

VERMONT’S QUESTIONABLE ATTEMPT TO TACKLE BIG OIL AND GAS: A CALL TO REPLACE VERMONT’S CLIMATE SUPERFUND ACT

Cole Thomas*

INTRODUCTION.....	305
I. BACKGROUND AND THE ADOPTION OF VERMONT’S CLIMATE SUPERFUND ACT	306
A. History of the “Climate Change” Debate in Politics	306
B. Recent State Responses to Comply with the Biden Administration’s Inflation Reduction Act.....	310
II. ISSUES WITH VERMONT’S CLIMATE SUPERFUND ACT FROM THE OIL & NATURAL GAS INDUSTRIES’ PERSPECTIVE.....	314
A. Laws Cannot Impose Retroactive Liability and Punish for Past Actions that Were Legal at the Time Those Actions Occurred.....	314
B. Vermont Lacks the Authority to Enact Vermont’s Climate Superfund Act Because Precedent Has Established that Vermont’s Climate Superfund Act Is Preempted by Federal Law.....	317
C. Vermont Lacks the Authority to Regulate Emissions Because the Due Process Clause of the Fourteenth Amendment and the Commerce Clause Prevent Vermont from Establishing Laws Regulating GHG Emissions.....	320
D. Vermont’s Climate Superfund Act’s Focus, Liability Strategies, and Approach Violates the Fifth Amendment’s “Takings Clause” and Lacks Rational Basis Under the Due Process Clause of the Fourteenth Amendment	322
E. Vermont’s Climate Superfund Act Fails a “Hard Look” Review by Allowing Arbitrary Determinations and Contains Reliability Concerns Stemming from the Overall Issues with the Formulas Used to Calculate GHG Emissions	325
III. A NEW LIABILITY SCHEME TO REPLACE VERMONT’S CLIMATE SUPERFUND ACT	328
CONCLUSION	329

* Coleman (Cole) Thomas received his J.D. (‘24) and LLM in Energy Law (‘25) from Vermont Law and Graduate School. Cole has a BA in Business, Organizations, and Society (BOS) with a concentration in international cultural ethics from Franklin & Marshall College. Cole would like to thank his family, John, Deborah, and Katherine, for their unwavering support throughout his academic career, and always being in “his corner” when life comes knocking.

INTRODUCTION

First, it was “inadvertent climate modification.”¹ Then, it was “global warming.”² Now, it is “climate change.”³ It started with concerns focused on CO₂ emissions; now, it has evolved into concerns regarding loss of biodiversity and methane emissions.⁴ Since the 1980s, terms amounting to the same notion—greenhouse gas (GHG) emissions causing the Earth’s climate, environment, and natural ecosystems to change—have bounced around the halls of Congress and been focal points in presidential platforms, in swanky charity fundraisers, and of hundreds of millions of dollars of federal allocations.⁵ As time has progressed, these concerns about environmental degradation, air quality, water quality, and public health have grown. In recent years, the American public has drastically changed how it views the energy industry, specifically the fossil fuels sector.⁶ In 2022, President Biden signed the Inflation Reduction Act (IRA) into law as an attempt to begin the United States’ transition toward clean energy, and hopefully, net-zero emissions.⁷

In addition to federal action, the immense pressure growing from the American public has caused state governments to roll up their sleeves and get involved in addressing climate change issues. For example, California has recently passed SB 1137, which “prohibits the issuance of well permits and the construction and operation of new production facilities within a

1. NASA, *Whats in a Name? Global Warming vs. Climate Change*, GODDARD SPACE FLIGHT CTR., <https://gpm.nasa.gov/education/articles/whats-name-global-warming-vs-climate-change> (last visited May 2, 2025).

2. *Words Matter: How the Language of Climate Change Has Changed*, CLIMATE HUBS U.S. DEP’T OF AGRIC. (Apr. 10, 2023), <https://www.climatehubs.usda.gov/hubs/northeast/news/words-matter-how-language-climate-change-has-changed>.

3. *Id.*; see also *What Is Climate Change?* NASA, (Oct. 21, 2024), <https://science.nasa.gov/climate-change/what-is-climate-change/>.

4. Nicholas Cunningham, *New Study Finds Overwhelming Evidence of Harms from Fracking*, GAS OUTLOOK (Oct. 11, 2023), <https://gasoutlook.com/analysis/new-study-finds-overwhelming-evidence-of-harms-from-fracking/>; see also ADAM VANN, CONG. RSCH. SERV., LSB10882, *THE DEBATE OVER VENTING AND FLARING ON FEDERAL LANDS 1* (2022); see also Paul Tolmé, *The U.S. Biodiversity Crisis*, NAT’L WILDLIFE FED’N (Jan. 30, 2017), <https://www.nwf.org/Magazines/National-Wildlife/2017/Feb-March/Conservation/Biodiversity>.

5. S. 2891, 99th Cong. (1986).

6. Chris McGreal, *Revealed: 60% of Americans Say Oil Firms Are to Blame for the Climate Crisis*, GUARDIAN (Oct. 26, 2021), <https://www.theguardian.com/environment/2021/oct/26/climate-change-poll-oil-gas-companies-environment>.

7. *Inflation Reduction Act*, U.S. DEP’T OF THE TREASURY, <https://web.archive.org/web/20241006043917/https://home.treasury.gov/policy-issues/inflation-reduction-act> (last visited Apr. 8, 2025); H.R. 5376, 117th Cong. (2022) (enacted).

health protection zone (or HPZ) of 3,200 feet from a sensitive receptor.”⁸ Similarly, the Vermont legislature focused its crosshairs on the oil and gas industries by passing S.259 (Climate Superfund Act or Act) in May 2024.⁹ Vermont’s Climate Superfund Act attempts to hold oil and gas companies responsible for environmental damages by implementing a liability scheme and damages payment on companies whose actions have caused GHG emissions exceeding the specified threshold established in the Act.¹⁰

This is not a story about the Dirty Democrats or Radical Republicans bickering about the environment. No—this is an apolitical commentary analyzing the legality of Vermont’s Climate Superfund Act holding oil and gas companies accountable for environmental damages.¹¹ Part I will discuss the background of the “climate change” debate and the steps some states have recently taken to address the new aggressive emissions standards established by the Biden Administration. Part II will raise issues with Vermont’s attempt—the Climate Superfund Act—to comply with the new emissions standards established by the Biden Administration and ultimately conclude that Vermont’s Climate Superfund Act is illegal and should be set aside.¹² Part III will propose a legal way forward in place of Vermont’s Climate Superfund Act.¹³

I. BACKGROUND AND THE ADOPTION OF VERMONT’S CLIMATE SUPERFUND ACT

A. History of the “Climate Change” Debate in Politics

The environment is an essential component of human life. The environment provides us with air to breathe, water to drink, food to eat, shelter to keep us warm and safe, resources to satisfy our needs, compounds to fight infections, and many other things to sustain life. Early humans recognized the importance of the environment surrounding them and the

8. *Understanding California’s Oil and Gas Safety Zones: Senate Bill 1137*, CAL. DEP’T OF CONSERVATION, <https://www.conservation.ca.gov/calgem/Pages/SB1137.aspx> (last visited Apr. 8, 2025); S.B. 1137, 2022 Reg. Sess. (Cal. 2022).

9. VT. STAT. ANN. tit. 122, § 259 (2024).

10. *Vermont Senate Judiciary Committee Advances S.259, the Climate Superfund Act*, VT. NAT. RES. COUNCIL (Mar. 18, 2024), <https://vnrc.org/vermont-senate-judiciary-committee-advances-s-259-the-climate-superfund-act/>; see also VT. STAT. ANN. tit. 10, §§ 596–599c (2024) (highlighting total impact of the Act on responsible parties).

11. See VT. STAT. ANN. tit. 10, §§ 596–599c (2024).

12. See *id.*

13. See *id.*

benefits a healthy environment provided, as evidenced by various cultures' reverence and respect for nature.¹⁴

However, time, capitalism, comfort, convenience, and selfishness have caused us to lose sight of the importance of the environment in our lives. Despite the invaluable environmental benefits, human beings have yet to hold up their end of the bargain. Rather, we have produced waste, degraded the environment, destroyed habitats, and polluted the air and water. After John D. Rockefeller monopolized the oil industry, we put the environment's priorities on the back burner and put capitalism on the front burner.¹⁵ Care for environmental conservation slithered into the shadows. "Zoinks!"¹⁶ Don't even mention how fast environmental concerns flew out the window with the advent of the automobile and Ford's Model T.¹⁷ "Fuhgeddaboudit!"¹⁸ It was game over for environmental concerns.

It wasn't until 1972 that concerns about environmental harms came to the spotlight for the first time on the international stage via the United Nations Conference on the Human Environment in Stockholm, Sweden.¹⁹ Still, despite the growing concern in the international community regarding environmental degradation and pollution, the United States lagged behind. It wasn't until 1992 that the United States finally started taking environmental concerns seriously when the U.S. Senate ratified the United

14. Carlos Cruz, *Ancient Civilizations and Their Relationship with Nature*, MEDIUM (Jan. 9, 2024), <https://medium.com/@blogcarloscruz/ancient-civilizations-and-their-relationship-with-nature-b7eac6ed5acb> ("Ancient civilizations across the globe shared a common thread of deep respect and interdependence with the natural world. Their cultures, beliefs, and daily practices were shaped by their relationship with nature, reflecting an awareness of the environment's importance.").

15. See John D. Rockefeller, HIST. (Dec. 19, 2023), <https://www.history.com/topics/early-20th-century-us/john-d-rockefeller>.

16. See SpaceHunterM, *Every "Zoinks!" in What's New, Scooby-Doo?*, YOUTUBE (Oct. 25, 2018), <https://www.youtube.com/watch?v=T9fEKXAqo3k> (demonstrating that, in *What's New, Scooby-Doo?*, "zoinks" is used to show fear, surprise, or shock toward a particular situation).

17. Early criticisms of automobiles included automobiles being expensive and unreliable as they were prone to breaking down and flat tires. See Martin V. Melosi, *The Automobile and the Environment in American History*, AUTO. IN AM. LIFE AND SOC'Y, http://www.autolife.umd.umich.edu/Environment/E_Overview/E_Overview1.htm (last visited Apr. 8, 2025) (demonstrating that early automobiles were viewed as "a rich man's plaything" and environmental concerns were nowhere to be found in the early days of the automobile industry); see also *The Early Automobile*, IOWA PBS, <https://www.iowapbs.org/iowapathways/mypath/2603/early-automobile> (last visited Apr. 8, 2025) (demonstrating how the early criticisms of automobiles centered around price and reliability, not environmental concerns).

18. *Want a New York Accent? Fuhgeddaboudit!*, MONCEAU, <https://www.monceau-langues.fr/blog/want-a-new-york-accent-fuhgeddaboudit> (last visited Apr. 8, 2025) (demonstrating how Brooklynites say, "Forget about it!").

19. *United Nations Conference on the Human Environment*, 5–16 June 1972, Stockholm, UNITED NATIONS, <https://www.un.org/en/conferences/environment/stockholm1972> (last visited Apr. 8, 2025).

Nations Framework Convention on Climate Change—marking the first major piece of legislation regarding climate change in effect in the United States.²⁰ Then, it was off to the races.

“Climate change” quickly became a hot topic in Washington, D.C., and the focal point of many charities, fundraisers, scientific studies, and even presidential campaigns.²¹ As a result, federal and state agencies were tasked with addressing growing environmental concerns regarding water quality, air quality, and habitat destruction.²² Some of the notable federal agencies tasked with addressing these issues are the Environmental Protection Agency (EPA), the Bureau of Land Management (BLM), and the Bureau of Ocean Energy Management (BOEM).²³ These federal agencies enforce several environmental statutes that the federal government enacted, such as the Clean Air Act (CAA), the National Environmental Policy Act (NEPA), and the Clean Water Act (CWA).²⁴ Furthermore, Vice President Dick Cheney and President George W. Bush won an election by focusing part of their campaign on global warming and making a promise to reduce greenhouse gas (GHG) emissions by 18%.²⁵ President Obama followed suit and continued his predecessors’ environmental promises by passing the Clean Power Plan in 2015.²⁶

As a result of back-to-back administrations placing a high value on environmental concerns, a large number of scientific studies were

20. *Congress Climate History*, CTR. FOR CLIMATE AND ENERGY SOLS., <https://www.c2es.org/content/congress-climate-history> (last visited Apr. 8, 2025).

21. See *infra* note 25; see also *Record of Accomplishments*, ACADIA CTR., <https://acadiacenter.org/record-of-accomplishments> (last visited Apr. 8, 2025); see also AAAS *Reaffirms Statements on Climate Change and Integrity*, AAAS (Dec. 4, 2009), <https://www.aaas.org/news/aaas-reaffirms-statements-climate-change-and-integrity> (demonstrating an example of an organization, The American Association for the Advancement of Science (AAAS), that conducts scientific studies and research on climate change).

22. See *infra* note 23.

23. *Our Mission and What We Do*, EPA, <https://www.epa.gov/aboutepa/our-mission-and-what-we-do> (last updated Feb. 28, 2025); see also *Our Mission*, U.S. DEP’T OF THE INTERIOR BUREAU OF LAND MGMT., <https://www.blm.gov/about/our-mission> (last visited Apr. 8, 2025); see also VANN, *supra* note 4; see also *About BOEM*, U.S. DEP’T OF THE INTERIOR BUREAU OF OCEAN ENERGY MGMT., <https://www.boem.gov/about-boem> (last visited Apr. 8, 2025).

24. See, e.g., *Summary of the Clean Air Act*, EPA, <https://www.epa.gov/laws-regulations/summary-clean-air-act> (last updated July 31, 2024); see also *What Is the National Environmental Policy Act?*, EPA, <https://www.epa.gov/nepa/what-national-environmental-policy-act> (last updated Sept. 4, 2024); see also *Summary of the Clean Water Act*, EPA, <https://www.epa.gov/laws-regulations/summary-clean-water-act> (last updated June 12, 2024).

25. See *Clean Energy and Climate Change*, THE WHITE HOUSE, <https://georgewbush-whitehouse.archives.gov/ceq/clean-energy.html> (last visited Apr. 8, 2025).

26. See *Climate Change and President Obama’s Action Plan*, THE WHITE HOUSE, <https://obamawhitehouse.archives.gov/president-obama-climate-action-plan> (last visited Apr. 8, 2025).

conducted.²⁷ Since 2000, over 2,500 new studies have shown a causal connection between GHG emissions from oil and natural gas production and development and negative environmental impacts.²⁸ Over 2,100 of these studies have occurred since 2014, demonstrating a growing interest since the Obama Administration in the connection between the oil and gas industries and GHG emissions.²⁹ As a result of the growth in scientific studies demonstrating a causal connection between oil and gas production and development and negative environmental impacts, in 2022, President Biden signed the Inflation Reduction Act (IRA) into law.³⁰

The IRA is an attempt to begin the United States' transition toward clean energy and, hopefully, net-zero emissions.³¹ It “offers a variety of strategies to support renewable energy, such as tax credits for utility-scale renewable energy, federal investment in rural electricity co-ops, and rebates for consumers who install energy-efficient heat pumps, windows[,] or rooftop solar panels.”³² The Department of Energy stated that the IRA is the single largest “investment in climate and energy in American history,” and it’s expected to cut our greenhouse gas emissions by around 40 percent by 2030 compared with 2005 levels.³³ As a result, states have begun proposing new laws to accomplish the IRA’s goal of cutting GHG emissions.³⁴ These new proposals hold oil and gas producers and developers liable for environmental and public health harms resulting from their GHG emissions—in hopes that this will change their behavior and lower GHG emissions.³⁵

27. Cunningham, *supra* note 4 (demonstrating that over 2,100 studies have been conducted since 2014, showing a causal connection between GHG emissions from oil and gas production and development and negative environmental impacts).

28. *Id.* (“The latest version, the 9th edition [of the compendium], released in October [2023], has nearly 2,500 studies showing evidence of harm from fracking.”).

29. *Id.*

30. H.R. 5376, 117th Cong. (2022) (enacted).

31. *Id.*

32. Naomi Oreskes, *The Gas Industry Is Gaslighting the Public About Climate Change*, SCI. AM. (June 25, 2024), <https://www.scientificamerican.com/article/the-gas-industry-is-gaslighting-the-public-about-climate-change/>.

33. *Id.*

34. See discussion *infra* Part I.B.

35. *Id.*

*B. Recent State Responses to Comply with the Biden Administration's
Inflation Reduction Act*

In 2024, multiple states proposed Climate Change Superfund Bills, attempting to meet the goals—reducing GHG emissions—of the IRA.³⁶ These states include Vermont, New York, California, Massachusetts, and Maryland.³⁷ Vermont and New York actually passed Climate Change Superfund Acts this past year.³⁸ All of these states' proposals attempt to hold fossil fuel producers and developers liable for environmental damages caused by the GHG emissions resulting from their actions.³⁹ New York's proposal covers actions that occurred between January 1, 2000, and December 31, 2018.⁴⁰ California's proposal covers actions that occurred from 2000 to 2020.⁴¹ Massachusetts's proposal covers actions that occurred from 2000 to 2018.⁴² Maryland's proposal covers actions that occurred from 2000 to 2020.⁴³

Vermont's act is titled "Climate Superfund Act" or S.259.⁴⁴ The effective date for Vermont's Climate Superfund Act is July 1, 2024.⁴⁵ Vermont's Climate Superfund Act shares the same purpose as the previously mentioned states' proposals—holding fossil fuel and oil producers and developers liable for environmental damages caused by the GHG emissions resulting from their actions.⁴⁶ Vermont's Climate

36. Gregory S. Berlin & Jeffrey Dintzer, *Emerging Climate Liability: Understanding State Climate Change Superfund Bills*, ALSTON & BIRD (July 11, 2024), <https://www.alston.com/en/insights/publications/2024/07/understanding-state-climate-change-superfund-bills>; see also Inflation Reduction Act of 2022, Pub. L. No. 117-169, 136 Stat. 2048 (2022).

37. Berlin, *supra* note 36.

38. See generally VT. STAT. ANN. tit. 10, §§ 596–599c (2024); see also N.Y. ENV'T CONSERV. LAW § 76-0103 (Consol. 2024).

39. See VT. STAT. ANN. tit. 10, § 596(22) (2024); see N.Y. ENV'T CONSERV. LAW § 76-0103 (Consol. 2024); see S.B. 1497, 2024 Leg., Reg. Sess. (Cal. 2024); see Polluters Pay Climate Change Adaptation Cost Recovery Act of 2024, S.B. 481, 193rd Gen. Ct., Reg. Sess. (Mass. 2023); see Responding to Emergency Needs From Extreme Weather (RENEW) Act of 2024, S.B. 958, 2024 Leg., Reg. Sess. (Md. 2024).

40. N.Y. ENV'T CONSERV. LAW § 76-0103 (Consol. 2024).

41. Polluters Pay Climate Cost Recovery Act of 2024, S.B. 1497, 2024 Leg., Reg. Sess. (Cal. 2024).

42. Climate Change Adaptation Cost Recovery Act, S.B. 481, 193rd Gen. Ct., Reg. Sess. (Mass. 2023).

43. Responding to Emergency Needs From Extreme Weather (RENEW) Act of 2024, S.B. 958, 2024 Leg., Reg. Sess. (Md. 2024).

44. Climate Superfund Act, VT. STAT. ANN. tit. 122, § 1 (2024).

45. *Id.* at § 7.

46. VT. STAT. ANN. tit. 10, § 596(22) (2024).

Superfund Act holds parties liable if their actions occurred between January 1, 1995, and December 31, 2024.⁴⁷ A liable party is:

[A]ny entity or a successor in interest to an entity that during any part of the covered period was engaged in the trade or business of extracting fossil fuel or refining crude oil and is determined by the Agency attributable to for more than one billion metric tons of covered greenhouse gas emissions during the covered period.⁴⁸

Furthermore, a liable party “does not include any person who lacks sufficient connection with the State to satisfy the nexus requirements of the U.S. Constitution.”⁴⁹ Once a party is found liable, costs to the party are:

[E]qual to an amount that bears the same ratio to the cost to the State of Vermont and its residents, as calculated by the State Treasurer pursuant to section 599c of this title, from the emission of covered greenhouse gases during the covered period as the responsible party’s applicable share of covered greenhouse gas emissions bears to the aggregate applicable shares of covered greenhouse gas emissions resulting from the use of fossil fuels extracted or refined during the covered period.⁵⁰

Regarding Vermont’s State Treasurer’s Report on the Cost to Vermont of Covered Greenhouse Gas Emissions, Section 599c states:

On or before January 15, 2026, the State Treasurer, after consultation with the Interagency Advisory Board to the Climate Action Office, and with any other person or entity whom the State Treasurer decides to consult for the purpose of obtaining and utilizing credible data or methodologies that the State Treasurer determines may aid the State Treasurer in making the assessments and estimates required by this section, shall submit to the Senate Committees on Appropriations, on Finance, on Agriculture, and on Natural Resources and Energy and the House Committees on Appropriations; on Ways and Means; on Agriculture, Food Resiliency, and Forestry; and on Environment and Energy an assessment of the cost to the State of Vermont and its residents of the emission of covered greenhouse gases for the

47. *Id.* § 596(8).

48. *Id.* § 596(22).

49. *Id.*

50. *Id.* § 598(b).

period that began on January 1, 1995 and ended on December 31, 2024.⁵¹

Section 599c goes on to state that:

The assessment shall include: (1) a summary of the various cost-driving effects of covered greenhouse gas emissions on the State of Vermont, including effects on public health, natural resources, biodiversity, agriculture, economic development, flood preparedness and safety, housing, and any other effect that the State Treasurer, in consultation with the Climate Action Office, determines is relevant; (2) a categorized calculation of the costs that have been incurred and are projected to be incurred in the future within the State of Vermont of each of the effects identified under subdivision (1) of this section; and (3) a categorized calculation of the costs that have been incurred and are projected to be incurred in the future within the State of Vermont to abate the effects of covered greenhouse gas emissions from between January 1, 1995[,] and December 31, 2024[,] on the State of Vermont and its residents.⁵²

The money received from liable parties is to be placed in a Climate Superfund Cost Recovery Program Fund.⁵³ The Fund is to pay for “[c]limate change adaptation project[s]”⁵⁴ “Climate change adaptation project[s]” are projects “designed to respond to, avoid, moderate, repair, or adapt to negative impacts caused by climate change and to assist human and natural communities, households, and businesses in preparing for future climate-change-driven disruptions.”⁵⁵

The liability structure established in Vermont’s Climate Superfund Act is a strict liability structure. In a strict liability structure, “[a]ll that is necessary is to prove the crime or tort occurred” and that a particular party committed that crime or tort.⁵⁶ The defendant’s intent has no influence on this determination.⁵⁷ “It also does not matter if a defendant acted negligently or carelessly”⁵⁸ Vermont’s Climate Superfund Act’s strict

51. *Id.* § 599c.

52. *Id.* § 599c(1)–(3).

53. *Id.* § 599.

54. *Id.* § 596(2).

55. *Id.*

56. Christy Bieber, *Strict Liability: Legal Definition & Examples*, FORBES: LEGAL, <https://www.forbes.com/advisor/legal/personal-injury/strict-liability> (last updated July 25, 2024).

57. *Id.*

58. *Id.*

liability structure is modeled after the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA).⁵⁹

CERCLA was enacted to “clean up uncontrolled or abandoned hazardous waste sites as well as accidents, spills, and other emergency releases of pollutants and contaminants into the environment.”⁶⁰ CERCLA created a “tax on the chemical and petroleum industries and provided broad Federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment.”⁶¹ CERCLA also “provided for liability of persons responsible for releases of hazardous wastes” at specific sites.⁶² Specifically, CERCLA’s liability extends to any owners or operators of vessels or facilities responsible for releasing hazardous wastes while disposing of or transporting those hazardous wastes.⁶³ CERCLA liability also applies to any person who arranged for the disposal, treatment, or transport of hazardous substances.⁶⁴ Those owners or operators are liable under CERCLA if “there has been (1) an actual or threatened release (2) of a hazardous substance (not a pollutant or contaminant) that (3) causes the incurrence of response costs.”⁶⁵ Under CERCLA, vessel owners or operators may be liable for damages between “\$300 per gross ton [of hazardous substance released], or \$5,000,000, whichever is greater.”⁶⁶ Under CERCLA, facility owners or operators may be liable for damages between \$5,000,000 and \$50,000,000.⁶⁷

59. See generally 42 U.S.C. §§ 9601–9675.

60. *Summary of the Comprehensive Environmental Response, Compensation, and Liability Act (Superfund)*, EPA, <https://www.epa.gov/laws-regulations/summary-comprehensive-environmental-response-compensation-and-liability-act> (last updated July 31, 2024).

61. *Superfund: CERCLA Overview*, EPA, <https://www.epa.gov/superfund/superfund-cercla-overview> (last updated Oct. 8, 2024).

62. *Id.*

63. See 42 U.S.C. § 9607(a).

64. *Id.* § 9607(a)(3).

65. KATE R. BOWERS, CONG. RSCH. SERV., IF11790, LIABILITY UNDER THE COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT (CERCLA) 1 (2021).

66. 42 U.S.C. § 9607(c)(1)(A)–(B).

67. *Id.* § 9607(c)(1)(C).

II. ISSUES WITH VERMONT'S CLIMATE SUPERFUND ACT FROM THE OIL & NATURAL GAS INDUSTRIES' PERSPECTIVE

A. Laws Cannot Impose Retroactive Liability and Punish for Past Actions that Were Legal at the Time Those Actions Occurred

The first argument against the legality of Vermont's Climate Superfund Act is that it is an *ex post facto* law.⁶⁸ Vermont's Climate Superfund Act imposes retroactive liability and punishes oil and gas companies for their actions that were legal at the time those acts were committed.⁶⁹ The Fourteenth Amendment's Due Process Clause "prevents states from retroactively imposing civil liability for previously permitted activities unless the responsible party 'could have reasonably expected that it would be subject to regulation.'"⁷⁰ In *Landgraf v. USI Film Products*, the Court held that "without clear evidence or expression of intent, federal statutes shall not [apply] retroactively."⁷¹ When there is "no clear evidence of congressional intent for retroactive application of a statute[.]" there is a "presumption in favor of non-retroactivity."⁷² The same should apply to state statutes.

Here, there is no way oil and fossil fuel companies could have "reasonably expected" that they'd be liable and have to pay monetary damages for their behavior 20 years later.⁷³ The Due Process Clause forbids the government from holding an individual or corporation liable for violating a law that did not exist at the time of the alleged violation.⁷⁴ The fundamental problem with retroactive lawmaking is "a lack of notice; regulated persons are unable to conform their conduct to the law because they do not know what the law is at the time of the relevant action, only

68. *See Ex Post Facto Law*, BRITANNICA, <https://www.britannica.com/topic/ex-post-facto-law> (last visited Apr. 11, 2025) (explaining that an *ex post facto* law "retroactively makes criminal conduct that was not criminal when performed, increases the punishment for crimes already committed, or changes the rules of procedure in force at the time an alleged crime was committed in a way substantially disadvantageous to the accused").

69. *See id.*; *see also* VT. STAT. ANN. tit. 10, § 596(22) (2024).

70. Martin Lockman & Emma Shumway, *State "Climate Superfund" Bills: What You Need to Know*, SABIN CENTER FOR CLIMATE CHANGE LAW: CLIMATE LAW – A SABIN CENTER BLOG (Mar. 14, 2024), <https://blogs.law.columbia.edu/climatechange/2024/03/14/state-climate-superfund-bills-what-you-need-to-know>.

71. Nicole M. McGinnis, *Reconsidering CERCLA Retroactivity After Landgraf v. USI Film Products*, 1997 U. OF CHI. LEGAL F. 507, 513 (1997) (citing *Landgraf v. USI Film Products*, 511 U.S. 244, 280 (1994)).

72. *Id.* at 512.

73. Lockman & Shumway, *supra* note 70.

74. U.S. CONST. amend. XIV, § 1.

learning what the rules are (or were) when it is too late to comply with them.”⁷⁵ Furthermore, the void-for-vagueness doctrine “holds that a law that fails to provide those subject to it meaningful notice of what is required or forbidden is unconstitutional.”⁷⁶ Basically, the state cannot invent a law today to punish actions that were legal at the time when they were committed in 1995, which is precisely what Vermont’s Climate Superfund Act does.⁷⁷ Vermont’s Climate Superfund Act attempts to hold fossil fuel developers and producers liable for environmental damages for their actions that took place from 1995 to 2024.⁷⁸

Another term for this retroactive law is an *ex post facto* law. It is widely accepted that “[r]etroactive statutes are disfavored in the United States, as evidenced by constitutional provisions such as the Due Process Clause, the Takings Clause, and the prohibition of *ex post facto* laws.”⁷⁹ The U.S. Constitution explicitly prohibits *ex post facto* laws. Specifically, Article 1, § 9, Clause 3 of the U.S. Constitution prohibits Congress from passing *ex post facto* laws.⁸⁰ Furthermore, Article 1, § 10, Clause 1 of the U.S. Constitution prohibits states from passing *ex post facto* laws.⁸¹ Industry leaders, such as the American Petroleum Institute, state that Vermont’s Climate Superfund Act “retroactively imposes costs and liability on prior activities that were legal” at the time they were committed.⁸² To make matters worse, Vermont’s Climate Superfund Act explicitly states that it “shall apply retroactively to the covered period beginning January 1, 1995.”⁸³

Now, the environmentalists aren’t going to take these arguments lying down. “No, [they] ain’t gonna take it . . . !”⁸⁴ They are going to battle back

75. STEPHEN BREYER ET AL., *ADMINISTRATIVE LAW AND REGULATORY POLICY: PROBLEMS, TEXT, AND CASES* 432 (Rachel E. Barkow et al. eds., 9th ed. 2022); *see also* Richard E. Lotz, *Liability Issues Under CERCLA*, 23 A.F. L. REV. 370, 400 (1982–1983).

76. BREYER ET AL., *supra* note 75.

77. VT. STAT. ANN. tit. 10, § 596(8) (2024).

78. *Id.*

79. McGinnis, *supra* note 71, at 508.

80. U.S. CONST. art. I, § 9, cl. 3.

81. *Id.* § 10, cl. 1.

82. Dharna Noor, ‘Game-changing’: Vermont Becomes First State to Require Big Oil to Pay for Climate Damages, *GUARDIAN* (May 31, 2024), <https://www.theguardian.com/us-news/article/2024/may/31/vermont-oil-companies-climate-superfund-act>; *see also* AM. PETROLEUM INST., Comment Letter on Vermont’s Proposed Rule S.259 (Apr. 11, 2024), <https://legislature.vermont.gov/Documents/2024/WorkGroups/House%20Judiciary/Bills/S.259/Witness%20Testimony/S.259-Michael%20Giaino~American%20Petroleum%20Institute%20-%20Written%20Testimony~4-11-2024.pdf>.

83. VT. STAT. ANN. tit. 10, § 596(8) (2024).

84. TWISTED SISTER, *We’re Not Gonna Take It*, on *STAY HUNGRY*, at 00:11 (Atlantic Records 1984).

and pose their own arguments. Regarding retroactivity, environmentalists will point to established precedent such as the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). CERCLA is the federal Superfund created to “clean up uncontrolled or abandoned hazardous waste sites as well as accidents, spills, and other emergency releases of pollutants and contaminants into the environment.”⁸⁵ Like Vermont’s Climate Superfund Act, CERCLA also imposes retroactive liability.⁸⁶ Using CERCLA as precedent to justify imposing retroactive liability is a strong argument for the environmentalists.⁸⁷ However, precedent is not always correct, and courts are free to overturn precedent when circumstances warrant such an act.⁸⁸ If precedent were never overturned, our judicial system and country would have remained stagnant.⁸⁹ It’s a good thing the courts possess the power to overturn precedent; otherwise, we’d still have segregation in schools and a lack of *Miranda* rights.⁹⁰ Furthermore, it is well established that CERCLA was not intended to operate as a “punitive deterrent.”⁹¹ Still, the state legislature intended Vermont’s Climate Superfund Act to operate as a “punitive deterrent.”⁹² This is evidenced by its imposing retroactive liability in hopes of changing oil and gas companies’ behavior—lowering their greenhouse gas (GHG) emissions.⁹³ Therefore, CERCLA’s retroactive liability scheme is a dangerous precedent that must be overturned and has no bearing on Vermont’s Climate Superfund Act because Vermont’s Climate Superfund Act operates as a “punitive deterrent.”⁹⁴

85. *Summary of the Comprehensive Environmental Response, Compensation, and Liability Act (Superfund)*, <https://www.epa.gov/laws-regulations/summary-comprehensive-environmental-response-compensation-and-liability-act> (last updated July 31, 2024).

86. *Superfund Liability*, EPA, <https://www.epa.gov/enforcement/superfund-liability> (last updated Apr. 10, 2025).

87. *Id.*

88. *See, e.g.,* *Lawrence v. Texas*, 539 U.S. 558 (2003) (overturning *Bowers v. Hardwick*, 478 U.S. 186 (1986)). In *Lawrence*, the Supreme Court invalidated a Texas law that made it a crime for two persons of the same sex to engage in sexual conduct. *See Lawrence*, 539 U.S. at 578–79.

89. *See Dobbs v. Jackson Women’s Health Organization*, 597 U.S. 215, 263–66 (2022) (discussing *stare decisis* and how the impact of overturning previous precedents has shaped this country); *see also* Mateo Aboy, *Part 2 – Traditional Judicial Understanding of Precedent*, PROF. MATEO ABOY RESH. & PERS. SITE (2012), https://www.mateoaboy.com/f6/blog_files/335d1660effe226149e16958b075a096-86.html.

90. *See generally* *Brown v. Bd. of Educ.*, 347 U.S. 483 (1954) (holding segregation in schools unconstitutional); *see also* *Miranda v. Arizona*, 384 U.S. 436 (1966).

91. Yarik Kryvoi & Shaun Matos, *Non-Retroactivity as a General Principle of Law*, 17 UTRECHT L. REV. 46, 55–56 (2021).

92. *See id.*

93. *See discussion infra* Part II.D.

94. Kryvoi & Matos, *supra* note 91; *see also discussion infra* Part II.D.

Also, environmentalists may argue that oil and gas companies knew about the undesirable consequences of their business long before current damages manifested and therefore could have reasonably expected future liability.⁹⁵ However, this argument lacks credibility. Since 2000, over 2,500 new studies have shown a causal connection between GHG emissions from oil and natural gas production and development and negative environmental impacts.⁹⁶ Over 2,100 studies have been published since 2014.⁹⁷ How could oil and fossil fuel companies have known about the undesirable consequences of their actions in 1995 when a majority of the studies demonstrating a causal connection were not published until 2014?⁹⁸ They couldn't have. Because most of the studies were performed post-2014, there is no way oil and gas companies could have "reasonably expected" subsequent harm or future liability for their actions in 1995.⁹⁹

Therefore, Vermont's Climate Superfund Act imposes civil liability for previously legal actions, therefore, it is an ex post fact law and prohibited by the U.S. Constitution.

B. Vermont Lacks the Authority to Enact Vermont's Climate Superfund Act Because Precedent Has Established that Vermont's Climate Superfund Act Is Preempted by Federal Law

Another argument that fossil fuel companies could raise in opposition to Vermont's Climate Superfund Act is that it is preempted by federal law.¹⁰⁰ The Supremacy Clause of the U.S. Constitution establishes that federal law preempts state law when the two are conflicting.¹⁰¹

In a 2021 appellate decision, *City of New York v. Chevron Corporation*, the Second Circuit held that the City of New York could not sue global fossil fuel producers under state tort law for damages caused by fossil fuel emissions outside its borders.¹⁰² The Second Circuit held that

95. E-mail from Eduardo Otero Bakai, Faculty, Inst. for Energy and the Env't, to Coleman O. Thomas, J.D., LLM student at Vt. L. and Graduate Sch. (Nov. 22, 2024, 15:51 EST) (on file with author). Eduardo Otero Bakai is an international energy scholar from Havana, Cuba, a colleague, and a faculty member of the Institute for Energy and the Environment at Vermont Law and Graduate School.

96. Cunningham, *supra* note 4 ("The latest version, the 9th edition [of the compendium], released in October [2023], has nearly 2,500 studies showing evidence of harm from fracking.").

97. *Id.*

98. *Id.*

99. *Id.*; see also Lockman & Shumway, *supra* note 70.

100. See generally VT. STAT. ANN. tit. 10, §§ 596–599c (2024); see *infra* note 123.

101. U.S. CONST. art. 6, cl. 2.

102. 993 F.3d 81, 85 (2d Cir. 2021).

federal common law preempted these state common law claims.¹⁰³ Ultimately, the Clean Air Act displaced the federal common law in *Chevron*.¹⁰⁴

Here, Vermont's Climate Superfund Act is a state law.¹⁰⁵ The Clean Air Act is a federal law.¹⁰⁶ Both Vermont's Climate Superfund Act and the Clean Air Act quantify GHG emissions and apportion associated liability to parties.¹⁰⁷ Vermont's Climate Superfund Act requires fossil fuel producers and developers to pay for environmental damages resulting from their GHG emissions.¹⁰⁸ The Clean Air Act requires the Environmental Protection Agency (EPA) to set "minimum national standards for air quality."¹⁰⁹ On the surface, these two statutes do not seem to conflict—their purposes and goals are different. However, Vermont's Climate Superfund Act and the Clean Air Act conflict about how to quantify and apportion liability for GHG emissions, specifically who determines liability within each structure.¹¹⁰ In Vermont's Climate Superfund Act, the Vermont State Treasurer decides which companies are liable and for how much.¹¹¹ In the Clean Air Act, the EPA decides which companies are liable and for how much.¹¹² Furthermore, Vermont's Climate Superfund Act and the Clean Air Act may both find a company liable, but may differ on the amount of emissions measured and damages that the company must pay. This is a clear issue of conflict preemption because Vermont's Climate Superfund Act, a state law, and the Clean Air Act, a federal law, may impose different requirements on a party—the damages the party must pay.¹¹³ Equally as problematic, Vermont's Climate Superfund Act and the Clean Air Act both quantify GHG emissions but differ in their methods of doing so.¹¹⁴

103. *Id.* at 85–86.

104. *Id.*; *but see* City and County of Honolulu v. Sunoco LP, 153 Haw. 326 (Haw. 2023) (holding the opposite of *Chevron*), *cert. denied*, 143 S. Ct. 1795 (2023).

105. 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>.

106. *See* Clean Air Act, 42 U.S.C. §§ 7401–7671.

107. *Id.*; *see also* VT. STAT. ANN. tit. 10, §§ 596–599c (2024).

108. *Id.* § 596(22).

109. RICHARD K. LATTANZIO, CONG. RSCH. SERV., RL30853, CLEAN AIR ACT: A SUMMARY OF THE ACT AND ITS MAJOR REQUIREMENTS 1 (2022).

110. VT. STAT. ANN. tit. 10, § 596(22) (2024); *see also* LATTANZIO, *supra* note 109.

111. VT. STAT. ANN. tit. 10, § 599c (2024).

112. LATTANZIO, *supra* note 109.

113. *When Does Federal Law Preempt State Law?*, BONALAW (Jan. 10, 2020), <https://www.bonalaw.com/insights/legal-resources/when-does-federal-law-preempt-state-law> [hereinafter BONALAW].

114. VT. STAT. ANN. tit. 10, § 599c (2024); *see also* LATTANZIO, *supra* note 109; *see also* Clean Air Act, 42 U.S.C. §§ 7401–7671.

Also, all claims arising under Vermont's Climate Superfund Act will be tort claims because it has a tort liability structure.¹¹⁵ Vermont's Climate Superfund Act attempts to hold oil and gas producers and developers liable for environmental and public health harms to Vermont.¹¹⁶ *Chevron* held that states cannot sue oil and fossil fuel producers and developers under tort claims for damages caused by fossil fuel emissions outside its borders because these claims are preempted by federal law.¹¹⁷ That is precisely the situation we have here.

In response, environmentalists will challenge this preemption argument by citing a recently decided case by the Supreme Court of Hawaii. In *City and County of Honolulu v. Sunoco LP*, the Hawaii Supreme Court held the opposite of *Chevron*—that the Clean Air Act does not preempt these types of claims and that fossil fuel producers may be sued under state tort law for damages caused by fossil fuel emissions outside its borders.¹¹⁸

While this is a strong argument for environmentalists, it will be up to future courts whether to uphold the *Sunoco* decision.¹¹⁹ It will be up to future courts whether to value following precedent by following the outcome in *Sunoco* or to value the Supremacy Clause by holding that the Clean Air Act preempts Vermont's Climate Superfund Act.¹²⁰ If a future court favors *Sunoco*, then the environmentalists will win this argument.¹²¹ If a future court favors the Supremacy Clause, then the fossil fuel industry will win this argument because Vermont's Climate Superfund Act and the Clean Air Act are conflicting about how to quantify GHG emissions, how to apportion liability, and impose different requirements on a party.¹²² A potentially deciding factor may be the outcome of the recently filed federal lawsuit against the state of Vermont by the U.S. Chamber of Commerce and the American Petroleum Institute regarding Vermont's Climate Superfund Act.¹²³

115. VT. STAT. ANN. tit. 10, § 597(1) (2024).

116. *Id.* § 596(22).

117. *City of New York v. Chevron Corp.*, 993 F.3d 81, 85–86 (2d Cir. 2021).

118. 153 Haw. 326, 359–60 (Haw. 2023) *cert. denied*, 143 S. Ct. 1795 (2023).

119. *Id.*

120. *Id.*; *see also* U.S. CONST. art. 6, cl. 2; *see also* Clean Air Act, 42 U.S.C. §§ 7401–7671; *see also* VT. STAT. ANN. tit. 10, §§ 596–599c (2024).

121. 153 Haw. 326, 359–60 (Haw. 2023) *cert. denied*, 143 S. Ct. 1795 (2023).

122. *See* U.S. CONST. art. 6, cl. 2; *see also* VT. STAT. ANN. tit. 10, § 599c (2024); *see also* Clean Air Act, 42 U.S.C. §§ 7401–7671; *see also* BONALAW, *supra* note 113.

123. Michael Casey & Lisa Rathke, *US Chamber, Oil Industry Sue Vermont over Law Requiring Companies to Pay for Climate Change Damage*, AP NEWS (Jan. 3, 2025), <https://apnews.com/article/vermont-climate-change-superfund-oil-companies-8509341725ec00d26cf74d56588178ab> (demonstrating plaintiffs' arguments that Vermont's Climate Superfund Act is precluded by the U.S. Constitution, is preempted by the Clean Air Act, violates the

C. Vermont Lacks the Authority to Regulate Emissions Because the Due Process Clause of the Fourteenth Amendment and the Commerce Clause Prevent Vermont from Establishing Laws Regulating GHG Emissions

The underlying power of state governments to make and enforce such broad laws may face two constitutional barriers to imposing liability on these companies: Due Process and Commerce Clause arguments.¹²⁴

First, the Due Process Clause of the Fourteenth Amendment and personal jurisdiction rules prevent states from imposing liability on parties that have not established sufficient “minimum contacts” with the state such that the state can exercise authority over them.¹²⁵ Personal jurisdiction can be established in a variety of ways. Under general personal jurisdiction, the defendant can be located within the state, or the defendant can be served with process within the state.¹²⁶ Under personal or specific jurisdiction, the “minimum contacts” test measures the amount of contact a defendant had with a state.¹²⁷ Under personal or specific jurisdiction, a state has jurisdiction if there was “some act by which the defendant purposefully avail[ed] itself of the privilege of conducted activities within the forum state, thus invoking the benefits and protection of its laws.”¹²⁸

Here, under personal jurisdiction, the only companies that can be held liable for GHG emissions by the state of Vermont are those companies that satisfy the minimum “contacts” test.¹²⁹ Of all of the personal jurisdiction tests, the only test that has a remote chance of success is the general personal jurisdiction test.¹³⁰ Still, a company satisfying personal jurisdiction must be served process within the state—fat chance—or its principal place of business must be located within the state.¹³¹ As of now, there are no fossil fuel, oil, or gas companies located in the state of Vermont, which

Commerce Clause, and lacks a methodology to “accurately and fairly” measure the “impact of emissions from a particular entity in a particular location over decades”).

124. Lockman & Shumway, *supra* note 70; see also Casey & Rathke, *supra* note 123.

125. U.S. CONST. amend. XIV, § 1; see also *Tests for Personal Jurisdiction*, USLEGAL, <https://civilprocedure.uslegal.com/jurisdiction/personal-jurisdiction/tests-for-personal-jurisdiction> (last visited Apr. 9, 2025). Jurisdiction can also be established by the Stream of Commerce test; however, this test only applies to product liability cases. *Id.*

126. USLEGAL, *supra* note 125.

127. *Id.*

128. *Id.*

129. *Id.*

130. *Id.*

131. *Id.*

means no company will satisfy the general personal jurisdiction test.¹³² Unless you're my girl Mikaela Shiffrin, good luck trying to serve process on an oil executive while he is shredding down Killington's Peace Park at breakneck speeds on a winter family vacation.¹³³

Second, the Commerce Clause limits the authority of states to take actions that affect national and international commerce.¹³⁴ The Commerce Clause "gives the federal government the authority to regulate business practices that cross state lines."¹³⁵ For example, "[t]he EPA's air pollution authority, enshrined in the Clean Air Act[,] provides a specific mechanism for controlling cross-state air pollution."¹³⁶ In the context of taxes, the Supreme Court held in *South Dakota v. Wayfair, Inc.* that the Commerce Clause only allows states to levy a tax if it "(1) applies to an activity with a substantial nexus with the taxing State, (2) is fairly apportioned, (3) does not discriminate against interstate commerce, and (4) is fairly related to the services the State provides."¹³⁷

Here, the strongest argument that Vermont's Climate Superfund Act violates the Commerce Clause stems from the second prong of the *South Dakota* analysis.¹³⁸ Vermont's Climate Superfund Act is not fairly apportioned.¹³⁹ Vermont's Climate Superfund Act holds fossil fuel producers and developers liable for environmental damages caused by their GHG emissions within the designated time period, but not consumers.¹⁴⁰ Vermont is holding the fossil fuel producers and developers liable while turning a blind eye to consumers who use these same products and cause even more emissions, but more on this in the next Part.¹⁴¹

Therefore, the Due Process and Commerce Clauses prevent Vermont from establishing laws allowing the state to recover damages from fossil fuel companies related to climate harm. The Due Process Clause prevents Vermont from establishing such a law because Vermont lacks personal

132. *Oil and Gas*, AGENCY OF NAT. RES., DEP'T OF ENV'T CONSERVATION, <https://dec.vermont.gov/geological-survey/resources-energy/oil-gas> (last visited Apr. 11, 2025); USLEGAL, *supra* note 125.

133. *Athlete Bio*, TEAM USA, <https://www.teamusa.com/profiles/mikaela-shiffrin-865708> (last visited Apr. 29, 2025).

134. U.S. CONST. art. I, § 8, cl. 3.

135. Steven Cohen, *The Regulation of Air Pollution That Crosses State Borders*, COLUM. CLIMATE SCH. (Jan. 2, 2024), <https://news.climate.columbia.edu/2024/01/02/the-regulation-of-air-pollution-that-crosses-state-borders/>.

136. *Id.*

137. 585 U.S. 162, 174 (2018).

138. *Id.*

139. See discussion *infra* Part II.D.

140. See VT. STAT. ANN. tit. 10, §§ 596–599c (2024).

141. See discussion *infra* Part II.D.

jurisdiction over these fossil fuel companies.¹⁴² The Commerce Clause prevents Vermont from establishing such a law because it is not fairly apportioned.¹⁴³

D. Vermont's Climate Superfund Act's Focus, Liability Strategies, and Approach Violates the Fifth Amendment's "Takings Clause" and Lacks Rational Basis Under the Due Process Clause of the Fourteenth Amendment

Another argument that opponents to Vermont's Climate Superfund Act could raise is a simple lack of fairness and rational basis argument. First, regarding Vermont's Climate Superfund Act's focus, it is unfair to focus solely on fossil fuel companies and charge them the total bill for climate change related to GHG emissions when they are not the only contributors.¹⁴⁴ The Fifth Amendment's "Takings Clause" "prevents the government from forcing some people[,] or businesses alone[,] to bear public burdens which, in all fairness and justice, should be borne by the public as a whole."¹⁴⁵ That is precisely the situation at hand. Vermont's Climate Superfund Act attempts to force "businesses alone to bear public burdens" such as GHG emissions and environmental damages.¹⁴⁶ Fossil fuel companies are not even the sole users of their products.¹⁴⁷ Vermont's Climate Superfund Act makes no attempt to hold the public accountable for the consequences of their actions, namely the end use of these products.¹⁴⁸ It is a well-known fact that the largest source of GHG emissions comes from the end use of fossil fuels—specifically, "burning fossil fuels for electricity, heat, and transportation[.]" not the production of fossil fuels.¹⁴⁹ Vermont's Climate Superfund Act completely ignores GHG emissions from:

[O]ther major sources[,] . . . impose[s] no liability on actors like the power plants or drivers who ultimately burned those fuels,

142. U.S. CONST. amend. XIV, § 1.

143. *Id.* art. I, § 8, cl. 3.

144. Oreskes, *supra* note 32.

145. AM. PETROLEUM INST., *supra* note 82.

146. *Id.*; see also VT. STAT. ANN. tit. 10, § 596(22) (2024).

147. See COLO. OIL & GAS ASS'N *infra* note 192 (demonstrating petrochemicals derived from oil and gas are used as ingredients to produce over 6,000 products consumers use daily).

148. See VT. STAT. ANN. tit. 10, § 596(22) (2024) (distinguishing which parties are liable under the Act).

149. *Sources of Greenhouse Gas Emissions*, EPA, <https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions> (last updated Apr. 11, 2025).

and make[s] no concession to the fact that the U.S. government encouraged the historical practices of Super-emitters through a range of policies that subsidized and supported fossil fuel production.¹⁵⁰

Instead, Vermont's Climate Superfund Act cherry-picks by only charging oil and gas producers and developers.¹⁵¹ It is unfair that this law solely focuses on fossil fuel companies, and not the consumers who used the products and energy these companies provided.¹⁵²

Second, Vermont's Climate Superfund Act's liability strategies are questionable at best. The Due Process Clause of the Fourteenth Amendment provides "both procedural and substantive protections against arbitrary or unfair punishments."¹⁵³ Vermont's Climate Superfund Act is unreliable in linking liability to specific companies for specific damages within the state of Vermont: "the fact that GHG emissions cause global warming does not equate to evidence that the emissions of a specific company from 1995 through 2024 caused any particular damages in the state of Vermont."¹⁵⁴ Instead, these determinations are arbitrary and decided by Vermont's State Treasurer.¹⁵⁵ This is evidenced by the statute making little effort to "link any particular emissions to any particular damages."¹⁵⁶

Regarding Vermont's Climate Superfund Act's approach, the "payments seem much more like a tax than a damages payment."¹⁵⁷ The payments seem like a tax because the statute "impose[s] 'damages' on companies based on the amount of fossil fuels that the [company] extracted from 1995 through 2024."¹⁵⁸ However, Vermont's Climate Superfund Act fails to accomplish the one benefit of a tax—changing consumer behavior. For example, a carbon tax "would actually lead people to reduce their

150. Lockman & Shumway, *supra* note 70.

151. See VT. STAT. ANN. tit. 10, § 596(22).

152. Noor, *supra* note 82 (discussing the American Petroleum Institute's argument that Vermont's S.259 "violates equal protection and due process rights by holding companies responsible for the actions of society at large"); see also AM. PETROLEUM INST., *supra* note 82; see also Oreskes, *supra* note 32; see also Rebecca Leber, *ExxonMobil Wants You to Feel Responsible for Climate Change so It Doesn't Have To*, VOX, <https://www.vox.com/22429551/climate-change-crisis-exxonmobil-harvard-study> (last updated May 13, 2021).

153. Lockman & Shumway, *supra* note 70.

154. Seth D. Jaffe, *Vermont Enacts a "Climate Superfund Act" – Uh-Oh!*, FOLEYHOAG (June 4, 2024), <https://foleyhoag.com/news-and-insights/blogs/law-and-the-environment/2024/june/vermont-enacts-a-climate-superfund-act-uh-oh/>.

155. VT. STAT. ANN. tit. 10, § 599c (2024).

156. Jaffe, *supra* note 154.

157. *Id.*

158. *Id.*

carbon footprint.”¹⁵⁹ Further, disincentives could work to change consumer’s behavior too: “[p]utting a tax on the future consumption of fossil fuels raises their price and decreases consumption.”¹⁶⁰ However, Vermont’s Climate Superfund Act taxes production that has already occurred. Therefore, it fails to send the price signal necessary to decrease fossil fuel consumption because it is retroactive and “does not give consumers any incentive to change their behavior to reduce GHG emissions.”¹⁶¹

In response, environmentalists argue that the public, the end-users of these products, has no choice or alternative to consuming oil-and gas-derived products.¹⁶² Environmentalists argue that the oil and gas industries actively fought against alternative energy sources because these alternatives jeopardized their revenues.¹⁶³ However, this argument lacks credibility as well. Companies actively fighting against their competitors is simply the nature of capitalism. Every company tries to get consumers to buy and use their products, as opposed to those of their competitors. This is the whole basis of the American economy—competition and the consumer’s freedom of choice.¹⁶⁴ It is undoubtedly true that many products are derived from oil and fossil fuels;¹⁶⁵ however, the oil and fossil fuel companies did not hold a gun to consumers’ heads and force them to buy or use their products. Consumers chose to purchase and use these products. Consumers could have chosen not to purchase or use these products, but they did not. There should be consequences for those choices. Those choices are not the oil and gas companies’ fault. The elementary lesson my mother has successfully beaten into my head should hold true here too—there’s consequences for your actions and you will always “pay the piper.”¹⁶⁶

Therefore, Vermont’s Climate Superfund Act violates the Takings Clause of the Fifth Amendment and the Due Process Clause of the

159. *Id.*

160. Seth D. Jaffee, *One More Problem with the Climate Superfund Act*, FOLEYHOAG (Jan. 30, 2024), <https://foleyhoag.com/news-and-insights/blogs/law-and-the-environment/2024/january/one-more-problem-with-the-climate-superfund-act>.

161. Jaffee, *supra* note 154.

162. E-mail from Eduardo Otero Bakai, *supra* note 95.

163. *Id.*

164. Brian Dolan, *Main Characteristics of Capitalist Economies*, INVESTOPEDIA, <https://www.investopedia.com/articles/investing/102914/main-characteristics-capitalist-economies.asp> (last updated Nov. 22, 2024); *see also* Richard M. Ebeling, *Capitalism and Competition*, MISES INST., (Nov. 14, 2017) <https://mises.org/mises-wire/capitalism-and-competition>.

165. *See* COLO. OIL & GAS ASS’N *infra* note 192 (demonstrating over 6,000 products used daily by consumers use petrochemical ingredients derived from oil and natural gas).

166. *pay the piper*, COLLINS, <https://www.collinsdictionary.com/us/dictionary/english/pay-the-piper-and-call-the-tune> (last visited Apr. 29, 2025)

Fourteenth Amendment because its focus, liability strategies, and approach lack fairness and rational basis.

E. Vermont's Climate Superfund Act Fails a "Hard Look" Review by Allowing Arbitrary Determinations and Contains Reliability Concerns Stemming from the Overall Issues with the Formulas Used to Calculate GHG Emissions

Lastly, the oil and gas industries could argue that the process in Vermont's Climate Superfund Act for apportioning liability, and subsequent costs, to specific companies is arbitrary. Vermont's Climate Superfund Act does not give an explicit formula for how GHG emissions are to be calculated, how to trace GHG emissions to specific companies, or how liability is to be apportioned to each respective company.¹⁶⁷ Instead, all Vermont's Climate Superfund Act says is "the State Treasurer, after consultation with the Interagency Advisory Board to the Climate Action Office, and with any other person or entity whom the State Treasurer decides to consult," gets to make the ultimate decision about these metrics.¹⁶⁸ Beyond that, the specifics regarding these calculations are unclear, which is troublesome, to say the least.¹⁶⁹

While I have your attention, there is one other interesting consideration I wouldn't necessarily argue in court because it is easily rebuttable; however, it's a good thing this Article is not a legal brief. It is a well-established principle that the Administrative Procedure Act (APA) does not apply to state agencies or legislations; however, numerous states have enacted their own forms of the APA.¹⁷⁰ Let's suppose that the APA does, in fact, apply to state legislation and apply the APA by analogy to Vermont's Climate Superfund Act. I am drawing a parallel to federal law using Vermont's Climate Superfund Act as an illustration because there is a lack of Vermont case law regarding a court's "hard look" review.

When assessing its decisions and rules, a federal agency must give an "adequate" consideration and "reasoned explanation" for its decisions and

167. See VT. STAT. ANN. tit. 10, §§ 596–599c (2024); see also Casey & Rathke, *supra* note 123.

168. VT. STAT. ANN. tit. 10, § 599c (2024).

169. See *id.* §§ 596–599c (demonstrating a lack of a specific, mathematical methodology for calculating GHG emissions, tracing GHG emissions to specific companies, or apportioning liability to each respective company).

170. *Summary of the Administrative Procedure Act*, EPA, <https://www.epa.gov/laws-regulations/summary-administrative-procedure-act> (last updated July 22, 2024); *Administrative Law*, CORNELL L. SCH.: LEGAL INFO. INST., https://www.law.cornell.edu/wex/administrative_law (last visited Apr. 10, 2025).

policies to survive a “hard look” review by the courts.¹⁷¹ This means that an agency must explain the environmental impacts of its decisions via NEPA analyses and Environmental Impact Statements (EISs).¹⁷² Specifically, when federal agencies calculate GHG emissions and their associated costs, which ultimately will impact environmental decision-making, agencies are required to give an “‘adequate’ consideration and ‘reasoned’ explanation” for their decisions and policies.¹⁷³ It is an interesting dynamic how federal agencies must articulate this level of reasoning for their decisions, but state legislatures do not.¹⁷⁴ Interesting—eh? I agree. This is flawed reasoning. The same requirements of federal agencies should be required of state legislatures because state legislatures’ decisions have a more direct and influential impact on the public than federal acts.¹⁷⁵

Here, Vermont will fail a “hard look” review because leaving GHG emissions and associated cost determinations up to the State Treasurer seems like anything but an “‘adequate’ consideration and ‘reasoned’ explanation” for how these calculations are determined.¹⁷⁶ The Vermont legislature did not articulate any reasoning or evidence for how these calculations are to be determined.¹⁷⁷ The Vermont legislature only said that the State Treasurer would make these determinations in conjunction with the Interagency Advisory Board to the Climate Action Office.¹⁷⁸ The Vermont legislature did not even explain why the State Treasurer and the Interagency Advisory Board to the Climate Action Office are the best people to make these determinations.¹⁷⁹ That is not an “‘adequate’ consideration and ‘reasoned’ explanation.”¹⁸⁰

171. Patrick M. Garry, *Judicial Review and the “Hard Look” Doctrine*, 7 NEV. L. J. 151, 156 (2006) (highlighting footnote 39, which discusses how courts have previously applied the “hard look” standard).

172. *Vt. Yankee Nuclear Power Corp. v. Nat. Res. Def. Council, Inc.*, 435 U.S. 519, 553 (1978); *see also* *Balt. Gas and Elec. Co. v. Nat. Res. Def. Council, Inc.*, 462 U.S. 87, 97 (1983); *see also* Garry, *supra* note 171.

173. Garry, *supra* note 171 (highlighting footnote 39, which discusses how courts have previously applied the “hard look” standard).

174. *Id.*; *see also* *Hard Look Review*, BALLOTPEDIA, https://ballotpedia.org/Hard_look_review (last visited Apr. 2, 2025) (clarifying that the “[h]ard look” standard only applies to federal agencies and not state legislatures).

175. Yemi Adewunmi, *What Are the Differences Between State Legislatures and Congress?*, PLURAL, <https://pluralpolicy.com/blog/state-legislature-vs-congress> (last visited Apr. 10, 2025).

176. Garry, *supra* note 171 (highlighting footnote 39, which discusses how courts have previously applied the “hard look” standard).

177. *See* V T. STAT. ANN. tit. 10, §§ 596–599c (2024).

178. *Id.*

179. *Id.*

180. Garry, *supra* note 171 (highlighting footnote 39, which discusses how courts have previously applied the “hard look” standard).

Furthermore, when conducting environmental analyses, it is worth noting that some agencies and legislatures use certain variables in their calculations, while others do not include those same variables.¹⁸¹ This causes inconsistencies in the calculations. Even if two agencies or legislatures use the same variables in their respective calculations, they may value these variables differently, causing another inconsistency in these calculations. It is well-established that “there is no universal methodology for calculating” GHG emissions and the impacts of specific facilities.¹⁸² Instead, the whole basis of these climate change impacts and injuries to Vermonters is based on a concept called attribution science.¹⁸³ Attribution science is used to determine whether a particular change in climate caused some event—in this case, alleged injuries to Vermonters.¹⁸⁴ Attribution science is known to be questionable due to the uncertainty in observational data, in the understanding of natural climate variability, in methodologies, and in results produced by climate simulation models.¹⁸⁵ The fact that these climate-related estimations are based on attribution science leaves them vulnerable to criticisms regarding their reliability and accuracy.¹⁸⁶

Due to the uncertainty in the methods used by Vermont’s Climate Superfund Act, and attribution science as a whole, Vermont cannot “reliably link specific companies to emissions, especially emissions caused by the public using their products.”¹⁸⁷ The whole process is skewed and subject to the biases of the person, or persons, conducting the calculations, which is problematic. This is problematic because those individuals could be influenced, or even pressured, to produce a particular outcome by manipulating the formulas. Therefore, the emissions estimates attributable

181. See Catherine Morehouse, *DC Circuit Orders FERC to Analyze Climate, Environmental Justice More Thoroughly*, UTILITYDIVE (Aug. 4, 2021), <https://www.utilitydive.com/news/dc-circuit-calls-on-ferc-to-analyze-climate-environmental-justice-more-tho/604481/> (discussing how methodologies used to calculate GHG emissions vary depending on the individual or agency conducting the analysis).

182. *Id.* (discussing how in Federal Energy Regulatory Commission (FERC) “environmental analysis of the projects, it found that it could not determine what the facilities’ impacts on the climate crisis would be, because there is no universal methodology for calculating those impacts”).

183. L. Delta Merner, *From Research to Action: The Growing Impact of Attribution Science*, UNION OF CONCERNED SCIENTISTS: THE EQUATION (Mar. 7, 2023) <https://blog.ucsusa.org/delta-merner/from-research-to-action-the-growing-impact-of-attribution-science>.

184. *Id.*

185. JONATHAN D. HASKETT, CONG. RSCH. SERV., R47583, IS THAT CLIMATE CHANGE? THE SCIENCE OF EXTREME EVENT ATTRIBUTION 10 (2023).

186. *Id.*; see also Renée Cho, *Attribution Science: Linking Climate Change to Extreme Weather*, COLUM. CLIMATE SCH. (Oct. 4, 2021), <https://news.climate.columbia.edu/2021/10/04/attribution-science-linking-climate-change-to-extreme-weather/> (discussing how attribution science is the methodology used for climate-related estimates and its limitations).

187. See *supra* notes 185–86.

to each company—established via Vermont’s Climate Superfund Act—cannot be accurately determined, are imprecise, and arbitrary.¹⁸⁸

III. A NEW LIABILITY SCHEME TO REPLACE VERMONT’S CLIMATE SUPERFUND ACT

At the outset, I must admit that I do not know the best solution forward, but Vermont’s current route, Vermont’s Climate Superfund Act, is illegal. However, before there is an attempt to establish a new liability scheme, it is worth noting that the environmental sector as a whole must come up with a uniform formula for measuring greenhouse gases (GHG) emissions and associated damages.¹⁸⁹ Without a consistent formula to calculate GHG emissions and associated damages, any future analyses will fall victim to the same criticisms previously mentioned in this Article.¹⁹⁰

However, a possible solution is to begin the covered period for actions occurring sometime in the future. For example, let’s suppose the new solution would only apply to fossil fuel companies’ actions occurring in 2035 and beyond. This would eliminate the retroactivity challenge while giving notice and allowing these companies to change their actions to comply with the new standards. Also, until the oil and gas industry, and the environmental industry more broadly, has a homogeneous formula to calculate GHG emissions and associated damages, we cannot even begin to tackle the burden of trying to establish an emissions cap standard for the future.

Another possible solution is to tax consumers to account for their end-use of these products. This would be accomplished by taxing the sale of fossil fuel or fossil fuel-related products. Good luck. Petrochemicals derived from oil and natural gas are used as ingredients to produce over 6,000 products we, as consumers, use daily.¹⁹¹ Lipstick, deodorant, MRI machines, asphalt, footballs, and even diapers “are all made possible by oil and natural gas.”¹⁹²

188. *See id.*

189. *See discussion supra* Part II.E.

190. *See discussion supra* Part II.E.

191. *See Products Made from Oil and Natural Gas*, U.S. DEP’T OF ENERGY, <https://www.energy.gov/sites/prod/files/2019/11/f68/Products> (last visited Apr. 10, 2025).

192. *See COGA Fact Sheet: Everyday Products & Uses*, COLO. OIL & GAS ASS’N (June 11, 2024), <https://www.coga.org/factsheets/everyday-products-uses> (demonstrating the American consumers’ dependence on the oil and natural gas industries in their daily lives); *see also* U.S. DEP’T OF ENERGY, *supra* note 191. Ladies, without the oil and gas industries, kiss your lipstick goodbye. Gentlemen, without the oil and gas industry, kiss your beers and wings on Sunday goodbye. Everyone, kiss your deodorant goodbye. Everyone, without the oil and gas industry, say hello to smelly, sweaty,

To reiterate, I do not know the best solution forward; however, the solution must encompass a few critical elements. First, the new solution cannot impose retroactive liability for any actions that were legal at the time those actions were committed. The new solution must only encompass future actions so these companies have notice and time to comply with the new standard. Second, the new solution needs to establish a detailed and uniform cost-assessment structure and formula for measuring GHG emissions. Experts must be included when creating this new formula, and this formula must be established as the industry standard so there is no more arbitrariness. The causal connection between a specific company and specific environmental damages and harms to Vermonters must be capable of being more firmly established. In other words, there needs to be no room for uncertainty and the plagues of attribution science.¹⁹³ Third, the new solution must hold consumers and end-users of these products accountable as well, not just the producers and developers. Even if the new solution encompasses all of these considerations, the new solution may still be preempted by federal law—namely, the Clean Air Act.¹⁹⁴

CONCLUSION

Overall, Vermont's Climate Superfund Act is illegal and should be set aside. Vermont's Climate Superfund Act is illegal because it applies retroactive liability for acts that were legal at the time they were committed, it is preempted by federal law via the Clean Air Act, it violates the Due Process Clause, it violates the Commerce Clause, it violates the Takings Clause, and it makes arbitrary determinations while containing reliability concerns. We need to reel in the Vermont legislature because if we don't, before you know it, Vermont will be apportioning liability for greenhouse gas emissions to the public for passing gas. Therefore, Vermont must develop a new proposal addressing these concerns before things get out of hand.

and awkward first dates. No one wants these things. Are we prepared to pay more for these things to be more environmentally friendly? Of course not. Consumer behavior and spending have changed with the emergence and evolution of Environmental, Social, and Governance (ESG) standards—but we aren't there yet. This demonstrates that a delicate balance must be struck when formulating a new solution to replace Vermont's S.259.

193. Memer, *supra* note 183.

194. See discussion *supra* Part II.B.; Clean Air Act, 42 U.S.C. §§ 7401–7671.