the right

that while decarbonization bills passed in both Republican- and Democrat-controlled state legislatures, they adopted very different approaches, with Republican-controlled legislatures preferring to incentivize renewables and Democrat-controlled legislatures favoring mandatory standards).

111. It is beyond the scope of this article to summarize these debates; for valuable introductions, see, e.g., Jonathan H. Adler, *Jurisdictional Mismatch in Environmental Federalism*, 14 *NYU. Env't L.J.* 130 (2005) [hereinafter Adler, *Jurisdictional Mismatch*]; Daniel C. Esty, *Revitalizing Environmental Federalism*, 95 *Mich. L. Rev.* 570 (1996); Robert L. Glicksman, *From Cooperative to Inoperative Federalism: The Perverse Mutation of Environmental Law and Policy*, 41 *Wake Forest L. Rev.* 719 (2006); Robert V. Percival, *Environmental Federalism: Historical Roots and Contemporary Models*, 54 *Md. L. Rev.* 1141 (1995); Richard L. Revesz, *Rehabilitating Interstate Competition: Rethinking the "Race-to-the-Bottom" Rationale for Federal Environmental Regulation*, 67 *NYU. L. Rev.* 1210 (1992); Richard L. Revesz, *The Race to the Bottom and Federal Environmental Regulation: A Response To Critics*, 82 *Minn. L. Rev.* 535 (1997); Erin Ryan, *Negotiating Environmental Federalism: Dynamic Federalism as a Strategy for Good Governance*, 2017 *Wis. L. Rev. Forward* 17, 21, <https://wl.law.wisc.edu/wp-content/uploads/sites/1263/2017/10/Ryan-Final.pdf> [<https://perma.cc/LEC5-KZUB>].

112. See, e.g., Richard J. Lazarus, *Environmental Scholarship and the Harvard Difference*, 23 *Harv. Env't L. Rev.* 327, 354 (1999) (identifying federalism as a "persistent topic[]" in environmental law); Robert L. Fischman, *Cooperative Federalism and Natural Resources Law*, 14 *NYU. Env't L.J.* 179, 187–88 (2005) (describing environmental law as having provided "fertile ground for creating variations on the theme of cooperative federalism").

113. Tomas M. Koontz, *Federalism in the Forest: National Versus State Natural Resource Policy* 4 (2002).

114. For works that provide broad theoretical frameworks for thinking about federalism in environmental law, see, e.g., Fischman, *supra* note 112, at 180–81 (offering a "conceptual route" for exploring "how the importation of the narrow pollution control model of the cooperative federalism concept can advance natural resources law"); Sarah Fox, *Localizing Environmental Federalism*, 54 *U.C. Davis L. Rev.* 133, 133, 136 (2020) (presenting a framework called "localized environmental federalism" that recognizes both the "potential for . . . local entities to play a role in fulfilling federalism values," as well as how "[t]he realities of local authority" may limit the "ability of local governments to fulfill those values . . . in certain circumstances").

115. On the ways that the climate problem poses particularly serious challenges for legislative solutions, see Richard J. Lazarus, *Super Wicked Problems and Climate Change: Restraining the Present to Liberate the Future*, 94 *Corn. L. Rev.* 1153, 1160–61 (2009).

level of government to manage climate superfunds. This Part examines the historical precedents and policy rationales for state, rather than federal, leadership on climate superfunds. It argues that the local nature of climate harms, states' historic authority over natural resource management, and the desirability of policy experimentation in an area of new legislation all counsel in favor of state leadership. While this does not mean that a federal approach would be unworkable, it does suggest that there are significant advantages to state management of climate superfunds in ways that bear on the constitutionality of such laws.

A. *A Global Problem With Local Harms*

Since the 1970s, Congress has significantly expanded the federal government's authority in controlling environmental pollution and addressing its harmful effects. Theoretical arguments for federalizing environmental law have included the need to overcome a "race to the bottom" among states,¹¹⁶ prevent interstate externalities,¹¹⁷ provide a minimum level of health and environmental protection,¹¹⁸ and improve efficiency in scientific research and information gathering.¹¹⁹ The vast majority of environmental pollution problems also have transboundary characteristics, even if they appear to be local in origin.¹²⁰ After chemicals are deposited in water, soil, and vegetation, they can undergo reactions that transform them into a gas, allowing for widespread atmospheric circulation and transport.¹²¹ For example, pesticides applied locally to crops may be transported to remote regions of the globe, such as the Antarctic.¹²² Even pollutants that are hugely important to local air

116. See, e.g., Kirsten H. Engel, *State Environmental Standard-Setting: Is There a "Race" and Is It "to the Bottom"?*, 48 *Hastings L.J.* 271, 274 (1997) (describing "the argument that without [federal] regulation, states would engage in a welfare-reducing 'race-to-the-bottom' in environmental standard-setting").

117. See Richard L. Revesz, *Federalism and Interstate Environmental Externalities*, 144 *U. Pa. L. Rev.* 2341, 2361, 2374 (1996) (explaining that a key provision of the federal Clean Air Act was designed to prevent interstate externalities).

118. See Rena I. Steinzor, *Devolution and the Public Health*, 24 *Harv. Env't L. Rev.* 351, 370 (2000) ("[W]hen the states fail to provide a minimal level of protection, their citizens have a legitimate grievance with the national government.").

119. On states' inadequate number of scientific experts at the time Congress passed many of our environmental laws, see Richard B. Stewart, *Pyramids of Sacrifice? Problems of Federalism in Mandating State Implementation of National Environmental Policy*, 86 *Yale L.J.* 1196, 1201 (1977).

120. See David A. Keiser, Sheila M. Olmstead, Kevin J. Boyle, Victor B. Flatt, Bonnie L. Keeler, Catherine L. Kling, Daniel J. Phaneuf, Joseph S. Shapiro & Jay P. Shimshack, *A Water Rule That Turns a Blind Eye to Transboundary Pollution*, 372 *Science* 241, 241–42 (2021) (explaining that local decisions about wetlands can have significant implications for transboundary water pollution).

121. See Frank Wania & Donald Mackay, *Global Fractionation and Cold Condensation of Low Volatility Organochlorine Compounds in Polar Regions*, 22 *Ambio* 10, 15–16 (1993).

122. Scientists discovered the possibility of this transport in the 1960s. See J.L. George & D.E.H. Frear, *Pesticides in the Antarctic*, 3 *J. Appl. Ecol.* 155, 163 (1966); Irston R.

quality have global transport patterns. For example, a large proportion of pollutants responsible for smog over cities in the western United States originates in China, an ocean away.¹²³

On the other hand, decentralizing environmental policy may better maximize general welfare and respect state autonomy over local environments,¹²⁴ especially if states prefer different levels of environmental protection.¹²⁵ For instance, wetlands are connected hydrologically to watersheds that span entire regions.¹²⁶ Yet many states prefer to maintain primary authority over these natural resources so that they may strike different balances between environmental benefits from preserving wetlands, such as flood control, and costs to industry from state protections.¹²⁷

Because arguments for or against federalization of environmental law depend on a number of factors, whether it makes sense for states or the federal government to have primary responsibility for environmental protection is likely to vary over time and to depend on the type of environmental problem.¹²⁸ In the case of climate change, the fact that greenhouse gases are emitted all over the world has led to a focus on

Barnes, Antarctic Traces Show DDT Threat, Wash. Post, Oct. 23, 1966, at L11 (on file with the *Columbia Law Review*).

123. Jintai Lin, Da Pan, Steven J. Davis, Qiang Zhang, Kebin He, Can Wang, David G. Streets, Donald J. Wuebbles & Dabo Guan, China's International Trade and Air Pollution in the United States, 111 PNAS 1736, 1739 (2014).

124. See Adler, Jurisdictional Mismatch, *supra* note 111, at 136 ("Ecological systems vary tremendously from one place to the next.").

125. Richard L. Revesz & Robert N. Stavins, Environmental Law, *in* Handbook of Law and Economics 499, 565 (A. Mitchell Polinsky & Steven Shavell eds., 2007) (noting that "in a large and diverse country, different regions will likely have different environmental preferences").

126. See Jessica A. Balerna, Andrew M. Kramer, Shawn M. Landry, Mark C. Rains & David B. Lewis, Wetland Hydrological Change and Recovery Across Three Decades of Shifting Groundwater Management, *J. Hydrol.*, Nov. 2024, at 1, 2 ("Wetlands are often hydrologically linked across regional wetlandscapes . . .").

127. See Alex Brown, As Feds Stand Down, States Choose Between Wetlands Protections or Rollbacks, *Stateline* (Mar. 20, 2024), <https://stateline.org/2024/03/20/as-feds-stand-down-states-choose-between-wetlands-protections-or-rollbacks/> (on file with the *Columbia Law Review*) (describing different state approaches to wetlands regulation); see also Amy Oliver Cooke, Energy Policy Belongs to the States, Not Just Washington, *Governing* (Sep. 15, 2025), <https://www.governing.com/resilience/energy-policy-belongs-to-the-states-not-just-washington> [<https://perma.cc/4YBU-UCAW>] (arguing that states may be "best positioned to balance environmental goals with the practical realities of keeping the lights on").

128. See William W. Buzbee, Contextual Environmental Federalism, 14 *NYU. Env't L. J.* 108, 112–13 (2005) ("Environmental problems and regulatory responses must be examined with attention to their historical context, their political environment, and realities of what really are, at most, regulatory propensities and incentives."); Daniel L. Millimet, Environmental Federalism: A Survey of the Empirical Literature, 64 *Case W. Rsr. L. Rev.* 1669, 1676 (2014) (noting that evaluating the "optimal level of government authority at which to assign environmental authority depends on . . . one's definition of optimal").

national and international mechanisms for reducing greenhouse gas emissions. Some scholars have even suggested that piecemeal, incremental attempts to reduce emissions at the local or state level could harm efforts to comprehensively address climate change.¹²⁹

Yet whether to define a given pollution problem as “local” or “global” is a socially constructed determination that is not answered by science alone.¹³⁰ Even if they are released locally, many pollutants have global cycles and are subsequently transported all around the planet.¹³¹ Pesticides were one of the earliest identified examples of this phenomenon,¹³² and there are overlapping local, state, national, and global legal regimes to address their harms.¹³³ Likewise, the local air quality of individual American states may be determined by foreign emissions.¹³⁴ Labelling an environmental threat as either local or global is therefore likely to be an oversimplification; instead, it is more helpful to think about them as existing on a spectrum from the local to the global. And different aspects of a pollution problem—release, transport, damage—may be better addressed at different points along that spectrum.

Turning to the issue of climate change, there are strong arguments in favor of a national program to reduce greenhouse gas emissions given the

129. See Cary Coglianese & Jocelyn D’Ambrosio, *Policymaking Under Pressure: The Perils of Incremental Responses to Climate Change*, 40 *Conn. L. Rev.* 1411, 1415 (2008) (arguing that “uncoordinated policy developments . . . may well be worse than making no legal change at all until a well-considered and comprehensive global (or at least national) strategy on climate change can be forged”).

130. See Rachel Emma Rothschild, *Poisonous Skies: Acid Rain and the Globalization of Pollution* 18–23 (2019) [hereinafter Rothschild, *Poisonous Skies*] (describing the emergence of new conceptions of environmental problems as having global aspects).

131. On the global transport of many toxic pollutants, see generally Derek C.G. Muir & Philip H. Howard, *Are There Other Persistent Organic Pollutants? A Challenge for Environmental Chemists*, 40 *Env’t Sci. Tech.* 7157 (2006).

132. See J. O’G. Tatton & J.H.A. Ruzicka, *Organochlorine Pesticides in Antarctica*, 215 *Nature* 346, 346 (1967) (describing the 1965 discovery of pesticides from thousands of kilometers away in fish samples from Antarctica).

133. Compare Catherine Janasie, *State and Local Regulation of Pesticides: What Does FIFRA Allow?*, *Sea Grant L. Ctr.* 4–5 (2019), <https://nsglc.olemiss.edu/projects/ag-food-law/files/regulation-of-pesticides.pdf> [<https://perma.cc/9UTQ-DD47>] (explaining the limits of state and local authority to regulate pesticides under FIFRA, the Federal Insecticide, Fungicide, and Rodenticide Act), with UN Env’t Programme, *Stockholm Convention on Persistent Organic Pollutants* 5–6 (2025), <https://www.pops.int/Portals/0/download.aspx?e=UNEP-POPS-COP-CONVTEXT-2025.English.pdf> [<https://perma.cc/T949-FMBU>] (establishing an international framework to regulate pesticides); see also *Persistent Organic Pollutants (POPs) and Pesticides*, UN Env’t Programme, <https://www.unep.org/cep/persistent-organic-pollutants-pops-and-pesticides> (on file with the *Columbia Law Review*) (detailing international agreements in addition to the Stockholm Convention to curtail the global circulation of pesticides).

134. For an example of the phenomenon of foreign pollution emissions influencing state air quality, see Lin et al., *supra* note 123, at 1739.

need to cooperate internationally on the problem.¹³⁵ But regardless of one's views on the right level of government to implement emission reductions, climate superfunds present a different set of federalism issues because they are intended to address *local* harms to natural resources and public health.¹³⁶ While a carbon dioxide molecule emitted anywhere in the world will have an equal effect on atmospheric concentrations,¹³⁷ it is decidedly not the case that the resulting damage will be the same regardless of location. Research on the environmental effects of climate change has indicated that they are “distributed highly unequally” across the United States and dependent on local ecological and geological factors.¹³⁸ For example, states with longer coastlines and areas of low elevation—notably, South Carolina, Louisiana, and Florida—face greater threats from rising sea levels.¹³⁹ The harm from climate change will also vary across the country given the diversity in state reliance on natural resources for economic growth. A state like Maine that is heavily dependent on its natural resources for two major pillars of its economy—lobster fishing¹⁴⁰ and tourism¹⁴¹—is going to be affected differently from Washington State, which is a hub of information and communication technology and less dependent on its natural resources for economic stability and growth.¹⁴²

135. See Jonathan B. Wiener, *Think Globally, Act Globally: The Limits of Local Climate Policies*, 155 U. Pa. L. Rev. 1961, 1964 (2007) (“‘[T]hink globally, act locally’ is not such good advice for protecting global public goods when the externalities arise from widespread and geographically moveable sources, and when local action would have a trivial effect or would merely shift those sources to other locales . . .”). But see Gavin Mouat, Christopher Galik, Aranya Venkatesh, Katherine Jordan, Aditya Sinha, Paulina Jaramillo & Jeremiah X. Johnson, *State-Led Climate Action Can Cut Emissions at Near-Federal Costs but Favors Different Technologies*, *Nature Commc'ns*, May 19, 2025, at 1, 10 (examining state-led emission reduction scenarios instead of a federal approach and finding that “we may be able to reach the same emissions ends through vastly different means, at similar costs”).

136. See *Climate Impacts on Society*, EPA, https://19january2017snapshot.epa.gov/climate-impacts/climate-impacts-society_.html [<https://perma.cc/7B62-WHQU>] (last updated Dec. 22, 2016) (“Projected climate change will affect certain groups of people more than others, depending on where they live and their ability to cope with different climate hazards.”).

137. See Kirsten H. Engel, *Mitigating Global Climate Change in the United States: A Regional Approach*, 14 N.Y.U. Env't L.J. 54, 83 n.100 (2005).

138. See Solomon Hsiang et al., *Estimating Economic Damage From Climate Change in the United States*, 356 *Science* 1362, 1363–64 (2017) (finding that increased temperature has varying effects on mortality, violent crime rates, cyclone intensification, and mean sea-level rise in different counties).

139. *Id.* at 1364.

140. See Arnault Le Bris, Katherine E. Mills, Richard A. Wahle, Yong Chen, Michael A. Alexander, Andrew J. Allyn, Justin G. Schuetz, James D. Scott & Andrew J. Pershing, *Climate Vulnerability and Resilience in the Most Valuable North American Fishery*, 115 *PNAS* 1831, 1831 (2018).

141. See Julie Harris, *Climate Change Is Taxing Maine's Winter Recreation*, *Piscataquis Observer* (Feb. 26, 2024), <https://observer-me.com/2024/02/26/news/climate-change-is-taxing-maines-winter-recreation/> [<https://perma.cc/6XG5-2EEZ>].

142. *Information & Communication Technology*, Wa. St. Dep't of Com., <https://choosewashingtonstate.com/why-washington/our-key-sectors/ict/> [<https://perma.cc/2H9D->

Another environmental threat—the depletion of the ozone layer—provides a useful contrast to further illustrate this point.¹⁴³ Like climate change, the pollution responsible for causing the harm originates from around the globe. But unlike climate change and other pollution problems, the global atmospheric layer is directly harmed by the release of chemical substances into the air.¹⁴⁴ In the case of climate change, there is no damage to the atmosphere itself that results from the release of greenhouse gases; in fact, scientific research has shown that the planet has experienced much higher levels of carbon dioxide and still sustained life forms.¹⁴⁵ Furthermore, while fully remedying rising emissions will require multilateral coordination, adapting to the resulting environmental changes will instead necessitate a variety of responses attuned to the specific needs of localities. A similarly bifurcated approach occurred in the case of acid rain, which involved multilateral diplomacy to address transboundary emissions in addition to local efforts to protect ecosystems through adaptive programs like adding lime to soils vulnerable to acidification.¹⁴⁶

Moreover, state and local governments have specific interests in damage to the property and natural resources affected by climate change,¹⁴⁷ and they are better equipped to determine where they are likely to suffer the most damages as well as the unique health vulnerabilities of their population. Many state environmental agencies are currently working in concert to develop climate vulnerability assessments and adaptation plans.¹⁴⁸ Furthermore, as detailed in section

3XTT] (last visited Jan. 19, 2026) (noting that the tech industry constituted over one fifth of the state's economy in recent years).

143. For a useful comparison of the ozone depletion and climate issues, see Reiner Grundmann, *Ozone and Climate: Scientific Consensus and Leadership*, 31 *Sci. Tech. & Hum. Values* 73, 74 (2006).

144. This point is not meant to suggest there are no local harms from depletion of the ozone layer, only to note that there is an intermediary harm that is more “global” in nature. On the local harms from ozone depletion in the Antarctic, see A. Douglass et al., *World Meteorological Org., Stratospheric Ozone and Surface Ultraviolet Radiation, in Scientific Assessment of Ozone Depletion: 2010*, at 2.1, 2.31–2.35 (2010), <https://csl.noaa.gov/assessments/ozone/2010/chapters/chapter2.pdf> [<https://perma.cc/Q3XG-A37W>].

145. See Daniel H. Rothman, *Atmospheric Carbon Dioxide Levels for the Last 500 Million Years*, 99 *PNAS* 4167, 4170 (2002) (observing that carbon dioxide levels over the past 500 million years have often been significantly higher than modern levels).

146. See Rothschild, *Poisonous Skies*, *supra* note 130, at 152–54; see also Off. of Tech. Assessment, *OTA-O-204, Acid Rain and Transported Air Pollutants: Implications for Public Policy* 312 (1984) (describing the addition of lime to vulnerable soils as an important stopgap measure until sources sufficiently reduced the pollution causing acid rain).

147. For a history of the doctrine of state *parens patriae* and its connection to state protection of natural resources, see George B. Curtis, *The Checkered Career of Parens Patriae: The State as Parent or Tyrant?*, 25 *DePaul L. Rev.* 895, 907–09 (1976).

148. See, e.g., *New York's Response to Climate Change*, N.Y. Dep't Env't Conservation, <https://dec.ny.gov/environmental-protection/climate-change/new-york-response> [<https://perma.cc/6VXU-4DPB>] (last visited Jan. 19, 2026) (“DEC is working . . . to

I.A, state governments are the ones on the hook for the financial costs of responding to natural disasters.¹⁴⁹ Given these hits to their budgets, states are in a better position to assess how to allocate a fund and may be more responsive if changing circumstances or unexpected climate effects require a shift in approach. While it's possible a cooperative federalist approach could work similarly if the federal government provided states sufficient authority over fund distributions, the Trump Administration's recent weaponization of grant funding—and the reluctance of the courts to intervene—strongly counsels against such a model.¹⁵⁰

Policy arguments for federalizing environmental law are also less applicable to liability regimes like climate superfunds. For instance, responsible parties will be large corporations with a national presence, while the public and environmental groups who benefit are diverse and concentrated at the state level.¹⁵¹ This reduces the risk that industry interests could thwart passage of these laws despite broad support among a state's residents.¹⁵² In addition, companies are likely to treat the payments as “one-time fixed costs,” leaving their production and sale of fossil fuels unchanged.¹⁵³ Concerns about state environmental laws

develop climate change vulnerability assessments and climate change adaptation plans [to] . . . help determine how climate change impacts are affecting agency operations . . . [and] identify and adopt strategies and actions to help agencies adapt and build resilience in the face of climate change.”).

149. See *supra* section I.A.

150. See, e.g., *Nat'l Insts. of Health v. Am. Pub. Health Ass'n*, 145 S. Ct. 2658, 2661 (2025) (Barrett, J., concurring) (recounting NIH efforts to terminate grant funding for certain programs related to DEI, gender, race, and COVID-19, and holding that district courts lack jurisdiction to hear challenges to the grant terminations); Nico Portuondo & Kelsey Brugger, *Trump Attack on Green Energy Projects Hits Republican Districts*, E&E News (Oct. 3, 2025), <https://www.eenews.net/articles/trump-attack-on-green-energy-projects-hits-republican-districts/> [<https://perma.cc/JMT8-4WCT>] (describing the Trump Administration's termination of about \$7.56 billion in state energy grants).

151. Local grassroots environmental groups, rather than leading national environmental organizations, took the lead on organizing support for state climate superfund legislation. For instance, the local chapters of the Public Interest Research Group were early supporters of the bills in Vermont and New York. See, e.g., Press Release, NYPIRG, *Climate Change Superfund Act Signed Into Law, NYPIRG Applauds Governor Hochul* (Dec. 26, 2025), https://www.nypirg.org/pubs/202412/Climate_Superfund_News_Release_12-26-24.pdf [<https://perma.cc/Y23E-NZZT>]. Other local environmental organizations, such as the League of Conservation Voters, have spearheaded work on the bills in states like Oregon and Maine. See, e.g., *Want to See How You Can Make Polluters Pay?*, Or. League Conservation Voters (Apr. 8, 2025), <https://www.olcv.org/want-to-see-how-you-can-make-polluters-pay/> [<https://perma.cc/R3YC-HUV5>].

152. For scholarship assessing the public choice theory behind such concerns, see Scott R. Saleska & Kirsten H. Engel, “Facts Are Stubborn Things”: An Empirical Reality Check in the Theoretical Debate Over the Race-to-the-Bottom in State Environmental Standard-Setting, 8 *Corn. J.L. & Pub. Pol'y* 55, 64–65 (1998) (“According to the economic theory of regulation, laws tend to respond to the wants of small, cohesive special interest groups, such as industry, at the expense of the wants of the larger, more diffuse public.”).

153. Peter H. Howard & Minhong Xu, *Enacting the “Polluter Pays” Principle: New York's Climate Change Superfund Act and Its Impact on Gasoline Prices 1* (2022),

influencing market behavior and incentivizing companies to relocate rather than comply, a common rationale for federalizing environmental policy, may therefore be inapposite in the case of climate superfunds.

Perhaps most importantly, enacting climate superfunds at the state level ensures that citizens can seek redress for local environmental damages even if other states wish to protect the fossil fuel industry from liability.¹⁵⁴ Conversely, states that do not wish to create climate superfund programs are not obligated to do so. Different levels of vulnerability to climate change may drive divergent preferences for enacting climate superfunds; we know, for instance, that vulnerability to climate harms varies by geographic region.¹⁵⁵ Differences in support may also vary based on whether states are more or less dependent on the fossil fuel industry for local jobs and economic growth.¹⁵⁶ Some taxpayers may be more willing to assume a greater financial burden in responding to the effects of climate change.¹⁵⁷ Variations in state adoption of climate superfunds will allow states to respond to these local preferences regarding enactment of such laws.¹⁵⁸ It will also avoid the need for federal approval

https://policyintegrity.org/files/publications/Polluter_Pays_Policy_Brief_v2.pdf [<https://perma.cc/4NMA-Z3ZN>]. It appears unlikely that companies could even pass on such costs to consumers given market competition. *Id.*; see also Brief of Economists Joseph E. Stiglitz et al. as Amici Curiae at 11, *Chamber of Com. v. Moore*, No. 2:24-cv-01513-mkl (D. Vt. filed Aug. 26, 2025), 2025 WL 4109242.

154. See Letter from Mike Hilgers, Neb. Att’y Gen., et al. to Pamela Bondi, Att’y Gen., DOJ 3 (June 12, 2025), <https://www.ag.ky.gov/Press%20Release%20Attachments/Letter%20to%20Dep%27t%20of%20Justice%20on%20Energy%20Actions%20%28corrected%29.pdf> [<https://perma.cc/U63D-55RZ>] (noting that the fossil fuel industry generates substantial tax revenue to their states and that state climate superfunds are harming “the interests of our citizens in a strong American energy industry”); see also Jonathan R. Macey, *Federal Deference to Local Regulators and the Economic Theory of Regulation: Toward a Public-Choice Explanation of Federalism*, 76 *Va. L. Rev.* 265, 275, 281 (1990) (describing how patterns of interest group activities differ from state to state and discussing how a state-by-state approach to a problem can account for such a variety in views).

155. See Adam Kamins, *The Impact of Climate Change on U.S. Subnational Economies*, Moody’s Analytics (Jan. 2023), <https://www.economy.com/home/products/samples/climate-change-methodology.pdf> [<https://perma.cc/E3UJ-9BCU>] (describing variation in the degree of environmental vulnerability to climate change across the United States). But see Ratna K. Shrestha, *Red Versus Blue States: Inequality in Energy-Related CO₂ Emissions in the United States (1997–2021)*, *J. Cleaner Prod.*, Aug. 25, 2024, at 1, 8 (finding that states that lean Democratic have made greater reductions in their own state greenhouse gas emissions, such as through renewable portfolio standards, compared to Republican-led states).

156. See Kamins, *supra* note 155 (describing variation in the importance of the fossil fuel industry among different states).

157. In recent years, however, this has not generally been true among Republican-led states, which have relied more on federal disaster funding than Democratic-led states. See Seth Borenstein, *Who Gets More Disaster Aid? Republican States. Experts Explain That and More About FEMA*, Associated Press (Feb. 3, 2025), <https://apnews.com/article/federal-disaster-aid-fema-wildfire-hurricane-money-84e1db303b8abead10a26b95392cd980> [<https://perma.cc/RNJ9-9QSW>].

158. See *Nat’l Fed’n of Indep. Bus. v. Sebelius*, 567 U.S. 519, 536 (2012) (“Because the police power is controlled by 50 different States instead of one national sovereign, the

and oversight, which has proven so cumbersome for current federal disaster programs that some states have simply opted not to spend hundreds of millions in allocated funding.¹⁵⁹

B. *States' Historic Role in Natural Resource Management and Public Health*

Historians and legal scholars have levied well-founded criticisms against the use of history to determine constitutional meaning, including that originalist scholars have employed inconsistent approaches to evaluating historical evidence and displayed a lack of rigor in such scholarship.¹⁶⁰ Despite these problems with turning to “history and tradition” to interpret the Constitution, many members of the academy and the judiciary look to historical practices for insights when assessing the proper scope of government power.¹⁶¹ Furthermore, regardless of whether one agrees with using “history and tradition” as a method to interpret the meaning of specific language in the Constitution, historical evidence can provide valuable guidance about whether certain institutional designs are likely to be successful in addressing societal problems.¹⁶²

facets of governing that touch on citizens' daily lives are normally administered by smaller governments closer to the governed.”).

159. See Thomas Frank & Mike Lee, Texas Failed to Spend Federal Aid for Disaster Protection, E&E News (July 14, 2025), <https://www.eenews.net/articles/texas-failed-to-spend-federal-aid-for-disaster-protection/> [<https://perma.cc/CN2B-Q3A9>] (describing the burdensome process of applying for approval of FEMA grant-funded projects, requiring states to submit “detailed plans showing that a project is feasible, complies with environmental and preservation laws and makes sense financially”).

160. See, e.g., Jonathan Gienapp, Against Constitutional Originalism: A Historical Critique 2 (2024) (arguing that originalists “distort the very history from which they derive authority” and that it is “past time to confront originalism’s use and abuses of history”); Reva B. Siegel, The History of History and Tradition: The Roots of *Dobbs’s* Method (and Originalism) in the Defense of Segregation, 133 Yale L.J. Forum 99, 107 (2023), https://yalelawjournal.org/pdf/SiegelYLFForumEssay_8o3f7k4v.pdf [<https://perma.cc/6L6D-UTJH>] (contending that the current Roberts Court’s “originalism and *Dobbs’s* history-and-tradition method grew out of resistance to *Brown* and backlash to decisions of the Warren and Burger Courts”).

161. See, e.g., *Dobbs v. Jackson Women’s Health Org.*, 142 S. Ct. 2228, 2246–47 (2022) (“[G]uided by the history and tradition that map the essential components of our Nation’s concept of ordered liberty, we must ask what the *Fourteenth Amendment* means by the term “liberty.” . . . [T]he clear answer is that the Fourteenth Amendment does not protect the right to an abortion.” (emphasis in original)); *N.Y. State Rifle & Pistol Ass’n v. Bruen*, 142 S. Ct. 2111, 2128–30 (2022) (“[T]he standard for applying the Second Amendment is as follows: When the Second Amendment’s plain text covers an individual’s conduct, the Constitution presumptively protects that conduct. The government must then justify its regulation by demonstrating that it is consistent with the Nation’s historical tradition of firearm regulation.”); Johnathan O’Neill, Originalism in American Law and Politics: A Constitutional History 205–16 (2005); Thomas B. Colby, The Sacrifice of the New Originalism, 99 Geo. L.J. 713, 720–24 (2011); Gary Lawson & Guy Seidman, Originalism as a Legal Enterprise, 23 Const. Comment. 47, 48 (2006).

162. See Jared Diamond & James A. Robinson, Prologue, in *Natural Experiments of History* 2–7 (Jared Diamond & James A. Robinson, eds. 2012) (arguing for the value of

It is therefore worth asking what historical practices can tell us about states enacting climate superfund legislation instead of the federal government. To what degree have states historically taken responsibility for addressing environmental harms? Can we analogize from these past efforts to climate change, or is the problem too different in important ways? And should it matter that this legislation is focused on creating liability for harms to state natural resources and public health, rather than regulating emissions?

As detailed below, there is considerable historical precedent for states to enact laws that create liability for activities that damage the local environment. States have long had primary responsibility for managing natural resources within their borders and protecting their residents from threats to their health.¹⁶³ While climate change emissions are a global phenomenon that states cannot solve by themselves, as noted above,¹⁶⁴ the type of harm is local. In this sense, it is similar to other historic threats to public health like global diseases that states have addressed through various legislative acts.¹⁶⁵ Furthermore, state authority to impose liability for damages to natural resources draws on longstanding doctrines of common law nuisance that date back to the twelfth century in England.¹⁶⁶ State climate superfunds are thus employing one of the oldest mechanisms of the law—liability for a harm caused—in order to protect citizens and resources. It is one of the most important roles and functions of the states, not solely a responsibility of the federal government.¹⁶⁷

historical methods for assessing the causes and consequences of societal change); Rothschild, *Poisonous Skies*, supra note 130, at 6 (making the case for the value of history in tackling environmental problems of the present).

163. On the history of nineteenth-century laws concerning public welfare, including state regulations to protect health, safety, and property, see William J. Novak, *The People's Welfare: Law and Regulation in Nineteenth-Century America* 3–6, 67, 192–228 (1996). On the importance of state police power, even under a robust dormant Commerce Clause framework, see Barry Friedman & Daniel T. Deacon, *A Course Unbroken: The Constitutional Legitimacy of the Dormant Commerce Clause*, 97 *Va. L. Rev.* 1877, 1928–29 (2011).

164. See supra notes 130–146 and accompanying text.

165. See, e.g., *Gibbons v. Ogden*, 22 U.S. (9 Wheat.) 1, 116, 186 (1824) (discussing a 1797 Massachusetts law that fined travelers that “pass from such infected places” and a 1799 law fining operators of vessels that violated quarantine laws). On the relationship between early state laws addressing “public welfare,” such as quarantine laws, and judicial understandings of state “police power,” see W.G. Hastings, *The Development of Law as Illustrated by the Decisions Relating to the Police Power of the State* 10–36 (1900).

166. See Linda S. Mullenix, *Historical Context of Private and Public Nuisance at Law and Equity*, in *Public Nuisance: The New Mass Tort Frontier* 8–25 (2023) (describing the evolution of American public nuisance law as premised on the English common law system); Novak, supra note 163, at 221–28.

167. On the long history of public welfare laws in the nineteenth century, see Novak, supra note 163, at 192–217. Historical support for state authority to regulate greenhouse gas emissions is more limited given the global nature of the pollutant. There are, however, strong arguments for pursuing both state and federal programs to reduce greenhouse gas

From the earliest colonial period, states engaged in natural resource and public health management to protect their populations. Long before scientists understood the concept of environmental pollution and its harms, states empowered health departments to address “filth” that might “endanger” the public.¹⁶⁸ Those who created the problem were responsible for the costs of abating this “filth.”¹⁶⁹ States similarly imposed financial penalties on those who engaged in activities that might threaten public health. For example, in the early nineteenth century, numerous states enacted laws that fined those engaging in activities that could spread infectious disease to their states; these laws typically levied fees on those bringing disease from outside the jurisdiction.¹⁷⁰

As industrial activity expanded over the course of the nineteenth century, states increased their involvement in pollution control and public health protections. New England states took the lead in passing laws to address depleted natural resources like the Connecticut River, which had become so polluted by the 1860s that it was deemed unfit to drink.¹⁷¹ Waste products and the resulting environmental damage were a particular focus of new state and local environmental laws in the late nineteenth and early twentieth century.¹⁷² The scale of the issue was unlike anything governments had addressed since the colonial period; during one year alone, New York City removed fifteen thousand dead horse carcasses that had been simply abandoned on the city’s streets.¹⁷³

This expansion of state legislative efforts into areas that more closely resemble modern environmental damage was an outgrowth of nuisance

emissions. See William W. Buzbee, *Federalism Hedging, Entrenchment, and the Climate Challenge*, 2017 *Wis. L. Rev.* 1037, 1093 (arguing that state policies are necessary to hedge against federal regulatory failure).

168. Henry G. Pickering, *Digest of American Sanitary Law*, in Henry I. Bowditch, *Public Hygiene in America: Being the Centennial Discourse Delivered Before the International Medical Congress, Philadelphia, September, 1876*, at 299, 344 (Boston, Little, Brown & Co. 1877) (describing one such early nineteenth-century law in Maine); see also *id.* at 352 (describing a mid-nineteenth-century Massachusetts law that imposed financial penalties on those who did not abate a nuisance); *id.* at 409–10 (describing a mid-nineteenth-century Ohio law that imposed financial penalties on those who did not abate a nuisance). Some states left the penalty amount to be determined, while others specified an amount, such as \$200. Compare *id.* at 303–04 (imposing a penalty “not less than \$200” on the master of a vessel for failing to comply with town quarantine regulations under Alabama law) with *id.* at 325 (“Act of 1865 provides penalty for bringing . . . into State [of Illinois] any sheep infected with contagious disease . . .”).

169. *Id.* at 344.

170. See *id.* at 303–04, 316–18, 348–51, 366 (providing examples of such laws from Alabama, Delaware, Maryland, Massachusetts, and Virginia).

171. See John T. Cumbler, *Reasonable Use: The People, the Environment, and the State, New England 1790–1930*, at 61 (2001).

172. Martin V. Melosi, *The Sanitary City: Environmental Services in Urban America From Colonial Times to the Present* 113–15 (abr. ed., Univ. Pitt. Press 2008) (2000). On earlier efforts to control refuse and animal manure in cities, see Hendrik Hartog, *Pigs and Positivism*, 1985 *Wis. L. Rev.* 899, 901–08.

173. Melosi, *supra* note 172, at 115.

actions at common law to address the “fouling” of water and air, as well as state authority to prevent the spread of communicable diseases like smallpox.¹⁷⁴ The laws were intended to reduce the harms from “noxious and offensive trades” and gave state boards of health the power to order operators to cease their activities.¹⁷⁵ While partly motivated by the need to ensure the general well-being of the citizenry, these laws also held out the promise of bolstering the state’s economy through extending lifespans and conserving natural resources.¹⁷⁶

At the turn of the twentieth century, states were also the first to address hazardous waste problems of intensive industries, beginning to enact control measures as early as 1905.¹⁷⁷ By 1924, all forty eight states in the contiguous United States had statutes that dealt with industrial waste through regulation of discharges as well as protection of particular natural resources from pollution.¹⁷⁸ These laws had many weaknesses in dealing with the problem—particularly a lack of adequate funding for enforcing them—but they are evidence of states’ historic role in preventing harms to their own natural resources.¹⁷⁹

In addition, long before Congress began passing major federal environmental legislation like the Clean Air and Water Acts in the 1970s, states played an important and often overlooked role in reducing air and water pollution.¹⁸⁰ Given the timing of when scientists identified particular pollutants as responsible for health and environmental harms,

174. See George Derby, General Report of the Board, *in* Massachusetts State Board of Health, Fifth Annual Report of the State Board of Health of Massachusetts 2, 9–10 (Boston, Wright & Potter 1874) (discussing petitions from citizens to the State Board of Health calling on the state to abate the “nuisance” of sewage accumulation in the Miller River caused by the slaughterhouse industry); Edward Jarvis, Political Economy of Health, *in* Massachusetts State Board of Health, Fifth Annual Report of the State Board of Health of Massachusetts, *supra*, at 335, 363–64 (“The government of Massachusetts has been accustomed . . . to take cognizance of public health, and has endeavored to protect the people from some of the causes of injury. The law offers some protection against contagious diseases, small-pox, etc., and also against nuisances, offensive trades, etc. . . .”).

175. *Digest of American Sanitary Law*, *supra* note 168, at 48–49.

176. See Jarvis, *supra* note 174, at 335–44 (estimating the potential losses to economic productivity from premature death due to sickness in the state of Massachusetts).

177. See Craig E. Colten & Peter N. Skinner, *The Road to Love Canal: Managing Industrial Waste Before EPA 72* fig.4.1 (1996).

178. See *id.* at 72–75.

179. See *id.* at 75–77.

180. For discussion of state and local government involvement in environmental regulation prior to broader federal intervention, see Adler, *Jurisdictional Mismatch*, *supra* note 111, at 155; Richard L. Revesz, *Federalism and Environmental Regulation: A Public Choice Analysis*, 115 *Harv. L. Rev.* 553, 568–71, 576–79 (2001) [hereinafter Revesz, *Federalism and Environmental Regulation*]. For an overview of the rapid federal consolidation and expansion of environmental regulation in the twentieth century, see generally Richard Lazarus, *The Making of Environmental Law 67–75* (2003) (outlining the shift in environmental protection efforts from scattered state and local programs to a coordinated federal system in the early 1970s).

states acted rather quickly to try to combat these threats.¹⁸¹ It was only in the late 1950s through mid-1960s that scientists began to identify the specific chemical substances in air pollution, such as sulfur dioxide, using new measurement and testing methods.¹⁸² Early air pollution ordinances in cities and states similarly relied on financial liability as a mechanism for addressing the harm from smoke emissions.¹⁸³ Constitutional challenges to these state laws on the grounds that the Constitution's Fourteenth Amendment protected private businesses from such government intrusion failed.¹⁸⁴ The ordinances resulted in "noticeable improvements" by the early twentieth century, though they were inadequate to fully safeguard the public and the environment from poor air quality.¹⁸⁵ A majority of states also enacted laws to protect water resources by the end of the nineteenth century.¹⁸⁶ Some of these statutes required violators to pay a penalty for discharging "any obnoxious substance" into "any stream of running water or any ditch" in the state.¹⁸⁷

Even after the passage of federal environmental legislation in the 1970s, states maintained authority over pollution problems.¹⁸⁸ Both the

181. See Revesz, *Federalism and Environmental Regulation*, supra note 180, at 578–82; see also Rothschild, *Poisonous Skies*, supra note 130, at 13–15 (detailing U.S. state and local responses to early smog disaster investigations). This is not meant to suggest that states were doing a perfectly adequate job, or that there was no need for federal intervention to address environmental pollution problems. For a critique of state effectiveness in the areas of air and water pollution control, see William L. Andreen, *Of Fables and Federalism: A Re-Examination of the Historical Rationale for Federal Environment Regulation*, 42 *Env't L.* 627, 648, 660–66 (2012).

182. See Rothschild, *Poisonous Skies*, supra note 130, at 14–16, 20–21.

183. See David Stradling, *Smokestacks and Progressives: Environmentalists, Engineers, and Air Quality in America, 1881–1951*, at 62–66 (2002).

184. See *id.* at 66 (discussing the 1915 Supreme Court case *Northwestern Laundry v. Des Moines*, 239 U.S. 486 (1916), which upheld a municipal ordinance on industrial emissions as a legitimate exercise of the city's police power).

185. *Id.* at 76–77.

186. See Colten & Skinner, supra note 177, at 79. These laws stretched across the contiguous United States, with states from New England to the Southeast, Northwest, and Southwest enacting legislation to protect their waters. *Id.*

187. Mills' Ann. Stat. Colo. § 1376 (1891) (repealed 1967), as reprinted in Edwin B. Goodell, *A Review of Laws Forbidding Pollution of Inland Waters in the United States* 48 (2d ed. 1905), <https://pubs.usgs.gov/wsp/0152/report.pdf> [<https://perma.cc/Q564-AC59>]; accord Conn. Gen. Stat. § 1328 (1902) (amended 1905) (imposing fines and imprisonment for "cast[ing] any filthy or impure substance" into a reservoir that supplies water to "any town, city or borough"), as reprinted in Goodell, supra, at 74; Rev. Stat. Wyo. § 5114 (1899) (codified as amended at Wyo. Stat. Ann. § 35-10-101 (2025)) (making it a misdemeanor to deposit "any offensive matter or substance" in state waterways), as reprinted in Goodell, supra, at 70.

188. For a breakdown of state and federal spending on various environmental programs at the outset of the 1970s, see U.S. Bureau of the Census, U.S. Dep't of Com., *GSS-No. 61, Environmental Quality Control 1–2* (1972). The report contains the second Bureau of the Census survey on the activities of large governmental units in the area of environmental control, including state and local governments. *Id.* at 1–3. It shows that combined state, county, and local government spending on environmental programs was

Clean Air and Clean Water Acts adopt a “cooperative” federalist model that has given states a wide range of responsibilities, such as managing air pollution permits and setting water quality standards.¹⁸⁹ Since climate change has emerged as an environmental concern, states have taken the lead in seeking to reduce emissions that cause the problem. For example, states have created regional cap-and-trade schemes for carbon dioxide pollution that have successfully reduced emissions.¹⁹⁰

There is thus considerable historical evidence supporting the beneficial role of states in protecting their environment and resources from pollution, particularly through the use of liability schemes. Although there is much debate over whether these initiatives would have been adequate by themselves without subsequent federal regulations,¹⁹¹ this history provides support for the value states can add to environmental protection as a general matter and in the area of climate adaptation in particular. Finally, as detailed further in Part III, states’ historic authority over natural resources and public health will be useful for courts wrestling with claims that state climate superfunds are unconstitutional.¹⁹²

C. *The Benefits of Policy Experimentation*

While the notion that states can serve as “laboratories of democracy” has old roots in U.S. law and policy,¹⁹³ scholars have offered several

substantial in these years, and in some cases—such as on water quality programs and solid waste management—equaled or exceeded total federal spending. See *id.* at 21 tbl.1, 31 tbl.11. The federal government did outspend states on air pollution programs, though states still invested about a third of the total federal financial commitment to air quality controls. See *id.* at 40 tbl.20.

189. See Karl Boyd Brooks, *The Shift From Resource Management to Environmental Management (1950s–Present)*, in *Guide to U.S. Environmental Policy* 393, 404 (Sally K. Fairfax & Edmund Russell eds., 2014) (explaining that Congress’s decision to give states primary responsibility for implementing aspects of the Clean Air Act “reflected Congress’s understanding that states and localities had been regulating air pollution for decades”).

190. Harrison Fell & Peter Maniloff, *Leakage in Regional Environmental Policy: The Case of the Regional Greenhouse Gas Initiative*, *J. Env’t Econ. & Mgmt.*, Jan. 2018, at 1, 17 (finding that the Regional Greenhouse Gas Initiative led to “an aggregate reduction of emissions across the regulated and neighboring unregulated regions,” despite some emission increases in unregulated regions). This recent research undercuts long-standing objections to local and state efforts to reduce greenhouse gas emissions that raised concerns about leakage to other jurisdictions. See Coglianese & D’Ambrosio, *supra* note 129, at 1419–20 (expressing concern that “stringent climate change policy” in one region may “unintentionally induce[] an increase in emissions in another jurisdiction with a less stringent or nonexistent policy”).

191. For a sampling of perspectives regarding the proper role of federalism in environmental regulation, see *supra* notes 111–114 and accompanying text.

192. For an analysis of the Founding-era history of the dormant Commerce Clause as well as its subsequent historical developments, see Friedman & Deacon, *supra* note 163, at 1920–22 (assessing the challenge for courts in drawing lines between commerce and police power).

193. For historical overviews of federalism at the Founding, see generally Michael S. Greve, *The Upside-Down Constitution* (2012); Alison L. LaCroix, *The Ideological Origins of American Federalism* (2010).

reasons to be skeptical about decentralized approaches to social problems.¹⁹⁴ There are numerous examples of problematic divergences in state policies,¹⁹⁵ and the potential for abuses of minority groups or individuals through such state experimentation has rightly discredited federalism as an unalloyed good.¹⁹⁶ In the case of climate change, concerns about lock-in effects and inefficient use of resources have permeated debates about the benefits and drawbacks of state policy experimentation.¹⁹⁷ The fear in large part seems to be that an incrementalist approach will reduce momentum for more effective national and international reductions in greenhouse gas emissions.¹⁹⁸

Yet policy experimentation at the state level can have enormous informational benefits by allowing lawmakers to try out multiple ways of solving a societal problem.¹⁹⁹ That information in turn can help guide

194. See, e.g., Edward L. Glaeser & Andrei Shleifer, *The Curley Effect: The Economics of Shaping the Electorate*, 21 *J.L. Econ. & Org.* 1, 2 (2005) (describing the “Curley effect,” whereby political leaders use tax policy to “shape the electorate” in their favor by encouraging emigration, “raising poverty but gaining political advantage”); Michael A. Livermore, *The Perils of Experimentation*, 126 *Yale L.J.* 636, 654–76 (2017) (observing that decentralized experimentation may “systematically favor groups that are better able to incur the costs needed to take advantage of information generated in other jurisdictions”); David A. Super, *Laboratories of Destitution: Democratic Experimentalism and the Failure of Antipoverty Law*, 157 *U. Pa. L. Rev.* 541, 545–46 (2008) (“The decentralized, participatory, and deliberative approach the United States has relied upon to design antipoverty policies . . . has prevented it from developing . . . a coherent, plausible proposal. We have grossly overestimated the value of deliberation and underestimated the importance of achieving a meaningful consensus about . . . antipoverty law.”).

195. Guido Calabresi & Eric S. Fish, *Federalism and Moral Disagreement*, 101 *Minn. L. Rev.* 1, 2 (2016) (“[A]s the example of slavery suggests, such a decentralized structure is potentially unstable. People do not merely wish to be able to live according to their own deeply felt moral principles; they often also wish to impose those principles *upon others*.”). On the tension between protection of minority groups and federalism principles, see James F. Blumstein, *Federalism and Civil Rights: Complementary and Competing Paradigms*, 47 *Vand. L. Rev.* 1251, 1260–61 (1994); Erwin Chemerinsky, *Rehabilitating Federalism*, 92 *Mich. L. Rev.* 1333, 1334 (1994); Erin Ryan, *Secession and Federalism in the United States: Tools for Managing Regional Conflict in a Pluralist Society*, 96 *Or. L. Rev.* 123, 179–80 (2017).

196. On the challenge the example of slavery poses for promoters of federalism, see Heather K. Gerken, *The Supreme Court, 2009 Term—Foreword: Federalism All the Way Down*, 124 *Harv. L. Rev.* 4, 48 (2010) (“[O]ne almost suspects that the South’s sad history is the real reason that federalism’s supporters prefer not to delve into the details.”). For a more recent example, one need only look at the problems facing women, especially minority women, who live in states with abortion bans. See David S. Cohen, Greer Donley & Rachel Rebouché, *The New Abortion Battleground*, 123 *Colum. L. Rev.* 1, 14 (2023).

197. Coglianesi & D’Ambrosio, *supra* note 129, at 1423–25, 1427–28 (arguing that incrementalist approaches may result in “path dependence” and thus “inhibit national efforts to displace the patchwork of state climate change policies and programs”).

198. See *id.* at 1425, 1427–28.

199. For an analysis of the benefits and drawbacks of information generation, see Livermore, *supra* note 194, at 658–60 (“The social value of information often turns on the motivations and desires of the people who put it to use.”).

legislation in other states or on a national and international scale.²⁰⁰ For example, before Congress passed the 1990 Clean Air Act amendments to implement a nationwide cap-and-trade regime for acid rain, many states experimented with different control strategies to explore potential issues with addressing the problem.²⁰¹ One program states tried was an “effects-based” approach, which involved determining what areas would be especially vulnerable to acid rain pollution in order to ensure that controls would adequately protect them.²⁰² While Congress ultimately opted for an emissions-based strategy for decreasing acid rain in the 1990 Clean Air Act amendments, the effects-based trials provided useful information on what areas were most at risk of acid rain and the policy was eventually utilized in Europe.²⁰³

In the case of climate superfunds, a variety of state-level approaches can allow legislatures to evaluate the results of different apportionments of liability, allocations of funding, and project implementation. As detailed in Part IV, there is already quite a bit of variation in proposed state climate superfund legislation.²⁰⁴ For instance, some state bills specify exactly what percentage of funding needs to go to vulnerable communities, while others leave disbursement decisions up to state environmental agencies.²⁰⁵ Legislators have also made distinct proposals regarding how far back in time companies should be liable for producing and selling fossil fuels.²⁰⁶ How these decisions shape the effectiveness of the laws, as well as subsequent legal challenges, will be useful information for states that hope to pass such legislation in the future.

200. European legal scholars have expressed interest in designing a similar type of climate superfund in their countries based on American state draft bills. Author Communication With Max Planck Institute (Nov.–Dec. 2024) (on file with the *Columbia Law Review*).

201. See David Bassett, Off. of Air & Radiation, EPA, EPA 400/1-89-001, State Acid Rain Program: Final Report 1 (1989). For the specific programs in each state, see *id.* at 66–69.

202. See *id.* at 30. The scientific community eventually came to call this approach the “critical loads” method. Rothschild, *Poisonous Skies*, *supra* note 130, at 183.

203. For the data gathering benefits of this work for U.S. states, see Hugh Ellis & Michael L. Bowman, Critical Loads and Development of Acid Rain Control Options, 120 *J. Env’t Eng’g* 273, 273–74, 288–89 (1994) (describing a critical loads experiment in Maryland to assess whether mitigation efforts directly in vulnerable ecosystems could allow for more pollution). On the European use of critical loads, see Rothschild, *Poisonous Skies*, *supra* note 130, at 186–87.

204. The diversity in state approaches undercuts broad claims that states lack incentives to adopt different, innovative approaches to the same problem. For that critique of the laboratories of democracy concept, see Susan Rose-Ackerman, Risk Taking and Reelection: Does Federalism Promote Innovation?, 9 *J. Legal Stud.* 593, 610–11 (1980).

205. For a review of these approaches, see *infra* notes 448–458 and accompanying text.

206. On states’ different approaches to retroactive liability, see *infra* section IV.C. On the debate over the appropriateness of joint and several liability, see *infra* notes 408–410 and accompanying text.

There are, however, potential risks to a decentralized initial approach to climate superfunds that are worth acknowledging.²⁰⁷ Industry groups such as the American Petroleum Institute might try to use information about inefficient allocation of money from state climate superfunds to lobby against their adoption in *any* form, including at the federal level.²⁰⁸ And while it seems unlikely that these laws will decrease the already minimal momentum for national climate legislation, subsequent legal challenges could discourage other states from pursuing their own legislation because of the enormous costs involved.²⁰⁹

Still, there are several ways to mitigate these risks and potentially large payoffs for climate messaging and politics that may be worth whatever risks remain. To combat lobbying efforts of industry groups, environmental organizations can document the achievements of state climate superfunds in protecting natural resources and public health.²¹⁰ Other public interest groups and legislators can also highlight the money taxpayers will save from the law. In recent years, Americans have expressed increasing frustration with the economy as well as with expanding federal power.²¹¹ Information about the ways state climate adaptation programs can save taxpayers money could thus be a powerful force in breaking down knee-jerk partisanship on the issue, especially as Republican voters face growing flood and fire risks from climate change.²¹² Recent research on voter attitudes towards natural disaster preparedness indicates that opposition is largely rooted in low

207. See Livermore, *supra* note 194, at 658–60 (discussing some of the pitfalls of “deliberative and political information”).

208. There is some evidence that interest groups have tried to use information gleaned at the state level about anti-smoking legislation to lobby against its further adoption, although these efforts were unsuccessful. See *id.* at 664–65.

209. The possibility of litigation was a major concern among Vermont lawmakers, although they passed their bill anyway. Author Communications with Vermont Senators and Representatives (Feb.–Apr. 2024) (on file with the *Columbia Law Review*).

210. A variety of state-level environmental organizations have assisted in the development of these laws, providing some evidentiary support for the argument that various interest groups can help spur policy innovation at the state level. For an examination of these dynamics, see Charles W. Tyler & Heather K. Gerken, *The Myth of the Laboratories of Democracy*, 122 *Colum. L. Rev.* 2187, 2192 (2022).

211. On the role that states can play in addressing economic inequality, see William W. Franko & Christopher Witko, *The New Economic Populism: How States Respond to Economic Inequality* 11 (2017). For the way that President Trump has tapped into economic anxieties and backlash against the federal government, especially following the COVID-19 pandemic, see Paul Wiseman, *Frustrated Americans Await the Economic Changes They Voted for With Trump*, Associated Press (Nov. 9, 2024), <https://apnews.com/article/economy-trump-inflation-prices-election-tariffs-immigrants-e791d15158195a8a15a71ee43c77d749> [<https://perma.cc/SQ89-JWCP>].

212. Egan & Mullin, *supra* note 105, at 34 (“The relationships between Republican vote and flood and fire risk are strong . . . Republican voters and GOP leaders will have increasing incentive to join Democrats in reducing the damage caused by [increasing natural disasters]—even if they deny the extent to which these disasters are attributable to climate change.”).

information about the economic benefits of investing in preventative measures.²¹³ These findings indicate that generating information about the economic benefits of state climate superfunds may be even more important than personal experiences with natural disasters in securing support for adaptation programs.²¹⁴

III. THE CONSTITUTIONALITY OF STATE CLIMATE LIABILITY LAWS

State efforts to deal with the effects of climate change through new superfund laws have faced significant opposition from the fossil fuel industry, Republican attorneys general, and the DOJ. After Vermont and New York enacted state climate superfund laws, the U.S. Chamber of Commerce, American Petroleum Institute, Republican attorneys general, and the DOJ sued both states, alleging that the laws are unconstitutional.²¹⁵ Such federal government involvement is unprecedented²¹⁶ and followed an executive order from President Trump that claimed state climate superfunds were “burdensome and ideologically motivated” and “threaten[ed] American energy dominance and our economic and national security.”²¹⁷

Some of the legal arguments against the constitutionality of state climate superfunds have little support in current case law, such as the claim that the laws infringe on the foreign affairs power of the federal government.²¹⁸ There are, however, three complex issues that will be

213. Michael M. Bechtel & Massimo Mannino, *Ready When the Big One Comes?: Natural Disasters and Mass Support for Preparedness Investment*, 45 *Pol. Behav.* 1045, 1060 (2023).

214. *Id.* at 1061 (noting that “information about the economic advantages of investing in disaster preparedness should lead individuals to reassess the attractiveness of [a] policy option, causing them to shift their opinions in favor of long-term investment”).

215. See Complaint for Declaratory and Injunctive Relief at 3, *United States v. Vermont*, No. 2:25-cv-00463 (D. Vt. filed May 1, 2025), 2025 WL 1276264 (arguing Vermont’s Superfund Act “intrudes on, and interferes with, the federal government’s exclusive role in foreign affairs, which includes sensitive policy questions encompassing environmental concerns, economic and trade policies, and national security”); Complaint for Declaratory and Injunctive Relief at 3, *United States v. New York*, No. 1:25-cv-03656 (S.D.N.Y. filed May 1, 2025), 2025 WL 1276266 (“[New York’s] Superfund Act is a brazen attempt to grab power from the federal government and force citizens of other States and nations to foot the bill for its infrastructure wish list.”).

216. It does not appear that the federal government has ever challenged a state’s authority to impose liability on companies for harming natural resources and public health, and the DOJ’s lawsuit seems unlikely to prevail. Courts have dismissed federal lawsuits against states if there is “no case of an actual or threatened interference with the authority of the United States.” See *United States v. West Virginia*, 295 U.S. 463, 473–74 (1935) (dismissing a federal government lawsuit against West Virginia alleging that the state’s issuance of permits for hydropower plants violated the Federal Water Power Act for failing to present a justiciable controversy).

217. Exec. Order No. 14,260, *Protecting American Energy From State Overreach*, 90 *Fed. Reg.* 15,513, 15,513 (Apr. 14, 2025).

218. The United States, for example, made such complaints against New York. See Complaint for Declaratory and Injunctive Relief, *United States v. New York*, *supra* note 215,

central to assessing the constitutionality of state efforts to enact climate liability laws. These are whether federal law preempts states from imposing liability on companies for climate harms, whether the laws violate the dormant Commerce Clause, and whether the bills violate the due process rights of responsible parties because of their retroactivity or because they extend state jurisdiction over parties that are headquartered elsewhere.

This Part will offer a detailed analysis of these arguments and examine how the courts have assessed similar environmental legislation that dealt with other types of pollution problems.²¹⁹ The focus on precedent is essential given our current historical moment, in which constitutional innovation has primarily occurred in service of “conservative” policies.²²⁰

at 26–28. On the potential for the President’s foreign affairs power to preempt state climate laws, see Sharmila L. Murthy, *The Constitutionality of State and Local “Norm Sustaining” Actions on Global Climate Change: The Foreign Affairs Federalism Grey Zone*, 5 U. Pa. J.L. & Pub. Affs. 35, 87–101 (2020) (explaining that reliance on the foreign affairs power to preempt state climate legislation would require the President “to assert that his independent constitutional powers encompass environmental regulation, which is not a very plausible argument”).

219. See Danielle Citron & Robin West, *On Legal Scholarship*, *Current Issues Legal Educ.*, 2014, at 1, 4 (“Doctrinal scholarship aims to interpret existing legal materials in such a way as to render them consonant with both the best principles of political justice and consistent with the totality of given law.”).

220. There is vociferous debate among legal scholars about whether the Supreme Court has overturned precedent at a uniquely high rate under Chief Justice Roberts, particularly since President Trump appointed three Justices during his first term. For a helpful analysis of debates over the Roberts Court’s rate of overturning precedent and its acceleration since the appointments of Justices Kavanaugh and Barrett, see Duncan Hosie, *Stealth Reversals: Precedent Evasion in the Roberts Court and Constitutional Reclamation*, 58 U.C. Davis L. Rev. 1323, 1348–50 (2025) (describing an “‘activist acceleration’ in express overruling since Justice Kavanaugh joined the Court, with ‘nearly a majority of [Roberts Court] overrulings occur[ing] in the last six terms’ and most coming ‘in high-salience cases’” (alterations in original) (quoting Professor Lee Epstein)). While there may be room for disagreement in certain areas of the law, decisions in environmental and constitutional law have clearly moved in directions that are consistent with “conservative” principles of limited government and limited substantive due process rights. For a discussion of how constitutional concerns have animated the Supreme Court’s environmental decisions since 2020, see Richard J. Lazarus, *The Rise of Constitutional Alarmists on the Supreme Court and Its Portent for the Future of Environmental Law*, 85 Ohio St. L.J. 983, 1019–24 (2024) (detailing how separation of powers concerns have driven the Supreme Court’s decisions in *West Virginia v. EPA*, *Sackett v. EPA*, and *Loper Bright Enterprises v. Raimondo*). As such, it seems prudent to conclude that now is not the time for radical proposals to revise constitutional law doctrines in ways that might support greater environmental protections. An example of such an unsuccessful attempt is *Juliana v. United States*, in which youth plaintiffs argued that the federal government had violated individual constitutional rights by not restraining fossil fuel emissions. 947 F.3d 1159, 1174 (9th Cir. 2020) (concluding that even if such “broad constitutional rights exist, we doubt that the plaintiffs would have Article III standing to enforce them”). For an analysis of the *Juliana* case, see Erin Ryan, *Juliana v. United States: Debating the Fundamentals of the Fundamental Right to a Sustainable Climate*, 45 Fla. St. L. Rev. Online 1, 3 (2018), <https://ir.law.fsu.edu/cgi/viewcontent.cgi?article=1715&context=articles> [<https://perma.cc/4SCL-LY94>] (describing how the case relied “on a relatively newer

But this Part's reliance on prior judicial decisions to assess the constitutionality of state climate superfunds also reflects a principle that is especially pressing when it comes to climate law: There should not be "climate exceptionalism" in judicial doctrines.²²¹ Thus, the considerations that have governed comparable constitutional disputes should likewise apply to state climate superfunds, unless some distinguishing features require courts to depart from past precedents.

Analyzing constitutional cases that concern vertical separation of powers, horizontal separation of powers, and economic substantive due process rights, this Part argues that state climate superfunds should pass constitutional muster given their similarities to prior environmental laws and tort suits that survived comparable legal challenges over the past several decades. Arguments that the federal government should have exclusive authority to address the harms from climate change are unsupported by longstanding judicial doctrines on federalism and state police powers as well as originalist understandings of the Supremacy Clause.²²² The claim that state climate superfund laws impermissibly interfere with interstate commerce is also inconsistent with courts' deferential approach to state economic legislation that simply imposes costs on industry. And courts have repeatedly upheld retroactive liability laws so long as the responsible entities profited from the activity at issue and the imposition of liability bears a rational relationship to the relevant harm.²²³ Nor does it seem inconsistent with due process to subject fossil fuel companies to liability for climate harms if they have taken advantage of economic opportunities in various states through sales, marketing, and other business activities.

The most vexing constitutional question should thus be whether states can extend their authority over fossil fuel companies that have

theory of constitutional obligation" based on the theory that "the federal government must act to protect plaintiffs' fundamental right to a stable climate, and that its failure to do so represents a violation of substantive due process").

221. See Zachary D. Clopton & David A. Dana, *Climate Exceptionalism in Court*, 119 *Nw. U. L. Rev.* 1545, 1555–90 (2025) (detailing how courts have departed from precedent in climate torts cases by applying "exceptionally high standing requirements" and by allowing expanded applications of federal common law and complete preemption). On the importance of precedent for judicial integrity in constitutional law, see Geoffrey R. Stone, *The Roberts Court, Stare Decisis, and the Future of Constitutional Law*, 82 *Tul. L. Rev.* 1533, 1536 (2008) ("It is the responsibility of the judge faithfully to apply precedent, to explain his or her reasoning . . . and to explain and to justify any departures from precedent. That is at the very heart of the judicial craft, and it is the very essence of a principled system of law.").

222. See Michael D. Ramsey, *The Supremacy Clause, Original Meaning, and Modern Law*, 74 *Ohio St. L.J.* 559, 565 (2013) (undertaking an originalist analysis of the Supremacy Clause and concluding that "preemptive federal law cannot arise from the executive branch or the courts").

223. See *infra* note 299 and accompanying text (reviewing retroactive liability regimes in contexts outside of greenhouse gas emissions, such as asbestos and other toxic chemicals, cigarettes, and opioids).

attenuated economic ties to a state. In light of their role in causing the problem and their knowledge that their conduct would cause such harms, it is arguably fair to employ a more lenient standard of connection to a state, similar to the standard courts use in due process analysis for corporations involved in selling hazardous substances. But regardless of whether a court adopts this approach, states should be able to impose liability for climate harms on fossil fuel companies that do have economic connections to their jurisdictions. To find otherwise would seem to suggest that companies can engage in activities that lead to harmful effects on natural resources and public health without facing liability, so long as these activities also occur in other states or parts of the world.²²⁴

A. *Dual Federal and State Authority on Climate Change*

As noted in section II.B, states have been highly involved with environmental protection throughout U.S. history, either on their own or working alongside the federal government. Nevertheless, under the Constitution's Supremacy Clause, the federal government can opt to override state statutes,²²⁵ and it has done so in a few regulatory schemes concerning environmental pollution. Preemption may be explicit, as when Congress clearly stipulates that federal legislation will supersede state law, or implicit, as when a court finds that state law is preempted even though there is no statutory language directly on point.²²⁶ Cases of express preemption often involve statutes that prohibit states from establishing standards different from those at the federal level, such as emission requirements for motor vehicles.²²⁷ Implied preemption can occur when the federal regulatory apparatus is so pervasive that a court concludes Congress intended to "occupy the field" in that area, when there is a direct conflict between state and federal laws, or when a state law would prove an obstacle to implementing a federal law, known as

224. See *Ford Motor Co. v. Mont. Eighth Jud. Dist. Ct.*, 141 S. Ct. 1017, 1031 (2021) (upholding jurisdiction over an out-of-state car company as consistent with due process).

225. See *United States v. Bass*, 404 U.S. 336, 349 (1971) (indicating that Congress can significantly "change[] the federal-state balance" when it "conveys its purpose clearly"); see also *Jones v. Rath Packing Co.*, 430 U.S. 519, 525–26 (1977) ("Congressional enactments that do not exclude all state legislation in same field nevertheless override state laws with which they conflict . . . [if] []the State's[] law stands as an obstacle to the accomplishment and execution of the full purposes and objectives of Congress." (internal quotation marks omitted) (quoting *Hines v. Davidowitz*, 312 U.S. 52, 67 (1941))); *Rice v. Santa Fe Elevator Corp.*, 331 U.S. 218, 229–30 (1947) (holding that so long as the object of regulation is "in the federal domain, . . . Congress may, if it chooses, take unto itself all regulatory authority").

226. See Catherine M. Sharkey, *Products Liability Preemption: An Institutional Approach*, 76 *Geo. Wash. L. Rev.* 449, 455–56 (2008) (outlining the development of preemption doctrine by the Supreme Court and the expanded scope of implied preemption in recent decades).

227. See, e.g., *Geier v. Am. Honda Motor Co.*, 529 U.S. 861, 867 (2000).

“obstacle preemption.”²²⁸ Some scholars have noted that the doctrine of implied preemption conflicts with the rise of textualism in administrative law, particularly given the doctrine’s emphasis on the purpose of a statute.²²⁹ This section, however, will take the current doctrine’s formulation as a given in assessing whether state climate superfunds may be subject to federal preemption.

There are no federal laws that would expressly preempt a state from creating a climate superfund program. The fossil fuel industry and the Trump Administration, however, have argued that the Clean Air Act *implicitly* preempts such state action.²³⁰ The Clean Air Act gives the EPA authority to regulate air pollution, and in 2007, the Supreme Court held that the statutory term “air pollutant” includes greenhouse gas emissions.²³¹ A few years later, in the case *American Electric Power v. EPA*, the Justices unanimously concluded that the Clean Air Act therefore displaced federal common law nuisance suits seeking to reduce greenhouse gas emissions.²³² Writing for the Court, Justice Ruth Bader Ginsburg stated that section 111 of the Act grants the EPA the power to regulate greenhouse gas emissions from stationary sources, leaving no room for the judiciary to fashion a separate regime.²³³ But the Court

228. Samuel Issacharoff & Catherine M. Sharkey, *Backdoor Federalization*, 53 *UCLA L. Rev.* 1353, 1366 n.40, 1389 (2006) (internal quotation marks omitted). The Supreme Court has noted that these categories are not “rigidly distinct.” See *Crosby v. Nat’l Foreign Trade Council*, 530 U.S. 363, 372 n.6 (2000) (internal quotation marks omitted) (quoting *English v. Gen. Elec. Co.*, 496 U.S. 72, 79 n.5 (1990)).

229. See, e.g., Keith N. Hylton, *Preemption and Products Liability: A Positive Theory*, 16 *Sup. Ct. Econ. Rev.* 205, 207 (2008) (“Congress seldom speaks clearly with respect to preemption.”); Daniel J. Meltzer, *The Supreme Court’s Judicial Passivity*, 2002 *Sup. Ct. Rev.* 343, 364 (“[T]he grist of implied preemption jurisprudence is supplied by cases in which the conflict between federal and state law is less stark and depends upon a judicial evaluation of statutory purpose.”); Catherine M. Sharkey, *Against Freewheeling, Extratextual Obstacle Preemption: Is Justice Clarence Thomas the Lone Principled Federalist?*, 5 *N.Y.U. J.L. & Liberty* 63, 73 (2010) (assessing about three dozen Supreme Court preemption decisions over the past several decades and finding that “[i]n the aggregate, the picture that emerges is of a conservative Court that sacrifices its federalism principles on the altar of anti-regulation”); Note, *Preemption as Purposivism’s Last Refuge*, 126 *Harv. L. Rev.* 1056, 1057 (2013) (observing that “the Court’s obstacle and field preemption doctrines encourage courts to exalt extratextual purpose above statutory text, which violates the textualist command of giving effect to the text of laws enacted pursuant to Article I, Section 7 of the Constitution” (footnote omitted)).

230. Complaint for Declaratory and Injunctive Relief at 14, *United States v. New York*, No. 1:25-cv-03656 (S.D.N.Y. filed May 1, 2025), 2025 WL 1276266; Complaint for Declaratory and Injunctive Relief at 13, *United States v. Vermont*, No. 2:25-cv-00463 (D. Vt. filed May 1, 2025), 2025 WL 1276264; Complaint for Declaratory and Injunctive Relief at 5, *Chamber of Com. v. James*, No. 1:25-cv-01738 (S.D.N.Y. filed Feb. 28, 2025), Dkt. No. 1; Complaint for Declaratory and Injunctive Relief at 4, *Chamber of Com. v. Moore*, No. 2:24-cv-01513 (D. Vt. filed Dec. 30, 2024), Dkt. No. 1.

231. *Massachusetts v. Env’t Prot. Agency*, 549 U.S. 497, 528–29 (2007).

232. 564 U.S. 410, 411 (2011).

233. See *id.* at 424 (“The test for whether congressional legislation excludes the declaration of federal common law is simply whether the statute ‘speak[s] directly to [the]

explicitly reserved the question of whether federal law preempted state nuisance suits seeking to limit greenhouse gas emissions and did not discuss preemption of other state tort claims related to climate change.²³⁴ The preemptive effect of the Clean Air Act on state climate actions has remained a contested issue in recent state tort litigation against fossil fuel companies, as defendants have repeatedly argued that the Clean Air Act implicitly preempts such lawsuits.²³⁵

To properly answer this question in relation to state climate superfunds, courts should assess the language and structure of the Clean Air Act, the history of state authority over natural resources and public health, recent Supreme Court decisions on the EPA's regulatory authority, and executive branch actions to address climate change.²³⁶ Failing to undertake the necessary statutory analysis would grant the federal government exclusive power over a problem *without congressional action* merely because it involves interstate or international dynamics.²³⁷ Such an

question' at issue And we think it . . . plain that the Act 'speaks directly' to emissions of carbon dioxide from the defendants' plants." (alterations in original) (citations omitted) (quoting *Mobil Oil Corp. v. Higginbotham*, 436 U.S. 618, 625 (1978))).

234. See *id.* at 429 ("None of the parties have briefed preemption or otherwise addressed the availability of a claim under state nuisance law. We therefore leave the matter open for consideration on remand.").

235. See, e.g., *City of New York v. Chevron Corp.*, 993 F.3d 81, 98 (2d Cir. 2021) (finding—in a departure from other courts of appeals—that New York could not bring a state nuisance suit over damages from greenhouse gas emissions because only federal common law applies to interstate air or water pollution). But see *Connecticut v. Exxon Mobil Corp.*, 83 F.4th 122, 129 (2d Cir. 2023) (holding that the Clean Air Act does not completely preempt a state fraud suit over fossil fuel companies' misinformation about the dangers of global warming and distinguishing those claims from those at issue in *City of New York v. Chevron Corp.*); *Bd. of Cty. Comm'rs v. Suncor Energy (U.S.A.) Inc.*, 25 F.4th 1238, 1262 (10th Cir. 2022) (holding that Congress has not "clearly manifested an intent" that the federal common law for transboundary pollution will completely preempt state law and allowing a state common lawsuit over climate change damages to proceed in state court (internal quotation marks omitted) (quoting *Metro. Life Ins. Co. v. Taylor*, 481 U.S. 58, 66 (1987))); Rachel Rothschild, *State Nuisance Law and the Climate Change Challenge to Federalism*, 27 N.Y.U. Env't L.J. 412, 432 (2019) (arguing that because the Clean Air Act contains an express savings clause, causes of action under those statutes "present issues of ordinary preemption that should be adjudicated in state court").

236. Indeed, this is the approach that courts have taken recently when evaluating state authority to restrict abortion in the aftermath of *Dobbs*. See *GenBioPro, Inc. v. Raynes*, 144 F.4th 258, 267 (4th Cir. 2025) (concluding that the Food and Drug Administration Amendments Act of 2007 "falls well short of expressing a clear intention to displace the states' historic and sovereign right to protect the health and safety of their citizens" and thus does not preempt states from prohibiting mifepristone sales within their borders).

237. Jonathan H. Adler, *Displacement and Preemption of Climate Nuisance Claims*, 17 J.L. Econ. & Pol'y 217, 221 (2022) ("Whether state law nuisance actions are to be preempted is a choice for Congress to make, and is a choice Congress has not yet made."); see also Ramsey, *supra* note 222, at 592 (observing that Founding-era practice did not support federal court "override [of] state statutes in interstate disputes"). For opinions that have referenced a nebulous federal interest to find that fossil fuel companies cannot be liable under state tort law, in contrast to the traditional approach to analyzing preemption, see, e.g., *City of New York v. Chevron Corp.*, 993 F.3d at 92 ("Such a sprawling case is simply beyond the limits of state

approach would be a radical departure from longstanding doctrine on how courts should assess the preemptive effects of federal legislation²³⁸ and would seem to pose serious separation of powers concerns.²³⁹ Original understandings of the Supremacy Clause support this longstanding approach to analyzing preemption, which looks to federal legislation first—not executive branch policy²⁴⁰ nor the federal common law²⁴¹—to determine when states are prevented from acting.

law.”); *Mayor of Balt. v. BP P.L.C.*, No. 24-C-18-004219, 2024 Md. Cir. Ct. LEXIS 2, at *17 (Md. Cir. Ct. July 10, 2024) (holding that Baltimore’s claims are preempted by federal common law and the Clean Air Act because they involve interstate and international disputes). Both the opinions in *New York and Maryland* misstate the holding of the 1987 Supreme Court case *International Paper Co. v. Ouellette*, 479 U.S. 481 (1987). The opinions assert that *Ouellette* held state common law cannot be used to address interstate pollution when the Supreme Court explicitly found otherwise, while also finding it necessary to apply the law of the source state given the potential for conflicts with permitting schemes in the Clean Water Act. See 479 U.S. at 496.

238. See *City of Milwaukee v. Illinois*, 451 U.S. 304, 316 (1981) (“[W]e start with the assumption that the historic police powers of the States were not to be superseded by the Federal Act unless that was the clear and manifest purpose of Congress.” (internal quotation marks omitted) (quoting *Jones v. Rath Packing Co.*, 430 U.S. 519, 525 (1977))); see also *Mayor of Balt. v. BP P.L.C.*, 31 F.4th 178, 203 (4th Cir. 2022) (noting the importance of not evading the careful statutory analysis “require[d] during a significant-conflict analysis”); *Env’t Encapsulating Corp. v. City of New York*, 855 F.2d 48, 58, 60 (2d Cir. 1988) (noting that “[i]nference and implication will only rarely lead to the conclusion that it was the ‘clear and manifest purpose’ of the federal government to supersede the states’ historic power to regulate health and safety” (quoting *Rath Packing Co.*, 430 U.S. at 525)); *City of Honolulu v. Sunoco LP*, 537 P.3d 1173, 1199–200 (Haw. 2023) (noting that a preemption analysis involves interpreting and applying federal statutes, not assessing the potential application of federal common law).

239. See, e.g., *Sackett v. Env’t Prot. Agency*, 143 S. Ct. 1322, 1341 (2023) (“[T]his Court ‘require[s] Congress to enact exceedingly clear language if it wishes to significantly alter the balance between federal and state power.’” (alteration in original) (quoting *U.S. Forest Serv. v. Cowpasture River Pres. Ass’n*, 140 S. Ct. 1837, 1849–50 (2020))). There are both vertical and horizontal separation of powers concerns at issue in analyzing preemption of state climate legislation, including climate superfunds. The Tenth Amendment reserves all powers not expressly granted to the federal government to the states. And recent Supreme Court cases have emphasized that courts should be skeptical about the reach of broadly worded grants of power to the executive branch in the case of climate regulations. See Kamaile A.N. Turčan, “Major Questions” About Preemption, 69 *Vill. L. Rev.* 737, 759–61, 780 (2024) (“Whether any particular federal agency regulation actually preempts state law could well be a major question under the *West Virginia* criteria, requiring an express preemption statement from Congress via statute.”). Given Supreme Court precedent on the Commerce Clause, Congress would seem to have the authority to preempt many kinds of state climate laws if it chose to do so. For a discussion of these issues at the intersection between constitutional law and environmental law, see Robin Kundis Craig, *Constitutional Environmental Law, or, The Constitutional Consequences of Insisting That the Environment Is Everybody’s Business*, 49 *Env’t L.* 703, 708–14 (2019) (discussing Supreme Court cases delineating the line between federal and state regulation of environment given the interaction between the Commerce Clause and the Tenth Amendment).

240. Ramsey, *supra* note 222, at 579 (“[N]othing in founding-era debates or post-ratification practice suggests an idea of executive preemption: state laws did at times conflict with presidential policies, and state laws were not thought to be displaced as a result.”).

Turning to the statute, the Clean Air Act has multiple provisions that give the federal government authority to regulate greenhouse gas emissions from power plants and motor vehicles,²⁴² at least under current judicial interpretations of the law.²⁴³ But the Act adopts a “cooperative federalist” approach to air pollution problems and contains a savings clause that preserves state authority to regulate more stringently than the federal government²⁴⁴ as well as a savings clause preserving state common law actions,²⁴⁵ with a few specific exceptions like the setting of new motor vehicle emission standards.²⁴⁶ In light of these provisions, no court has found that the EPA has so extensively occupied the area of air pollution

241. See *id.* at 568–83 (arguing that the text of the Supremacy Clause does not empower judges to preempt state law through federal common law, and that cases appearing to suggest such a practice are better conceptualized as congressional delegations to the courts rooted in federal statutes); see also Caleb Nelson, *The Legitimacy of (Some) Federal Common Law*, 101 *Va. L. Rev.* 1, 3, 4 n.11 (2015) (explaining scholarly literature and case law supporting the notion that “federal common law does not have preemptive effect in its own right . . . [but rather] operates within the space preempted by written federal law” (internal citations omitted)).

242. See 42 U.S.C. §§ 7408–7409 (2018) (enabling the EPA to prescribe air quality standards); 42 U.S.C. § 7411 (authorizing the EPA to implement emissions standards for any facility that emits air pollutants); 42 U.S.C. § 7475 (placing restrictions on the construction of “major emitting facilities”).

243. The Trump administration is seeking to overturn these judicial interpretations of the EPA’s authority to regulate greenhouse gas emissions under the Clean Air Act. See Samantha Gross & Ryan Beane, *Trump Is Dismantling Climate Rules. Industry Is Worried.*, Brookings Inst. (Feb. 26, 2026), <https://www.brookings.edu/articles/trump-is-dismantling-climate-rules-industry-is-worried/> [<https://perma.cc/23EE-ALBY>].

244. See 42 U.S.C. § 7416 (“Except as otherwise provided . . . nothing in this chapter shall preclude or deny the right of any State or political subdivision thereof to adopt or enforce (1) any standard or limitation respecting emissions of air pollutants or (2) any requirement respecting control or abatement of air pollution . . .”).

245. 42 U.S.C. § 7604(e) (preserving “any right which any person (or class of persons) may have under any statute or common law to seek enforcement of any emission standard or limitation or to seek any other relief”). See also Holly Doremus & W. Michael Hanemann, *Of Babies and Bathwater: Why the Clean Air Act’s Cooperative Federalism Framework Is Useful for Addressing Global Warming*, 50 *Ariz. L. Rev.* 799, 817 (2008) (“The Clean Air Act was the first modern federal environmental statute to employ a ‘cooperative federalism framework,’ assigning responsibilities for air pollution control to both federal and state authorities.”); J.J. England, *Saving Preemption in the Clean Air Act: Climate Change, State Common Law, and Plaintiffs Without a Remedy*, 43 *Env’t L.* 701, 733 (2013) (indicating that the Clean Air Act and Clean Water Act “both shield state authority through their savings clauses to the same extent”).

246. See 42 U.S.C. § 7543(a) (“No State or any political subdivision thereof shall adopt or attempt to enforce any standard relating to the control of emissions from new motor vehicles or new motor vehicle engines . . .”). Another exception concerns the Acid Rain trading provisions. Cf. *Bell v. Cheswick Generating Station*, 734 F.3d 188, 197–98 (3d Cir. 2013) (holding that the Clean Water Act creates a “regulatory floor, not a ceiling” and that “states are free to impose higher standards on their own sources of pollution, and . . . state tort law is a permissible way of doing so”); *Clean Air Mkts. Grp. v. Pataki*, 338 F.3d 82, 88 (2d Cir. 2003) (“[A] national system of tradable pollution permits’ . . . clearly interferes with [a state pollution law].” (quoting *Madison Gas & Elec. Co. v. Env’t Prot. Agency*, 4 F.3d 529, 530 (7th Cir. 1993))).

regulations that further state actions are preempted.²⁴⁷ Many states have enacted programs to address greenhouse gas emissions from sources within their states consistent with these legal precedents.²⁴⁸

Though the Clean Air Act therefore preserves a great deal of space for state action on air pollution, several judicial decisions indicate that states cannot directly control emissions outside their borders. For example, the Supreme Court held in *International Paper Co. v. Ouellette* that allowing states the power to bring nuisance suits over interstate pollution under the common law of recipient states would pose an obstacle to implementing the Clean Water Act by subjecting emitters to a multitude of emission restrictions, creating a “chaotic regulatory structure.”²⁴⁹ Given the parallels between the Clean Air and Water Acts, courts have adopted the same rule in air pollution cases. Using similar reasoning, in *Clean Air Markets Group v. Pataki*, the U.S. Court of Appeals for the Second Circuit found that the Clean Air Act preempted New York’s Air Pollution Mitigation law because the state legislation restricted the sale of sulfur dioxide pollution allowances to upwind states,²⁵⁰ directly violating the 1990 Clean Air Act amendments that created a cap-and-trade scheme for acid rain.²⁵¹ In finding preemption, the Second Circuit extensively relied on legislative history from the 1990 amendments detailing Congress’s intent to create a nationwide trading scheme without geographic restrictions, as well as EPA regulations stipulating that states were not to “restrict or interfere” with allowance trading.²⁵²

The crucial preemption issue for state climate superfunds, then, is whether these laws would pose an obstacle to a federal climate regulatory program under the Clean Air Act in ways similar to *International Paper Co.* and *Clean Air Markets*. It is possible to conceive of a scenario where a court might have reason to make such a finding. For instance, imagine Congress amended the Clean Air Act to put in place a nationwide cap-and-trade program for greenhouse gas emissions, as it once did for acid

247. See Doremus & Hanemann, *supra* note 245, at 817.

248. See, e.g., William Funk, Constitutional Implications of Regional CO₂ Cap-and-Trade Programs: The Northeast Regional Greenhouse Gas Initiative as a Case in Point, 27 *UCLA J. Env’t L. & Pol’y* 353, 357 (2009) (explaining that the regional greenhouse gas initiative should not be preempted by federal law, at least until a federal cap-and-trade program passes Congress).

249. 479 U.S. 481, 496–97 (1987).

250. 338 F.3d at 85 (finding New York’s law “actually conflicts” with the Clean Air Act by creating “an obstacle to the accomplishment and execution of the full purposes and objectives of Congress” (internal quotation marks omitted) (quoting *Hillsborough County v. Automated Med. Lab’y Inc.*, 417 U.S. 707, 713 (1985))).

251. See 42 U.S.C. § 7651b(b) (specifying that allowances “may be transferred . . . [to] any other person who holds such allowances”).

252. *Clean Air Mkts. Grp.*, 338 F.3d at 88 (quoting 40 C.F.R. § 72.72(a)) (“These regulations were adopted over the objection of New York State, which argued vigorously in favor of a scheme that permitted allowance trading to be geographically restricted.”).

rain. Even if there was no express preemption provision in the amended law, a court might reasonably conclude that imposing financial liability on fossil fuel companies for climate harms would disrupt the careful balance Congress struck in creating the trading scheme. Much would depend on the specifics of the cap-and-trade design as well as evidence of Congress's intent in passing the legislation.²⁵³ But it's possible that under an implied preemption analysis a court might fairly conclude that state climate superfunds would improperly interfere with a national, federal climate regulatory program.

Yet we do not live in that hypothetical world. As the Supreme Court has noted in analyzing the extent of the EPA's authority to regulate greenhouse gases in *West Virginia v. EPA*, Congress has repeatedly tried and failed to pass a cap-and-trade program for greenhouse gas emissions, and it has not enacted other types of comprehensive regulation like a carbon tax.²⁵⁴ Based in part on these congressional failures, the Court placed significant limits on the EPA's ability to control greenhouse gas emissions under the Clean Air Act and found the Clean Power Plan unlawful.²⁵⁵ It would be contradictory to find that Congress did not grant the EPA "such a sweeping and consequential authority" over greenhouse gas emissions,²⁵⁶ only to determine a few years later that Congress sought to supersede state authority to enact climate liability laws based on those same "backwater" statutory provisions and legislative history.²⁵⁷ Obstacle preemption—if it survives as a doctrine²⁵⁸—requires more evidence of interference with Congress's purposes in passing a statute, particularly in areas that fall under traditional state police powers.²⁵⁹

The Trump Administration's proposals to eliminate greenhouse gas regulations for power plants and motor vehicles further undercut arguments that state climate superfunds would pose an obstacle to a federal regulatory regime.²⁶⁰ Indeed, the EPA is currently taking the

253. See *Wyeth v. Levine*, 555 U.S. 555, 589–90 (2009) (Thomas, J., concurring in the judgment) (noting the Supreme Court has "articulated a very narrow 'impossibility standard'").

254. 142 S. Ct. 2587, 2614 (2022).

255. *Id.* at 2616 (finding it implausible that Congress gave the EPA the authority to force a nationwide transition away from coal).

256. *Id.* at 2608.

257. *Id.* at 2613.

258. *Wyeth*, 555 U.S. at 602 (Thomas, J., concurring in the judgment) ("[O]ur federal system in general, and the Supremacy Clause in particular, accords pre-emptive effect to only those policies that are actually authorized by and effectuated through the statutory text.").

259. See *supra* note 239 and accompanying text.

260. *Lipschultz v. Charter Advanced Servs. (MN), LLC*, 140 S. Ct. 6, 7 (2019) (Thomas, J., concurring in denial of certiorari) ("It is doubtful whether a federal policy—let alone a policy of nonregulation—is 'Law' for purposes of the Supremacy Clause."). For such arguments from the DOJ, see, e.g., Complaint at 13–16, *United States v. Vermont*, No. 2:25-cv-00463 (D. Vt. filed May 1, 2025), 2025 WL 1276264.

position that the agency has no legal authority to regulate greenhouse gases as air pollutants because the definition of “air pollutant” in the Clean Air Act only encompasses local and regional air pollution.²⁶¹ Decisions like *International Paper Co.* and *Clean Air Markets* depended on state interference with an ongoing federal permitting program that provided an opportunity for the input of affected states²⁶² or national, market-based controls that explicitly disclaimed regional restrictions on trading emission allowances.²⁶³ If there is no federal regulatory system for greenhouse gas emissions currently planned or in place, it strains credulity to claim that state climate superfunds are interfering with federal climate rules.²⁶⁴ Recognition of this legal risk is likely why fossil fuel company executives have lobbied Congress and President Trump for new legislation that would explicitly exempt them from liability for climate harms just as Congress did for gun manufacturers.²⁶⁵ Unless

261. Rescission of the Greenhouse Gas Endangerment Finding and Motor Vehicle Greenhouse Gas Emission Standards Under the Clean Air Act, 91 Fed. Reg. 7686, 7712 (Feb. 18, 2026) (arguing that the Clean Air Act’s definition of air pollutant only includes pollution that “adversely impacts public health or welfare through local or regional exposure to the air pollution itself”). See also Repeal of Greenhouse Gas Emissions Standards for Fossil Fuel-Fired Electric Generating Units, 90 Fed. Reg. 25,752 (June 17, 2025) (proposing a repeal of all greenhouse gas emission standards for power plants on the grounds that section 111 of the Clean Air Act only authorizes the agency to regulate sources that contribute significantly to dangerous air pollution).

262. *Int’l Paper Co. v. Ouellette*, 479 U.S. 481, 489–90 (1987) (“The permits contain detailed effluent limitations, and a compliance schedule for the attainment of these limitations Before a federal permit may be issued, each affected State is given notice and the opportunity to object to the proposed standards at a public hearing.”).

263. *Clean Air Mkts. Grp. v. Pataki*, 338 F.3d 82, 88 (2d Cir. 2003) (“Title IV permits allowances to ‘be transferred . . . [to] any other person who holds such allowances.’ . . . [B]y requiring utilities to forfeit one hundred percent of their proceeds from any allowance sale to a utility in an upwind state, section 66-k [of the New York state law] effectively bans such sales.”).

264. The DOJ and EPA have recently argued such, however, in their lawsuit against the state of Vermont:

Vermont’s Superfund Act obstructs EPA’s discretion to balance environmental, economic, and energy considerations in regulating greenhouse gases. The Clean Air Act grants EPA broad authority to promulgate regulations based on its expert judgment, including whether to impose emissions standards for stationary sources under 42 U.S.C. § 7411 and for mobile sources under 42 U.S.C. § 7521.

Complaint at 15–16, *United States v. Vermont*, No. 2:25-cv-00463 (filed D. Vt. May 1, 2025). 2025 WL 1276264. But see Press Release, EPA, EPA Proposes Repeal of Biden-Harris EPA Regulations for Power Plants, Which, If Finalized, Would Save Americans More Than a Billion Dollars a Year (June 11, 2025), <https://www.epa.gov/newsreleases/epa-proposes-repeal-biden-harris-epa-regulations-power-plants-which-if-finalized-would> [<https://perma.cc/BXH9-EW99>] (“EPA is proposing to repeal all ‘greenhouse gas’ emissions standards for the power sector under Section 111 of the Clean Air Act . . .”).

265. See Benoit Morenne & Collin Eaton, Oil Firms Seize Chance to Fight State Climate Laws—With Trump’s Help, *Wall St. J.* (Mar. 22, 2025), <https://www.wsj.com/business/energy-oil/oil-companies-see-trumps-help-to-thwart-climate-lawsuits-superfund-laws-7e332d0d> (on file with the *Columbia Law Review*) (“The oil industry is hoping

Congress passes such new legislation evincing an intent to override this state authority, these preemption arguments should fail.²⁶⁶

B. *Balancing Local Benefits with Burdens on Commerce*

Though the Constitution's Commerce Clause only refers to the regulatory power of Congress, the Supreme Court has held that it also bars states from overly burdening interstate economic activity.²⁶⁷ States can violate the dormant Commerce Clause by "directly" regulating out-of-state conduct,²⁶⁸ explicitly discriminating against out-of-state economic interests,²⁶⁹ or by regulating interstate commerce so excessively that "the burden imposed on such commerce is clearly excessive in relation to the putative local benefits."²⁷⁰ The last situation requires a court to engage in what is known as "*Pike* balancing," after the case that introduced the doctrine.²⁷¹ The mere fact that a law has extraterritorial economic effects is not a reason for striking it down under the dormant Commerce Clause.²⁷² As the Supreme Court has recently made clear in *National Pork*

lawmakers include legal protection against climate lawsuits for oil companies in a coming Trump-endorsed bill.").

266. *Env't Encapsulating Corp. v. City of New York*, 855 F.2d 48, 53 (2d Cir. 1988) ("The historic police powers of the states are not to be found preempted 'unless that was the clear and manifest purpose of Congress.'" (citing *Hillsborough County v. Automated Med. Lab'y*, 417 U.S. 707, 715 (1985))).

267. See, e.g., *Or. Waste Sys. v. Dep't of Env't Quality*, 511 U.S. 93, 98 (1994) (holding that the Commerce Clause prohibits a state surcharge on the disposal of solid waste generated out of state).

268. See, e.g., *Edgar v. Mite Corp.*, 457 U.S. 624, 640 (1982) (striking down an Illinois statute that sought to prevent securities transactions occurring entirely outside the state of Illinois unless these transactions complied with the Illinois statute's requirements). This strain of Commerce Clause doctrine has survived the Supreme Court decision in *National Pork Producers Council v. Ross*, 143 S. Ct. 1142 (2023). See also *Ass'n for Accessible Meds. v. Ellison*, 704 F. Supp. 3d 947, 953 (D. Minn. 2023) (noting that "state law does not necessarily violate the dormant Commerce Clause merely because its regulation of in-state activity has out-of-state effects," but "a state may not *directly* regulate transactions that take place wholly outside the state and have no direct connection to it" (citing *Nat'l Pork Producers*, 143 S. Ct. at 1153–57 & n.1)); *Interlink Prods. Int'l v. Crowfoot*, 678 F. Supp. 3d 1216, 1223 (E.D. Cal. 2023) ("Although '[s]tates may not mandate compliance with their preferred policies in wholly out-of-state transactions, . . . they are free to regulate commerce and contracts within their boundaries with the goal of influencing the out-of-state choices of market participants.'" (quoting *Assoc. des Éleveurs de Canards et d'Oies du Québec v. Bonta*, 33 F.4th 1107, 1118 (9th Cir. 2022))).

269. See, e.g., *Foresight Coal Sales, LLC v. Chandler*, 60 F.4th 288, 299 (6th Cir. 2023) (striking down a Kentucky law that benefited in-state coal companies over out-of-state coal companies by exempting in-state coal from a tax).

270. *Pike v. Bruce Church, Inc.*, 397 U.S. 137, 142 (1970).

271. See *id.*; see also *Nat'l Pork Producers*, 143 S. Ct. at 1166 (2023) ("A state law that burdens interstate commerce in clear excess of its putative local benefits flunks *Pike* balancing.").

272. While a few Supreme Court cases from the 1980s seemed to indicate that there was an extraterritorial inquiry as part of dormant Commerce Clause doctrine, the Court recently affirmed that a "close look" at those cases reveals that "each typifies the familiar

Producers Council v. Ross, interpreting the Commerce Clause in this way would “cast a shadow over laws long understood to represent valid exercises of the States’ constitutionally reserved powers.”²⁷³ Disagreements about the reach of a state’s power over out-of-state entities are more properly understood to involve other constitutional provisions, with the Due Process Clause as the most obvious candidate for assessing whether such entities have a sufficient connection with the forum state.²⁷⁴

Fossil fuel companies and Republican attorneys general have alleged that state climate superfund laws violate the dormant Commerce Clause in two ways: first, by “directly” regulating out of state economic activity and, second, by discriminating against “large energy companies” located outside their states.²⁷⁵ The first claim—that state climate superfund laws directly regulate out-of-state activities—seems implausible on its face. These are liability laws that do not impose any particular standards on out-of-state activity.²⁷⁶ While it is of course true that state liability schemes

concern with preventing purposeful discrimination against out-of-state economic interests,” rather than a separate inquiry about extraterritoriality. See *Nat’l Pork Producers*, 143 S. Ct. at 1146. For an analysis of this now moribund “third branch” of the dormant clause and the need for the Supreme Court to clarify that the dormant Commerce Clause does not encompass a bar on “extraterritorial” state laws, see Robin Feldman & Gideon Schor, *Lochner Revenant: The Dormant Commerce Clause & Extraterritoriality*, 16 N.Y.U. J.L. & Liberty 209, 212–13, 225–59 (2022) (“Given how economically interconnected the states are, and how frequently each state’s laws have out-of-state effects, the principle essentially gives federal courts carte blanche to strike down state laws.”). For an argument prior to *National Pork Producers* that the so-called “extraterritorial” cases should not limit states from enacting laws to promote cleaner energy, see Alexandra B. Klass & Elizabeth Henley, *Energy Policy, Extraterritoriality, and the Dormant Commerce Clause*, 5 San Diego J. Climate & Energy L. 128, 129 (2014) (arguing that dormant Commerce Clause “extraterritoriality” doctrine should not be used to invalidate state clean energy and climate policies merely because they influence interstate energy markets, absent discrimination or protectionism).

273. 143 S. Ct. at 1156. See also Brannon P. Denning, *National Pork Producers Council v. Ross: Extraterritoriality Is Dead, Long Live the Dormant Commerce Clause*, 2023 *Cato Sup. Ct. Rev.* 23, 29 (“[I]f there *was* still some life left in extraterritoriality, *National Pork Producers* delivered a unanimous *coup de grace*.”); Douglas A. Kysar, *State Public Morality Regulation and the Dormant Commerce Clause*, 19 *Duke J. Const. L. & Pub. Pol’y* 109, 110–11 (2024) (concluding that, after *National Pork Producers*, extraterritorial effects will only be relevant “as a factor in a broader inquiry into whether a regulating state has engaged in disguised protectionism or regulation that is otherwise unacceptable under the [dormant Commerce Clause]”).

274. *Nat’l Pork Producers*, 143 S. Ct. at 1156–57.

275. See, e.g., Complaint at 5, *Chamber of Com. v. Moore*, No. 2:24-cv-01513 (D. Vt. filed Dec. 30, 2024), Dkt. No. 1; Complaint in Intervention for Declaratory and Injunctive Relief at 46, *Moore*, No. 2:24-cv-01513 (D. Vt. filed May 1, 2025), Dkt. No. 27-2.

276. Indeed, the complaints against Vermont and New York do not explain how state climate superfunds supposedly regulate out-of-state behavior. See, e.g., Complaint at 53, *Moore*, No. 2:24-cv-01513 (D. Vt. filed Dec. 30, 2024), Dkt. No. 1 (claiming that Vermont’s state climate superfund violates the dormant Commerce Clause “[b]y penalizing energy producers located outside of Vermont with massive fines”). Examples of state statutes that courts have found to violate the dormant Commerce Clause because they regulate wholly out-of-state activity involve laws that require out-of-state entities to conform with specific

can change the economic behavior of out-of-state actors by ensuring that companies account for the harms from their practices, courts have not treated such legislation as equivalent to laws that impose specific requirements on out-of-state business.²⁷⁷ Indeed, if that were so, it is hard to see how numerous state regulations and our common law tort system would survive constitutional scrutiny given their nationwide effects.²⁷⁸

The second claim advanced by the companies and Republican attorneys general similarly collapses important distinctions in dormant Commerce Clause doctrine. It is true that courts have invalidated state environmental statutes because they treat in-state and out-of-state activities differently, whether explicitly or in their practical effects.²⁷⁹ Past examples of this type of statutory scheme include those imposing fees only on coal produced out of state while exempting in-state coal companies,²⁸⁰ or imposing fees only on hazardous waste brought into a state rather than hazardous waste produced by in-state companies.²⁸¹ But in each of these examples, the applicable category of business is crucial to understanding whether a state is acting in a discriminatory manner. In the case of state climate superfunds, fossil fuel companies want to broadly define the category as “energy producers,” since states like New

requirements outside the state’s borders in order to engage in economic activities within another state; it is questionable whether this line of cases survives *National Pork Producers*, but regardless, there are no such regulatory requirements in state climate superfund laws. For one example involving hazardous waste recycling laws, see *Nat’l Solid Wastes Mgmt. Ass’n v. Meyer*, 63 F.3d 652, 658 (7th Cir. 1995) (finding a Wisconsin solid waste law that conditioned the use of Wisconsin landfills by non-Wisconsin waste generators on their home communities’ adoption and enforcement of Wisconsin recycling standards, such as number of materials to be separated and recycled, financing levels, and enforcement mechanisms, violated the dormant Commerce Clause).

277. See *Exxon Corp. v. Governor of Md.*, 437 U.S. 117, 128 (1978) (“[W]e cannot adopt appellants’ novel suggestion that because the economic market for petroleum products is nationwide, no State has the power to regulate the retail marketing of gas.”); *Truesdell v. Friedlander*, 80 F.4th 762, 771 (6th Cir. 2023) (“[A] court must not confuse a law that has only a disparate impact on out-of-state businesses for one that has discriminatory effects on interstate commerce.”).

278. See Gillian E. Metzger, *Congress, Article IV, and Interstate Relations*, 120 *Harv. L. Rev.* 1468, 1521 (2007) (“In practice, states exert regulatory control over each other all the time The prohibition on extraterritorial legislation is thus understood only to constrain a state from formally asserting legal authority outside its borders.”).

279. See, e.g., *C & A Carbone, Inc. v. Town of Clarkstown*, 511 U.S. 383, 392 (1994) (“Discrimination against interstate commerce in favor of local business or investment is *per se* invalid, save in a narrow class of cases in which the municipality can demonstrate, under rigorous scrutiny, that it has no other means to advance a legitimate local interest.”).

280. See, e.g., *Chem. Waste Mgmt., Inc. v. Hunt*, 504 U.S. 334, 336–37 (1992) (invalidating an Alabama statute that imposed an additional fee on hazardous waste generated outside the state that was subsequently disposed of within Alabama); *All. for Clean Coal v. Miller*, 44 F.3d 591, 596 (7th Cir. 1995) (finding that an Illinois statute that discriminated against out-of-state coal violated the dormant Commerce Clause).

281. See, e.g., *Env’t Tech. Council v. Sierra Club*, 98 F.3d 774, 787 (4th Cir. 1996) (invalidating a South Carolina statute that limited the import of out-of-state hazardous waste into its borders for processing).

York and Vermont do not have fossil fuel refiners within their borders. And one could imagine a version of a state law that would do what the companies allege by taxing electricity from out-of-state “energy producers,” but not imposing the same tax on in-state energy companies.

Yet that is not what state climate superfunds do. The laws impose liability on a category of businesses whose activities cause a particular harm. If courts widen the relevant frame to encompass an entire class of economic activity as part of analyzing a discrimination claim under the dormant Commerce Clause, it could call into question the constitutionality of a whole host of state laws. Imagine if a state with few or no in-state chemical manufacturers found a particular class of chemicals to be extremely toxic and opted to impose liability on companies for the resulting public health and environmental effects through new legislation.²⁸² Under the reasoning of the U.S. Chamber of Commerce and American Petroleum Institute, the American Chemistry Council could then sue, arguing that the state was discriminating unfairly against out-of-state chemical companies. Or suppose a state determines that a particular class of drugs has uniquely harmful effects on its population and opts to ban them.²⁸³ These drugs are made by out-of-state drug companies, who then sue, alleging that the prohibition is unconstitutional discrimination under the dormant Commerce Clause.²⁸⁴ Given such examples and the lack of any precedent for such category expansion, this argument does not appear persuasive.

The key question, then, is whether a state climate superfund places too large of a burden on the national economy relative to its local benefits under *Pike* balancing.²⁸⁵ In the last century, the Supreme Court has rarely found that state laws violate the dormant Commerce Clause

282. Many states have enacted bans on various toxic chemicals; the most recent examples involve a class of chemicals called PFAS. See Shalina Chatlani, More States Ban PFAS, or ‘Forever Chemicals,’ in More Products, Mo. Indep. (Oct. 22, 2024), <https://missouriindependent.com/2024/10/22/more-states-ban-pfas-or-forever-chemicals-in-more-products/> (on file with the *Columbia Law Review*).

283. See *GenBioPro, Inc. v. Sorsaia*, No. 3:23-0058, 2023 WL 5490179, at *12 (S.D. W. Va. Aug. 24, 2023) (describing a West Virginia law restricting access to mifepristone, which the court ultimately found did not violate the dormant Commerce Clause), *aff’d sub nom.*, *GenBioPro, Inc. v. Raynes*, 144 F.4th 258 (4th Cir. 2025).

284. While the drug company in *GenBioPro, Inc. v. Sorsaia* did not bring a discrimination complaint under the dormant Commerce Clause, instead arguing that the West Virginia statute was unconstitutional because it failed *Pike* balancing, the same arguments would be available to such drug companies. See *id.*

285. Though the Supreme Court has left open this avenue as a reason to find state laws unconstitutional, it is worth noting that the Court has repeatedly emphasized that its jurisprudence on the dormant Commerce Clause is driven by concerns about states engaging in “economic protectionism” to bolster in-state businesses. See, e.g., *McBurney v. Young*, 569 U.S. 221, 235 (2013) (asserting that the Court’s dormant Commerce Clause jurisprudence is “driven by a concern about ‘economic protectionism—that is, regulatory measures designed to benefit in-state economic interests by burdening out-of-state competitors’” (quoting *New Energy Co. of Ind. v. Linbach*, 486 U.S. 269, 273 (1988))).

because of their extraterritorial economic effects.²⁸⁶ And to date, *no court* has invalidated a state environmental law because its effects are overly burdensome on interstate economic activity as compared to its local benefits.²⁸⁷ Given states' longstanding role in protecting public health and the environment, courts have determined that such local benefits are "plainly legitimate subjects of state regulation."²⁸⁸ Additionally, demonstrating a burden on interstate commerce requires more than evidence regarding lost corporate profits, "especially . . . where the legislation at issue is reasonably targeted at important public health and environmental concerns."²⁸⁹ Parties challenging the law must provide some indication that a state is attempting to control conduct "wholly outside the state," such as by "forc[ing] other jurisdictions to adopt" similar laws.²⁹⁰

The Supreme Court's recent decision in *National Pork Producers* underscores the judiciary's reluctance to invalidate state legislation even in situations in which it does seem as though states are exerting direct control over out-of-state activities. The case concerned a California law that banned the sale of pork products within the state unless out-of-state

286. See *Rocky Mountain Farmers Union v. Corey*, 730 F.3d 1070, 1101 (9th Cir. 2013) (explaining that in the modern era, the Supreme Court has only struck down two laws on the grounds that they violated the dormant Commerce Clause's extraterritoriality doctrine, and distinguishing those laws—which involved price controls—from a California fuel standard intended to reduce greenhouse gas emissions in the state); see also *Portland Pipe Line Corp. v. City of South Portland*, 332 F. Supp. 3d 264, 308 (D. Me. 2018) ("The higher courts have expressed a significant degree of discomfort with the speculative nature of this balancing test and with the role of the court in making such determinations.").

287. Most laws survive scrutiny under the second test. See *Dep't of Revenue of Ky. v. Davis*, 553 U.S. 328, 339 (2008); see also Tanner Hendershot, *The United States of California: Ninth Circuit Tips the Dormant Commerce Clause Scales in Favor of the Golden State's Animal Welfare Legislation*, 49 *Pepp. L. Rev.* 469, 482 (2022) (examining the failure of dormant Commerce Clause challenges to California's environmental and animal welfare laws); Klass & Henley, *supra* note 272, at 129 (arguing that the dormant Commerce Clause should not prevent state regulation of the energy sector to address climate change given the constitutional validity of "the hundreds of other health, safety, and environmental protection laws that influence companies selling light bulbs, appliances, and other products in interstate markets").

288. *Constr. Materials Recycling Ass'n Issues & Educ. Fund, Inc. v. Burack*, 686 F. Supp. 2d 162, 172 (D.N.H. 2010).

289. *Id.* at 173. See also *Old Bridge Chems., Inc. v. N.J. Dep't of Env't Prot.*, 965 F.2d 1287, 1295 (3d Cir. 1992) ("[W]here the burden on out-of-state interests rises no higher than that placed on competing in-state interests, it is a burden on *commerce* rather than a burden on *interstate commerce*.").

290. *Rocky Mountain Farmers Union*, 730 F.3d at 1106 ("The Commerce Clause does not protect Plaintiffs' ability to make others pay for the hidden harms of their products merely because those products are shipped across state lines."). See also *McBurney*, 569 U.S. at 235 (observing that the "common thread" in the Court's dormant Commerce Clause jurisprudence is that the state legislation "interfered with the natural functioning of the interstate market either through prohibition or through burdensome regulation" (internal quotation marks omitted) (quoting *Hughes v. Alexandria Scrap Corp.*, 426 U.S. 794, 806 (1976))).

farmers complied with certain space requirements for the animals.²⁹¹ While four members of the Court held that the plaintiffs did not demonstrate that the state law would substantially burden interstate commerce,²⁹² five Justices found that the plaintiffs provided sufficient evidence of a substantial burden; four of the five would have allowed the U.S. Court of Appeals for the Ninth Circuit to engage in traditional *Pike* balancing.²⁹³ In a short, narrow concurrence agreeing to dismiss the claims, Justice Amy Coney Barrett wrote that such balancing was unwarranted despite the interstate economic burdens because

the benefits and burdens of Proposition 12 are incommensurable. California’s interest in eliminating allegedly inhumane products from its markets cannot be weighed on a scale opposite dollars and cents—at least not without second-guessing the moral judgments of California voters or making the kind of policy decisions reserved for politicians.²⁹⁴

A majority of the Court thus agreed that California’s law did not violate the dormant Commerce Clause,²⁹⁵ though for different reasons.²⁹⁶

Despite the split nature of the opinions in *National Pork Producers*, the decision indicates that fossil fuel companies are likely to face an uphill battle in arguing that climate superfund laws should be struck down under *Pike* balancing.²⁹⁷ As drafted, these laws will not force other

291. See *Nat’l Pork Producers Council v. Ross*, 143 S. Ct. 1142, 1150–51 (2023).

292. See *id.* at 1150. Justices Gorsuch, Thomas, Kagan, and Sotomayor agreed that the law did not impose a substantial burden on interstate commerce. *Id.* at 1161.

293. Chief Justice Roberts and Justices Alito, Kavanaugh, Barrett, and Jackson concluded that the law did impose a substantial burden on interstate commerce. For Chief Justice Roberts’ dissent, which Justices Alito, Kavanaugh, and Jackson joined, see *id.* at 1167 (Roberts, C.J., concurring in part and dissenting in part) (“I would find that petitioners’ [sic] have plausibly alleged a substantial burden against interstate commerce, and would therefore vacate the judgment and remand the case for the court below to decide whether petitioners have stated a claim under *Pike*.”). Justice Barrett joined only parts of the majority opinion and filed a separate concurrence explaining her reasoning in the case. See *id.* at 1167 (Barrett, J., concurring in part) (“A state law that burdens interstate commerce in clear excess of its putative local benefits flunks *Pike* balancing.”).

294. *Id.* at 1167 (Barrett, J., concurring in part).

295. See *supra* note 293 and accompanying text.

296. Compare *Nat’l Pork Producers*, 143 S. Ct. at 1161 (plurality opinion) (Gorsuch, J.) (“*Pike* requires a plaintiff to plead facts plausibly showing that a challenged law imposes ‘substantial burdens’ on interstate commerce *before* a court may assess the law’s competing benefits or weigh the two sides against each other And, tellingly, the complaint before us fails to clear even that bar.”), with *id.* at 1167 (Barrett, J., concurring in part) (arguing that petitioners plausibly alleged that the costs were pervasive and burdensome, and stating that if the burdens and benefits were “capable of judicial balancing,” the claim should proceed).

297. See Dan Farber, *Has the Supreme Court Declared Open Season on Interstate Commerce?*, Legal Planet (May 24, 2023), <https://legal-planet.org/2023/05/24/has-the-supreme-court-declared-open-season-on-interstate-commerce/> [https://perma.cc/Q3G6-WJPK] (“This isn’t a red stoplight for the *Pike* balancing test, but it’s at least a flashing

states to adopt certain regulations, nor are they intended to set a standard that will control practices or activities outside their borders. The bills impose liability for in-state damages in a way that will affect fossil fuel companies' profits, consistent with states' historic police powers.²⁹⁸ If widespread adoption of such laws increases the costs of using fossil fuels nationwide, that is an expected and traditional consequence of states imposing liability on economic activities that causes social harms—whether asbestos, cigarettes, opioids, or toxic chemicals.²⁹⁹

States, however, must ensure that the program's financial burdens are proportionate to the expected local harms from climate change.³⁰⁰ The greater the upstream effects on commerce and cost increases from these laws, the more states will need to document that the local benefits will be significant.³⁰¹ In recent years, environmental economists have made considerable strides in quantifying and monetizing the expected damages from climate change, and as noted above, many states are already facing significant expenditures to address the effects of rising temperatures.³⁰² Legislatures are therefore likely to have detailed information at their disposal about the benefits to public health and the environment from state climate superfunds, which will allow them to support the constitutionality of the laws despite reductions in fossil fuel companies' profits.

C. *The Question of Procedural Fairness*

A central concern with state climate superfund laws is whether it is reasonable to hold fossil fuel companies financially responsible for climate adaptation costs. As explained above, planetary warming over the next several decades is largely the result of prior emissions from the sale

yellow warning to respect the power of states to regulate within their borders. [And] that's definitely good news for state environmental and energy regulators.”).

298. See *supra* section II.B.

299. See Nora Freeman Engstrom & Robert L. Rabin, Pursuing Public Health Through Litigation: Lessons from Tobacco and Opioids, 73 *Stan. L. Rev.* 285, 322–38 (2021) (discussing liability for harmful substances like tobacco, opioids, and asbestos, and comparing price sensitivity in the case of tobacco and opioids); John C.P. Goldberg & Benjamin C. Zipursky, The Easy Case for Products Liability Law: A Response to Professors Polinsky and Shavell, 123 *Harv. L. Rev.* 1919, 1926 (2010) (explaining how liability can “help ensure that products’ prices reflect their true social cost”).

300. See *Pike v. Bruce Church, Inc.*, 397 U.S. 137, 146 (1970) (holding that an Arizona law regulating food packaging violated the dormant Commerce Clause because the local benefits did not outweigh the burden on interstate commerce).

301. See *id.* at 142 (“If a legitimate local purpose is found, then the question becomes one of degree. And the extent of the burden . . . tolerated will of course depend on the nature of the local interest involved, and on whether it could be promoted as well with a lesser impact on interstate activities.”).

302. See Kevin Rennert et al., Comprehensive Evidence Implies a Higher Social Cost of CO₂, 610 *Nature* 687, 689 (2022) (demonstrating updated calculations of the social cost of carbon dioxide using new models).

of fossil fuels, and the companies that profited from these sales are corporations that distribute their products around the world.³⁰³ The fairest way to apportion adaptation costs would seem to involve some financial contributions from businesses that have extracted, refined, produced, and sold fossil fuels. Fossil fuel companies have argued, however, that state imposition of any liability for the harms from producing coal, oil, and natural gas does not comport with the Constitution's Due Process Clause.³⁰⁴

For the purposes of providing the strongest articulation of fossil fuel companies' concerns, the following analysis will take as a given that there is a substantive due process right to fairness in economic legislation.³⁰⁵ Yet a large body of originalist scholarship,³⁰⁶ as well as judicial opinions,³⁰⁷ has concluded that the Due Process Clause does not provide substantive rights but merely guarantees appropriate procedures prior to the deprivation of life, liberty, or property.³⁰⁸ It may appear contradictory

303. See *supra* notes 31–32.

304. Restatement (Second) of Conflict of Laws § 2 (A.L.I. 1971) (“The due process clause of the Fourteenth Amendment imposes limits beyond which a State of the United States may not extend the jurisdiction of its courts or the range of application of its law.”). Similar concerns were raised about CERCLA when it was first passed. See George Clemon Freeman, Jr., *Inappropriate and Unconstitutional Retroactive Application of Superfund Liability*, 42 *Bus. Law.* 215, 235–37 (1986) (“[T]he degree of constitutional disfavor for retroactive legislation depends on its punitive characteristics [I]mposi[ng] . . . strict, joint and several liability on a past, nonnegligent, off-site generator without regard to the magnitude of his contribution . . . easily could bankrupt him by requiring him to shoulder damages vastly disproportionate to his involvement.”); see also David B. Spence, *The Never Ending Story: The Constitutionality of Superfund's Retroactive Liability Regime*, 32 *Env't L. Rep.* 11284, 11284 (2002).

305. For a detailed overview of substantive due process as a matter of constitutional doctrine, see Leah M. Litman, *The New Substantive Due Process*, 103 *Tex. L. Rev.* 565, 572–80 (2025).

306. See Randy E. Barnett & Evan D. Bernick, *No Arbitrary Power: An Originalist Theory of the Due Process of Law*, 60 *Wm. & Mary L. Rev.* 1599, 1603 (2019) (“The dominant originalist view has long been that due process of law is solely a procedural guarantee that does not constrain the content of legislation.”). For a recent argument that modern due process cases are wrongly decided or reasoned given original understandings of the Due Process Clause, see Max Crema & Lawrence B. Solum, *The Original Meaning of “Due Process of Law” in the Fifth Amendment*, 108 *Va. L. Rev.* 447, 451 (2022) (arguing that the original meaning of the Due Process Clause had more to do with technical procedures rather than anything to do with “fairness”).

307. For the most recent example, see *Dobbs v. Jackson Women's Health Org.*, 142 *S. Ct.* 2228, 2248 (2022) (arguing that substantive due process analysis requires that a fundamental right be deeply rooted in the nation's history and tradition and disapprovingly citing *Lochner v. New York*, 198 *U.S.* 45 (1905), which invalidated state public health legislation, as a “discredited decision” involving “freewheeling judicial policymaking”).

308. See John Harrison, *Substantive Due Process and the Constitutional Text*, 83 *Va. L. Rev.* 493, 502 (1997) (noting that the difficulty of reconciling substantive due process with the Constitution's text “is at once so obvious and so well known that one would expect the Court to have a standard answer to it, but there is none”).

for the courts to move away from substantive due process protections when states restrict individual liberties³⁰⁹ while heightening such protections for corporations subject to state liability for harms to natural resources and public health.³¹⁰ Nevertheless, given that courts have shown concern for fairness when reviewing past constitutional challenges to environmental and public health laws, state climate superfunds could be struck down if they run afoul of substantive due process precedents for economic interests.

One potential objection involves the retroactive application of liability.³¹¹ On very rare occasions, legislation imposing retroactive liability has not survived judicial scrutiny. The sole example in nearly a century involved the 1992 Coal Industry Retiree Health Benefit Act (“Coal Act”). The Coal Act sought to require coal mining companies to provide lifetime healthcare benefits to former mine workers,³¹² many of whom were afflicted with serious illnesses because of occupational exposures to harmful substances.³¹³ A company, Eastern Enterprises, had previously engaged in coal mining but had left that industry decades prior; under the provisions of the Act, it would nevertheless need to pay for health benefits for a large number of former workers.³¹⁴ Eastern Enterprises sued the government, arguing it had violated the Due

309. See *Dobbs*, 142 S. Ct. at 2247 (“Substantive due process has at times been a treacherous field for this Court’ . . . and it has sometimes led the Court to usurp authority that the Constitution entrusts to the people’s elected representatives.” (quoting *Moore v. City of East Cleveland*, 431 U.S. 494, 502 (1977))).

310. Such a move would provide more ammunition for accusations that the Roberts Court has been uniquely pro-business in its constitutional and administrative law decisions. For empirical support for such a view, see Lee Epstein & Mitu Gulati, *A Century of Business in the Supreme Court, 1920–2020*, 107 *Minn. L. Rev. Headnotes* 49, 67 (2022), https://minnesotalawreview.org/wp-content/uploads/2022/11/Gulati-Epstein_Final.pdf [<https://perma.cc/M77Y-67CJ>] (finding that the Roberts court has been uniquely pro-business and noting that favorable outcomes for corporate litigants seem to track whether the Office of the Solicitor General participated in cases in support of businesses); see also Lee Epstein, William M. Landes & Richard A. Posner, *How Business Fares in the Supreme Court*, 97 *Minn. L. Rev.* 1431, 1471 (2013) (observing that “the Roberts Court is much friendlier to business than either the Burger or Rehnquist Courts, which preceded it, were”).

311. See Ann Woolhandler, *Public Rights, Private Rights, and Statutory Retroactivity*, 94 *Geo. L.J.* 1015, 1023–27 (2006) (discussing early Supreme Court cases invalidating legislative acts that applied retroactively to private rights); see also *General Motors Corp. v. Romein*, 503 U.S. 181, 191 (1992) (noting that “[r]etroactive legislation presents problems of unfairness that are more serious than those posed by prospective legislation, because it can deprive citizens of legitimate expectations and upset settled transactions”); *Bowen v. Georgetown Univ. Hosp.*, 488 U.S. 204, 208 (1988) (“Retroactivity is not favored in the law. Thus, congressional enactments and administrative rules will not be construed to have retroactive effect unless their language requires this result.”).

312. *E. Enters. v. Apfel*, 524 U.S. 498, 514 (1998).

313. See *Coal Mine Health and Safety: Hearing Before a Subcomm. of the Comm. on Appropriations*, 102d Cong. 2 (1992) (opening remarks of Sen. Specter) (describing “enormous pain and suffering” among miners due to black lung disease).

314. *E. Enters.*, 524 U.S. at 516.

Process Clause and Takings Clause by requiring the company to fund healthcare benefits for former workers.³¹⁵ Before this legal challenge, the Court does not appear to have struck down economic legislation on retroactivity grounds since 1935.³¹⁶

In a highly splintered decision, five Justices concluded that the application of the Coal Act to Eastern Enterprises was unconstitutional.³¹⁷ Four Justices believed that the Act was an unconstitutional taking.³¹⁸ Their key concern appeared to be that some of these companies, like Eastern Enterprises, had not participated in several agreements with unions in the late 1970s in which members of the industry agreed they would fund lifetime health benefits for coal miners.³¹⁹ As their opinion explained, “Eastern could not have contemplated liability for the provision of lifetime benefits to the widows of deceased miners,”³²⁰ and as such, the Act “substantially interfere[d] with Eastern’s reasonable investment-backed expectations.”³²¹ Five Justices, however, held that the proper constitutional provision for evaluating the constitutionality of

315. *Id.* at 503–04.

316. In *Railroad Retirement Board v. Alton Railroad Co.*, the Supreme Court found the Railroad Retirement Act, which sought to require railroad companies to provide retirement benefits for employees, violated due process because of its retroactivity. See 295 U.S. 330, 349–50 (1935) (“The provision is not only retroactive . . . but as to some of the railroad companies it constitutes a naked appropriation of private property . . . [T]he act denies due process of law by taking the property of one and bestowing it upon another.”). The Court found the Act “arbitrary” because it would not “promote efficiency or safety in the future operation of the railroads” as Congress had asserted. *Id.* at 349. For a summary and analysis of cases involving due process challenges to retroactive legislation from the 1870s through the New Deal era, see Edward S. Stimson, *Retroactive Application of Law—A Problem in Constitutional Law*, 38 Mich. L. Rev. 30, 33–47 (1939). For a summary of constitutional cases concerning retroactivity of economic legislation, see Ronald D. Rotunda & John E. Nowak, *Treatise on Constitutional Law: Substance and Procedure*, § 11.9 (5th ed. 2013) (discussing *Alton* and subsequent cases before *Eastern Enterprises*).

317. The Court did not assess the constitutionality of other provisions in the law that imposed this requirement on companies that had made prior commitments to fund healthcare benefits for former coal miners. For these provisions, see *E. Enters.*, 524 U.S. at 515.

318. Justice O’Connor delivered the opinion of the Court, which was joined by Chief Justice Rehnquist, Justice Scalia, and Justice Thomas. *Id.* at 503.

319. *Id.* at 530.

320. *Id.* at 531.

321. *Id.* at 532. Justice Kennedy concurred in the judgment only and would have found the law a violation of due process rights rather than a taking. See *id.* at 540–50 (Kennedy, J., concurring in the judgment and dissenting in part) (arguing that the Act does not affect property interests, as required by case law on regulatory takings, but instead is a “rare” case where economic legislation violates due process protections because “the remedy” had “no legitimate relation to the interest which the Government asserts in support of the statute”). Note that while Justice Kennedy stated that the Coal Act’s retroactivity had an “unprecedented” scope of thirty five years, this is not accurate as a factual matter given that laws imposing liability for hazardous waste harms have no limits on retroactive liability. See *infra* note 433 and accompanying text.

retroactive civil liability legislation was the Due Process Clause,³²² with four Justices finding the Coal Act's application to Eastern Enterprises comported with due process requirements and a fifth, Justice Anthony Kennedy, finding it did not.³²³ The fractured nature of the opinion has led courts and scholars to opine that the decision "stands for almost nothing because both of the stated rationales for striking the employer mandate were explicitly rejected by a majority of the Court."³²⁴ Following this case, courts generally affirmed that the Due Process Clause is the appropriate provision for evaluating the fairness of legislation that does not affect "property interests," such as laws imposing some form of financial liability or tax.³²⁵ And several courts of appeals went on to

322. See *E. Enters.*, 524 U.S. at 554 (Breyer, J., dissenting) (arguing that the "Constitution's Takings Clause does not apply" and that the Due Process Clause does not render the legislation unconstitutional).

323. See *id.* at 539 (Kennedy, J., concurring in the judgment and dissenting in part) ("In my view, which is in full accord with many of the plurality's conclusions, the relevant portions of the [Coal Act] must be invalidated as contrary to essential due process principles, without regard to the Takings Clause of the Fifth Amendment.").

324. Mark A. Hall, *Individual Versus State Constitutional Rights Under Health Care Reform*, 42 *Ariz. St. L.J.* 1233, 1237 (2011) (citing *E. Enters.*, 524 U.S. at 538). See also David S. Cohen, *The Precedent-Based Voting Paradox*, 90 *B.U. L. Rev.* 183, 190 (2010) ("Combining all the votes, the Court found, paradoxically, that the Act was unconstitutional but also that the Act violated neither the Takings Clause nor the Due Process Clause."). For judicial discussions of the case, see *Nat'l Fuel Gas Distrib. Corp. v. N.Y. State Energy Rsch. & Dev. Auth.*, 265 F. Supp. 3d 286, 295 (W.D.N.Y. 2017) ("Because there was no common denominator in the plurality and concurring opinions, the authority of *Eastern Enterprises* is confined to its holding that the Coal Act is unconstitutional as applied to Eastern Enterprises." (internal quotation marks omitted) (quoting *United States v. Alcan Aluminum Corp.*, 315 F.3d 179, 189 (2d Cir. 2003))); *Me. People's All. v. Holtrachem Mfg. Co.*, No. CIV. 00-69-B-C, 2001 WL 584464, at *1 (D. Me. May 29, 2001) ("It is generally agreed that *Eastern Enterprises* has no precedential value and that its holding is limited to its rather unique facts and the narrow statutory subsection at issue.").

325. See Eduardo Moisés Peñalver, *Regulatory Taxings*, 104 *Colum. L. Rev.* 2182, 2208 n.115 (2004) (providing a detailed list of judicial opinions that address this issue, the majority of which have found financial liability or taxation are not implicated by the Takings Clause but are more properly assessed for comportment with due process); see also Thomas W. Merrill, *The Landscape of Constitutional Property*, 86 *Va. L. Rev.* 885, 974 (2000) ("Correctly understood, 'specific property interest' should be understood to mean 'discrete asset,' not 'incident of property.'"). For decisions addressing this issue in the context of hazardous waste laws, see *United States v. Alcan Aluminum Corp.*, 315 F.3d 179, 190 (2d Cir. 2003) (holding that CERCLA liability neither constituted a taking nor violated due process rights); *United States v. Ne. Pharm. & Chem. Co.*, 810 F.2d 726, 734 (8th Cir. 1986) ("Appellants also summarily argue retroactive application of CERCLA constitutes an unconstitutional taking of property. We disagree."); *United States v. Conservation Chem. Co.*, 619 F. Supp. 162, 217 (W.D. Mo. 1985) ("What defendants have loosely referred to as a 'taking' is . . . nothing more than an attempt to transform a substantive due process challenge of an economic regulation . . . into a confiscation of defendants' property rights. This characterization is, however, inappropriate and the claim lacks merit.").

uphold the portions of the Coal Act that applied to other coal mining companies as constitutional.³²⁶

Indeed, there are numerous examples of retroactive laws that have withstood constitutional challenges before and after *Eastern Enterprises v. Apfel*.³²⁷ For instance, the Supreme Court upheld similar legislation requiring coal companies to compensate miners for health harms from black lung disease,³²⁸ distinguishing that case from *Eastern Enterprises* by noting that it was “rational” to “spread the costs of the employees’ disabilities to those who have profited from the fruits of their labor.”³²⁹ The fact that the compensation was related to an actual harm—unlike the more general health benefits at issue in the Coal Act—seemed to matter a great deal in the outcome. Other retroactive laws that have survived judicial review include state legislation requiring companies to pay worker compensation claims retroactively;³³⁰ legislation retroactively imposing new taxes;³³¹ legislation retroactively altering when owners

326. See *Anker Energy Corp. v. Consolidation Coal Co.*, 177 F.3d 161, 173–74 (3d Cir. 1999) (finding that the company’s past conduct justified the retroactive application of the Coal Act); *Ass’n of Bituminous Contractors v. Apfel*, 156 F.3d 1246, 1257 (D.C. Cir. 1998) (“The clear implication of each opinion in *Eastern Enterprises* is that employer participation in the 1974 and 1978 agreements represents a sufficient amount of past conduct to justify the retroactive imposition of Coal Act liability (for the dissenting justices, of course, such participation is not even necessary).”). For earlier decisions upholding the Coal Act against similar as-applied constitutional challenges, see *Holland v. Keenan Trucking Co.*, 102 F.3d 736, 738, 740 (4th Cir. 1996) (rejecting appellants’ argument that “because the Coal Act imposes a new liability for actions taken in the past[,] it . . . therefore violates the Fifth Amendment”); *Lindsey Coal Mining Co. v. Chater*, 90 F.3d 688, 695 (3d Cir. 1996) (finding that the Coal Act, as applied to the plaintiff, violated neither the Takings Clause nor the Due Process Clause); *In re Blue Diamond Coal Co.*, 79 F.3d 516, 526 (6th Cir. 1996) (holding that the challenged application of the Coal Act did not constitute an unconstitutional taking or infringe on due process rights); *Davon, Inc. v. Shalala*, 75 F.3d 1114, 1127, 1130 (7th Cir. 1996) (holding that the Coal Act did not enact takings upon plaintiffs and its retroactive application did not violate due process); *In re Chateaugay Corp.*, 53 F.3d 478, 498 (2d Cir. 1995) (“[T]he Coal Act neither violates [the company’s] due process rights nor effects an illegal taking of property without just compensation.”).

327. See, e.g., *Usery v. Turner Elkhorn Mining Co.*, 428 U.S. 1, 19–20 (1976) (holding that a law acting retroactively to require mining companies to compensate for employee death and illness did not violate the Due Process Clause); see also James M. Puckett, *Embracing the Queen of Hearts: Deference to Retroactive Tax Rules*, 40 Fla. St. U. L. Rev. 349, 374 (2013) (“[A]lthough there may be outlier examples, retroactivity generally has not been suspect under the Constitution.”).

328. *Usery*, 428 U.S. at 6.

329. *E. Enters. v. Apfel*, 524 U.S. 498, 524 (1998) (quoting *Usery*, 428 U.S. at 18).

330. See *Gen. Motors Corp. v. Romein*, 503 U.S. 181, 186 (1992) (upholding a Michigan law that required companies to pay previously disabled employees nearly \$25 million).

331. See *United States v. Carlton*, 512 U.S. 26, 35 (1994) (upholding retroactive application of amendments to the Tax Reform Act of 1986, even though the provisions cost some individual payers hundreds of thousands of dollars); see also *Mont. Rail Link, Inc. v. United States*, 76 F.3d 991, 995 (9th Cir. 1996) (“[A] taxpayer’s reliance on a tax

could obtain unclaimed travelers checks;³³² legislation retroactively imposing fees on bankruptcy filers;³³³ legislation retroactively altering standards of liability for fraud claims;³³⁴ and notably, legislation imposing liability for hazardous waste harms³³⁵—the main model for state climate superfunds. Though the Supreme Court has never directly reviewed the constitutionality of hazardous waste liability laws, no courts that have addressed the question have found that these laws violate due process.³³⁶

statute later amended retroactively is ‘insufficient to establish a constitutional violation.’” (quoting *Carlton*, 512 U.S. at 33)).

332. See *Am. Express Travel Related Servs. v. Sidamon-Eristoff*, 669 F.3d 359, 368 (3d Cir. 2012) (upholding district court’s denial of a preliminary injunction to enjoin enforcement of a New Jersey statute retroactively reducing the presumptive abandonment period for travelers checks from fifteen to three years, noting that the legislature “could have rationally believed that the shorter abandonment period better protected customers”).

333. See *In re Exide Techs.*, 611 B.R. 21, 30 (Bankr. D. Del. 2020) (“Even a retroactive statute that imposes liability on conduct that occurred before the statute’s enactment has been upheld when challenged on due process grounds . . . [I]mposition of liability for past transactions may be rational as a cost-spreading measure.” (citing *Usery*, 428 U.S. at 18)); see also *In re SCI Direct, LLC*, No. 17-61735, Adv. No. 19-06056, 2020 WL 5929612, at *7–8 (Bankr. N.D. Ohio Sep. 22, 2020) (rejecting a Due Process Clause challenge to a 2017 amendment to the bankruptcy code that retroactively increased filing fees for pending cases because of its rational relation to Congress’s “legitimate legislative purpose[] to prevent revenue loss and preserve the [United States Trustee] Program’s self-funded character” (internal quotation marks omitted) (quoting *In re Exide*, 611 B.R. at 31)).

334. *Sanders v. Allison Engine Co.*, 703 F.3d 930, 949 (6th Cir. 2012) (rejecting claim that retroactive application of an amended liability standard to the False Claims Act violated the Due Process Clause because the provision was justified by Congress’s “rational legislative purpose” of combating fraud).

335. See, e.g., *United States v. Alcan Aluminum Corp.*, 315 F.3d 179, 190 (2d Cir. 2003); *United States v. Ne. Pharm. & Chem. Co.*, 810 F.2d 726, 734 (8th Cir. 1986) (“Appellants also summarily argue retroactive application of CERCLA constitutes an unconstitutional taking of property. We disagree.”); *United States v. Dico, Inc.*, 189 F.R.D. 536, 543 (S.D. Iowa 1999) (“[T]he only rationale embraced by at least five judges in *Eastern Enterprises* is that retroactive application of the Coal Act . . . did not violate the Takings Clause. It therefore remains settled in this circuit that retroactive application of CERCLA does not violate either the Due Process or Takings Clauses.” (citing *Ne. Pharm. & Chem. Co.*, 810 F.2d at 734)); *United States v. Alcan Aluminum Corp.*, 49 F. Supp. 2d 96, 100 (N.D.N.Y. 1999) (distinguishing *Eastern Enterprises* from environmental liability in the context of a hazardous waste superfund because, in the latter case, the liability was connected to an environmental harm, rather than imposed for “no reason”); *United States v. Conservation Chem. Co.*, 619 F. Supp. 162, 217 (W.D. Mo. 1985) (“What defendants have loosely referred to as a ‘taking’ is, in reality, nothing more than an attempt to transform a substantive due process challenge of an economic regulation . . . into a confiscation of defendants’ property rights. This characterization is, however, inappropriate and the claim lacks merit.”).

336. See *ASARCO LLC v. Goodwin*, 756 F.3d 191, 200 (2d Cir. 2014) (“Such retroactive application does not violate the due process clause, and does not convert CERCLA into a bill of attainder or an ex post facto law.”); *United States v. Monsanto Co.*, 858 F.2d 160, 174 (4th Cir. 1988) (“Many courts have concluded that Congress intended CERCLA’s liability provisions to apply retroactively to pre-enactment disposal activities of off-site waste generators. They have held uniformly that retroactive operation survives the

The formal legal test that courts apply when analyzing whether retroactive laws violate due process is whether the government has shown that such application has a “legitimate legislative purpose furthered by rational means.”³³⁷ In the case of liability for harms to natural resources, courts have unanimously found that environmental remediation is a legitimate government purpose, and that it is rational to impose liability for these costs on parties who created and profited from activities that caused the problem.³³⁸ Some courts have added particular factors to this

Supreme Court’s tests for due process validity.”); *United States v. Manzo*, 182 F. Supp. 2d 385, 408 (D.N.J. 2000) (“This Court follows the weight of case law and concludes that CERCLA applies retroactively and does not violate the Constitution through this application.”); *United States v. Olin Corp.*, 927 F. Supp. 1502, 1507, 1519–20 (S.D. Ala. 1996) (noting that “[o]f those federal decisions which have directly addressed the issue of CERCLA’s retroactivity, none have declined to apply CERCLA on retroactivity grounds” but not reaching the constitutionality of retroactive application under the Due Process Clause by interpreting the challenged provisions as “not retroactive” (footnote omitted)), rev’d, 107 F.3d 1506 (11th Cir. 1997) (reversing the lower court’s decision not to apply CERCLA retroactively as well as its conclusion that the law violated the Commerce Clause); *United States v. Shell Oil Co.*, 841 F. Supp. 962, 974 (C.D. Cal. 1993) (“Retroactive application of CERCLA has uniformly been held not to violate the Due Process clause.”); *United States v. Kramer*, 757 F. Supp. 397, 429 (D.N.J. 1991) (“Attacks on CERCLA because it imposes liability retroactively have been made and rejected without exception by many courts.”); *Kelley v. Thomas Solvent Co.*, 714 F. Supp. 1439, 1444–45 (W.D. Mich. 1989) (citing federal precedents to hold that the retroactivity defenses “must be stricken”); *United States v. Hooker Chems. & Plastics Corp.*, 680 F. Supp. 546, 556 (W.D.N.Y. 1988) (rejecting a due process rationale for refraining to hold a company liable for a “present condition resulting from past acts”).

337. *E. Enters. v. Apfel*, 524 U.S. 498, 518 (1998) (quoting *E. Enters. v. Chater*, 110 F.3d 150, 156 (1st Cir. 1997)); see also *id.* at 549 (Kennedy, J., concurring in the judgment and dissenting in part) (“[T]he remedy created by the Coal Act bears no legitimate relation to the interest which the Government asserts in support of the statute.”); *Pension Benefit Guar. Corp. v. R. A. Gray & Co.*, 467 U.S. 717, 729 (1984) (“Provided that the retroactive application of a statute is supported by a legitimate legislative purpose furthered by rational means, judgments about the wisdom of such legislation remain within the exclusive province of the legislative and executive branches[.]”).

338. See, e.g., *Alcan Aluminum Corp.*, 315 F.3d at 190 (“We are in accord with this consistent authority that both pre- and post-dates *Eastern Enterprises* . . . [H]olding Alcan jointly and severally liable under CERCLA for the cleanup costs incurred at PAS and Fulton does not result in an unconstitutional taking . . . or a deprivation of its right to due process.”); *Franklin Cnty. Convention Facilities Auth. v. Am. Premier Underwriters, Inc.*, 240 F.3d 534, 552 (6th Cir. 2001) (“Cleaning abandoned and inactive hazardous waste disposal sites is a legitimate legislative purpose which is furthered by imposing liability for response costs upon those parties who created and profited from those sites.”); *O’Neil v. Picillo*, 883 F.2d 176, 183 n.12 (1st Cir. 1989) (agreeing with the district court, which held that “CERCLA may be applied to pre-enactment conduct”); *United States v. Ne. Pharm. & Chem. Co.*, 810 F.2d 726, 734 (8th Cir. 1986) (finding that Congress acted rationally in imposing liability on “parties who created and profited from” inactive and abandoned disposal sites); *United States v. Newmont USA Ltd.*, No. CV-05-020-JLQ, 2007 WL 2477361, at *5 (E.D. Wash. Aug. 28, 2007) (“[C]ourts that have been asked to reconsider whether CERCLA’s retroactive liability scheme is constitutional in light of *Eastern Enterprises* have ‘uniformly held that CERCLA continues to pass constitutional muster.’” (quoting *Alcan Aluminum Corp.*, 315 F.3d at 189)); *Dico, Inc.*, 189 F.R.D. at 543 (“[T]he only rationale embraced by at least five judges in *Eastern Enterprises* is that retroactive application of the

assessment, such as whether the liability imposed is “severely disproportionate” to the parties’ contributions to the problem or the harm incurred.³³⁹ Others have analyzed whether the regulated party “could have reasonably expected that it would be subject to regulation” by examining whether the company was operating in a highly regulated industry, whether the company knew of the problem when it engaged in the activity, and the regulatory environment at the time of the activity.³⁴⁰

State climate superfunds comport with these guideposts for assessing the fairness of retroactive liability. Like other retroactive liability laws intended to address the effects of past environmental pollution, the legislation would impose costs on those that profited from the activities that caused the problem. Nor would liability be “severely disproportionate” to the harm caused so long as states impose financial penalties commensurate with the expected damages from climate change.³⁴¹ If the bills limit liability for refining or selling fossil fuel products after a date when the reality of climate change was well-accepted within the scientific community, it would be a stretch to claim that fossil fuel companies had a reasonable expectation of continuing their activities without consequence.³⁴² Assertions about the unforeseeability of laws like climate superfunds appear especially outlandish given the robust regulatory environment for other environmental pollution problems by the time the scientific community recognized climate change as a serious threat.³⁴³ All of these factors

Coal Act . . . did not violate the Takings Clause. It therefore remains settled in this circuit that retroactive application of CERCLA does not violate either the Due Process or Takings Clauses.”); *Alcan Aluminum Corp.*, 49 F. Supp. 2d at 100 (distinguishing *Eastern Enterprises* from environmental liability in the context of a hazardous waste superfund because in the latter case the liability was connected to an environmental harm, rather than imposed for “no reason”).

339. See, e.g., *Commonwealth Edison Co. v. United States*, 271 F.3d 1327, 1347 (Fed. Cir. 2001) (rejecting a due process challenge to the 1992 Energy Policy Act and noting that the responsible parties were only liable for a portion of the cleanup costs from uranium processing).

340. *Id.*

341. *Cf. id.* (“[W]e perceive that the imposition of even severe retroactive obligations for past acts . . . will be held constitutional under the Due Process Clause if . . . Congress reasonably concluded that the party subjected to retroactive obligations . . . contributed to a societal problem, and liability is not disproportionately imposed on that party . . .”). On constitutional protections against excessive civil liability, see *Timbs v. Indiana*, 139 S. Ct. 682, 689 (2019) (“Protection against excessive punitive economic sanctions secured by the Clause is, to repeat, both ‘fundamental to our scheme of ordered liberty’ and ‘deeply rooted in this Nation’s history and tradition.’” (quoting *McDonald v. City of Chicago*, 561 U.S. 742, 767 (2010))).

342. See *Commonwealth Edison Co.*, 271 F.3d at 1357 (“The critical question is whether extension of existing law could be foreseen as reasonably possible.”).

343. On the relevance of operating in a highly regulated industry with clear potential for environmental harm, see *id.* (“Given the broad scope of CERCLA and the common law, we have no doubt that such an extension was easily foreseen, not necessarily as a certainty, but as a reasonable possibility.”); *United States v. Monsanto Co.*, 858 F.2d 160,

indicate that a state climate superfund would not infringe on these companies' due process rights because of its retroactivity.

A more challenging objection on due process grounds concerns the imposition of liability on companies that may only have had limited contacts with the relevant state.³⁴⁴ Among the largest fossil fuel companies that are likely to face liability under state climate superfunds, the vast majority will be headquartered out of state.³⁴⁵ As a result, few fossil fuel companies would be considered “at home” in various states because of “continuous and systematic” operations within the forum.³⁴⁶ A large proportion of coal, oil, and natural gas extraction will also have occurred out-of-state or outside the country.³⁴⁷ As fossil fuel companies have acknowledged, however, their products are transported around the country and sold in states like Vermont and New York.³⁴⁸ These companies also engage in advertising and marketing of fossil fuels across the United States.³⁴⁹ Consequently, some fossil fuel companies may have

174 (4th Cir. 1988) (“While the generator defendants profited from inexpensive waste disposal methods that may have been technically ‘legal’ prior to CERCLA’s enactment, it was certainly foreseeable at the time that improper disposal could cause enormous damage to the environment.”).

344. See Alex Ellenberg, Note, Due Process Limitations on Extraterritorial Tort Legislation, 92 *Corn. L. Rev.* 549, 549–50 (2007) (identifying outstanding “questions of legislative jurisdiction” regarding “just how far a state’s reach may extend when enacting legislation meant to protect its citizenry”).

345. For the headquarters of the largest ten oil companies, see Sarah Rudge, *The 10 Biggest Oil Companies Powering the Global Economy*, *Energy, Oil & Gas Mag.* (Feb. 19, 2025), <https://energy-oil-gas.com/news/the-10-biggest-oil-companies-powering-the-global-economy/> [https://perma.cc/XL95-T7VG] (identifying only three companies as having headquarters in the United States, with two in Texas and one in California).

346. *Daimler AG v. Bauman*, 571 U.S. 117, 137 (2014) (stating that a company’s place of incorporation and principal place of business allow for general jurisdiction); *Goodyear Dunlop Tires Operations, S.A. v. Brown*, 564 U.S. 915, 919 (2011) (explaining that general jurisdiction is likely to be found when a corporation has its principal place of business within the state or is incorporated in the state).

347. There are no oil refineries in either Vermont or New York. For a list of refineries by state, see U.S. Energy Info. Admin., *Refinery Capacity Report 5–36* (2025), <https://www.eia.gov/petroleum/refinerycapacity/refcap25.pdf> (on file with the *Columbia Law Review*).

348. See, e.g., Complaint for Declaratory and Injunctive Relief at 17–19, *Chamber of Com. v. James*, No. 1:25-cv-01738 (S.D.N.Y. filed Feb. 28, 2025), Dkt. No. 1 (“New York is one of the United States’ largest consumers of oil and gas overall And recent statistics show that consumption of fossil fuel energy products is *increasing* in New York, not decreasing”); Complaint for Declaratory and Injunctive Relief at 10–11, *Chamber of Com. v. Moore*, No. 2:24-cv-01513 (D. Vt. filed Dec. 30, 2024), Dkt. No. 1 (noting that about 60% of households in Vermont use fossil fuels to heat their homes).

349. For a catalogue of recent fossil fuel company advertising campaigns, see Kate Yoder, *Big Oil Spent \$10 Million on Facebook Ads Last Year—To Sell What, Exactly?*, *Grist* (Aug. 5, 2021), <https://grist.org/accountability/report-oil-companies-spent-10-million-on-facebook-ads-in-2020/> [https://perma.cc/Z4WA-6DRK] (observing that “[t]he oil industry’s more recent ads use subtler messages than outright climate denial to undermine action on global warming, such as portraying natural gas as a green fuel source and arguing that decarbonization would make energy unaffordable”).

conducted enough business activities in various states to allow for civil liability without running afoul of due process protections.

Unlike concerns about interference with the national economy that can be balanced against the benefits of climate superfunds, due process objections to the scope of legislative jurisdiction cannot be outweighed by positive local effects of the law. Instead, the appropriate inquiry involves examining whether the conduct giving rise to liability has a *sufficient nexus* to the harmful effects that resulted within the state.³⁵⁰ Judicial doctrines governing the jurisdiction of state courts in tort lawsuits can be informative here, as there have been very few cases assessing the due process implications of state legislatures imposing in-state liability for out-of-state conduct.³⁵¹ In the absence of general jurisdiction, a state can still exert jurisdiction over parties whose conduct “produces consequences within the state,”³⁵² as long as the parties have “certain minimum contacts” with a forum state³⁵³ and the exercise of jurisdiction “does not offend traditional notions of fair play and substantial justice.”³⁵⁴ Subsequent case law has affirmed that these standards mean a court must find that a party has engaged in some act by which it “purposefully avails itself of the privilege of conducting activities within the forum State.”³⁵⁵ Furthermore, the harm at issue must be related to these activities and contacts within the state.³⁵⁶

But a 2021 Supreme Court decision underscores that the due process requirement for some connection between a company’s in-state conduct and the harm suffered is not a *causal* one, meaning it is not

350. Ellenberg, *supra* note 344, at 555–56.

351. For a notable exception, see *BMW of N. Am., Inc. v. Gore*, 517 U.S. 559, 572–74 (1996) (finding that state legislation imposing “grossly excessive” punishments on tortious conduct violated the Due Process Clause because of the excessive nature of the fines); *id.* at 607–08 (Ginsburg, J., dissenting) (agreeing that the issue presented is excessiveness—but “impermissible ‘extraterritoriality’”—but noting that further clarification is required).

352. Restatement (First) of Conflict of Laws § 65 cmt. a (A.L.I. 1934) (“A state may impose a liability upon any person whose conduct produces consequences within the state. Thus, one who . . . causes injury to a person in another state is subject to the legislative jurisdiction of the second state for harm so caused.”). See also *Nielsen v. Sioux Tools, Inc.*, 870 F. Supp. 435, 438–40 (D. Conn. 1994) (“Connecticut clearly has an interest in providing a forum for its citizens when injuries manifest themselves after a corporate defendant has ceased activities which relate to the state of Connecticut.”).

353. See, e.g., *Phillips Petroleum Co. v. Shutts*, 472 U.S. 797, 806 (1985) (explaining that the Due Process Clause does not “permit a State to make a binding judgment against a person with whom the State had no contacts”).

354. *Int’l Shoe Co. v. Washington*, 326 U.S. 310, 316 (1945) (internal quotation marks omitted) (quoting *Milliken v. Meyer*, 311 U.S. 457, 463 (1940)).

355. *J. McIntyre Mach., Ltd. v. Nicastro*, 564 U.S. 873, 877 (2011) (internal quotation marks omitted) (quoting *Hanson v. Denckla*, 357 U.S. 235, 253 (1958)).

356. *Bristol-Myers Squibb Co. v. Sup. Ct.*, 582 U.S. 255, 262 (2017) (finding that jurisdiction must “aris[e] out of or relat[e] to the defendant’s contacts” with the forum state (alteration in original) (internal quotation marks omitted) (quoting *Daimler AG v. Bauman*, 571 U.S. 117, 127 (2014))).

necessary to show that the conduct had a direct relationship to the harm suffered for purposes of jurisdiction.³⁵⁷ The Supreme Court recently addressed the importance of this distinction in *Ford Motor Co. v. Montana Eighth Judicial District Court*, in which car manufacturers sought to avoid tort liability for a car accident on the grounds that “the particular car involved in the crash was not first sold in the forum State, nor was it designed or manufactured there.”³⁵⁸ The Court held that a party’s in-state activities must merely “relate to” the alleged harm in order for state jurisdiction to comply with due process protections.³⁵⁹ As Justice Elena Kagan explained in the majority opinion, jurisdiction attaches “when a company cultivates a market for a product in the forum State and the product malfunctions there.”³⁶⁰ A court need not find that the claim arose “because of the defendant’s in-state conduct” in a causal manner.³⁶¹ Nor did it matter that the products at issue were manufactured and initially sold outside the state, since “[b]y every means imaginable—among them, billboards, TV and radio spots, print ads, and direct mail”—the defendant had urged state citizens to buy its products.³⁶² And because the defendant company conducted so much business within the relevant states, it clearly “‘enjoy[ed] the benefits and protection of [their] laws’—the enforcement of contracts, the defense of property, the resulting formation of effective markets.”³⁶³

The *Ford Motor Co.* opinion has thus provided a pathway for a state to impose liability for climate harms on fossil fuel producers who advertise, sell, or distribute their products within the state.³⁶⁴ Companies like

357. See *Ford Motor Co. v. Mont. Eighth Jud. Dist. Ct.*, 141 S. Ct. 1017, 1026 (2021). While the decision was unanimous, Justices Thomas, Alito, and Gorsuch concurred in the judgment only. See *id.* at 1018. Justice Barrett did not participate in the case. *Id.* at 1032.

358. *Id.* at 1022.

359. *Id.* at 1021–22 (internal quotation marks omitted) (quoting *Bristol-Myers Squibb Co.*, 582 U.S. at 272 (Sotomayor, J., dissenting)).

360. *Id.* at 1027.

361. *Id.* at 1026.

362. *Id.* at 1028.

363. *Id.* at 1029–30 (second alteration in the original) (quoting *Int’l Shoe Co. v. Washington*, 326 U.S. 310, 319 (1945)).

364. Fossil fuel producers have advanced due process arguments in recent climate tort suits against fossil fuel companies. See, e.g., *Rhode Island v. Chevron Corp.*, No. PC-2018-4716, at 1, 10 (R.I. Super. Ct. filed Aug. 13, 2020) (delaying consideration of defendants’ motion to dismiss for lack of personal jurisdiction until after the Supreme Court’s then-pending decision in *Ford Motor Co.*); *Marathon Oil Corporation’s Memorandum in Support of Their Supplemental Motion to Dismiss for Lack of Personal Jurisdiction* at 10–11, *Chevron Corp.*, No. PC-2018-4716 (R.I. Super. Ct. filed Jan. 13, 2020) (arguing that in-state injuries are “too remote from conduct alleged” against defendant oil companies and fail to establish “purposeful availment”). Similar claims have been brought by out-of-state companies held liable under CERCLA. See, e.g., *Chatham Steel Corp. v. Brown*, 858 F. Supp. 1130, 1144 (N.D. Fla. 1994) (rejecting defendants’ argument that CERCLA liability was too remote because the defendant sold hazardous substances to the forum state through a middleman and reasoning that “persons who generate hazardous substances or arrange for their disposal should not be allowed to shirk their duties under CERCLA by

Exxon Mobil and Chevron that have engaged in such activities across the United States would seem unable to avoid liability under this decision in most, if not all, states.³⁶⁵ On the other hand, fossil fuel producers who have not cultivated a market within a state and have few contacts there could bring a more plausible as-applied due process challenge.³⁶⁶ For example, foreign entities such as Saudi Aramco or the National Iranian Oil Company may not have engaged in such practices in every state.³⁶⁷

Some cases, however, suggest that a state can exercise jurisdiction over companies that produce harmful substances that cause an injury within the state even if these entities do not have an economic presence there. The most recent, relevant litigation on this issue involved a Canadian lead and zinc smelter that dumped millions of tons of industrial waste into the Columbia River, damaging a Native American reservation in Washington State far downstream.³⁶⁸ The Canadian facility sought to avoid liability by claiming that it was improper for the state to exercise jurisdiction since it had not “expressly aimed” its waste at

operating blindfolded”). On the effects of the *Ford Motor Co.* decision on the due process issue in climate tort suits, see Ellen M. Gilmer, High Court Ruling on Jurisdiction Thaws Some Climate Cases (1), Bloomberg L. (Mar. 25, 2021), <https://news.bloomberglaw.com/environment-and-energy/supreme-court-ruling-on-jurisdiction-thaws-some-climate-cases> (on file with the *Columbia Law Review*).

365. There are only a limited number of prior cases that have required courts to grapple with the Supreme Court’s due process precedent in the context of expansive jurisdiction over out-of-state conduct that caused environmental damage to a remote location. Even prior to the *Ford Motor Co.* decision, however, challenges to specific jurisdiction where a party claims the environmental harm at issue is insufficiently connected to the party’s activities and contacts within the forum state have generally failed. See, e.g., *Va. St. Fidelco, L.L.C. v. Orbis Prods. Corp.*, Civ. No. 11-2057 (KM), 2016 WL 4150747, at *4 (D.N.J. Aug. 3, 2016) (finding personal jurisdiction to establish CERCLA liability where the defendants contracted with other parties to provide hazardous waste disposal and noting “[a]rranger liability is to be construed ‘broadly’ so as to fairly capture individuals responsible for contamination” (quoting *Morton Int’l, Inc. v. A.E. Staley Mfg. Co.*, 343 F.3d 669, 676 (2003))).

366. See *Ikeda v. J. Sisters 57, Inc.*, No. 14-cv-3570 (ER), 2015 WL 4096255, at *8 (S.D.N.Y. July 6, 2015) (finding that third-party plaintiffs had not presented sufficient evidence demonstrating that the defendants had made a “specific effort to sell in New York” to establish a prima facie showing of specific jurisdiction under the Due Process Clause, but granting plaintiffs’ request for limited jurisdictional discovery). But see *SUEZ Water N.Y., Inc. v. E.I. du Pont de Nemours & Co.*, 578 F. Supp. 3d 511, 530–35 (S.D.N.Y. 2022) (finding that the defendant chemical companies who sold products to industrial manufacturers, downstream distributors, and individual customers in New York had sufficient “minimum contacts” with the forum state, and the court’s exercise of this jurisdiction would not “offend traditional notions of fair play and substantial justice” (internal quotation marks omitted) (quoting *Int’l Shoe Co.*, 326 U.S. at 316)).

367. For a historical analysis of the top greenhouse gas producers, see B. Ekwurzel, J. Boneham, M.W. Dalton, R. Heede, R.J. Mera, M.R. Allen & P.C. Frumhoff, *The Rise in Global Atmospheric CO₂, Surface Temperature, and Sea Level From Emissions Traced to Major Carbon Producers*, 144 *Clim. Change* 579, 585 (2017).

368. *Pakootas v. Teck Cominco Metals, Ltd.*, 905 F.3d 565, 571–72 (9th Cir. 2018).

Washington State.³⁶⁹ In *Pakootas v. Teck Cominco Metals*, the U.S. Court of Appeals for the Ninth Circuit found that the facility could be said to have “expressly aimed” its waste at Washington given decades of internal documents showing that the company knew river currents were carrying its waste to Washington State.³⁷⁰

The number of steps between extracting and refining fossil fuels and the subsequent environmental harms may make it challenging to analogize between a case like *Pakootas* and climate change harms.³⁷¹ But advances in climate attribution science as well as data on fossil fuel sales will allow states to provide evidence connecting companies to in-state damages.³⁷² And similarly to the *Pakootas* case, fossil fuel companies had clear scientific knowledge that their products would cause greenhouse gas emissions to accumulate in the atmosphere, increase the planet’s temperatures, and subsequently harm state natural resources and public health.³⁷³ Taken together, climate attribution studies and historical

369. *Id.* at 577.

370. *Id.* at 578 (“It is no defense that Teck’s wastewater outfalls were aimed only at the Columbia River, which in turn was aimed at Washington. Rivers are nature’s conveyor belts.”). It’s important to note that the Ninth Circuit has a higher bar for finding personal jurisdiction in tort suits, known as the “*Calder* effects” test. See Jonathan Remy Nash, Personal Jurisdiction in Climate Change Common Law Litigation Post-*Ford*, *Geo. Wash. L. Rev. On the Docket* (Oct. 6, 2021), <https://www.gwlr.org/personal-jurisdiction-in-climate-change-common-law-litigation-post-ford> [<https://perma.cc/6W2R-X8HR>] (“The Ninth Circuit has drawn from *Calder* an “effects’ test” that requires, for . . . jurisdiction, ‘that the defendant allegedly have (1) committed an intentional act (2) expressly aimed at the forum state (3) causing harm that the defendant knows is likely to be suffered in the forum state.’” (quoting *Dole Food Co. v. Watts*, 303 F.3d 1104, 1111 (9th Cir. 2002))); A. Benjamin Spencer, Terminating *Calder*: “Effects” Based Jurisdiction in the Ninth Circuit After *Schwarzenegger v. Fred Martin Motor Co.*, 26 *Whittier L. Rev.* 197, 218–22 (2004) (outlining problems with the Ninth Circuit’s application of the *Calder* effects test).

371. See Roda Verheyen & Johannes Franke, Climate Change Litigation: A Reference Area for Liability, in *Corporate Liability for Transboundary Environmental Harm* 353, 388–91 (Peter Gailhofer, David Krebs, Alexander Proelss, Kirsten Schmalenbach & Roda Verheyen eds., 2022) (explaining some of the causation challenges with climate liability while offering examples of how they might be overcome).

372. See Christopher W. Callahan & Justin S. Mankin, Carbon Majors and the Scientific Case for Climate Liability, 640 *Nature* 893, 894–95 (2025) (describing how advances in source attribution research and more robust quantifications of the socioeconomic impacts of climate change allow the attribution of climate change liability to specific actors); Ekwurzel et al., *supra* note 367, at 583–86 (using a climate model to trace historical carbon emissions to key carbon producers).

373. See Christophe Bonneuil, Pierre-Louis Choquet & Benjamin Franta, Early Warnings and Emerging Accountability: Total’s Responses to Global Warming, 1971–2021, *Glob. Env’t Change*, 2021, at 1, 3–4 (describing the fossil fuel industry’s “[i]nternational coordination to delay climate controls,” starting as early as the 1970s, despite knowledge of the potentially “catastrophic consequences” (internal quotations omitted) (quoting Francois Durand-Dastès, *Air Pollution and Climate*, 47 *Total Info.* 12, 18 (1971))); Steven Feit & Carroll Muffett, A Crack in the Shell: New Documents Expose a Hidden Climate History, *Ctr. for Int’l Env’t. L.* 3–8 (Amanda Kistler ed., 2018), <https://www.ciel.org/wp-content/uploads/2018/04/A-Crack-in-the-Shell-April-2018.pdf> [<https://perma.cc/68C5-V68W>] (“Documentary evidence demonstrates that Shell had early, repeated, and often

research on fossil fuel companies' understandings of the problem could thus ameliorate due process concerns for companies that do not have other economic connections to a state.

A few courts have adopted a similar, though distinct, due process analysis for cases involving hazardous substances since they are not “an ordinary product.”³⁷⁴ Under this approach, the inherent dangerousness of toxic chemicals as well as the fact that polluters operate “in a nationally regulated industry” can show purposeful availment of the forum state.³⁷⁵ These opinions have underscored that states have a special stake in protecting their land and natural resources, as discussed in section II.B, which further weighs in favor of jurisdiction even when responsible parties have no other connection to the forum besides harms from hazardous materials.³⁷⁶ Should courts adopt this framing of the due process inquiry for climate damages, it may be possible to extend jurisdiction over responsible parties who have little to no connection to a state other than the harm they've caused from extracting and producing fossil fuels. It is important to acknowledge, though, that these will be more difficult legal arguments because of the widespread belief that climate change is a uniquely global phenomenon³⁷⁷ and the depiction of

urgent notice of potential climate risks linked to its products and operations.”); Benjamin Franta, Correspondence, Early Oil Industry Knowledge of CO₂ and Global Warming, 8 Nat. Clim. Chang. 1024, 1024–25 (2018) (“[A]rchival documents show that [as early as the 1950s], oil industry leaders were aware that their products were causing CO₂ pollution to accumulate in the planet’s atmosphere in a potentially dangerous fashion.”); Geoffrey Supran & Naomi Oreskes, Addendum to ‘Assessing ExxonMobil’s Climate Change Communications (1977–2014)’, Env’t Rsch. Letters, 2020, at 1, 9, 14 (demonstrating that Exxon Mobil Corp.’s archival records from 1977 to 2014 “reveal overwhelming acknowledgement by both Exxon and ExxonMobil Corp scientists that [anthropogenic global warming] is real and human-caused”).

374. *O’Neil v. Picillo*, 682 F. Supp. 706, 718 (D.R.I. 1988); see also *Metro Container Grp. v. AC&T Co.*, No. 18-3623, 2021 WL 5804374, at *8 (E.D. Pa. Dec. 6, 2021) (stating that the personal jurisdiction analysis in the *O’Neil* case is “useful for assessing the unique specific personal jurisdiction issues that arise in CERCLA cases,” and subsequently allowing discovery to determine whether out-of-state generators could be potentially responsible parties).

375. *O’Neil*, 682 F. Supp. at 718; see also *Asahi Metal Ind. Co. v. Superior Ct. of Cal.*, 480 U.S. 102, 122 (1987) (Stevens, J., concurring in part and concurring in the judgment) (“Whether or not . . . conduct rises to the level of purposeful availment requires a constitutional determination that is affected by the volume, the value, and the *hazardous* character of the components.” (emphasis added)).

376. See *Members of the Beede Site Grp. v. Fed. Home Loan Mortg. Corp.*, C.A. No. 09-370 S, 2010 WL 5187180, at *5 (D.N.H. Dec. 7, 2010) (“New Hampshire’s strong sovereign interest in protecting its lands and its citizenry provides it with an indisputable stake in overseeing litigation that will result in the clean-up of a toxic superfund pollution site within its boundaries.”).

377. As noted *supra* in Part II.B, whether we define a pollution problem as “local” or “global” is a socially constructed determination that is not clearly required by scientific research on pollution transport and global cycles. In fact, many pollutants have global cycles, and state air quality may be determined by foreign emissions. On the global transport of many toxic pollutants, see *supra* notes 122–123 and accompanying text

carbon dioxide as a “natural” substance that is not hazardous in the same way as other chemicals.³⁷⁸

Given the potential legal challenges to the constitutionality of state climate superfunds, especially as-applied due process challenges from responsible parties that have not sold or marketed fossil fuels in a state, legislatures should think carefully about how to design these laws so that they have the best chance of withstanding legal scrutiny. States will almost certainly need to accept some limits on their ability to recoup all damages attributable to fossil fuel companies unless the federal government enacts a more comprehensive bill. Properly designed, however, state climate superfunds can be written to avoid unfair obligations on fossil fuel companies, undue interference with the national economy, and improper obstruction of federal emission regulations. It is to these questions of drafting that we now turn.

IV. DESIGNING A STATE CLIMATE SUPERFUND

Although modeled on prior liability schemes for hazardous waste, state climate superfund laws will present several unique questions for lawmakers because of differences in the type of harm incurred and in the entities that caused the damage. For example, a great deal of investigation is often necessary to determine who is responsible for improperly disposing of hazardous waste at a contaminated site.³⁷⁹ In the case of climate superfunds, however, there is considerable scientific and technical information about who has extracted, produced, and used fossil fuels. But there are more vexing questions about how broadly liability should attach to the large universe of actors. Lawmakers also have an opportunity to be much more specific and precise in drafting state climate superfunds than legislatures were at the time many hazardous waste laws were enacted.³⁸⁰

(providing examples of global transport of pollutants); Muir & Howard, *supra* note 131, at 7157–58 (discussing several “persistent, bioaccumulative, and toxic” industrial chemicals with “long range atmospheric transport potential”).

378. Data Or Dogma? Promoting Open Inquiry in the Debate Over the Magnitude of Human Impact on Earth’s Climate: Hearing Before the Subcomm. on Space, Sci., & Competitiveness, 114th Cong. 56 (2015) (statement of William Happer, Cyrus Fogg Bracket Professor of Physics, Princeton Univ.) (detailing Happer’s perspective, as a prominent climate skeptic, that “carbon dioxide is not a pollutant”).

379. See, e.g., Site Characterization (SC), N.Y. Dep’t of Env’t Conservation, <https://dec.ny.gov/environmental-protection/site-cleanup/brownfield-and-state-superfund-programs/state-superfund-sites/sc> [<https://perma.cc/L8AW-SW7P>] (last visited Jan. 21, 2026) (detailing New York’s “comprehensive process” for investigating inactive hazardous waste disposal sites).

380. CERCLA, for instance, is a famously opaque and unclear statute, which resulted in the courts assuming a great deal of responsibility in implementing the law and settling disputes about liability. See, e.g., *Carson Harbor Vill., Ltd. v. Unocal Corp.*, 270 F.3d 863, 883 (9th Cir. 2001) (“Clearly, neither a logician nor a grammarian will find comfort in the world of CERCLA . . . Transported to Washington, D.C. in 1980 or 1986, armed with a red

This Part explores the major decisions state legislators will have to make when designing climate superfund laws. These include who should be considered a responsible party, how to determine what costs to recover for adaptation expenses, how to apportion liability among responsible parties, and how to distribute the fund once it is put in place. These choices not only involve potential constitutional issues but also implicate fundamental ethical and normative concerns about justice and fairness in addressing climate adaptation. State legislatures will need to decide how far they want to push the boundaries of current legal doctrine to recoup a portion of their expenses from major fossil fuel companies as well as how to ensure that climate adaptation funds serve their intended purpose.

A. *Responsible Parties*

The first decision a state legislature needs to make in designing a climate superfund is who qualifies as a “responsible party” under the law. Entities that a state defines as a “responsible party” could face significant financial penalties, depending on their contribution to greenhouse gas emissions and the resulting climate damages. The potential number of responsible parties could be quite large given the size of the energy sector and end users who may emit greenhouse gases in the course of operating their businesses.³⁸¹ States will thus need to consider a number of ethical, economic, and practical issues when deciding who should face financial liability under the law.

Much of our society depends on using fossil fuels for energy, and many everyday activities contribute to the problem.³⁸² These range from transportation to heating and cooling buildings to food purchases.³⁸³ But it seems ethically dubious to define entities as “responsible parties” if they did not engage in market-based activities that earn profits while producing pollution. For instance, it would be highly problematic to define “responsible parties” so broadly as to include all U.S. citizens, especially in light of questions about individual control over relevant

pen and a copy of Strunk & White’s *Elements of Style*, we might offer a few clarifying suggestions.”).

381. See Historical GHG Emissions, ClimateWatch, https://www.climatewatchdata.org/ghg-emissions?breakBy=sector&chartType=percentage&end_year=2021&start_year=1990 [<https://perma.cc/CN2V-VF6H>] (last visited July 17, 2024); see also Util. Air Regul. Grp. v. Env’t Prot. Agency, 573 U.S. 302, 310 (2014) (noting that “numerous small sources” emit greenhouse gases).

382. See Morteza Taiebat & Ming Xu, 5 Charts Show How Your Household Drives Up Global Greenhouse Gas Emissions, PBS News (Sep. 10, 2019), <https://theconversation.com/5-charts-show-how-your-household-drives-up-global-greenhouse-gas-emissions-119968> [<https://perma.cc/RKR4-Y9RR>].

383. Dominik Wiedenhofer, Barbara Smetschka, Lewis Akenji, Mikko Jalas & Helmut Haberl, Household Time Use, Carbon Footprints, and Urban Form: A Review of the Potential Contributions of Everyday Living to the 1.5 °C Climate Target, *Current Op. Env’t Sustainability*, Feb. 2018, at 7, 10.

decisions as well as a lack of knowledge and expertise about the nature of the problem.³⁸⁴ From a practical perspective, it would also be extraordinarily challenging to implement such a program because of the need to assess individuals' historic contributions to emissions, which will vary by age, wealth, and lifestyle.³⁸⁵

A much stronger economic, moral, and practical case exists for limiting the definition of "responsible parties" to entities that received financial compensation from the production and use of fossil fuels. Since 1970, the vast majority of greenhouse gas emissions have resulted from burning fossil fuels,³⁸⁶ and within the energy sector, fewer than one hundred companies produced the oil, coal, and natural gas responsible for the bulk of past greenhouse gas emissions.³⁸⁷ Extensive historical research has also documented that leading fossil fuel companies knew that their products could cause climate change, despite their public pronouncements to the contrary.³⁸⁸ That knowledge, combined with their simultaneous efforts to stave off emissions reductions, suggests these corporations also have some moral culpability for our current predicament³⁸⁹ and a responsibility to help repair it.³⁹⁰

384. On the philosophical challenges with assessing individual responsibility for climate change, see Michael Brownstein & Neil Levy, *Philosophy's Other Climate Problem*, 52 *J. Soc. Phil.* 536, 544–48 (2021); Dale Jamieson, Jack, Jill, and Jane in a Perfect Moral Storm, 3 *Phil. & Pub. Issues* 37, 39–45 (2013).

385. There have been some attempts to do this roughly. See, e.g., Lucas Chancel, *Global Carbon Inequality Over 1990–2019*, 5 *Nat. Sustain.* 931, 935–37 (2022).

386. Prior to 1950, most greenhouse gas emissions had occurred from land use and forestry practices. Shobhakar Dhakal et al., *Emissions Trends and Drivers*, in *IPCC, Sixth Assessment Report* 215, 231 (2022), https://www.ipcc.ch/report/ar6/wg3/downloads/report/IPCC_AR6_WGIII_Chapter02.pdf [<https://perma.cc/7T4M-5NSC>].

387. Richard Heede, *Tracing Anthropogenic Carbon Dioxide and Methane Emissions to Fossil Fuel and Cement Producers, 1854–2010*, 122 *Clim. Change* 229, 234 (2014) [hereinafter Heede, *Tracing Anthropogenic Carbon Dioxide*].

388. Research indicates that these companies had knowledge that their products were contributing to climate change even as these companies publicly denied their products' potential environmental consequences. See *supra* note 373 (outlining some of the scholarly efforts to review archival records documenting internal communications at multiple large oil companies).

389. Marco Grasso, *The Case for Climate Reparations by Fossil Fuel Companies: Ethical Foundations, Monetary Estimates and Feasibility*, 55 *Dev. & Change* 727, 729–30 (2024) (“[F]ossil fuel companies’ positive responsibility to rectify the harm done is rooted in their negative, general, backward-looking responsibility which results from the violation of the no-harm principle: if an agent contributes to harm in violation of their negative responsibility, it becomes their positive responsibility to redress it.” (internal citations omitted)); Marco Grasso, *Fossil Fuel Companies’ Duty of Reparation: Why the Industry Must Concur to Foot the Climate Bill*, 21 *Globalizations* 630, 631–32 (2024) (arguing that the fossil industry should be “acknowledged as a moral agent in climate change with specific responsibility and duties” to bear responsibility for harms resulting from climate change).

390. See Peter C. Frumhoff, Richard Heede & Naomi Oreskes, *The Climate Responsibilities of Industrial Carbon Producers*, 132 *Clim. Change* 157, 158 (2015) (“[R]esponsibility for a problem is assumed to fall on those who create it, particularly if

Beyond the ethical justifications for focusing on fossil fuel companies in a climate superfund law, defining them as “responsible parties” is in line with a fundamental tenet in environmental law known as the “polluter pays” principle.³⁹¹ The principle has deep roots in common law doctrine³⁹² but was first formally developed in the early 1970s as capitalist, industrialized countries debated various legal mechanisms for protecting the environment.³⁹³ It stands for the concept that industry, not the government or society at large, should be responsible for any costs associated with emissions.³⁹⁴ This is because the production of pollution may be privately rational but produce harmful social consequences.³⁹⁵ The environmental and public health effects from greenhouse gas emissions are a classic market failure, and some type of government intervention is appropriate to ensure that the companies benefitting from polluting activity shoulder their share of the costs to address any resulting harms.³⁹⁶ Because a state climate superfund would not aim to reduce future pollution emissions, but rather obtain resources for adaptation and mitigation, the economic justification would not include influencing future market behavior.³⁹⁷

they do so knowingly.” (citing John Rawls, *A Theory of Justice* (1971))). And the ethical importance of ensuring that those who contributed significantly to climate harms are held responsible is not a uniquely “liberal” idea. See, e.g., Roger Scruton, *How to Think Seriously About the Planet: The Case for an Environmental Conservatism* 70 (2012) (“Global warming is a problem that engages with a fundamental moral idea to which conservatives attach great importance: the idea that those responsible for damage should also repair it.”).

391. See Jonathan H. Adler, *Conservative Principles for Environmental Reform*, 23 *Duke Env't L. Pol'y Forum* 253, 275–76 (2013), <https://scholarship.law.duke.edu/cgi/viewcontent.cgi?article=1245&context=delpf> [<https://perma.cc/479X-X94Y>] (discussing the development of the principle in relation to common law doctrines).

392. *Id.*

393. See Rothschild, *Poisonous Skies*, *supra* note 130, at 51.

394. *Id.*

395. See Richard B. Stewart, *Models for Environmental Regulation: Central Planning Versus Market-Based Approaches*, 19 *B.C. Env't. Affs. L. Rev.* 547, 548 (1992) (noting that environmental impacts from pollution generally allow polluters to “use the air or water as a dumping ground for free” while “people other than the polluter bear most of the costs of degraded air or water quality”).

396. Dirk Heine, Michael G. Faure & Goran Dominioni, *The Polluter-Pays Principle in Climate Change Law: An Economic Appraisal*, 10 *Climate L.* 94, 97 (2020) (describing the polluter-pays principle as “essentially an economic principle translated into law” (internal quotation marks omitted) (quoting Arne Bleeker, *Does the Polluter Pay? The Polluter-Pays Principle in the Case Law of the European Court of Justice*, 18 *Eur. Energy & Env't L. Rev.* 289, 292 (2009))).

397. It could, however, provide disincentives for industries to engage in similarly harmful behavior in the future. See Jacob Phelps, Carol Adaire Jones, John A. Pendergrass & Erik Gómez-Baggethun, *Environmental Liability: A Missing Use for Ecosystem Services Valuation*, 112 *PNAS* E5379, E5379 (2015) (suggesting imposing liability for environmental harms constitutes a “promising, underused opportunity” for guiding responsible parties’ future conduct by aiding in “placing environmental justice at the center of [future] decision-making”).

Proposed definitions of responsible parties should reflect these ethical, economic, and practical concerns by including companies that have profited from the production and sale of fossil fuels, while limiting the law's scope to the entities that contributed the most to the problem. To date, state climate superfund bills have adopted this approach, defining responsible parties as "any entity or a successor in interest to an entity" that has "engaged in the trade or business of extracting fossil fuel or refining crude oil."³⁹⁸ They also provide an emissions threshold below which one would not be considered a responsible party and set that threshold at the relatively high level of "one billion metric tons of covered fossil fuel emissions."³⁹⁹ That threshold will limit the application of these bills only to large corporations that have engaged in extensive production of fossil fuels, such as Chevron, Exxon Mobil, and British Petroleum.⁴⁰⁰ State agencies will be able to utilize data from extensive research into fossil fuel companies' historical sales to identify these responsible parties and determine their relative share of liability.⁴⁰¹

The bills proposed to date do omit one sizeable portion of the economy that contributes to climate change: agriculture.⁴⁰² As researchers further document the role of large agricultural industrial actors in driving climate change, particularly through methane, states may opt to draft or amend state climate superfund bills to include meat and dairy companies.⁴⁰³ But there are different ethical, legal, and policy issues with attaching liability to agricultural companies that should give states pause before doing so. Most importantly, scientific information on the extent of the agricultural sector's contribution to climate change has been more uncertain until quite recently.⁴⁰⁴ These companies therefore

398. See, e.g., Vt. Stat. Ann. tit. 10, § 596(22) (2025). Cf. S.B. 1497, 2023–2023 Leg., Reg. Sess. (Cal. 2024) at 6 (using broader language to encompass "an entity, including, but not limited to, an individual, trustee, agent, partnership, association, corporation, or other legal organization").

399. Vt. Stat. Ann. tit. 10, § 596(22).

400. Heede, *Tracing Anthropogenic Carbon Dioxide*, supra note 387, at 237 tbl.3 (listing the twenty corporate entities with the highest "attributed CO₂ and CH₄ emissions").

401. This has already occurred in some climate lawsuits. See Lisa Benjamin, *Carbon Major Companies and Liability for Loss and Damage*, in *Research Handbook on Climate Change Law and Loss & Damage* 391, 391 (Meinhard Doelle & Sara L. Seck eds., 2021).

402. EPA, EPA 430-R-24-004, *Inventory of U.S. Greenhouse Gas Emissions and Sinks 1990–2020*, at 2–31 (2024), https://www.epa.gov/system/files/documents/2024-04/us-ghg-inventory-2024-main-text_04-18-2024.pdf [<https://perma.cc/8Q3E-UA8K>] (estimating that agriculture is responsible for about 10% of U.S. greenhouse gas emissions between 1990 and 2020).

403. For an analysis of potential climate liability from the agricultural industry, see Daina Bray & Thomas M. Poston, *The Methane Majors: Climate Change & Animal Agriculture in U.S. Courts*, 49 *Colum. J. Env't L.* 145, 150 (2024).

404. Efforts to document the role of agriculture in contributing to climate change through the Intergovernmental Panel on Climate Change began in 2015. See IPCC Expert Meeting on Climate Change, Food, and Agriculture, Meeting Report 2 (May 2015),

had less knowledge about the effects of their businesses on climate change than fossil fuel companies had obtained. As a matter of fairness, then, it seems more problematic to hold them retroactively liable as responsible parties. Second, agricultural lands are themselves threatened by climate change and may require adaptation funding support to maintain food production.⁴⁰⁵ States may therefore wish to treat agricultural companies differently, given their needs as well as potential to serve as carbon sinks.⁴⁰⁶

In addition to limiting “responsible parties” to companies that produced fossil fuels above a certain threshold, states may also take different approaches to determining the jurisdictional reach of their bills. Because of the nature of climate change, past emissions will have made an equal contribution to the problem regardless of where on the planet they occurred. States will therefore face the question of whether to include companies in the definition based solely on their contributions to global greenhouse gas emissions or to limit the scope of this term to companies that have some additional connection to the state. Specifying that responsible parties are only liable if they have engaged in some conduct within the state should alleviate any due process concerns about the extraterritorial reach of these laws, although it may mean that certain companies could escape liability. Thus far, states have adopted various approaches to these issues, with some opting to include explicit language in the law excluding entities that “lack[] sufficient connection with the State” from the definition of responsible parties.⁴⁰⁷ Given the novelty of this issue and the limited precedent on due process and extraterritoriality, states will need to weigh how much

https://archive.ipcc.ch/pdf/supporting-material/Food-EM_MeetingReport_FINAL.pdf [<https://perma.cc/8AYH-BFYV>] (identifying interactions between climate change, agriculture, and food security as a topic for future research). On the need for better assessment of agriculture’s role in climate change, see Lydia Olander, Eva Wollenberg, Francesco N. Tubiello & Martin Herold, *Advancing Agricultural Greenhouse Gas Quantification*, *Env’t Rsch. Letters*, 2014, at 1, 2. For calls on the Intergovernmental Panel on Climate Change to better address the contributions of agriculture to climate change, see M.J. Bell, J.M. Cloy & R.M. Rees, *The True Extent of Agriculture’s Contribution to National Greenhouse Gas Emissions*, *Env’t Sci. & Pol’y*, May 2014, at 1, 2.

405. See Andrew Hultgren et al., *Impacts of Climate Change on Global Agriculture Accounting for Adaptation*, 642 *Nature* 644, 649 (2025) (finding that climate change will cause significant decreases in food production even with adaptation measures).

406. See Stefan Frank et al., *Enhanced Agricultural Carbon Sinks Provide Benefits for Farmers and the Climate*, 5 *Nature Food* 742, 745 (2024) (suggesting that, under the polluter-pays principle, agricultural companies could opt to offset their contributions to climate change through sequestration projects).

407. S. 259, 2023–2024 Gen. Assemb., Reg. Sess. § 2 (Vt. 2024). California has even more explicit language, stating that responsible parties must have conducted “business in the state or otherwise had sufficient contacts with the state to give the state jurisdiction over the entity pursuant to Section 410.10 of the Code of Civil Procedure.” SB. 1497, 2023–2024 Leg., Reg. Sess. (Cal. 2024).

legal risk they are willing to incur in order to broaden the scope of these laws.

States will also need to decide whether to impose joint and several liability for damages in the event that a responsible party is insolvent or otherwise unable to pay their fair share, perhaps because they successfully bring an as-applied due process challenge. No states appear to have proposed bills imposing joint and several liability on one or a subset of responsible parties if some are insolvent or otherwise unreachable under the law. This is a wise decision for avoiding the kinds of complaints and legal challenges about fairness that beset hazardous waste liability laws.⁴⁰⁸ Some draft bills, however, have provisions that impose joint and several liability on the parent corporation for the actions of a subsidiary,⁴⁰⁹ which is different than the approach taken by the federal government's hazardous waste superfund under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and is a fairer distribution of liability in light of the economic benefits that parent companies obtain from their subsidiaries and the incentives such liability will create for reducing environmental harm.⁴¹⁰

B. *Cost Recovery Demands*

As detailed in section I.A, the costs of adapting to climate change are expected to be enormous. When drafting a climate superfund law, states will need to decide how much of these costs to impose on responsible parties and how to fairly and rationally distribute expenses among them. To determine appropriate "cost recovery" demands, states should undertake their own analyses to assess their expected environmental and public health harms and the costs they anticipate spending to fund climate adaptation projects.⁴¹¹ These state efforts could include infrastructure improvements to cope with rising sea levels and flash flooding, cooling centers to deal with heat waves, and additional emergency personnel to respond to natural disasters like wildfires or hurricanes.⁴¹² States might also opt to include the expected financial

408. See John Copeland Nagle, CERCLA's Mistakes, 38 Wm. & Mary L. Rev. 1405, 1446 (1997) (discussing common criticisms of CERCLA, particularly regarding its "imposition of strict, joint and several, and retroactive liability without regard to causation").

409. See, e.g., Vt. S. 259 § 596(5)(B).

410. See Irit Mevorach, Environmental Activism by Parent Companies: Legal Incentives and Economic Realities, 25 J. Corp. L. Studs. 3, 8–9 (2025) (arguing that "an insolvency-focused, environment-related directors' duty extended to parent companies with the power to control subsidiaries" may be a useful tool to "encourage parent companies to internalise environmental externalities").

411. See Vt. Stat. Ann. Tit. 10, § 599c(2) (directing the State Treasurer of Vermont to estimate the costs that "have been incurred and are projected to be incurred in the future" by the state as a result of greenhouse gas emissions).

412. N.Y. Env't Conserv. Law § 76-0101 (McKinney 2024).

burden on state healthcare systems from treating more cases of heat stroke, dehydration, and other illnesses exacerbated by rising temperatures.⁴¹³ Some states have chosen to dedicate a certain percentage of the fund to disadvantaged communities that may need greater financial assistance preparing for climate change.⁴¹⁴

At present, almost all states that have drafted or passed climate superfund legislation have tasked their state-level environmental agencies with determining the appropriate cost recovery demand based on an assessment of their individual climate harms. These effects will differ across the country; for example, states in the northern half of the country will face greater losses from winter recreation and freshwater fishing, while states in the Gulf Coast region will experience a larger increase in tropical diseases that may place strain on their health systems.⁴¹⁵ Thus, it is possible—in fact, likely—that states will vary in the amount of money they request from responsible parties, depending on their vulnerability. The exception to this approach is New York, which requested the specific sum of \$75 billion in its version of the law and detailed how the state was expected to incur significantly larger expenses from climate change.⁴¹⁶

Once state agencies determine their anticipated climate adaptation costs, they will need to decide how much of the total to request in their cost recovery demands and then how to allocate the amount among responsible parties. Currently, the bills stipulate that agencies are to use the “best available” information to make this assessment and must calculate it based on the greenhouse gas emissions that result from fossil fuel products sold.⁴¹⁷ The precise amounts and approach, however, have been left to the agency’s discretion.⁴¹⁸ States could require responsible parties to pay the entire expected adaptation costs, but a more defensible approach would be to request a subset of the expenses based on the companies’ culpability relative to other sectors of the economy.

Research into fossil fuel companies’ past sales of coal, oil, and natural gas will play a major role in allowing states to calculate the proportion of greenhouse gas emissions attributable to individual corporations. Known as the “Carbon Majors” database, these studies primarily use data from annual company reports and the Securities and Exchange Commission to calculate the production of different fossil

413. *Id.*

414. *Id.*

415. See Jeremy Martinich & Allison Crimmins, *Climate Damages and Adaptation Potential Across Diverse Sectors of the United States*, 9 *Nat. Clim. Chang.* 397, 400 (2019).

416. N.Y. Env’t Conserv. Law § 76-0101 (McKinney 2024).

417. See, e.g., *id.* § 76-0103.

418. See, e.g., *id.* § 76-0103; SB. 1497, 2023–2024 Leg., Reg. Sess. § 71371.4(a) (Cal. 2024).

fuels and the resulting greenhouse gas emissions.⁴¹⁹ The authors have published all the information they used in these calculations, along with their methodology, to allow others to replicate the findings.⁴²⁰ This information is broken down into both direct and indirect emissions. Direct emissions result from the company's own operations ("Scope 1" emissions) while indirect emissions occur after the sale of the product ("Scope 3" emissions).⁴²¹ Scope 1 emissions from the extraction and production process are much smaller than Scope 3 emissions, which occur when fossil fuels are later burned for energy.⁴²²

At present, the bills do not stipulate how much responsibility fossil fuel companies should have for Scope 3 emissions. State agencies might opt to include all these emissions when calculating the cost recovery demand, under the rationale that the companies profited from each sale and should be strictly liable for all resulting harms. There is precedent for such an approach; hazardous waste laws have held parties wholly responsible for the entire costs of cleanups even if they are only generators of hazardous substances.⁴²³ But state agencies might opt to reduce the cost recovery demand by some proportion to account for others' responsibility for the harm. These could include refiners, power plants, and other end users. Data identifying the ultimate end use of fossil fuel products on a per-sale basis is limited, however.⁴²⁴ State agencies would therefore need to utilize rough approximations to assess

419. Paul Griffin, *The Carbon Majors Database*, Climate Accountability Inst. (2017), <https://cdn.cdp.net/cdp-production/cms/reports/documents/000/002/327/original/Carbon-Majors-Report-2017.pdf> [<https://perma.cc/P2HV-VXPH>].

420. See Richard Heede, *Carbon Majors: Updating Activity Data, Adding Entities, & Calculating Emissions: A Training Manual*, Climate Accountability Inst. 3, 11–17 (2019), <https://climateaccountability.org/wp-content/uploads/2020/12/TrainingManual-CAI-30Sep19lores.pdf> [<https://perma.cc/2URD-ACJQ>].

421. *Id.* at 5.

422. Whether these downstream emissions from oil production should be considered inextricably connected to the extraction process has been a controversial legal issue in recent years. It is worth noting, however, that the Supreme Court of the United Kingdom recently concluded that Scope 3 emissions must be considered in any environmental analysis of the climate effects from oil production. See *R (Finch on behalf of the Weald Action Group) v. Surrey Cnty. Council* [2024] UKSC 20 (Eng.), [79]–[85] (finding that environmental assessments needed to include the downstream emissions of oil production because those would inevitably increase climate risks from fossil fuel projects).

423. These situations can arise in the CERCLA context if other potentially responsible parties are bankrupt, since the statute imposes joint and several liability on all responsible parties, including generators. For such an example, see *United States v. Aceto Agric. Chems. Corp.*, 872 F.2d 1373, 1381–82 (8th Cir. 1989) (finding eight pesticide companies liable for the costs of hazardous waste cleanups under § 107(a)(3) after the owner of the contaminated site declared bankruptcy).

424. On the challenges of this data collection and efforts to improve it, see Julia Millot, Shelby Walsh & Scott Harrington, *Carbon Footprint Data Collection: Common Challenges and How to Solve Them*, Carbon Direct (Apr. 3, 2025), <https://www.carbon-direct.com/insights/carbon-footprint-data-collection-common-challenges-and-how-to-solve-them> [<https://perma.cc/4LKP-SLWY>].

the proportionate share of liability. As courts currently do when apportioning liability for hazardous waste cleanups,⁴²⁵ state agencies could rely on several factors to justify a particular distribution of emissions for various companies. These have included the financial resources of liable parties, the benefit received from the act, and the degree of cooperation with the government in remedying the harm.⁴²⁶ Typically, the burden is on the liable party to demonstrate that their contribution can be distinguished from others; if it cannot, courts have considerable discretion in apportioning liability.⁴²⁷ Given the information disparity between state agencies and the responsible parties here regarding sales data, a similar burden shifting seems warranted.

C. *The Period of Retroactivity*

Scientists have traced human contributions to climate change back to the nineteenth century as industrialized countries dramatically expanded the use of fossil fuels for energy.⁴²⁸ Research has connected some companies, such as Exxon Mobil, to this early production and sale of fossil fuels more than a century ago.⁴²⁹ Compared to use within the last fifty years, however, the fossil fuel economy was relatively small in its early decades.⁴³⁰ Approximately half of all greenhouse gas emissions from human activities have occurred since 1986,⁴³¹ with emissions reaching some of their highest levels in the past two decades.⁴³²

Because state climate superfund bills impose fees on fossil fuel companies based on their past contributions to climate change, legislators will need to decide how many years of sales to include. Data on some companies' sales stretches back for more than a century, and most of the major fossil fuel companies have engaged in sales of their products at least since the mid-twentieth century. Other environmental laws that impose liability for past activities do not impose any limit on how far back they reach; for instance, so long as there is evidence that an entity was a prior owner, operator, or generator of hazardous waste that subsequently

425. See, e.g., *United States v. R.W. Meyer, Inc.*, 932 F.2d 568, 569 (6th Cir. 1991) (describing judicial discretion in allocating financial responsibility for remedying environmental harms under CERCLA).

426. See, e.g., *ASARCO LLC v. Atl. Richfield Co.*, 975 F.3d 859, 868–71 (9th Cir. 2020).

427. See *United States v. Monsanto Co.*, 858 F.2d 160, 172–73 (4th Cir. 1988).

428. Gabriele C. Hegerl, Stefan Brönnimann, Tim Cowan, Andrew R. Friedman, Ed Hawkins, Carley Iles, Wolfgang Müller, Andrew Schurer & Sabine Undorf, *Causes of Climate Change Over the Historical Record*, *Env't Rsch. Letters*, 2019, at 1, 5–6.

429. Heede, *Tracing Anthropogenic Carbon Dioxide*, *supra* note 387, at 237.

430. *How Has Energy Use Changed Throughout U.S. History?*, U.S. Energy Info. Admin. (July 3, 2024), <https://www.eia.gov/todayinenergy/detail.php?id=62444> [<https://perma.cc/U352-TTJB>].

431. Heede, *Tracing Anthropogenic Carbon Dioxide*, *supra* note 387, at 234.

432. U.S. emissions, for instance, reached their highest levels to date around 2007. See U.S. Emissions, Ctr. for Climate & Energy Sols., <https://www.c2es.org/content/u-s-emissions/> [<https://perma.cc/N9CN-TUR7>] (last visited Jan. 21, 2026).

harmed a piece of property, chemical companies can be held financially liable for the entire cost of remediating that site under CERCLA.⁴³³ States could opt to do the same in the case of climate harms, calculating financial responsibility as far back as current data allows.

Another option is to limit the retroactive reach of the bills to a date when climate change was widely recognized as an environmental threat. There are legal reasons to do so, discussed in section III.C, as well as practical and ethical considerations. Researchers have gathered more robust information on companies' prior sales of fossil fuel for recent decades,⁴³⁴ which will make it easier to administer the program if retroactive liability does not extend to earlier periods. Moreover, scientific understandings about climate change increased significantly over the course of the twentieth century, providing notice to fossil fuel companies about the damage their products cause and the potential for liability and regulation. Although knowledge about the risks of their products is not necessary under a strict liability regime, limiting the period of retroactivity to a date when climate change was a clear threat is more defensible from an ethical perspective.

A retroactivity period that does not predate the creation of the Intergovernmental Panel on Climate Change (IPCC) would thus appear to be practical, fair, and legally sound. The United Nations formed the IPCC in 1988 to examine whether the earth was warming and to what degree human activities, notably the burning of fossil fuels, were contributing to rising temperatures.⁴³⁵ In 1990, the IPCC concluded that the planet's temperatures had risen in the last century and that increasing greenhouse gas emissions from human activities "will enhance the greenhouse effect, resulting on average in an additional warming of the Earth's surface."⁴³⁶ While the report acknowledged remaining uncertainty about the magnitude of warming and how much human activities were responsible,⁴³⁷ governments around the world began discussing the potential need to reduce our reliance on fossil fuels in order to prevent the harmful effects of climate change.⁴³⁸ Five years later,

433. See *United States v. Ne. Pharm. & Chem. Co.*, 810 F.2d 726, 732–34 (8th Cir. 1986); *United States v. Shell Oil Co.*, 294 F.3d 1045, 1062 (9th Cir. 2002) (imposing CERCLA liability on damages resulting from U.S. government and oil companies' wartime activities during World War II).

434. See Hegerl et al., *supra* note 428, at 2.

435. History of the IPCC, IPCC, <https://www.ipcc.ch/about/history/> [<https://perma.cc/3UCZ-48TY>] (last visited Feb. 15, 2026).

436. Intergovernmental Panel on Climate Change, *Climate Change: The IPCC 1990 and 1992 Assessments* 52 (1992), https://www.ipcc.ch/site/assets/uploads/2018/05/ipcc_90_92_assessments_far_overview.pdf [<https://perma.cc/NTS9-28YQ>].

437. *Id.* at 53.

438. On government reactions to the early IPCC reports and the beginning of the United Nations negotiating process, see Jonathan Kuyper, Heike Schroeder & Björn-Ola Linnér, *The Evolution of the UNFCCC*, 43 *Ann. Rev. Env't Res.* 343, 345–46 (2018); Michael Weisskopf & William Booth, *U.N. Report Predicts Dire Warming: Break With U.S.*

the IPCC's second report took an even stronger position on the role of anthropogenic interference in climate, stating that "[t]he balance of evidence, from changes in global mean surface air temperature and from changes in geographical, seasonal and vertical patterns of atmospheric temperature, suggests a discernible human influence on global climate."⁴³⁹ The report further emphasized the significant environmental and health harms that were likely to result if greenhouse gas emissions continued, including rising sea levels, increased flooding, greater transmission of diseases, depletion of water resources, reduced crop yields, and loss of ecosystems.⁴⁴⁰

All of the state climate superfund bills thus far have placed limits on their retroactive scope but have differed in their range. For example, Vermont's newly enacted law set its covered period for cost recovery demands from 1995, the year of the IPCC's second report, through 2024.⁴⁴¹ New York, in contrast, will assess companies' sales of fossil fuel products between 2000 and 2024.⁴⁴² No state has proposed a period encompassing activities before the 1990s, reflecting a more conservative approach that tracks scientific knowledge about the problem rather than focusing solely on the historic sales of fossil fuel companies.⁴⁴³ While companies will contribute less money to climate adaptation efforts with a retroactivity period that tracks the IPCC reports, it is likelier to survive legal challenges on due process grounds and allow for greater ease in administering the program.

D. *Qualifying Expenditures*

An important additional consideration in drafting these bills is how state governments should spend any money collected. All of the current bills stipulate that the collected fees should be deposited into a separately established fund rather than the state's general budget. Using the money simply to fund the state's routine expenses would suggest that the program is operating more as a tax rather than a liability scheme, which could have implications for constitutional challenges on due process

Seen in Thatcher Response, Wash. Post (May 25, 1990), <https://www.washingtonpost.com/archive/politics/1990/05/26/un-report-predicts-dire-warming/5611507b-a382-45ba-9e98-6c12c46cd325/> (on file with the *Columbia Law Review*).

439. Intergovernmental Panel on Climate Change, IPCC Second Assessment 5 (1995), <https://www.ipcc.ch/site/assets/uploads/2018/05/2nd-assessment-en-1.pdf> [<https://perma.cc/74SA-4CVX>].

440. *Id.* at 6–8.

441. Vt. Stat. Ann. tit. 10, § 596(8) (2024).

442. New York's original statute, signed into law in December 2024, only extended from 2000 to 2018; amendments enacted in February 2025 extended this period through 2024. See S. 824, 2025–2026 Leg., Reg. Sess. § 76-0101(9) (N.Y. 2025).

443. A 2024 California proposed bill had a period of 2000 to 2020; Maryland proposed a period between 2000 to 2018. See S.B. 1497, 2023–2024 Leg., Reg. Sess. § 71370(f) (Cal. 2024); S.B. 958, 2024 Gen. Assemb., Reg. Sess. § 2-1701(h) (Md. 2024).

grounds.⁴⁴⁴ Specifying that the money must go to projects that will assist the state in addressing climate harms more closely mirrors hazardous waste superfunds and indicates the law's intent to ameliorate the consequences of certain activities.

State legislatures have varied in the degree of discretion and flexibility they provide agencies in administering the climate superfunds' financial resources. Vermont, for instance, has tasked its state environmental agency with developing a "Resilience Implementation Strategy" to identify appropriate projects to adapt infrastructure to climate change and give the agency significant leeway in distributing the funds.⁴⁴⁵ While the strategy must examine how to adapt current infrastructure and include "nature-based solutions intended to stabilize floodplains, riparian zones, lake shoreland, wetlands, and similar lands," the agency can generally exercise its expert judgment in how to prioritize various strategies.⁴⁴⁶ New York's bill, in contrast, provides much more specificity in the types of projects its state agency should assess when allocating funds. It instructs the agency to examine the adaptation needs of "agriculture, biodiversity, ecosystem services, education, finance, healthcare, manufacturing, housing and land use, retail, tourism (including state and municipal parks), transportation, and municipal and local government."⁴⁴⁷ From a political perspective, these requirements may allow legislatures to marshal support from a broad range of constituencies that hope to obtain funding and ensure that the agency considers certain areas legislators do not want overlooked. A more general approach, however, could allow state agencies to avoid lengthy analyses and move more quickly to distribute funds to areas of greatest need.

Several states have drafted provisions that set aside a portion of the fund for vulnerable communities, but they vary in their approach to defining these communities. For instance, a Massachusetts draft bill has reserved a portion of the fund for "environmental justice" communities, which it defines as those living below the poverty line, containing a large number of minorities and/or non-English speakers, or some combination thereof.⁴⁴⁸ Notably, this definition does not include

444. See *United States v. Carlton*, 512 U.S. 26, 38 (1994) (O'Connor, J., concurring in the judgment) ("In every case in which we have upheld a retroactive federal tax statute against due process challenge, . . . the law applied retroactively for only a relatively short period prior to enactment.").

445. Vt. Agency of Nat. Res. & Vt. State Treasurer's Off., Vermont Resilience Implementation Strategy 24–42 (Sep. 17, 2025), https://outside.vermont.gov/agency/anr/climatecouncil/Shared%20Documents/Resilience_Implementation_Strategy_FINAL_091725.pdf [<https://perma.cc/3GHU-8A6X>].

446. Vt. Stat. Ann. tit. 10, § 599a (2025).

447. N.Y. Env't Conserv. Law § 76-0103 (McKinney 2024).

448. For the details of the criteria, see S. 481, 193d Gen. Ct., Reg. Sess. § 1 (Mass. 2023).

vulnerability to the effects of climate change.⁴⁴⁹ New York’s legislation relies on the definition of “disadvantaged communities” from an earlier climate law,⁴⁵⁰ the Climate Leadership and Community Protection Act,⁴⁵¹ which stipulates that these communities should be identified by reference to “geographic, public health, environmental hazard, and socioeconomic criteria.”⁴⁵² These factors must include “cumulative environmental pollution,” poverty, a history of racial discrimination, and vulnerability to climate harms like “flooding, storm surges, and urban heat island effects.”⁴⁵³ This latter approach, which more closely tracks environmental vulnerability and does not use race as a blunt criterion in distributing funds, would appear to better serve the purposes of the climate superfund while reducing the likelihood that the law will run afoul of the Supreme Court’s recent decisions regarding the constitutionality of racial criteria.⁴⁵⁴ Other states, such as Vermont, have not reserved a certain portion of the funding for environmental justice communities, instead instructing their state agencies to consult with environmental justice advisors when determining how to allocate the funds.⁴⁵⁵

Because the current Supreme Court is highly likely to find blunt consideration of race unconstitutional, states should use other criteria to identify potentially vulnerable communities that have an extra need for funds. For example, the Biden Administration’s Justice 40 initiative relied on criteria like poverty and exposure to higher levels of pollution when defining what areas are especially at risk of environmental harm.⁴⁵⁶ It did not use race as a factor, and in fact, many poor, majority white areas qualify as “environmental justice” communities under its approach.⁴⁵⁷ In light of the fact that poverty and disproportionate exposure to current

449. The definition does allow state agencies to remove a community from inclusion upon a finding that it does not bear an unfair burden from environmental pollution and has “more than limited access to natural resources.” *Id.*

450. Assemb. 3351B, 2023–2024 Leg., Reg. Sess. § 76-0103 (N.Y. 2023).

451. Assemb. 8429, 2019–2020 Leg., Reg. Sess. (N.Y. 2019).

452. *Id.* § 75-0111(1)(c).

453. *Id.*

454. Pamela King, Supreme Court Ruling Entangles Biden’s Environmental Justice Efforts, *E&E News* (June 29, 2023), <https://www.eenews.net/articles/supreme-court-ruling-entangles-bidens-environmental-justice-efforts/> [<https://perma.cc/M5KE-MPRF>].

455. S. 259, 2023–2024 Gen. Assemb., Reg. Sess. § 599(c) (Vt. 2024).

456. The Biden administration’s environmental justice screening tool can be accessed at Climate Portal Program, Climate and Environmental Justice Screening Tool, <https://climateprogramportal.org/resource/climate-and-environmental-justice-screening-tool/> (last visited Jan. 21, 2026). See also Jean Chemnick, Experts to White House: EJ Screening Tool Should Consider Race, *E&E News* (June 1, 2022), <https://www.eenews.net/articles/experts-to-white-house-ej-screening-tool-should-consider-race/> [<https://perma.cc/DN45-2CQV>].

457. Thomas Frank, How the White House Found EJ Areas Without Using Race, *E&E News* (Jan. 24, 2023), <https://www.eenews.net/articles/how-the-white-house-found-ej-areas-without-using-race/> [<https://perma.cc/KT2U-7QNN>].

pollution levels will make a community especially vulnerable to climate harms,⁴⁵⁸ ensuring that these areas receive a portion of expenditures is the most rational, defensible approach to allocating the fund.

CONCLUSION

Despite repeated, longstanding warnings from the scientific community, the United States has made limited progress in transitioning to cleaner sources of energy over the past several decades. Nor have most countries worldwide put in place adequate regulations to reduce greenhouse gas emissions. As a result, fossil fuel companies have continued to sell their products for enormous profits with little regard for the inevitable harms. The climate crisis is thus a severe market and moral failure, placing significant economic burdens on a generation that has little responsibility for our current predicament.

State climate superfunds offer a way to more fairly distribute the costs of climate adaptation by requiring the companies that most profited from selling fossil fuels to assume some of these expenses. State governments, which will bear the largest financial burdens from climate change, should lead the way in passing such legislation given the local nature of the harm and states' historic role in maintaining their natural resources. Properly designed, these laws can conform with constitutional principles of fairness and appropriately balance local benefits with any resulting effects on commerce. Although they won't solve the problem of climate change, these superfunds can ensure that major fossil fuel companies help ameliorate the considerable damage their products have caused to public health and the environment.

458. U.S. Glob. Change Rsch. Program, *The Impacts of Climate Change on Human Health in the United States: A Scientific Assessment* 252 (2016), <https://www.healthandenvironment.org/docs/ImpactsClimateChangeHumanHealthUSGlobalChangeResearchProgramSmall2016.pdf> [<https://perma.cc/V3H6-4GYB>].