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RISING TIDES—TOWARD A FEDERAL CLIMATE RESILIENCE FUND

by Alisa White

Alisa White is a 2023 J.D. candidate at Yale Law School, and a Master of Environmental Science candidate at Yale School of the Environment.

SUMMARY

Climate impacts in the United States disproportionately fall on low-income communities and communities of color. As the costs of climate adaptation mount, municipalities and states have brought litigation against fossil fuel companies to recover for extensive damage caused by climate change. Drawing on lessons from previous tobacco and asbestos suits, this Article argues that damages litigation—while properly heard in state courts—has significant shortcomings as an equitable climate change adaptation strategy. It proposes a federal statutory response: first, establish a Climate Adaptation Priorities (CAP) list modelled after CERCLA's National Priorities List; second, disburse funds for climate change resilience directly to community groups and local and tribal governments; and third, fund the climate resilience fund with fees on present and historical emissions by fossil fuel companies, as well as a capital gains tax on fossil fuel asset transactions.

I. The Inequity of Climate Change Impacts and Adaptation in the United States

Cities and localities in the United States are struggling to adapt to the impacts of climate change. They are beset with heat waves, sea-level rise and associated flooding, wildfires, drought, extreme precipitation, hurricanes, and water stress.[1] Moreover, the impacts of climate change are unequally distributed within localities—low-income communities and communities of color are disproportionately burdened and often lack sufficient funds to invest in climate resilience for their communities. In addition, historical disinvestment in communities of color, racism, discrimination, environmental pollution burdens, and unequal access to health care increase climate vulnerability.[2]

The most severe impacts of climate change in the United States are disproportionately experienced by low-income communities and communities of color.[3] According to the *Fourth National Climate Assessment*, "[p]eople who are already vulnerable, including lower-income and other marginalized communities, have lower capacity to prepare for and cope with extreme weather and climate-related events," and thus, "[p]rioritizing adaptation actions for the most vulnerable populations would contribute to a more equitable future within and across communities."[4] For example, Hurricanes Katrina and Harvey devastated

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1. U.S. Global Change Research Program, Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume II (2018).

2. Christopher W. Tessum et al., *$PM_{2.5}$ Polluters Disproportionately and Systematically Affect People of Color in the United States*, 7 Sci. Advances 1 (2021); *see also* Interview by Yale Environment 360 with Elizabeth Yeampierre, Co-Chair, Climate Justice Alliance (June 9, 2020), https://e360.yale.edu/features/unequal-impact-the-deep-links-between-inequality-and-climate-change.

3. *See* Anthony Leiserowitz & Karen Akerlof, Yale University & George Mason University, Race, Ethnicity, and Public Responses to Climate Change (2010), https://climatecommunication.yale.edu/wp-content/uploads/2016/02/2010_04_Race-Ethnicity-and-Public-Responses-to-Climate-Change.pdf.

4. U.S. Global Change Research Program, *supra* note 1, at 25.

localities in the Gulf Coast region and particularly harmed low-income residents and people of color.[5]

First, low-income communities and communities of color tend to live in parts of localities that are more vulnerable to climate impacts. They are vulnerable to flooding and hurricane impacts because they often "live in the lowest-lying areas or in neighborhoods without green space to absorb water."[6] In addition, Black communities are disproportionately burdened by extreme heat—especially in localities where government officials and banks historically redlined certain areas as risky investments because residents were Black.[7] Across more than 100 cities, neighborhoods that were redlined are on average five degrees hotter in the summer than the rest of the city, with differences up to 12 degrees hotter, due to more pavement and fewer trees and parks to absorb heat.[8] Further, communities of color and low-income communities are less likely to be able to afford flooding mitigation equipment in their homes and air-conditioning to protect against the harmful health effects of extreme heat.[9] Flooding and extreme heat are only two examples of how climate change disproportionately impacts low-income communities and communities of color.

Communities' climate vulnerability is then exacerbated by discriminatory disaster response that prioritizes whiter, wealthier communities. For example, in the wake of Hurricane Katrina, policymakers prioritized recovery funds to whiter, wealthier people.[10] Because of disaster response policy, Black and low-income residents returned to New Orleans after the hurricane at a slower rate than white and high-income residents.[11] Of the 175,000 Black residents displaced, more than 75,000 never came back.[12] For those who did return, the earning gap between Black and white residents grew larger in the wake of the hurricane.[13]

The inequitable disaster response seen during Hurricane Katrina has been mirrored across the country—not only in hurricane response, but in Federal Emergency Management Agency (FEMA) disaster aid writ large. A recent study found that "the more Federal Emergency Management Agency money a county receives" after a disaster, "the more whites' wealth tends to grow and the more blacks' wealth tends to decline, all else equal."[14] In addition, renters and people with lower education levels face declining wealth after disasters compared to homeowners and people with a college education.[15] Other studies have found that homeowners in low-income communities and communities of color were less likely to get FEMA grants after Hurricane Harvey, and that counties with more people of color receive less FEMA aid than whiter counties, all else equal.[16]

FEMA is only in the early stages of addressing this inequity in disaster aid and in climate resilience funding. In a 2020 report, FEMA acknowledged that many of their "programs do not consider the principle of equity in financial assistance relief," because "damage assessments are based on property ownership, which immediately focuses on the wealthier parts of a community, and disadvantages renters and the homeless population."[17] FEMA disaster aid matching funds and individual assistance programs benefit white, wealthier communities that can afford to pay in to receive matching grants and have more time and capacity to fill out forms and navigate government bureaucracy.[18]

In 2021, FEMA did address one key barrier for communities of color to access FEMA disaster relief funds by modifying requirements for proving homeownership. Some Black homeowners, especially in the South, do not have title of their land in their name but hold their land in heirs' property. This is due to the legacy of slavery and discrimination against free Black people purchasing and holding land.[19] To address this issue, FEMA is now

5. Thomas Frank, *Flooding Disproportionately Harms Black Neighborhoods*, E&E News (June 2, 2020), https://www.eenews.net/stories/1063295449; Jayajit Chakraborty et al., *Exploring the Environmental Justice Implications of Hurricane Harvey Flooding in Greater Houston, Texas*, 109 Am. J. Pub. Health 244 (2019).
6. Frank, *supra* note 5; *see also* National Academies of Sciences, Engineering, and Medicine, Framing the Challenge of Urban Flooding in the United States (2019).
7. Kristina Dahl et al., Union of Concerned Scientists, Killer Heat in the United States: Climate Choices and the Future of Dangerously Hot Days (2019), https://www.ucsusa.org/sites/default/files/2020-12/UCS_extreme_heat_report_190712b_low-res_corrected12-20.pdf; Bill M. Jesdale et al., *The Racial/Ethnic Distribution of Heat Risk-Related Land Cover in Relation to Residential Segregation*, 121 Env't Health Persps. 811 (2013); Brad Plumer & Nadja Popovich, *How Decades of Racist Housing Policy Left Neighborhoods Sweltering*, N.Y. Times (Aug. 24, 2020), https://www.nytimes.com/interactive/2020/08/24/climate/racism-redlining-cities-global-warming.html.
8. Jeremy S. Hoffman et al., *The Effects of Historical Housing Policies on Resident Exposure to Intra-Urban Heat: A Study of 108 US Urban Areas*, 8 Climate 12 (2020).
9. *See* Renee Cho, *Why Climate Change Is an Environmental Justice Issue*, Colum. Climate Sch. (Sept. 22, 2020), https://news.climate.columbia.edu/2020/09/22/climate-change-environmental-justice/.
10. *See* Andy Horowitz, Katrina: A History, 1915-2015 (2020).
11. Elizabeth Fussell et al., *Race, Socioeconomic Status, and Return Migration to New Orleans After Hurricane Katrina*, 31 Population & Env't 20 (2010).
12. Ben Casselman, *Katrina Washed Away New Orleans's Black Middle Class*, FiveThirtyEight (Aug. 24, 2015), https://fivethirtyeight.com/features/katrina-washed-away-new-orleanss-black-middle-class/; *see also* James R. Elliott & Jeremy Pais, *Race, Class, and Hurricane Katrina: Social Differences in Human Responses to Disaster*, 35 Soc. Sci. Rsch. 295 (2006) (describing race and class disparities in evacuation timing, housing post-Katrina, and plan for return to pre-storm community).
13. Casselman, *supra* note 12 (citing American Community Survey data).
14. Junia Howell & James R. Elliott, *As Disaster Costs Rise, So Does Inequality*, 4 Socius 1, 1 (2018).
15. Junia Howell & James R. Elliott, *Damages Done: The Longitudinal Impacts of Natural Hazards on Wealth Inequality in the United States*, 66 Soc. Probs. 448 (2019).
16. Stephen B. Billings et al., *Let the Rich Be Flooded: The Distribution of Financial Aid and Distress After Hurricane Harvey*, J. Fin. Econ. (forthcoming 2022); Simone J. Domingue & Christopher T. Emrich, *Social Vulnerability and Procedural Equity: Exploring the Distribution of Disaster Aid Across Counties in the United States*, 49 Am. Rev. Pub. Admin. 897 (2019).
17. National Advisory Council, FEMA, November 2020 Report to the Administrator 12 (2020).
18. *Id.*; *see also* Christopher Flavelle, *Why Does Disaster Aid Often Favor White People?*, N.Y. Times (June 7, 2021), https://www.nytimes.com/2021/06/07/climate/FEMA-race-climate.html. FEMA flood elevation grants to raise homes also favor whiter, wealthier communities. In 12 of the 18 states receiving more than $5 million in grants, more than 50% of funds went to communities that are over 90% white or have a median household income of greater than $100,000. *See* Thomas Frank, *How FEMA Helps White and Rich Americans Escape Floods*, Politico (May 27, 2022), https://www.politico.com/news/2022/05/27/unfair-fema-climate-program-floods-00032080.
19. Stacy M. Brown, *FEMA Changing Rules That Have Deprived Blacks of Crucial Aid*, Daytona Times (Nov. 12, 2021), https://www.daytonatimes.

allowing other forms of documentation of ownership and occupancy.[20]

In May 2022, FEMA announced that it is taking steps to achieve the goals of the Joe Biden Administration's Justice40 Initiative, prioritizing at least 40% of federal investment to disadvantaged communities.[21] For example, FEMA is providing free support for underserved communities applying for hazard mitigation assistance grant programs, and requiring grant applications to describe how they "maximize positive impacts and minimize negative impacts to any disadvantaged populations."[22] While these reforms are a start, they do not address all the administrative hurdles to completing a FEMA grant or assistance application, the insufficient prioritization of environmental justice in FEMA grantmaking, and the continued requirement of cost-sharing by communities to be eligible for grants. Further, community-based nonprofit groups are still not eligible to directly apply as subapplicants to FEMA grants, or to receive direct technical assistance from FEMA to support early-stage hazard mitigation projects and increase community resilience to disasters and climate impacts.[23]

Moreover, FEMA has acknowledged that it needs to place more emphasis on equitable climate resilience initiatives, beyond just disaster aid. According to the National Institute of Building Sciences, every dollar spent on climate resilience saves on average $6 in disaster relief later.[24] However, even as President Biden announced $3.5 billion in grants to states for climate resilience efforts, FEMA has not yet laid out new guidelines for ensuring funding is distributed equitably.[25] FEMA's primary climate resilience programs—Building Resilient Infrastructure and Communities (BRIC) and Hazard Mitigation Grant Program—still have complex application processes with criteria that favor white, wealthier communities.[26]

The most recent round of BRIC funding applications demonstrates unequal access to climate resilience funds. The *New York Times* found from federal data that "most of the [BRIC] first round winners were wealthy, predominantly white areas in a handful of coastal states."[27] FEMA is piloting new criteria that prioritize grants to low-income communities and communities of color, but many localities lack capacity and staffing to write extensive grant applications in the first place.[28]

Despite the pressing need for equitable climate change adaptation funding, communities are struggling to cover the staggering cost of adaptation. The Center for Climate Integrity issued a study concluding that seawalls—only one measure to address the impacts of sea-level rise and flooding—could cost cities and localities $400 billion by 2040, as a conservative estimate.[29] New York City estimates a cost of $10 billion for a storm surge barrier and in Harris County—where Houston is located—city planners call for $30 billion to protect against flooding.[30]

There are limited state and local funds for climate resilience, and federal funds dedicated to preventative climate resilience, as opposed to disaster relief, remain limited—especially in comparison to staggering costs of climate change adaptation.[31] Richard Wiles, President of the Center for Climate Integrity, explains that "while some of the bigger, richer cities may figure out how to finance their needs, smaller communities will face huge challenges funding resilience projects."[32] Overall, climate change will strain local governments as they try to cover the staggering costs of climate change resilience and adaptation with a limited tax base.

Community-based groups have taken the lead to pressure state and federal governments to address racial and income inequity in disaster aid and climate change resilience and adaptation. For example, after Hurricane Sandy, housing rights and racial justice groups filed a complaint against the state of New Jersey for prioritizing homeowners—who disproportionately tend to be white and wealthy—in state aid programs.[33] Environmental justice groups are further speaking out about the bureaucratic barriers to accessing federal disaster relief and climate

com/news/fema-changing-rules-that-have-deprived-blacks-of-crucial-aid/article_51f618f0-43be-11ec-963b-474246a7fe1a.html.

20. Press Release, Department of Homeland Security, DHS Announces Changes to Individual Assistance Policies to Advance Equity for Disaster Survivors (Sept. 2, 2021), https://www.dhs.gov/news/2021/09/02/dhs-announces-changes-individual-assistance-policies-advance-equity-disaster.
21. Press Release, FEMA, FEMA Advances Equity, Provides Direct Support to Underserved Communities to Invest in Resilience (May 23, 2022), https://www.fema.gov/press-release/20220523/fema-advances-equity-provides-direct-support-underserved-communities-invest.
22. Department of Homeland Security, Notice of Funding Opportunity (NOFO): Fiscal Year 2021 Building Resilient Infrastructure and Communities 29 (2021), https://www.fema.gov/sites/default/files/documents/fema_nofo-fiscal-year-2021-building-resilient-infrastructure.pdf.
23. FEMA, *BRIC Direct Technical Assistance*, https://www.fema.gov/grants/mitigation/building-resilient-infrastructure-communities/direct-technical-assistance (last updated June 9, 2022).
24. Multi-Hazard Mitigation Council, National Institute of Building Sciences, Natural Hazard Mitigation Saves: 2019 Report (2019).
25. Christopher Flavelle, *FEMA Says It's Still Working to Fix Racial Disparities in Disaster Aid*, N.Y. Times (Oct. 27, 2021), https://www.nytimes.com/2021/10/27/climate/fema-aid-racial-disparities.html; *see also* Christopher Flavelle, *Billions for Climate Protection Fuel New Debate: Who Deserves It Most*, N.Y. Times (Dec. 3, 2021), https://www.nytimes.com/2021/12/03/climate/climate-change-infrastructure-bill.html [hereinafter *Billions for Climate Protection Fuel New Debate*].
26. *See Billions for Climate Protection Fuel New Debate*, *supra* note 25.
27. *Id.*
28. Department of Homeland Security, *supra* note 22, at 29; *see* Anna Weber, *Building Resilience, BRIC by BRIC*, Nat. Res. Def. Council (Sept. 1, 2021), https://www.nrdc.org/experts/anna-weber/building-resilience-bric-bric.
29. Sverre LeRoy & Richard Wiles, Center for Climate Integrity, High Tide Tax: The Price to Protect Coastal Communities From Rising Seas (2019), https://www.climatecosts2040.org/files/ClimateCosts2040_Report-v4.pdf.
30. Jim Morrison, *Who Will Pay for the Huge Costs of Holding Back Rising Seas?*, Yale Env't 360 (Aug. 5, 2019), https://e360.yale.edu/features/who-will-pay-for-the-huge-costs-of-holding-back-rising-seas.
31. Although the 2021 bipartisan infrastructure bill gave FEMA an additional $1 billion over five years for BRIC, this funding pales in comparison to the staggering costs of climate adaptation.
32. Morrison, *supra* note 30.
33. Janell Ross, *In Disaster Recovery, White Homeowners and Black Renters Are Not Always Treated Equally*, Wash. Post (Sept. 4, 2017, 6:00 AM), https://www.washingtonpost.com/news/post-nation/wp/2017/09/04/in-disaster-recovery-white-homeowners-and-black-renters-are-not-always-treated-equally/.

resilience funding.[34] Elizabeth Yeampierre, a community climate justice advocate, poignantly described the intersection of climate vulnerability, inequitable disaster response, and racism. She emphasizes the need to invest in climate resilience for communities of color:

> You can't say that with Hurricane Maria in Puerto Rico and Hurricane Katrina in New Orleans the loss of lives was simply because there was an extreme weather event. The loss of life comes out of a legacy of neglect and racism. And that's evident even in the rebuilding. It's really interesting to see what happens to the land after people have been displaced, how land speculation and land grabs and investments are made in communities that, when there were black people living there, had endured not having the things people need to have livable good lives.[35]

II. Climate Change Litigation and Federal Climate Damages Legislation

As community leaders have called for more equitable climate change adaptation and disaster aid, cities and localities across the United States have begun to demand that fossil fuel companies pay the cost of climate change damages. These states and localities have brought litigation in state courts against fossil fuel companies for climate change damages and deception. The plaintiffs seek to hold the companies accountable for their misinformation campaigns about fossil fuel products and for failing to avoid climate change harms that they knew would result from fossil fuel products.[36] The lawsuits rely on state-law claims, including public and private nuisance, trespass, design defect, and negligence claims in torts along with state consumer protection statutes.[37]

While these lawsuits bring meritorious state-law claims and should proceed to trial, they are not a comprehensive solution to the issue of present and future climate change damages in the United States. Earlier suits against asbestos and tobacco manufacturers show the potential shortfalls of state and local litigation to address widespread industry harms. Ultimately, a federal statute to address climate change damages across the United States would make fossil fuel companies pay for the damage they have caused while ensuring that the funds reach the people most vulnerable and least resilient to climate change. Part IV of this Article proposes a federal statute that will provide for equitable climate change adaptation while incentivizing a phaseout of fossil fuel energy with an increasing fee on carbon.

A. The Evolution of Climate Change Litigation

The ongoing climate change damages lawsuits brought by cities and localities under state law are meritorious and should move forward to trial in state court. These tort lawsuits for damages are distinct from prior lawsuits seeking injunctive relief to reduce greenhouse gas emissions. However, that does not mean the present lawsuits are the optimal or only means to address climate change damages in the United States, for all states and localities experiencing climate impacts.

As of June 2022, six states, the District of Columbia, and 19 localities (cities or counties) have active lawsuits against fossil fuel company defendants for climate change damages and deception.[38] Among other claims, most of the suits allege that companies were (1) "affirmatively and knowingly promoting the sale and use of fossil fuel products" that they "knew to be hazardous and knew would cause or exacerbate global warming and related consequences"; (2) "concealing the hazards that [they] knew would result from the normal use of their fossil fuel products"; and (3) "[d]isseminating and funding the dissemination of information intended to mislead customers, consumers, and regulators regarding known and foreseeable risk of climate change and its consequences," among other accusations.[39] While causes of action vary by case, they include public nuisance, trespass, design defect, negligence, failure to warn, and violations of state consumer protection statutes.[40] Plaintiff states and localities seek payment for climate change damages that fossil fuel companies have caused.

The present-day suits for climate change damages—under state law in state court—are distinct from earlier climate change lawsuits in federal court seeking injunctive relief. In 2011, in *American Electric Power Co. v. Connecticut*, the U.S. Supreme Court found that states and localities cannot sue companies under federal common law of nuisance to compel them to abate their fossil fuel emissions.[41] The Court primarily found that the Clean Air Act (CAA)[42] displaces such claims.[43] In 2012, the U.S. Court of Appeals for the Ninth Circuit dismissed on similar grounds the city of Kivalina's lawsuit under federal common law against fossil fuel companies.[44] Kivalina was facing "imminent

34. *See, e.g.*, Zack Colman, *A Flood of Climate Aid Is Coming From Washington. Will Those Who Need It Miss Out?*, Politico (Dec. 23, 2021, 3:11 PM), https://www.politico.com/news/2021/12/23/climate-spending-washington-communities-526077.
35. Interview by Yale Environment 360 with Elizabeth Yeampierre, *supra* note 2.
36. Sher Edling LLP, *Climate Damage and Deception*, https://www.sheredling.com/cases/climate-cases/ (last visited July 22, 2022).
37. Sher Edling LLP, Climate Litigation Cases and Claims: Cities, Counties, & PCFFA (2022), https://www.sheredling.com/wp-content/uploads/2022/04/2022-04-19-Climate-Case-Status-Charts-LOCAL.pdf.
38. Sher Edling LLP, Climate Change Litigation Cases and Claims: States & DC (2022), https://www.sheredling.com/wp-content/uploads/2022/05/2022-05-25-Climate-Case-Status-Charts-STATES.pdf; Sher Edling LLP, *supra* note 37.
39. Complaint at 107-08, Mayor & City Council of Balt. v. BP, No. 24-C-18-004219 (Md. Cir. Ct. July 20, 2018), http://climatecasechart.com/wp-content/uploads/sites/16/case-documents/2018/20180720_docket-24-C-18-004219_complaint.pdf.
40. Sher Edling LLP, *supra* note 37.
41. 564 U.S. 410, 41 ELR 20210 (2011).
42. 42 U.S.C. §§7401-7671q, ELR Stat. CAA §§101-618.
43. *American Electric Power Co.*, 564 U.S. at 415.
44. Michael Burger & Jessica Wentz, *Holding Fossil Fuel Companies Accountable for Their Contribution to Climate Change: Where Does the Law Stand?*, 74 Bull. Atomic Scientists 397, 398-99 (2018).

destruction" from severe erosion of the land under the city due to climate change—and yet they received no injunctive relief from the court.[45]

After these losses under federal common law, cities and states began to bring claims in state court under state law for climate damages. Thus far, all but one of the states and localities have been successful at keeping their cases in state courts.[46] By seeking and receiving remand to state court, state and local plaintiffs hope to avoid displacement of their claims by the CAA. As of August 2022, the state and local lawsuits have not yet preceded to trial or discovery. However, on February 22, 2022, the city of Honolulu's lawsuit survived a crucial motion to dismiss the case. The state circuit court in Hawaii ruled that the lawsuit can proceed and that "[t]his is an unprecedented case for any court, let alone a state court trial judge. But it is still a tort case . . . based exclusively on state-law causes of action."[47]

In discovery for the lawsuits, fossil fuel companies will likely be required to release documents about their knowledge of the impacts of fossil fuels and actions they took to obfuscate the truth.[48] Oil companies are seeking to dismiss the lawsuits before trial, but failed to do so at the motion to dismiss phase in the city of Honolulu's lawsuit. The companies hope to avoid liability, having to reveal information about their climate deception during discovery, and a deluge of further lawsuits if one such suit successfully proceeds to trial.

The ongoing state-law climate change nuisance suits in state court seeking monetary damages are squarely within state tort law and the capacity of the judiciary to decide. As Benjamin Ewing and Douglas Kysar explain, courts viewed the requested injunctive relief in earlier climate change lawsuits—to reduce gradually greenhouse gas emissions—as "transcendently legislative" in nature.[49] Because of separation of powers, courts refuse to infringe on the powers and domain of the legislature, deeming issues "nonjusticiable" if they are suited to resolution by a legislative body.

While tort law is distinctly the province of the judiciary, Eric Posner and other scholars have promoted the view of tort law as a form of regulation. Posner postulated that "[t]ort law is a form of regulation, and always has been. Manufacturers know that when they design products they will be held liable under tort law if they choose an unreasonably dangerous design. Judicial decisions ex post will often have the effect of creating regulation-like commands."[50] Posner's work has muddled the distinction between proper tort-law claims that have some regulatory-like impacts and nonjusticiable questions that belong to the legislature. When lawsuits request injunctive relief that appears regulatory, courts have invoked the political question doctrine to dismiss the issue as nonjusticiable.[51] In these cases, courts are buying into the Posner conception of tort law as regulation—something beyond the capacity of courts to decide.

However, as Ewing and Kysar explain, just because a tort lawsuit may have regulatory-like effects does not mean the tort case is nonjusticiable or beyond the authority of the courts.[52] The more classical understanding of tort law focuses on "elaborating and enforcing principles of right and responsibility between parties."[53] A tort is about civil recourse, and it "empowers victims of . . . wrongs to demand of the wrongdoer responsive action as redress for the wrong."[54] Torts are brought as private lawsuits to redress the wrong that one party has wrought on the other. A tort claim "requires a complainant to establish not merely that the defendant engaged in risky or otherwise antisocial conduct, but that she, the complainant, suffered an injury at the hands of a person who wronged her."[55]

This classical notion of tort law applies to the present climate change damages lawsuits. States and localities—on behalf of their citizens—are claiming damages for wrongs fossil fuel companies have wrought on them through their actions. Whether the state and local climate change damages lawsuits will ultimately succeed in court remains to be seen; however, they are properly in state courts and should be evaluated on the merits at trial.[56] Courts should resist the Posner view of tort law as regulation—and arguments from fossil fuel companies that the present climate change damages lawsuits are a form of regulation. The lawsuits are not intended to regulate, but to redress the harm caused by fossil fuel companies to the states and localities.

B. *Learning From the Shortfalls of Tobacco and Asbestos Litigation*

Even though the climate change damages lawsuits are properly in state courts under state tort law, they are not without potential shortcomings. The earlier tort lawsuits against tobacco companies and asbestos manufacturers shed light on how litigation to redress widespread damages and complex harms can fall short. While individuals and states have won payouts from tobacco and asbestos litiga-

45. Native Vill. of Kivalina v. ExxonMobil Corp., 696 F.3d 849, 853, 42 ELR 20195 (9th Cir. 2012).
46. Alison Frankel, *Big Oil Repeatedly Remanded to State Courts—Will SCOTUS Come to the Rescue?*, Reuters (July 8, 2020, 5:35 PM), https://www.reuters.com/article/us-otc-climate/big-oil-repeatedly-remanded-to-state-courts-will-scotus-come-to-the-rescue-idUSKBN24936V; City of New York v. Chevron Corp., 993 F.3d 81, 86, 51 ELR 20058 (2d Cir. 2021) (dismissing the city of New York's lawsuit against fossil fuel companies and finding the city's tort-law claims are displaced by federal common law); *see also* Sher Edling LLP, *supra* note 37.
47. City & Cnty. of Honolulu v. Sunoco LP, No. 1CCV-20-0000380 (Haw. Ct. App. Feb. 22, 2022).
48. Daniel Farber, *The Climate Change Lawsuits Against Big Oil, Explained*, Appeal (Jan. 29, 2021), https://theappeal.org/the-lab/explainers/the-climate-change-lawsuits-against-big-oil-explained/.
49. Benjamin Ewing & Douglas A. Kysar, *Prods and Pleas: Limited Government in an Era of Unlimited Harm*, 121 Yale L.J. 350, 385 (2011).
50. Eric A. Posner, *Tobacco Regulation or Litigation?*, 70 U. Chi. L. Rev. 1141, 1155 (2003).
51. Ewing & Kysar, *supra* note 49, at 385; *see* Juliana v. United States, 947 F.3d 1159, 1164, 50 ELR 20025 (9th Cir. 2020).
52. Ewing & Kysar, *supra* note 49, at 385.
53. *Id.*
54. John C.P. Goldberg & Benjamin C. Zipursky, *Civil Recourse Revisited*, 39 Fla. St. U. L. Rev. 341, 343 (2011).
55. *Id.*
56. *See*, *e.g.*, Douglas A. Kysar, *What Climate Change Can Do About Tort Law*, 42 ELR 10739 (Aug. 2012) (describing some of the challenges with showing duty, proximate cause, and causation in climate change lawsuits).

tion in the past decades, the litigation did not address more systematic issues.

In the asbestos case, a flood of litigation for damages has bankrupted the asbestos industry, even before all the injured parties have been able to recover damages for the harms to their health. Thus, the asbestos litigation became a race to recover damages, rather than providing more structured recovery to all who were and will be harmed by asbestos. On the other hand, the tobacco case illustrates how litigation by states and localities may not ensure that funds reach the people experiencing greatest harm or who are the most vulnerable to harm from tobacco products.

These shortcomings are, in part, tied into the structure of tort litigation for damages. Following the civil recourse theory, tort litigation for damages is about ensuring the injured parties in the lawsuit are compensated for the wrongs done against them. Tort litigation does not look beyond the parties at hand to prioritize damages and prospective action for the most vulnerable in the community at large. That is the province of the legislature. As detailed below, the climate change damages litigation may face shortcomings similar to the asbestos and tobacco tort litigation before it.

Since the 1970s, individual plaintiffs exposed to asbestos have brought lawsuits for asbestos-related torts, including strict liability for failure to warn of asbestos health risks.[57] While early claims were often made by people with cancer or serious health conditions, more recent claims have varied from nonmalignant to mesothelioma-based claims.[58] As of 2001, there had been more than $20 billion worth of damages awarded and more than 100 companies bankrupted by the litigation.[59] There have been hundreds of thousands of asbestos cases since the 1970s.[60] As one scholar noted, "[p]laintiffs suffer because the limited pool of funds available to pay asbestos claims is steadily being depleted, making it more likely that claimants who develop a serious asbestos-related illness will not receive adequate or timely compensation in the future."[61]

The Judicial Conference has also identified that asbestos litigation, especially relitigating the same issues over and over for hundreds of thousands of individual plaintiffs, is very costly—thus draining possible compensation for present and future victims through legal fees.[62] The Supreme Court, Judicial Conference, and numerous scholars have called for federal legislation for a "national asbestos dispute-resolution scheme."[63] However, despite numerous legislative proposals to regulate asbestos, the U.S. Congress has failed to pass federal legislation.[64] As asbestos litigation has carried on to this day, defendants and fora have shifted. Entire classes of defendants have gone out of business, and some fora have adopted reforms to curtail asbestos litigation.[65]

The current climate change damages lawsuits have notable differences from the asbestos litigation; however, the former are subject to some of the same drawbacks as the latter. Climate lawsuits, if successful, could similarly bring fossil fuel companies to the brink of bankruptcy and begin a rush to litigate for climate change damages. The present climate change damages lawsuits are requesting about $200 billion in damages from fossil fuel companies in total, a sum that the companies would struggle to pay.[66] And the current lawsuits are only a small portion of the states and localities that could file suit if the litigation appeared to be gaining traction.

The states and localities that are late to the game could thus end up with little to no compensation available from a bankrupt industry. This is especially concerning when wealthier, majority-Democratic cities and states like San Francisco, California, and Connecticut have been some of the first to take up lawsuits against the fossil fuel companies. A master settlement agreement could address this race to sue fossil fuel companies before they are bankrupted by the litigation.[67] However, federal legislation would likely be even more effective to ensure that funds from fossil fuel companies are distributed to areas of the United States with greatest climate vulnerability and to low-income communities and communities of color.

The tobacco litigation brought by states and localities is even more analogous to ongoing climate change damages litigation, and serves as a warning of potential shortfalls of climate change damages litigation. Tobacco litigation began with unsuccessful private lawsuits against tobacco companies for health damages from individuals harmed by smoking.[68] These lawsuits were followed by litigation by more than 40 state attorneys general (AGs) to recover Medicaid costs of health care for smoking-related illness.[69]

With this shift from individual to government plaintiffs, the tobacco industry could no longer hide behind defenses of assumption of risk and contributory negligence

57. Mark A. Behrens, *What's New in Asbestos Litigation?*, 28 Rev. Litig. 501, 502 (2009).
58. *Id.*
59. Paul F. Rothstein, *What Courts Can Do in the Face of the Never-Ending Asbestos Crisis*, 71 Miss. L.J. 1 (2001); Crowell & Moring, Chart 1: Company Name and Year of Bankruptcy Filing (Chronologically) (2020), https://www.crowell.com/files/list-of-asbestos-bankruptcy-cases-chronological-order.pdf.
60. *See* Amchem Prods., Inc. v. Windsor, 521 U.S. 591, 598, 28 ELR 20173 (1997); Lester Brickman, *The Asbestos Litigation Crisis: Is There Need for an Administrative Alternative?*, 13 Cardozo L. Rev. 1819 (1991).
61. Rothstein, *supra* note 59, at 2.
62. *Amchem Prods., Inc.*, 521 U.S. at 598 (citing Report of the Judicial Conference Ad Hoc Committee on Asbestos Litigation 2-3 (1991)).
63. *See id.*
64. U.S. Government Accountability Office (GAO), Asbestos Injury Compensation: The Role and Administration of Asbestos Trusts 35-39 (2011) (GAO-11-819), https://www.gao.gov/assets/gao-11-819.pdf (summarizing major federal legislative proposals to address asbestos-related damages, including numerous proposals for a federal fund for asbestos-related claims instead of ad hoc litigation).
65. Behrens, *supra* note 57, at 502-03.
66. *See* Reeva Dua, *Driving on Empty: The Fate of Fossil Fuel Companies in Climate Nuisance Litigation*, 4 HRLR Online 1 (2019).
67. *See* Elizabeth W. De Leon, *The Opioid Crisis or Climate Change: Which Is More Likely to Succeed Under the Tobacco Litigation Model?*, 8 Tex. A&M L. Rev. Arguendo 27, 68-69 (2021).
68. Robert L. Rabin, *A Sociolegal History of the Tobacco Tort Litigation*, 44 Stan. L. Rev. 853, 854 (1992).
69. Walter J. Jones & Gerard A. Silvestri, *The Master Settlement Agreement and Its Impact on Tobacco Use 10 Years Later: Lessons for Physicians About Health Policy Making*, 137 Chest 692, 693 (2010).

for individuals choosing to smoke.[70] Prior to and during the litigation, state AGs unearthed evidence that tobacco companies had conspired for years to hide information about the health impacts of smoking. This allowed state AGs to ask for greater damages under state Racketeer Influenced and Corrupt Organizations statutes.[71]

To resolve the tobacco litigation, Congress sought to make a legislative global settlement agreement including federal regulations for the tobacco industry and damages paid to the states from tobacco companies. However, after negotiations for the global settlement agreement failed, the state AGs negotiated a master settlement agreement between the states and the tobacco companies.[72] The settlement required the companies to pay approximately $206 billion over 25 years to states—so long as the states ceased their lawsuits over medical costs related to smoking.[73]

The master settlement agreement was undoubtedly a "win" against tobacco companies. The litigation recovered damages for the wrongs the tobacco industry committed, and states did use some of the settlement payments for anti-smoking campaigns to reduce future harm and cover the health care costs of smoking.[74] In addition, the tobacco litigation compelled the disclosure of industry deception and knowledge of the harms of the product as well as emphasizing the health harms of cigarettes to the public.[75]

However, the tobacco litigation and settlement had several shortcomings. First, the litigation may not have led to the broader societal change in reduction of smoking rates.[76] While tort lawsuits do not directly seek broader societal change, it was undoubtedly in the minds of anti-smoking advocates and reflected in states' spending on anti-smoking campaigns using the settlement funds. However, states faced heavy criticism for not investing more of the tobacco settlement payments into anti-smoking campaigns and relying on cigarette excise taxes for billions of dollars in state revenue. Many states that sued tobacco companies subsequently became reliant on them for sizable excise taxes in the 2000s.

After the settlement, 25 such states passed legislation to cap appeal bonds on class action lawsuits against tobacco companies to avoid "dire budgetary harm [to the state] should [tobacco companies] file for bankruptcy protection and delay payments to the states."[77] Only a few states invested the Centers for Disease Control and Prevention (CDC)-recommended 20% of settlement proceeds in smoking prevention and reduction advertising and programs. On average, states only used 4% of their settlement payments for anti-smoking efforts.[78] One study found that larger tobacco settlements were associated with weaker tobacco controls in the state.[79] Ultimately, the master settlement agreement may not have had a strong deterrent effect on smoking because it did not mandate that a large percentage of the settlement be spent on smoking prevention.

Climate change damages litigation should seek to avoid the pitfalls in the tobacco litigation and settlement. The climate change damages lawsuits are in early stages—none of them have yet proceeded to trial, as they have largely been stalled on procedural issues.[80] However, the state of the climate change litigation today mirrors the early stages of tobacco litigation. By the end of 1987, there were 125 cases against the tobacco industry in progress in 17 states.[81] As of August 2022, there are more than 25 climate chante damages lawsuits ongoing in 13 states and the District of Columbia.[82]

In the early stages of tobacco litigation, plaintiffs grappled with the notion that the cases were "unwinnable." One scholar noted at the time:

> Perhaps the greatest difficulty confronting the tobacco products liability strategy is the inference that, since no case has yet been won, the cases must simply not be winnable. This is buttressed by the tobacco industry's extraordinary record of emerging unscathed from over three decades of convincing evidence of the lethal consequences of smoking. This difficulty will not go away until a case is won.[83]

Similarly, fossil fuel companies have evaded accountability for climate change damages thus far. However, that does not necessarily indicate they will remain unscathed in the years to come.[84] Federal circuit courts have largely ruled that the climate change damages lawsuits belong in state courts, and it appears likely that the cases will move toward trial or settlement in the coming years.[85] While fossil fuel companies are trying at all costs to avoid trial and accompanying discovery, they remain confident that they

70. Posner, *supra* note 50, at 1144 ("One reason the tobacco industry might have settled . . . is that it believed that it would become more vulnerable as tort standards evolved, as further information about the tobacco executives' behavior came to light, and as states reached for or created legal instruments that were not available to individual plaintiffs.").
71. Rabin, *supra* note 68, at 854; Jones & Silvestri, *supra* note 69, at 693.
72. Jones & Silvestri, *supra* note 69, at 692.
73. Myron Levin, *States' Tobacco Settlement Has Failed to Clear the Air*, L.A. Times (Nov. 9, 2003, 12:00 AM), https://www.latimes.com/archives/la-xpm-2003-nov-09-fi-smoke9-story.html.
74. *Id.* (describing that "[c]reation of a major new legal precedent . . . was not the goal here. Instead of a model of civil rights lawyers marching to the Supreme Court, the model was asbestos—endless litigation that finally bankrupted an enormous industry.").
75. Richard A. Daynard, *Tobacco Liability Litigation as a Cancer Control Strategy*, 80 J. Nat'l Cancer Inst. 9, 9 (1988).
76. *See* Levin, *supra* note 73.
77. *Id.*
78. *Id.*; *see also* Leslie Kendrick, *The Perils and Promise of Public Nuisance*, Yale L.J. (forthcoming 2022), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4130444 (describing how "[the master settlement agreement] money was supposed to cover the costs of smoking-related illnesses in each state," but instead "funded a wild array of government interests, often plainly unrelated to tobacco costs").
79. Jayani Jayawardhana et al., *Master Settlement Agreement (MSA) Spending and Tobacco Control Efforts*, 9 PLoS ONE e114706 (2014), https://doi.org/10.1371/journal.pone.0114706; Kendrick, *supra* note 78.
80. *See, e.g.*, Amy Howe, *Case Preview: Justices to Consider Procedural Issue in Major Climate-Change Lawsuit*, SCOTUSblog (Jan. 18, 2021, 3:31 PM), https://www.scotusblog.com/2021/01/case-preview-justices-to-consider-procedural-issue-in-major-climate-change-lawsuit/.
81. Daynard, *supra* note 75, at 13.
82. Sher Edling LLP, *supra* note 38; Sher Edling LLP, *supra* note 37.
83. Daynard, *supra* note 75, at 13.
84. Native Vill. of Kivalina v. ExxonMobil Corp., 696 F.3d 849, 42 ELR 20195 (9th Cir. 2012); Juliana v. United States, 947 F.3d 1159, 1164, 50 ELR 20025 (9th Cir. 2020).
85. *See* Sher Edling LLP, *supra* note 37.

could win the suits on the merits.[86] However, as the climate change suits push closer to trial, the fossil fuel companies may seek to settle the lawsuits or even support federal climate change damages legislation if such legislation would indemnify them from tort liability.

While the climate change damages lawsuits are properly brought under state tort law, they are not a panacea for addressing climate change damages—or holding fossil fuel companies accountable for their actions. The asbestos and tobacco litigation illustrate some of the shortcomings of litigation seeking to address mass harms wrought by companies. Ultimately, this Article argues for a federal statutory response—in part to address the limitations of tort law to fully and equitably address climate change damages across the entire United States.

C. *Benefits of a Federal Statutory Response to Climate Damages*

A federal statutory response to hold fossil fuel companies accountable for climate change damages has significant advantages over state tort litigation. First, a federal response could ensure that the most climate-vulnerable communities—regardless of the political leanings of their state and local governments—receive climate change damages funds to support climate resilience projects. Democratic state AGs and Democratic municipal officials have brought all 25 climate change damages lawsuits currently pending. We have not seen lawsuits from some of the most climate-vulnerable places—Florida, Louisiana, and many others. Moreover, many state AGs or municipal attorneys' offices may not have the resources to bring these suits even if they want to.

Second, as shown in both the tobacco and asbestos examples, payouts from litigation are not always distributed equitably nor always dedicated to reducing future harm. If the climate change damages lawsuits are successful, they could come close to bankrupting the fossil fuel industry, leading to a similar race to litigate that has characterized asbestos litigation. In addition, it is not clear if state and local governments would be required to or choose to spend the entire payout from a successful climate change damages lawsuit to meaningfully build climate resilience, especially for low-income communities and communities of color.[87] As seen in the tobacco litigation, a court settlement does not mean that settlement funds will go primarily to smoking prevention. The master settlement agreement was not quite the boon to anti-smoking efforts it could have been had it mandated certain levels of state expenditures on tobacco reduction.[88]

Would the climate change damages litigation payout see a similar fate? Should not climate damages paid by fossil fuel companies be spent exclusively on climate change adaptation and resilience? Further, would the climate change damages lawsuit payouts to states and localities be spent equitably—on supporting those most vulnerable to climate change within the jurisdiction? With climate change damages litigation, it is not certain that the answers to these questions would be "yes."

Overall, climate change damages litigation brought by a locality or state would not necessarily ensure that settlement funds are used for climate resilience projects for the most climate-vulnerable communities therein. Some critics of the current climate change damages lawsuits have pointed out as much:

> A local jury verdict might force the defendant energy companies to pay the city a multibillion-dollar settlement, but, as we learned from the national tobacco settlement, there is no assurance the money will be spent on sea wall construction. The local government could spend it on a new municipal theater or sports arena, with no climate benefits . . . . Further, there would be no equitable distribution of funding. One plaintiff city might get millions or billions of dollars, while the next community could get nothing. That's not accountability.[89]

A federal climate change damages statute could go beyond what a climate change damages lawsuit could accomplish. The statute could establish a national priorities list (NPL) for climate change spending, targeting funds to census tracts with the greatest climate vulnerability. In addition, a federal response can shape the future behavior of fossil fuel companies in a way state climate change damages lawsuits are not designed to do. The suits are about damages, and rights and responsibilities between the parties to the lawsuit. While they are valid under tort law, the suits cannot reach into the future to incentivize a phaseout of fossil fuel emissions.

A federal statutory response to create a climate change damages fund has several advantages over litigation by states and localities for climate change damage. This fund—and administrative compensation schemes writ large—can operate under more comprehensive guidelines created with greater opportunities for public input through the agency notice-and-comment process.[90] A statute like the one proposed here can prioritize funding directly to community-based groups in climate-vulnerable low-income communities and communities of color. The statute can also give adaptation funding to the most vulnerable localities

86. *See* Kysar, *supra* note 56 (describing how climate change tort lawsuits are not likely to prevail on the merits).

87. *But cf.* Kendrick, *supra* note 78 (describing how monetary awards and settlements could be earmarked to serve the "public purposes for which the government ostensibly sued").

88. *See 15 Years Later, Where Did All the Cigarette Money Go?*, NPR (Oct. 13, 2013, 5:52 PM), https://www.npr.org/2013/10/13/233449505/15-years-later-where-did-all-the-cigarette-money-go; Levin, *supra* note 73.

89. Gale A. Norton & Martha P. Whitmore, *Blame-Game Litigation Won't Solve Climate Change*, Bloomberg L. (Apr. 9, 2021, 4:00 AM), https://news.bloomberglaw.com/environment-and-energy/blame-game-litigation-wont-solve-climate-change.

90. Daniel A. Farber, *Tort Law in the Era of Climate Change, Katrina, and 9/11: Exploring Liability for Extraordinary Risks*, 43 Val. U. L. Rev. 1075, 1124 (2009).

and tribal governments for seawalls, flood-resilient streets, and other critical climate-resilient infrastructure.

In addition, a federal statutory scheme can ensure that payout from polluting industries is given to communities, localities, and tribal governments struggling to pay for the costs of climate adaptation. An administrative compensation scheme for climate damages could improve efficiency and lower transaction costs as agencies (by the power delegated to them by statute) can bring their expertise to bear on the issue of compensation for climate damages.[91] For the regulated industry—in this case, the fossil fuel industry—the administrative compensation system could be perceived as preferable to endless litigation. The asbestos example hangs over the climate change damages lawsuits as a reminder that extensive litigation can bankrupt entire industries and leave people who were harmed without adequate compensation.

More broadly, scholars and judges alike have acknowledged that the judiciary is not particularly well-positioned to supervise climate change mitigation or equitable distribution of climate change damages funds.[92] The fossil fuel industry seeks to avoid the asbestos industry's fate: hundreds of bankruptcies and waves of insolvency after years of individualized litigation for compensation.[93] Moreover, the federal statute proposed in this Article will support an orderly phaseout of fossil fuel energy, including government support for fossil fuel industry workers to find employment and training in other industries.[94]

Overall, climate change damages litigation is already playing a role in galvanizing support for federal climate change damages legislation. As Daniel Farber explains, "litigation is likely to focus attention on compensation issues and uncover useful information; it may also increase political pressure for a nonlitigation solution."[95] Farber expands on how case-by-case climate damages litigation could drive a statutory or administrative response:

> Even if an administrative system would be better than processing claims through case-by-case litigation, judicial liability may be better than nothing and may actually be a steppingstone toward an administrative or quasi-administrative system. Judicial findings of liability could lead to the establishment of an administrative compensation scheme, either by creating pressure for legislative action or by leading a court to create some quasi-administrative mechanism with which to provide class relief in the remedy phase.[96]

Farber notes that climate change damages litigation itself could lead to a legislative settlement—passed by Congress to settle the suits. A legislative settlement from the climate change damages suits should be informed by the pitfalls and ultimate demise of the tobacco global settlement agreement—the proposed but unsuccessful federal legislative settlement.[97] As tobacco litigation—from both state AGs and individual plaintiffs—exploded in the mid-1990s, the tobacco industry began to have closed-door meetings with state AGs and plaintiff-side attorneys to develop a proposal for federal legislation to settle the cases.[98]

This federal legislation, called the "Global Tobacco Settlement," would have indemnified the tobacco industry from liability for past harms and likely preempted many state and local laws to control tobacco.[99] This legislation received support from some tobacco control advocates and fierce criticism from others. Ultimately, the thorny issue of protection from liability or liability caps for tobacco companies brought the legislative settlement talks to an end. A group of Democrats opposing any level of immunity for the tobacco industry and Republicans opposing federal regulation of the tobacco industry altogether blocked the legislation.[100]

Even without a finding of liability or a legislative settlement, tort litigation can play an important role in shaping legislative and regulatory responses. Ewing and Kysar have recognized that "[i]n entertaining and adjudicating tort disputes, courts can, do, and should interact with the other branches of government. This is true even—and sometimes precisely—when they must reject allegations of harm because they do not fit the scheme of proof and liability

91. *Id.*

92. *See*, *e.g.*, Ewing & Kysar, *supra* note 49, at 369:

> At the outset, it must be acknowledged that the fit between climate change and tort law seems poor. Climate change is the ultimate tragedy of the commons. Not only fossil fuel companies and industrial manufacturers, but all human beings and enterprises contribute—however marginally—to the phenomenon of anthropogenic climate change.

See also Juliana v. United States, 947 F.3d 1159, 1173-74, 50 ELR 20025 (9th Cir. 2020):

> We doubt that any such plan [to reduce carbon emissions consistent with a climate system capable of sustaining human life] can be supervised or enforced by an Article III court. And, in the end, any plan is only as good as the court's power to enforce it . . . Not every problem posing a threat—even a clear and present danger—to the American Experiment can be solved by federal judges.

But see Douglas Kysar, *Fossil Fuel Industry's "Tobacco Moment" Has Arrived*, Law360 (July 28, 2017, 11:20 AM), https://www.law360.com/environmental/articles/948361/fossil-fuel-industry-s-tobacco-moment-has-arrived:

> Critics will no doubt argue that courts are not the right institutions to sort out a complex global problem like climate change . . . . But the lawsuits brought by the California plaintiffs are not asking courts to solve climate change. The lawsuits merely seek compensation for climate-related expenses and injuries the plaintiffs and their residents must bear. A substantial portion of those harms are directly attributable to the wrongful conduct of the fossil fuel industry.

93. *See* Crowell & Moring, *supra* note 59.

94. *See*, *e.g.*, James Bruggers, *Coal Communities Across the Nation Want Biden to Fund an Economic Transition to Clean Power*, Inside Climate News (Jan. 26, 2021), https://insideclimatenews.org/news/26012021/coal-communities-just-transition-renewable-energy-biden-administration/.

95. Daniel A. Farber, *Basic Compensation for Victims of Climate Change*, 155 U. Pa. L. Rev. 1605, 1616 (2007).

96. Farber, *supra* note 90, at 1123; *see also* Farber, *supra* note 95, at 1618 ("Clearly, the threat of tort liability pervaded the construction of 9/11 compensation, and the potential for tort liability also will likely prompt climate change compensation in other forms.").

97. *See* Michele Bloch et al., *A Year of Living Dangerously: The Tobacco Control Community Meets the Global Settlement*, 113 Pub. Health Reps. 488, 490-91 (1998) (describing the opposition of tobacco control advocates to the global settlement agreement, a legislative solution that would have eliminated the ability to sue tobacco companies for health-related damages).

98. *Id.* at 490.

99. *Id.*

100. *Id.* at 495.

established by tort."[101] Courts can "prod" the legislative branch in their merits opinions by calling on Congress to address an area of social need.[102]

Litigation can have indirect impacts on legislative and regulatory action not only through "prods and pleas," but by changing norms and values around the topic at issue and increasing costs to defendants to continue to operate.[103] Even if the climate change damages lawsuits ultimately lose on the merits, they could "win" by mobilizing constituents and the legislative branches of government to address climate change and hold fossil fuel companies accountable through climate change damages legislation.[104]

Further, decentralized litigation efforts could push the fossil fuel industry itself to seek out federal legislation to indemnify them from climate liability or preempt climate change damages lawsuits. E. Donald Elliott theorized that early federal environmental statutes arose out of industry efforts to obtain federal legislation that would preempt a patchwork of state and local laws.[105] Elliott claims that

> as scattered environmental victories begin to appear, this evidence of success will feed efforts in other states . . . . A bandwagon effect becomes possible: victories in one state may promote the marshaling of the resources necessary for victory in another. Indeed, legislation in one state can stimulate other states to adopt even more stringent laws.[106]

In this vein, another powerful aspect of the climate change damages lawsuits may be to bring the fossil fuel industry to the table to negotiate for a federal climate change damages fund. This is not to say the fossil fuel industry must or should be included in the crafting of a climate change damages fund. This proposal later argues that fossil fuel companies should not be indemnified for damages if there is any way to pass federal climate change damages legislation without indemnification. However, state and local climate suits may bring fossil fuel companies to the negotiating table.

III. Prior Proposals and Statutory Models for a Climate Change Damages Fund

As climate change damages litigation moves forward at the state and local levels, it is time for the federal government to take action on climate change damages and resilience. As proposed in Part IV, a federal statute for a climate resilience fund can ensure fossil fuel companies pay for mounting climate change damages and much-needed climate resilience measures around the country. In addition, the federal statute can target funds toward communities that are most vulnerable and least resilient to climate change across the United States.

This section reviews current federal legislative proposals related to climate change damages and resilience funding, as well as prior suggestions in the literature. Presently, there is a gap in the proposals and the literature for a climate resilience fund specifically designed to support community-based climate resilience in the United States, especially for low-income communities and communities of color.

A. *Literature on Climate Change Damages and Resilience Funds*

Several scholars have suggested federal legislation to create funds to compensate parties injured by climate change in the United States. As described below, these proposals were either published before 2010, or do not fully address climate justice in the distribution of climate change damages funds in the United States. While several scholars have suggested cross-border compensation for climate damages—especially from wealthy, high-emitting countries to poorer nations that are not responsible for the harms of climate change—this Article focuses exclusively on U.S. domestic legislation to address U.S. domestic climate change damages.[107]

Farber has written extensively on compensation for victims of climate change, including suggestions for a climate change adaptation fund.[108] He has claimed that "administrative compensation schemes may provide a more efficient and even fairer alternative [to litigation]" in the case of climate change damages.[109] He also has suggested that current polluters could be required to "pay into some kind of long-term adaptation fund, which could dispense funds for many decades as the adaptation needs arise."[110]

For the structure of this fund, "responsible parties" pay into the fund based on their relative contribution to climate change impacts, which would then be disbursed in grants.[111] Emitters could be responsible based on either a strict liability standard or a negligence stan-

101. Ewing & Kysar, *supra* note 49, at 356.
102. *Id.* at 362.
103. Jacqueline Peel & Hari M. Osofsky, *Climate Change Litigation's Regulatory Pathways: A Comparative Analysis of the United States and Australia*, 35 Law & Pol'y 150, 154 (2013).
104. *See* Douglas NeJaime, *Winning Through Losing*, 96 Iowa L. Rev. 941 (2010).
105. E. Donald Elliott et al., *Toward a Theory of Statutory Evolution: The Federalization of Environmental Law*, 1 J.L. Econ. & Org. 313, 326 (1985).
106. *Id.* at 329-30.
107. *See*, *e.g.*, Randall S. Abate, *Corporate Responsibility and Climate Justice: A Proposal for a Polluter-Financed Relocation Fund for Federally Recognized Tribes Imperiled by Climate Change*, 25 Fordham Env't L. Rev. 10 (2013/2014); Maxine Burkett, *Rehabilitation: A Proposal for a Climate Compensation Mechanism for Small Island States*, 13 Santa Clara J. Int'l L. 81 (2015); Rosemary Lyster, Climate Justice and Disaster Law 339-41 (2016) (suggesting a fossil fuel-funded "Climate Disaster Response Fund" where "[v]ictims in all developing countries particularly vulnerable to climate disasters should be able to make a claim" and the 200 companies with the largest estimated fossil fuel reserves would pay into the fund as administered by the Executive Committee of the Warsaw Mechanism).
108. *See* Daniel A. Farber, *Adapting to Climate Change: Who Should Pay*, 23 J. Land Use & Env't L. 1 (2007/2008) [hereinafter Farber, *Adapting to Climate Change*]; Farber, *supra* note 95; Daniel A. Farber, *The Case for Climate Compensation: Justice for Climate Change Victims in a Complex World*, 2008 Utah L. Rev. 377 (2008) [hereinafter Farber, *The Case for Climate Compensation*].
109. Farber, *supra* note 95, at 1619.
110. Farber, *Adapting to Climate Change*, *supra* note 108.
111. Farber, *supra* note 95, at 1650.

dard.[112] With the former, emitters would pay into the fund based on their total greenhouse gas emissions. With the latter, emitters would only pay in based on "excess of the amount the United States would have emitted under optimal controls."[113]

In addition, Farber suggests that a climate change damages fund should somehow "cut off future liability" for emitters because the long-term impacts of current greenhouse gas emissions could "result in vastly long-term exposure to liability" for emitters.[114] Overall, while he outlines underlying goals and considerations for a climate change damages fund, his work stops short of fleshing out a full legislative proposal of how this fund would operate, and he does not squarely address climate justice goals in such a fund.

Following Farber's work, Melissa Farris suggested a no-fault "Climate Compensation Fund," with "the dual purpose of (1) ensuring fair compensation to climate change victims and (2) shielding fossil fuel-dependent industries from crushing liability and possible insolvency."[115] This fund is structured around accepting claims for climate change damages and, as such, "would probably not be capable of handling claims involving extreme catastrophes nor addressing diffuse climate change effects that are not clearly identifiable."[116] In addition, Farris' proposal focuses on a fund that will not bankrupt the industry, which she calls "consistent with the establishment of past compensation funds" and "current national policy."[117] While Farris' article identifies the possibility and initial contours of a climate change damages fund, it does not explore the climate justice dimension of this fund.

Since Farber's and Farris' works were published, there have been advances in climate change attribution science,[118] and public pressure for federal action on climate change has increased dramatically.[119] The shift in public opinion, along with the recent emergence of climate change damages lawsuits across more than 25 states and localities, has ratcheted up pressure for federal climate action and climate damages specifically. In addition, we now know that fossil fuel companies knew of climate change impacts from fossil fuels as early as 1965, and have been engaged in a decades-long disinformation campaign about their impacts.[120] For example, Farber described how fossil fuel companies would pay into a climate change fund for their emissions in the "time after the harms of climate change were known (probably around 1990)."[121] Since then, more evidence has emerged that fossil fuel companies have been aware of the harms of burning fossil fuel—in terms of climate change impacts—since at least 1965.[122]

Both Farber and Farris identify some of the no-fault compensation funds and other federal legislation that could serve as a model for a climate change damages fund. Farber and Farris both describe in detail the September 11th Victim Compensation Fund as a model.[123] Farris also relies on the National Childhood Vaccine Injury Act's compensation table for harms from routine childhood vaccines and the Price-Anderson Act's fund for radiation injuries from nuclear power plant accidents.[124] Farber also notes how the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)[125] could serve as a model statute, but that it has a strict liability format for natural resource damages.[126]

This Article builds on Farber's and Farris' analyses and further assesses the Oil Spill Liability Trust Fund, Abandoned Mine Land (AML) Reclamation Program, and Black Lung Disability Trust Fund as models for a climate change damages fund. In addition, it includes significant analysis of current legislative proposals to inform the proposed legislation in Part IV.

B. *Federal Statutory Models for a Climate Change Damages Fund*

The following federal statutes, among others, inform the features of the proposed no-fault climate change damages fund. First, this Article looks to important features of CERCLA that could inform a federal climate change damages fund, without adopting CERCLA's model of strict liability and "responsible parties." Second, it looks to other federal funds in the oil and coal industries for key statutory features for a climate change damages fund. Finally, like Farber and Farris, it considers lessons from the September 11th Victim Compensation Fund.

1. CERCLA

CERCLA contains several key statutory features that could inform a climate change damages fund. Also known as the Superfund law, CERCLA, was enacted in 1980 to address releases of harmful hazardous substances from

112. Farber, *The Case for Climate Compensation*, *supra* note 108, at 406.
113. *Id.*
114. Farber, *Adapting to Climate Change*, *supra* note 108.
115. Melissa Farris, *Compensating Climate Change Victims: The Climate Compensation Fund as an Alternative to Tort Litigation*, 2 Sea Grant L. & Pol'y J. 49, 58 (2009).
116. *Id.*
117. *Id.* at 59-60.
118. *See*, *e.g.*, Michael Burger et al., *The Law and Science of Climate Change Attribution*, 45 Colum. J. Env't L. 57 (2020).
119. Cary Funk & Brian Kennedy, *For Earth Day 2020, How Americans See Climate Change and the Environment in 7 Charts*, Pew Rsch. Ctr. (Apr. 21, 2020), https://www.pewresearch.org/fact-tank/2020/04/21/how-americans-see-climate-change-and-the-environment-in-7-charts/ (From 2009 to 2020, the percent of U.S. adults who say dealing with global climate change should be a top priority for the president and Congress has risen from 30% to 52%.).
120. *See*, *e.g.*, Benjamin Franta, *Early Oil Industry Knowledge of CO_2 and Global Warming*, 8 Nature Climate Change 1024 (2018).
121. Farber, *The Case for Climate Compensation*, *supra* note 108, at 412.
122. *See*, *e.g.*, Franta, *supra* note 120.
123. Farber, *supra* note 90, at 1124; Farris, *supra* note 115, at 54-56.
124. Farris, *supra* note 115, at 56-58.
125. 42 U.S.C. §§9601-9675, ELR Stat. CERCLA §§101-405.
126. Farber, *supra* note 95, at 1623-27; *see also* Alan P. Loeb, *Why the Recent Proposals to Solve the Climate Crisis Fall Short*, Kennedy Sch. Rev. (Sept. 24, 2020), https://ksr.hkspublications.org/2020/09/24/why-the-recent-proposals-to-solve-the-climate-crisis-fall-short/.

active or abandoned hazardous waste sites.[127] First, Superfund includes a trust fund for environmental cleanup that is funded by taxes on polluting industries. Until 1997, Superfund was financed by a tax on "crude oil received at a United States refinery" and "petroleum products entered into the United States for consumption, use, or warehousing," with a cap on tax collection if the Superfund balance ever reached $11.97 billion.[128] In the first five years of Superfund, the government collected $1.6 billion in taxes that were held in a trust fund and disbursed for cleanup efforts when parties responsible for the spill could not fully afford the cleanup or could not be identified.[129] As described in Part IV, this tax on polluting industries is also essential to a climate change damages fund.

A second important feature of CERCLA is its comprehensive plan to prioritize remediation of the most severe hazardous waste pollution. By statute, CERCLA requires a "national contingency plan," published by the president, that outlines methods for identifying facilities with hazardous substances, remedying releases or threats of releases of these substances, determining the appropriate extent of the remedies, assigning responsibility for the releases, and establishing which sites are prioritized for cleanup.[130] As part of this plan, the government establishes an NPL with sites prioritized for cleanup.[131] The NPL must be based on the following factors:

> relative risk or danger to public health or welfare or the environment, in the judgment of the President, taking into account to the extent possible the population at risk, the hazard potential of the hazardous substances at such facilities, the potential for contamination of drinking water supplies, the potential for direct human contact, the potential for destruction of sensitive ecosystems, the damage to natural resources which may affect the human food chain and which is associated with any release or threatened release, the contamination or potential contamination of the ambient air which is associated with the release or threatened release, State preparedness to assume State costs and responsibilities, and other appropriate factors.[132]

A climate change damages fund could also include an NPL of areas for climate adaptation projects—based on the severity of climate impacts and the community's vulnerability to climate change in the area.[133] This list could help prioritize funding to communities of color and low-income communities facing severe impacts of climate change in the United States.[134]

Third, CERCLA applies to hazardous waste pollution that happened in the past and affects public health or the environment. This is helpful for conceptualizing the contributions each polluting entity would make to a federal climate change damages fund.[135] A climate change damages fund could calculate payments to the fund based on not only current emissions, but historical emissions from, for example, 1965 to the present.[136] This dates back to when fossil fuel companies became aware that their emissions were causing harmful climate change impacts. With payments based on historical emissions and current emissions, the climate change damages fund could both promote accountability for climate damages and reduce emissions to ameliorate future climate harm.[137]

However, some of the features of CERCLA are not appropriate for a climate change damages fund. First, CERCLA's focus on identifying "responsible parties" for site-specific hazardous waste has led to extensive litigation over how to define "responsible parties" and who must pay for cleanup.[138] A climate change damages fund should avoid site-specific identification of responsible parties. Instead, the fund should have a bright-line, no-fault rule for which companies have to pay into the general fund. With climate change, a global issue caused by emitters operating all over the world, it does not make sense to take a site-specific approach.

Second, CERCLA features joint and several liability, so that every responsible party could be responsible for the entire cost of cleanup. Holding one emitter responsible for the entirety of climate change damages in the United States is unlikely to build a fund for climate change damage remediation and climate resilience; it would simply bankrupt that comp any. Farber further cautions against adopting many parts of CERCLA for a climate change damages fund, otherwise "entities at all stages of the carbon process

127. *See* U.S. Environmental Protection Agency (EPA), *Superfund: CERCLA Overview*, https://www.epa.gov/superfund/superfund-cercla-overview (last updated Feb. 14, 2022).
128. 26 U.S.C. §4611(a).
129. *See* U.S. EPA, *supra* note 127.
130. 42 U.S.C. §9605(a).
131. *Id.* §9605(a)(8) ("[T]he President shall list as part of the plan national priorities among the known releases or threatened releases throughout the United States and shall revise the list no less often than annually.").
132. *Id.* §9605(a)(8)(A).
133. *See*, *e.g.*, U.S. Climate Resilience Toolkit, *Social Vulnerability Index*, https://toolkit.climate.gov/tool/social-vulnerability-index (last visited July 22, 2022).
134. See *infra* Section IV, for a full discussion of a climate adaptation priorities list.
135. Farber, *The Case for Climate Compensation*, *supra* note 108, at 411.
136. *See* Matthew Taylor & Jonathan Watts, *Revealed: The 20 Firms Behind a Third of All Carbon Emissions*, Guardian (Oct. 9, 2019, 7:00 AM), https://www.theguardian.com/environment/2019/oct/09/revealed-20-firms-third-carbon-emissions (quantifying tons of carbon dioxide equivalent emissions for the top 20 most polluting companies since 1965); *see also* Paul Griffin et al., CDP, The Carbon Majors Database: Methodology Report 2017 (2017).
137. *See* Simon Caney, *Cosmopolitan Justice, Responsibility, and Global Climate Change*, 18 Leiden J. Int'l L. 747 (2005); Farber, *supra* note 95, at 1642:
> [E]stablishing a rule that requires compensation for past emissions can provide a precedent for future liability schemes that cover other emerging environmental harm. For example, the fear that another country might emulate CERCLA liability provides an incentive for care in disposing of hazardous waste, even if that country in which disposal occurs does not currently have a stringent regulation.

Loeb, *supra* note 126 (describing how a climate damages redress fund could include payments from fossil fuel companies for present and past emissions).
138. *See* Michael V. Hernandez, *Cost Recovery or Contribution: Resolving the Controversy Over CERCLA Claims Brought by Potentially Responsible Parties*, 21 Harv. Env't L. Rev. 83 (1997); Stephen Mountainspring, *Insurance Coverage of CERCLA Response Costs: The Limits of Damages in Comprehensive General Liability Policies*, 16 Ecology L.Q. 755 (1989).

from extraction through consumption would be jointly and severally liable for climate change 'clean-up.'"[139]

Farber is also concerned with the retroactivity and limited proof of causation in CERCLA being applied to a climate change damages fund.[140] First, a climate change damages fund can and should hold polluters accountable for their past emissions, at least those in the recent past that can be readily quantified. Second, a climate change damages fund should not address causation for each specific fossil fuel company. Instead, the fund will set a clear, readily quantifiable threshold for historical carbon dioxide equivalent emissions, from all greenhouse gases. If the company meets or exceeds that threshold, they will pay into the fund. We have a global scientific consensus that greenhouse gas emissions cause climate change, and strong scientific evidence of the relative impacts of different types of greenhouse gases—from methane to carbon dioxide.[141] This scientific research and consensus will support the administration of the climate change damages fund.

2. Oil and Coal Industry Funds

In addition to CERCLA, there is significant precedent for federal legislation compelling oil and coal industries to pay into funds to address the environmental contamination caused by their industries. These federal statutes can inform a federal climate change damages fund. First, the Oil Spill Liability Trust Fund (Oil Pollution Act of 1990 (OPA))[142] created a fund for the federal government to quickly respond to oil spills and provide prompt compensation for damages from such spills—even before responsible parties for an oil spill are identified.[143] The fund is financed by per-barrel excise taxes on domestic and imported petroleum products.[144] Like CERCLA, the OPA still calls for responsible parties for the oil spill to pay for the cost of the spill. However, if a responsible party for an oil spill cannot be located or made to pay quickly enough, the fund can cover the cost of damages.[145]

The coal industry has at least two funds: one to clean up abandoned coal mines and another to compensate coal miners experiencing black lung disease. In 1977, Congress passed the Surface Mining Control and Reclamation Act (SMCRA)[146] and created the AML Reclamation Program—a program to clean up dangerous abandoned mines funded by a fee on active coal mine operators.[147] In 1972, Congress passed the Black Lung Benefits Act, which created the Black Lung Disability Trust Fund. This fund is financed by an excise tax on coal produced and sold in the United States, and gives payouts to miners who are experiencing black lung disease or other lung diseases.[148] Like the Oil Spill Liability Trust Fund model, it is intended to make payouts when responsible coal mine operators are not able to pay for black lung benefits.[149]

Notably, due to the sheer number of miners suffering from black lung disease and the declining production of coal in the United States, the Black Lung Disability Trust Fund has consistently run a deficit and had to borrow from the U.S. Treasury.[150] This fund is a cautionary tale on the struggles of financing a fund through an excise tax on what is now a dying coal industry. Debt concerns aside, the AML Reclamation Program, Oil Spill Liability Trust Fund, and Black Lung Disability Trust Fund have used taxes and fees to hold polluting industries accountable for some of the damage they have caused and may cause in the future.

Most recently, in December 2021, Congress passed an infrastructure bill, including a program to "plug, remediate, and reclaim orphaned wells located on Federal land."[151] Like CERCLA identifies and prioritizes hazardous waste sites for cleanup, this Act compels the government to identify orphaned wells and pipelines and rank orphaned wells for cleanup.[152] The method for prioritizing wells for cleanup must be based on "public health and safety; potential environmental harm; and other subsurface impacts or land use priorities."[153] Like CERCLA and the Oil Spill Liability Trust Fund, this program seeks "to determine the identities of potentially responsible parties associated with the orphaned well" to reimburse the government for expenditures.[154]

Notably, this program must "identify and address any disproportionate burden of adverse human health or environmental effects of orphaned wells on communities of

139. Farber, *The Case for Climate Compensation*, *supra* note 108, at 410-11. *But cf*. Loeb, *supra* note 126 (arguing that a climate damages redress fund should hold ancillary parties who facilitated greenhouse gas emissions jointly and severally liable for payment for present and historical emissions).
140. Farber, *The Case for Climate Compensation*, *supra* note 108, at 411.
141. *See* Intergovernmental Panel on Climate Change (IPCC), *Summary for Policymakers*, *in* Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (Christopher B. Field et al. eds., Cambridge Univ. Press 2014); *IPCC Updates Methodology for Greenhouse Gas Inventories*, IPCC (May 13, 2019), https://www.ipcc.ch/2019/05/13/ipcc-2019-refinement/.
142. 33 U.S.C. §§2701-2761, ELR Stat. OPA §§1001-7001.
143. Congressional Research Service, The Oil Spill Liability Trust Fund Tax: Background and Reauthorization Issues in the 116th Congress (2019), https://fas.org/sgp/crs/misc/IF11160.pdf; U.S. EPA, *Oil Spill Liability Trust Fund*, https://www.epa.gov/oil-spills-prevention-and-preparedness-regulations/oil-spill-liability-trust-fund (last updated Jan. 6, 2022).
144. Congressional Research Service, *supra* note 143.
145. U.S. EPA, *supra* note 143.
146. 30 U.S.C. §§1201-1328, ELR Stat. SMCRA §§101-908.
147. 30 U.S.C. §1232; *see also* U.S. Department of the Interior Natural Resources Revenue Data, *Abandoned Mine Land Reclamation Program*, https://revenuedata.doi.gov/how-revenue-works/aml-reclamation-program/ (last visited July 22, 2022).
148. Scott D. Szymendera & Molly F. Sherlock, Congressional Research Service, The Black Lung Program, the Black Lung Disability Trust Fund, and the Excise Tax on Coal: Background and Policy Options (2019).
149. *Id*.
150. Siddhi Doshi & Adele C. Morris, Brookings Institution, Putting the Trust Back in the Black Lung Disability Trust Fund (2021), https://www.brookings.edu/wp-content/uploads/2021/10/Black-Lung-Disability-Trust-Fund-2021.pdf.
151. Infrastructure Investment and Jobs Act, H.R. 3684, 117th Cong. §40601 (2021); 42 U.S.C. §15907(b)(1).
152. 42 U.S.C. §15907(b)(2).
153. *Id*. §15907(b)(2)(A)(ii).
154. *Id*. §15907(b)(2)(D).

color, low-income communities, and Tribal and indigenous communities."[155] However, the law does not explicitly call for funding to be directed to cleaning up orphaned wells in these communities. In addition, unlike many of the funds previously described, this fund relies on general appropriations from rather than a tax on the oil and gas industry. While the government can seek reimbursement from parties that are responsible for the orphaned well, it is unclear to what extent the government will pursue this option.

Some sources have criticized the Act for placing the cost of cleanup of abandoned wells on taxpayers, rather than the industry itself.[156] A tax on the industry to fund this orphaned well cleanup program would have met dual goals of holding the industry accountable for their harmful actions while supporting a transition away from fossil fuels by increasing the costs of continued production.

3. September 11th Victim Compensation Fund

There are also a number of funds that pay out to individuals for harms they have experienced, as an alternative to tort litigation. The September 11th Victim Compensation Fund is another model for the no-fault, climate change damages fund proposed in Part IV. After the September 11 attack, Congress passed the Air Transportation Safety and System Stabilization Act, which included a fund to compensate victims of the September 11 attack if they forgo the option to litigate their case—typically against the airline.[157]

The range of individuals eligible for the fund was narrow. Eligible individuals must have been "present at the World Trade Center, (New York, New York), the Pentagon (Arlington, Virginia), or the site of the aircraft crash at Shanksville, Pennsylvania[,] at the time, or in the immediate aftermath, of the terrorist-related aircraft crashes of September 11, 2001" and "suffered physical harm or death as a result of such an air crash" or a non-terrorist individual who was on one of the flights in the September 11 attack.[158]

This fund was financed with general tax dollars, and the fund's special master created a schedule for economic and noneconomic losses to pay out to claimants.[159] Victims could opt out of the fund and pursue their own litigation in court; however, 97% of almost 3,000 families eligible to apply to the fund opted in.[160]

Overall, while the September 11th Victim Compensation Fund is one example of a no-fault compensation fund, it has significant differences from a climate change damages fund. First, the September 11th Victim Compensation Fund is financed by a tax on the general population, rather than a specific industry. In addition, compensation from the fund is paid out to individuals and families harmed by the attack. Other examples of no-fault federal compensation funds for individuals include the vaccine injury compensation fund,[161] and the fund to pay for harm from maritime employment in navigable waters of the United States.[162] While a climate change damages fund should include some individual rebates, especially to low-income individuals, the fund would focus on funding climate resilience projects and infrastructure.

4. Questions Raised

Overall, these statutory models all raise important design questions for a federal climate change damages fund. First, where does the funding come from? While Superfund and oil spill and coal industry funds are financed by taxes on the industries responsible for the harm, the September 11 fund and the new orphaned well cleanup program are financed by taxes on the general population.

Second, how will the fund be administered and who will get a payout? Many funds paying out to individuals base compensation on a table that sets a level of compensation for certain types of injuries to reduce the administrative burden of case-by-case adjudication.[163] For funds in the oil and coal industry that address environmental damage, the funds go directly toward projects mitigating the environmental harm caused by the industry. However, the details of how the fund disperses funds or grants can impact its ultimate implementation across the country.

Third, should the fund be the exclusive remedy or leave open private litigation? A fund can provide an exclusive remedy for compensation, or it could still allow tort suits by claimants.[164] Fourth, should there be a limit on liability? For example, Congress created the September 11th Victim Compensation Fund, in part, to avoid litigation that could bankrupt the airline industry.[165] As such, Congress limited tort recoveries outside the compensation fund to the amount of insurance coverage of the defendant airline.[166]

These four questions, among others, inform the federal climate change damages fund proposal in Part IV.

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155. *Id.* §15907(b)(2)(F).
156. *See* Leanna First-Arai, *Will Taxpayers Bear the Cost of Cleaning Up America's Abandoned Oil Wells?*, Guardian (Sept. 21, 2021, 6:00 PM), https://www.theguardian.com/environment/2021/sep/21/infrastructure-bill-taxpayers-oil-cleanup-costs.
157. Air Transportation Safety and System Stabilization Act, Pub. L. No. 107-42, 115 Stat. 230 (2001) (codified at 49 U.S.C. §40101 (2000 & Supp. 2005)); *see* Linda S. Mullenix & Kristen B. Stewart, *The September 11th Victim Compensation Fund: Fund Approaches to Resolving Mass Tort Litigation*, 9 Conn. Ins. L.J. 121, 123 (2002).
158. Air Transportation Safety and System Stabilization Act, Pub. L. No. 107-42, §405(c)(2), 115 Stat. 230, 239 (2001) (allowing claims on behalf of eligible decedents).
159. Mullenix & Stewart, *supra* note 157, at 128; 28 C.F.R. §§104.21(b)(5), 104.41-.46 (2006).
160. Farber, *supra* note 95, at 1617-18.
161. National Childhood Vaccine Injury Act of 1986, 42 U.S.C. §300aa (2000).
162. Longshore and Harbor Workers' Compensation Act (LHWCA), 33 U.S.C. §§900 et seq.
163. *See*, *e.g.*, 42 U.S.C. §§300aa-11(c)(1)(A) to 300aa-13(a)(1)(A) (creating Vaccine Injury Table); 28 C.F.R. §§104.21(b)(5), 104.41-.46 (2006) (creating schedules of compensation for economic and noneconomic losses).
164. *Compare* LHWCA, 33 U.S.C. §§900 et seq. (providing exclusive remedy for this type of occupational harm, provided the vessel owner was not negligent), *with* National Childhood Vaccine Injury Act of 1986, 42 U.S.C. §300aa (2000) (the compensation fund is not the exclusive remedy, but claimants must exhaust administrative claim process before filing a civil claim and cannot receive compensation from both the fund and a civil action); *see also* Mullenix & Stewart, *supra* note 157, at 135.
165. Farber, *supra* note 90, at 1107.
166. Air Transportation Safety and System Stabilization Act, Pub. L. No. 107-42, §§408, 201(b), 115 Stat. 230 (2001).

C. *Recent Legislative Proposals*

Recent legislative proposals indicate growing interest in a federal climate change damages fund and inform the proposal in Part IV. The Polluters Pay Climate Fund Act (PPCFA) and the Save Our Future Act of 2021—two recently proposed federal bills—are the most similar to the proposal. At the state level, legislators in New York State introduced the Climate Change Superfund Act in May 2022 that has similar goals to the statute proposed here. In addition, the Climate Protection and Justice Act of 2015, Environmental Justice for All Act, and Achieving Racial and Ethnic Equity in Disaster Response, Recovery, and Resilience Act all contain important language for incorporating environmental justice concerns and prioritizing climate justice.[167]

1. PPCFA

The PPCFA would impose a fee on fossil fuel companies for past emissions to create a climate fund to respond to the impacts of climate change. While the legislation is in the discussion draft stage and has not yet been introduced in Congress, it fleshes out key provisions of a climate change damages fund.[168] The PPCFA would apply to companies in the United States that extracted fossil fuels or refined petroleum at any point from 2000 to 2019 and are "responsible for at least 0.05 percent of the total global carbon dioxide and methane released into the atmosphere" during that time.[169]

According to a white paper about the PPCFA, only 25 to 30 companies would be held responsible under this definition.[170] For 10 years, these companies would pay in a total of $50 billion per year to the fund, with each individual company paying in based on the ratio of its share of carbon dioxide and methane emissions to the total emissions across all the companies covered by the PPCFA.[171] The Secretary of the Treasury, in consultation with the U.S. Environmental Protection Agency (EPA), would assess each company's share of emissions based on "publicly-reported data on the operations and production of the fossil fuel industry."[172] This is a no-fault compensation fund because companies do not pay into the fund based on negligence or wrongdoing, only based on the quantity of emissions.

The PPCFA includes statutory language to direct funds to communities that are vulnerable to climate change and that have experienced environmental injustice. The Act would ensure "[n]ot less than 40 percent of amounts appropriated from the Fund shall be directed towards environmental justice communities facing climate impacts."[173] The Act defines an "environmental justice community" as a "low-income or low-wealth community facing environmental injustice."[174] This includes communities located near polluting facilities, communities that experience higher incidence of climate change impacts and disasters, communities "excluded or harmed by racist or discriminatory policies that have resulted in economic, environmental, or health disparities," and indigenous communities, among others.[175]

While this language is promising for directing climate change funds to communities facing climate injustice and climate vulnerability, the draft text of the PPCFA does not include how the funding will be distributed to these communities and whether there will be outreach to these communities to ensure they are aware of the funds and have resources to apply for them.[176] In addition, the draft text of the PPCFA does not clearly delegate the Secretary of the Treasury or EPA authority to promulgate regulations to determine which communities receive funds.[177] Further, the PPCFA does not explain why the fossil fuel companies are being assessed for their activity from 2000 to 2019, rather than a longer period—especially since fossil fuel companies have been aware of climate change harms since 1965.[178]

The PPCFA also does not factor in present emissions into the fee on fossil fuel companies, missing an opportunity to have a deterrent effect as well as holding polluters accountable for past emissions. While the PPCFA provides an important framework, the proposal herein draws more heavily on CERCLA's NPL, other federal legislation, and lessons from FEMA climate resilience grantmaking.

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167. Polluters Pay Climate Fund Act of 2021 (PPCFA), *available at* https://www.vanhollen.senate.gov/imo/media/doc/Polluters%20Pay%20Climate%20Fund%20Act%20of%202021%20Discussion%20Draft.pdf; Save Our Futures Act, S. 2085, 117th Cong. (2021); Climate Change Superfund Act, S. 9417, 204th Leg. (N.Y. 2022); Climate Protection and Justice Act of 2015, S. 2399, 114th Cong.; Environmental Justice for All Act, H.R. 2021, 116th Cong. (2021); Achieving Racial and Ethnic Equity in Disaster Response, Recovery, and Resilience Act of 2020, S. 3658, 116th Cong.
168. Chris Van Hollen, Polluters Pay Climate Fund Act Discussion Draft Section-by-Section 1 (2021), https://www.vanhollen.senate.gov/imo/media/doc/Polluters%20Pay%20Climate%20Fund%20Act%20Section-by-Section1.pdf.
169. PPCFA §3(c)(3)(A)(iii), (d)(2) (2021), https://www.vanhollen.senate.gov/imo/media/doc/Polluters%20Pay%20Climate%20Fund%20Act%20of%202021%20Discussion%20Draft.pdf.
170. Chris Van Hollen et al., The Polluters Pay Climate Fund Act 2 (2021), https://www.vanhollen.senate.gov/imo/media/doc/Polluters%20Pay%20Climate%20Fund%20Act%20White%20Paper1.pdf.
171. PPCFA §3(b).
172. *Id*. §3(b)(2).
173. *Id*. §4(c).
174. *Id*. §4(d).
175. *Id*. §4(d)(2).
176. *See infra* Part IV (discussion of EPA funding to conduct outreach to communities experiencing environmental injustice and climate vulnerability).
177. Clear, explicit grants of regulatory authority to administrative agencies could reduce the likelihood a court will undercut the goal of the statute and agency authority by invoking the major questions doctrine. *See* Food & Drug Admin. v. Brown & Williamson Tobacco Corp., 529 U.S. 120, 159 (2000) (finding that *Chevron* deference to agencies is "premised on the theory that a statute's *ambiguity constitutes an implicit delegation* from Congress to the agency to fill in the statutory gaps," but for "extraordinary cases" there may be "reason to hesitate before concluding that Congress has intended such an implicit delegation") (emphasis added); *see also* Natasha Brunstein & Richard L. Revesz, *Mangling the Major Questions Doctrine*, 72 Admin. L. Rev. 317 (2022) (describing the major questions doctrine and how the Donald Trump Administration argued it should apply to the Clean Power Plan).
178. *But cf*. Lisa Friedman, *Democrats Seek $500 Billion in Climate Damages From Big Polluting Companies*, N.Y. Times (Aug. 4, 2021), https://www.nytimes.com/2021/08/04/climate/tax-polluting-companies-climate.html ("Aides to Mr. Van Hollen said the legislation aims to look back only as far as 2000 because older data is not considered as reliable or uniform.").

2. Save Our Future Act and Climate Protection and Justice Act

While the Save Our Future Act of 2021 does not explicitly create a climate fund, it features a pollution fee on fossil fuel companies that is directed to support a just transition from fossil fuels, including direct rebates to individuals and funds to environmental justice communities and "energy veterans"—fossil fuel industry workers and their communities. Unlike the PPCFA, the Save Our Future Act does not leverage a fee on past emissions, but establishes a fee on present and future fossil fuel emissions. The bill sponsors estimate that this fee will not only raise significant funds for climate change resilience and adaptation, but also decrease fossil fuel emissions in the United States by almost 50% over 10 years.[179]

This bill is similar to the Climate Protection and Justice Act of 2015, introduced by Sen. Bernie Sanders (I-Vt.). The Act also would have established a carbon pollution fee. This fee would have increased from $15 per metric ton of carbon in 2017 to $73 per metric ton by 2035.[180] Like the Save Our Future Act, these funds would go both to individual rebates to households—through a "Carbon Fee Rebate Fund"[181]—and grants to communities that are vulnerable to climate change and have been subject to environmental injustice.

The Climate Protection and Justice Act called on Congress to appropriate grant funds to "climate resiliency hotspot" communities that are "likely to experience climate impacts; traditionally unable to afford the management or mitigation of climate impacts; and likely to receive a high score" on the environmental justice study conducted by the Climate Justice Resiliency Council established by the Act.[182] It designated $20 billion per year to be appropriated for climate justice resiliency grants to benefit climate resiliency hot spot communities.

Here, the Climate Protection and Justice Act introduces an important concept developed in the proposal in Part IV. Mirroring the Act, the proposal would mandate that EPA create a score or metric of climate vulnerability and environmental injustice that is used to prioritize climate resilience funds from a fee on fossil fuel companies.

3. Climate Change Superfund Act [NY]

At the state level, the Climate Change Superfund Act, Senate Bill 9417, was introduced in the New York State Senate in May 2022. This bill, although unlikely to pass in the 2022 legislative session, would create a "climate change adaptation cost recovery program that will require companies that have contributed significantly to the buildup of climate change-driving greenhouse gases in the atmosphere to bear a proportionate share of the cost of infrastructure investments required to adapt to the impacts of climate change in New York state."[183]

Fossil fuel companies responsible for more than one billion tons of greenhouse gas emissions would pay into the fund, which would disburse funding for "climate change adaptive infrastructure projects" such as seawalls, hurricane recovery, upgrading stormwater drainage systems, and installing air-conditioning in schools.[184] The bill also calls on the New York State Department of Environmental Conservation to "ensure that at least thirty-five percent of the qualified expenditures from the program . . . go to climate change adaptive infrastructure projects that directly benefit disadvantaged communities."[185]

While the New York State bill has some components similar to the federal statute proposed here, it does not create a priorities list that would ensure that funding goes first and foremost to low-income communities and communities of color. In addition, the New York State bill only covers greenhouse gas emissions from 2000 to 2018, while the proposed statute covers a longer period of historical emissions and present and ongoing emissions. Overall, the New York State bill shows the growing public interest in a climate change damages fund, paid for by fossil fuel companies, that will help communities pay for climate change adaptation and resilience measures.

4. Climate Justice Bills

Several recently proposed federal bills further emphasize increasing focus on climate and environmental justice at the federal level. The Achieving Racial and Ethnic Equity in Disaster Response, Recovery, and Resilience Act, introduced in 2020, sought to establish an Office of Equal Rights and Community Inclusion within FEMA.[186] This office would be tasked with "eliminating racial, ethnic, and other underserved community disparities in the delivery of various preparedness, response, and recovery assistance."[187]

The Act would "establish an underserved community initiative to award grants and enter into cooperative agreements and contracts" with "local nonprofit entities," "national nonprofit organizations with experience administering programs in not fewer than 10 States," and "nonprofit organizations that are indigenous human services providers in underserved communities."[188] However, this

179. Press Release, Sen. Sheldon Whitehouse, Whitehouse & Schatz Introduce Save Our Future Act to Charge Big Polluters for Emissions, Redirect Trillions to American Families and Communities Harmed by Pollution (June 16, 2021), https://www.whitehouse.senate.gov/news/release/whitehouse-and-schatz-introduce-save-our-future-act-to-charge-big-polluters-for-emissions-redirect-trillions-to-american-families-and-communities-harmed-by-pollution.
180. Climate Protection and Justice Act of 2015, S. 2399, 114th Cong. §196.
181. *Id.* §102(c).
182. *Id.* §204(c), (i).
183. Climate Change Superfund Act, S. 9417, 204th Leg. §2 (N.Y. 2022); Maxine Joselow, *Bills in Blue States Target the Fossil Fuel Industry for Climate Damage*, Wash. Post (May 31, 2022), https://www.washingtonpost.com/politics/2022/05/31/bills-blue-states-target-fossil-fuel-industry-climate-damage.
184. Climate Change Superfund Act, S. 9417, 204th Leg. §3 (N.Y. 2022).
185. *Id.*
186. Achieving Racial and Ethnic Equity in Disaster Response, Recovery, and Resilience Act of 2020, S. 3658, 116th Cong. §529(b).
187. *Id.* §529(e).
188. *Id.*

Act does not specify how much would be allocated to this grant program, and does not call for a fee on the fossil fuel industry to fund this grant program.

Relatedly, the Environmental Justice for All Act, introduced in Congress in 2020 and 2021, focuses on support for environmental justice communities. This Act defines an "environmental justice community" as a "community with significant representation of communities of color, low-income communities, or Tribal and Indigenous communities, that experiences, or is at risk of experiencing[,] higher or more adverse human health or environmental effects."[189] Among many provisions to support environmental justice and civil rights, the Act creates grants for nonprofit, community-based organizations building capacity to address environment justice issues and a "Federal Energy Transition Economic Development Assistance Fund" to support a just transition for communities that were or are reliant on fossil fuel jobs.[190] The latter is financed by fees on mineral leasing on federal lands and federal onshore and offshore gas leases.[191]

Both of these Acts show the increasing focus on equitable response to climate change.

IV. Proposal for the Climate Resilience Fund Act of 2022

This part outlines a proposal for federal legislation for a climate change damages fund. This fund is called the Climate Resilience Fund (the Fund) because its primary purpose is to ensure fossil fuel companies pay the cost of building climate change resilience across the United States, especially for low-income communities and communities of color facing the brunt of climate and environmental injustice. The federal legislation proposed in this part would achieve several goals: ensure fossil fuel companies pay for the damages caused by their historical and present greenhouse gas emissions, target climate resilience funds to low-income communities and communities of color, and support the phaseout of fossil fuel use and production.

A. Key Statutory Provisions and Considerations

A central purpose of the Climate Resilience Fund Act of 2022 (CRFA) is to hold the fossil fuel industry accountable for the climate change damages harming communities around the United States, especially communities of color and low-income communities. To reduce future harm from climate change, the statute also includes an increasing fee on present-day greenhouse gas emissions to fund climate resilience projects and accelerate the phaseout of fossil fuel production and use. The statute's purposes section should expressly acknowledge this need to phase out fossil fuels and the responsibility of the fossil fuel industry for climate change. Another central purpose of the statute is to fund climate change adaptation and resilience at the local level through funding to local and tribal governments and community groups.

1. Fees and Funding

First, the Climate Resilience Fund will be financed by fees on manufacturers, producers, and importers of coal, natural gas, petroleum, petroleum products, and oil into interstate commerce in the United States.[192] Like other compensation funds in the fossil fuel industry, the CRFA will levy a fee on the responsible industry itself.[193] The fees levied on the fossil fuel industry will be in two parts—a fee for historical emissions and a fee for present emissions. These fees will be effective the year after the passage of the Act.[194]

If the Fund's balance goes below a specified amount for a fiscal year, a society-wide wealth tax will go into effect for that year to ensure continued funding for climate resilience projects. This specified amount should be determined by Congress through an assessment of the annual costs of climate adaptation across the United States.[195] This lower bound amount for the Fund's balance could be from $10 billion to more than $100 billion annually.[196]

Fossil fuel companies will pay into the Fund based on both historical and present emissions. The fee on historical emissions addresses the historical responsibility of companies that have emitted greenhouse gases that have led to present climate change impacts. The text of the CRFA should include a description of types of emissions that will be considered part of "historical emissions." First, the CRFA should specify that Scope 1 and Scope 3 emissions should be included in the calculation. Scope 1 emissions are direct operational emissions from extraction and production of oil, gas, and coal along with industry self-consumption of fuel, including flaring, venting, and methane releases.[197] Scope 3 emissions result from the downstream combustion of fossil fuels.[198]

The CRFA will also include in the text of the statute a fee for historical emissions on any company selling products in interstate commerce in the United States whose greenhouse gas emissions from 1965 to 2015 met or exceeded 0.05% of global greenhouse gas emissions in that time period.[199] Companies' fee burden for historical emissions will be equal to their total emissions in each year, from 1965 to 2015, multiplied by a price per ton of greenhouse gas emissions for that year. However, unlike the recent proposal for

189. Environmental Justice for All Act, H.R. 2021, 116th Cong. §3(9) (2021).
190. *Id.* §§16, 29.
191. *Id.* §28.

192. *See* Climate Protection and Justice Act of 2015, S. 2399, 114th Cong. §§194, 196.
193. *See* Congressional Research Service, *supra* note 143.
194. *See, e.g.*, Climate Protection and Justice Act of 2015, S. 2399, 114th Cong. §196.
195. *See, e.g.*, Frank Ackerman & Elizabeth A. Stanton, Natural Resources Defense Council, What We'll Pay if Global Warming Continues Unchecked (2008), https://www.nrdc.org/sites/default/files/cost.pdf.
196. *See* Fran Sussman et al., *Climate Change Adaptation Cost in the US: What Do We Know?*, 14 Climate Pol'y 242 (2014).
197. Griffin et al., *supra* note 136, at 5.
198. *Id.*
199. *See id.*; *see also* PPCFA §3(c)(3)(A)(iii), (d)(2).

the PPCFA, the total contribution for historical emissions to the Fund will not be capped at $50 billion across all companies covered by the statute. Within 18 months of the CRFA's passage, EPA, in coordination with the Treasury, will promulgate a rule to quantify companies' historical emissions for fee purposes.

The CRFA will also include in the text of the statute a minimum price per ton of greenhouse gas emissions for each year of historical emissions. This minimum price per ton may be based on the social cost of carbon, and will be applied to all greenhouse gases based on carbon dioxide equivalent content.[200] The social cost of carbon is a measure of the long-term damage from a ton of carbon dioxide emissions in a given year, in dollar value.[201] The statutory minimum price per ton will ensure that future presidential administrations cannot drastically lower the price per ton for historical emissions through regulation.[202]

Establishing a statutory minimum price per ton for historical greenhouse gas emissions may be contentious in the CRFA negotiation process. The statutory minimum may need to be set at a low-end estimate that would be revised upward through EPA regulation. The CRFA will also require EPA to promulgate a rule to identify the price per ton for each year of historical emissions covered by the CRFA, at a price greater than or equal to the statutory minimum price. EPA must promulgate this regulation within 18 months of the CRFA's passage.

One unique feature of the CRFA is that companies will be eligible for a reduction of their fee payment for historical emissions if they reduce their current emissions. The text of the CRFA will specify that the total fee burden for historical emissions will be divided up among four payments, once every five years. The first payment will be levied five years after the effective date of the CRFA fee section—the year after the Act's passage. The CRFA will also require that 70% of the total fee burden for historical emissions be levied in the first two payments. However, companies will pay reduced amounts depending on the extent of their emissions reductions during each five-year payment period.[203] The CRFA will authorize EPA to promulgate a regulation within 18 months of the Act's passage to quantify the reduction of historical fee burden based on present emissions reductions.

This structure would incentivize the largest historical greenhouse gas emitters to shift away from fossil fuel production upfront, rather than delaying emissions reductions. It aligns with the need for sharp greenhouse gas emissions reductions by 2030, as outlined in the U.S. nationally determined contribution and supported by climate science.[204] The structure will also help avoid some of the issues with insolvency—as seen in the asbestos industry following years of litigation. Companies that can rapidly phase out fossil fuel production may be able to avoid insolvency, while companies that cannot make this shift will face heavy fee burdens.

For present emissions, all fossil fuel companies—not just the largest emitters—will be subject to a fee. Like the Climate Protection and Justice Act of 2015, this fee will increase every year according to a schedule.[205] This fee alone will pressure a phaseout of fossil fuels. For the largest reductions in greenhouse gas emissions upfront, the fee could start at the Biden Administration's social cost of carbon—$51 per ton.[206]

However, this is much higher than the starting fee of $15 per ton in the Climate Protection and Justice Act.[207] A lower starting fee, closer to $15 per ton, may garner more industry and political support—a chance for the industry to survive insolvency during the transition to renewable energy. This lower fee could then be ratcheted up on a yearly basis to reach a projected social cost of carbon for 2030. In addition, Congress could commission a study on the costs of local climate adaptation through 2100 and the excess deaths and economic damages from climate change. This total figure could be used to adjust the annual fee per ton of carbon dioxide or carbon dioxide equivalent, increasing over time to achieve mitigation goals in addition to the Act's compensatory and resilience-building purposes.

200. The question of the price per ton of carbon dioxide for historical emissions for purposes of calculating a historical emissions fee could be the subject of another article.

201. In 2021, the Biden Administration set an interim social cost of carbon dioxide emissions at $51 per ton. Isabella Backmann, *Stanford Explainer: Social Cost of Carbon*, Stanford News (June 7, 2021), https://news.stanford.edu/2021/06/07/professors-explain-social-cost-carbon/. The Administration reinstated the Interagency Working Group on the Social Cost of Carbon to estimate an updated social cost of carbon dioxide that reflects intergenerational equity and environmental justice concerns. *See* Council of Economic Advisors, The White House, A Return to Science: Evidence-Based Estimates of the Benefits of Reducing Climate Pollution (Feb. 26, 2021), https://www.whitehouse.gov/cea/written-materials/2021/02/26/a-return-to-science-evidence-based-estimates-of-the-benefits-of-reducing-climate-pollution/.

202. *See, e.g.*, Backmann, *supra* note 201 (describing how the Trump Administration lowered the estimated social cost of carbon dioxide from $48 per ton under the Obama Administration to $3-5 per ton).

203. The question of how much the historic fee burden should be reduced based on present emissions reductions would require expert input and could be the subject of another article.

204. Fact Sheet, The White House, President Biden Sets 2030 Greenhouse Gas Pollution Reduction Target Aimed at Creating Good-Paying Union Jobs and Securing U.S. Leadership on Clean Energy Technologies (Apr. 22, 2021), https://www.whitehouse.gov/briefing-room/statements-releases/2021/04/22/fact-sheet-president-biden-sets-2030-greenhouse-gas-pollution-reduction-target-aimed-at-creating-good-paying-union-jobs-and-securing-u-s-leadership-on-clean-energy-technologies/; IPCC, *Summary for Policymakers*, *in* Global Warming of 1.5°C. An IPCC Special Report on the Impacts of Global Warming of 1.5°C Above Pre-Industrial Levels and Related Global Greenhouse Gas Emission Pathways, in the Context of Strengthening the Global Response to the Threat of Climate Change, Sustainable Development, and Efforts to Eradicate Poverty (Valérie Masson-Delmotte et al. eds., World Meteorological Organization 2018), https://www.ipcc.ch/site/assets/uploads/2018/10/SR15_SPM_version_stand_alone_LR.pdf.

205. *See*, *e.g.*, Climate Protection and Justice Act of 2015, S. 2399, 114th Cong. §196.

206. Jean Chemnick, *Cost of Carbon Pollution Pegged at $51 a Ton*, E&E News (Mar. 1, 2021), *available at* https://www.scientificamerican.com/article/cost-of-carbon-pollution-pegged-at-51-a-ton/. Methane and nitrous oxide emissions would also be subject to the fee, based on their carbon dioxide equivalent content. *See, e.g.*, Climate Protection and Justice Act of 2015, S. 2399, 114th Cong. §196 (levying carbon fee on greenhouse gases based on carbon dioxide content).

207. *But see* American Opportunity Carbon Fee Act, S. 1548, 114th Cong. §4691 (setting initial carbon fee closer to the social cost of carbon at the time, at $45 per ton).

Finally, the Fund will receive one additional source of funds beyond the historical and present greenhouse gas emissions fees. Without a fee on greenhouse gas emissions, fossil fuel companies have profited off fossil fuel extraction without paying the true cost of doing so. However, the companies have passed on a great deal of this profit to fossil fuel shareholders. While these profits for shareholders are difficult to claw back, the CRFA will include a capital gains tax on the sale or transfer of fossil fuel stocks. The funds from this capital gains tax will also pay into the Fund to support climate resilience projects.

2. Project Expenditures

Next, the CRFA will lay out how monies from the Fund will be distributed to promote equitable climate resilience. With Superfund as a model, the CRFA will create a climate adaptation priorities (CAP) list. This list will prioritize climate change adaptation and resilience measures rather than immediate disaster response. Disaster response will still be conducted by FEMA.[208] The CAP list is modelled after Superfund's NPL for hazardous waste cleanup.[209] EPA will conduct a study to establish a "climate vulnerability score" for each census tract in the United States.

The CRFA will require that EPA, within one year of enactment, conduct a climate justice study that shall score every census tract for climate vulnerability—taking into account demographics (inter alia, race, ethnicity, income, unemployment levels, levels of homeownership, rent burden, high transportation burden), public health indicators impacted by climate change in that census tract (i.e., asthma rates in a wildfire area, underlying conditions in a high heat burden area), climate impacts in the area (i.e., from sea-level rise, wildfires, drought), and preexisting climate adaptation or resilience measures (seawalls, urban heat mitigation).

This part of the CRFA could mirror or be integrated with the recently proposed Environmental Justice Mapping and Data Collection Act, which explicitly calls for the creation of an Environmental Justice Mapping Committee to

> investigate how further indicators of vulnerability to the impacts of climate change (including proximity and exposure to sea level rise, wildfire smoke, flooding, drought, rising average temperatures, extreme storms, and extreme heat, and financial burdens from flood and fire insurance) should be incorporated into the tool as an additional set of layers.[210]

Alternatively, the climate vulnerability score and any associated mapping tool could build on the beta version of the Biden Administration screening tool for climate and economic justice, which was released in February 2022 pursuant to Executive Order No. 14008, Tackling the Climate Crisis at Home and Abroad.[211]

The CRFA should also require EPA to establish a Climate Justice Consultation Committee that conducts outreach to climate-vulnerable communities to develop a methodology for climate vulnerability scores, to build into the tool an understanding of communities' lived experience with climate impacts, and to catalog community preferences for adaptation measures. In addition, the Committee will identify barriers for community-based groups and local and tribal governments to apply for and access grant funds under the CRFA. The Committee will develop a streamlined grant process and dedicate EPA staffing and resources to grant application support for community-based groups working in CAP list census tracts.

Ultimately, EPA will create a CAP list with census tracts that have the highest climate vulnerability scores. EPA will promulgate a rule to establish the climate vulnerability score cutoff to be on the CAP list. EPA will prioritize the allocation of funds raised by the CRFA to census tracts on the CAP list. The CRFA will include a deadline of 18 months for EPA to develop the CAP list. Acknowledging the substantial effort by EPA to create and administer the CRFA and the CAP list, the CRFA will include substantial agency funding so that EPA can dedicate staff time and resources to implementing the CRFA.

After the CAP list of census tracts has been established, EPA will fund grants for climate resilience projects. The CRFA will divide grants into two different funding streams: one for community-based organizations and the other for local and tribal governments. The CRFA will specify that community-based organizations providing services in that census tract on the CAP list will be able to apply for grants for projects that promote climate change adaptation and resilience ("climate resilience projects"). The organizations will need to provide a multi-year plan for the climate resilience project.[212] EPA should conduct outreach to community-based organizations in the census tracts on the CAP list about the grants and to offer grant-writing support.

Climate resilience projects could include, but are not limited to, "climate impact disaster adaptation and planning," a "seawall, levee, or other coastal flood mitigation effort," "lead and asbestos hazard reduction in homes with high flood, hurricane, or sea level rise exposure risk," air-conditioning units for low-income homes, urban greening to reduce urban heat islands, and flood planning and adaptation.[213] This program will support community-led climate adaptation by driving funding toward community-based climate and environmental justice groups.[214] Importantly,

208. FEMA, *Get Assistance After a Disaster*, https://www.fema.gov/assistance (last updated Sept. 24, 2021).
209. *See* 42 U.S.C. §9605(c).
210. Environmental Justice Mapping and Data Collection Act of 2021, H.R. 516, 117th Cong. §§4, 5(b)(2)(B).
211. Exec. Order No. 14008, 86 Fed. Reg. 7619 (Jan. 27, 2021).
212. *See* Climate Protection and Justice Act of 2015, S. 2399, 114th Cong. §204 (climate justice resiliency grant program).
213. *See id.* §204(f).
214. *See*, *e.g.*, Rosa Gonzalez, National Association of Climate Resilience Planners, Community-Drive Climate Resilience Planning: A Framework, Version 2.0 (2017), https://kresge.org/sites/default/files/library/community_drive_resilience_planning_from_movement_strategy_center.

the CAP list grants will not require cost-sharing by community-based organizations, to ensure that even community organizations with few monetary resources will be able to access climate resilience project grants.

Second, EPA will identify local and tribal governments to receive funding by aggregating climate vulnerability scores across census tracts in the locality or tribal lands, respectively. EPA will promulgate rules to establish this aggregation process. Local and tribal governments on the CAP list will be able to solicit funds for climate-resilient infrastructure in their locality or in conjunction with other localities.

This funding to localities and tribes would have some overlap with FEMA's BRIC program, which funds climate resilience projects.[215] However, the Fund provides additional financing to local resilient infrastructure, including upgrading stormwater systems, adding seawalls, incorporating flood mitigation, and updating bridges and roads.[216] This will be a much-needed boost, as the BRIC program does not have sufficient funds for the scale of climate adaptation needed in the United States. In addition, BRIC focuses on infrastructure projects, while the CRFA focuses on climate adaptation and resilience beyond just infrastructure.

Unlike the Save Our Future Act, the CRFA does not explicitly include economic revitalization funding for coal and power plant communities as part of the CAP list methodology. However, funding for a just transition for these communities should also be prioritized and could be included as a separate section of the CRFA bill.[217]

While the primary purpose of the Fund is to support climate change resilience projects, the Fund will also deliver cash rebates directly to families below a certain income threshold to address any potentially regressive effects of an upstream fee on fossil fuels.[218] This portion of the Fund will be covered exclusively by revenue from the present-day fee, rather than the historical greenhouse gas emissions fee or the capital gains tax on fossil fuel stock transactions. Thus, as fossil fuels are phased out of the economy, the cash rebate from the fee will diminish, but funds for climate adaptation projects at the community, local, and tribal government levels will remain.

3. Industry Indemnification

The CRFA will also have to decide whether fossil fuel companies receive protection from liability in climate change damages litigation. This is likely to be one of the most contentious issues in the CRFA legislation—mirroring the fierce debate about liability protection in the proposed federal legislation for a tobacco litigation settlement.[219] Recent proposals—the PPCFA and the Save Our Future Act—do not preempt any litigation against fossil fuel companies for damages.

Ideally, the CRFA would also not contain any liability protection for the fossil fuel industry, so state and local climate change damages lawsuits could proceed. In addition, there is perhaps no level of indemnification that could induce the fossil fuel industry to support the CRFA. In that case, there is no need to offer the industry this carrot. However, in the tobacco litigation settlement process, the promise of some level of liability protection brought the tobacco industry to the negotiating table. Ultimately, this first version of the CRFA should not include liability protection—the strongest negotiating position for climate resilience.

If necessary to ensure the Act's passage, the CRFA could take a middle ground in the liability protection issue by offering some legal protection to the fossil fuel industry. Since the Act imposes a fee on historical emissions, it could protect the fossil fuel industry from suit for climate damages incurred prior to the passage of the bill. However, the statute could leave open future liability for damages under state tort and unfair competition laws.[220]

As climate change impacts intensify in the coming years, the vast majority of fossil fuel damages are yet to come. Thus, indemnification for past liability may be of little interest and importance to fossil fuel companies. The fossil fuel industry is likely to push for full indemnification from suit or a cap on damages from tort and consumer protection statute litigation at the state and local levels. The latter, a cap on future damages tied to inflation, is preferable to full indemnification of the industry in future lawsuits.

If Congress were to—carefully and warily—consider greater indemnification of the industry, they should hinge it on a company's years of successful payment into the Fund. For example, if the company successfully pays into the Fund for 20 years—both their historical emissions fee (if applicable) and present emissions fee—then they would qualify for indemnification from suit. As in the tobacco legislation process, legislators should "question[ ] the fairness, wisdom, and ethics of legal protections for an industry which, all agree[ ], ha[s] wrought tremendous harm to society."[221] If Congress can muster enough support for

pdf; *see also* UPROSE, *Climate Justice Center*, https://www.uprose.org/climate-justice (last visited July 22, 2022).

215. FEMA, *Building Resilient Infrastructure and Communities*, https://www.fema.gov/grants/mitigation/building-resilient-infrastructure-communities (last updated June 6, 2022).

216. See *infra* Section IV.E, for a discussion of overlap between the CRFA and FEMA's programs.

217. *See* Fact Sheet, The White House, Biden Administration Outlines Key Resources to Invest in Coal and Power Plant Community Economic Revitalization (Apr. 23, 2021), https://www.whitehouse.gov/briefing-room/statements-releases/2021/04/23/fact-sheet-biden-administration-outlines-key-resources-to-invest-in-coal-and-power-plant-community-economic-revitalization/.

218. *See* Climate Protection and Justice Act of 2015, S. 2399, 114th Cong. §102.

219. *See infra* Section II.C.

220. *See*, *e.g.*, Mayor & City Council of Balt. v. BP P.L.C., 388 F. Supp. 3d 538, 49 ELR 20102 (D. Md. 2019), *as amended* (June 20, 2019), *aff'd*, 952 F.3d 452, 50 ELR 20051 (4th Cir. 2020), *cert. granted*, 141 S. Ct. 222 (2020) (complaint against fossil fuel majors with state-law tort and products liability claims); *see also* Bloch et al., *supra* note 97, at 492-93 (describing President Bill Clinton's conflict over liability for tobacco companies in the legislative settlement).

221. Bloch et al., *supra* note 97, at 491.

the CRFA with no indemnification, they should seek to achieve that given the destruction the fossil fuel industry has wrought.

4. Administration

The CRFA will clearly specify the role of both EPA and the Secretary of the Treasury in administering the Fund. For CERCLA and other laws that involve trust funds, the Secretary of the Treasury typically oversees expenditures from the fund.[222] In addition, in other proposed greenhouse gas fee legislation, the Treasury, in consultation with EPA, sets and imposes the yearly fee on greenhouse gas emissions.[223] The CRFA will specify that EPA will be responsible for establishing criteria for grants from the Fund and consulting with the Secretary of the Treasury on the fee imposed for present emissions. EPA is also responsible for establishing which fossil fuel companies are also subject to the fee on historical emissions and the price per ton for historical emissions. The Treasury will then collect the historical emissions fee from the companies for the Fund.

As a whole, the CRFA should follow legislative drafting best practices. First, the statute should clearly delegate authority to EPA to promulgate regulations pursuant to the statute, especially for EPA grants from the Fund and to design the CAP list. The statute should include a broad delegation of authority as well as more detailed statements indicating each provision of the statute for which regulations will be needed to implement that part of the statute.[224] Naturally, the CRFA text will include a severability clause indicating that if one provision in the statute is found unconstitutional, that provision should be struck down, but the rest of the statute will remain in effect.

B. What Makes This Proposal Unique?

Unlike existing proposed legislation or suggestions in the literature, the CRFA will create a CAP list to prioritize climate resilience funds to low-income communities and communities of color, by census tract. The CAP list is modelled on CERCLA's NPL. No past suggestions in the literature or proposals for a climate compensation fund have called for a CAP list inspired by CERCLA's NPL. This CAP list is also explicitly based on climate and environmental justice priorities.

The CRFA centers climate justice in the very text of the statute and would be one of the first pieces of federal legislation to do so, if passed. The CRFA puts funds for climate resilience in the hands of community groups, local governments, and tribal governments instead of focusing on state-led plans. Further, the CAP list explicitly prioritizes climate adaption funding to the most climate-vulnerable communities—low-income communities and communities of color. This design of the CRFA anticipates and circumvents how federal funding programs—like those disaster relief funds administered by FEMA—tend to favor white, wealthier people who apply for disaster relief.[225]

The CRFA brings together ideas from recent proposed legislation. It will levy a fee on fossil fuel companies for historical and present emissions in order to fund community- and local-led climate change resilience and adaptation while driving a reduction in greenhouse gas emissions over time. This statute has a novel mechanism for encouraging rapid drawdown of present greenhouse gas emissions—a reduction in payment for historical emissions. In addition, the statute proposes capital gains tax on fossil fuel stocks to contribute to the Fund. As one scholar noted, a fee on historical emissions is more feasible now as "[t]racing climate harms to [companies'] actions, while levying them for their contributions to the problem, is no longer a complicated and onerous task."[226]

In addition, this proposal is the first to combine compensation for historical emissions and a present-day fee on emissions. Other federal statutes creating funds like this one have not called for a phaseout of the activities causing the harm. Even CERCLA does not call for an end to the production of hazardous waste, even as it funds and supports waste cleanup through Superfund. Similarly, neither the Black Lung Disability Trust Fund nor the AML Reclamation Program call for the phaseout of coal mining.

The purpose of this Fund is to support a just transition away from fossil fuels, paid for by the polluting industry. The Fund compels the fossil fuel industry to directly compensate those facing damages of climate change in the United States (especially localities, communities of color, and low-income people) through funding for climate resilience projects and direct payments. In addition, the Fund anticipates that the greenhouse gas emissions fee will eventually be insufficient to finance the Fund as fossil fuels become obsolete. The CRFA thus includes a fallback wealth tax to continue to fund climate adaptation projects.

Overall, the CRFA ties together climate change mitigation (a fee on present-day emissions to incentivize a shift away from fossil fuels) with climate change adaptation (fees from present and historical emissions to fund local adaptation and resilience projects).

C. What Are the Potential Pitfalls of a Federal Statutory Response?

Primarily, the pitfalls of a federal statutory response are political and practical. With U.S. Senate filibuster rules as they exist and a slim Democratic majority in the U.S. House of Representatives as of this writing, the CRFA is

222. *See* 26 U.S.C. §9507.

223. *See*, *e.g.*, Climate Protection and Justice Act of 2015, S. 2399, 114th Cong. §196.

224. *See supra* note 177 (discussing how clear and explicit delegation could help avoid a court applying the major questions doctrine to undermine the Act).

225. Rebecca Hersher & Robert Benincasa, *How Federal Disaster Money Favors the Rich*, NPR (Mar. 5, 2019, 5:00 AM), https://www.npr.org/2019/03/05/688786177/how-federal-disaster-money-favors-the-rich (summarizing how wealthier, white homeowners and renters can more successfully apply for and receive FEMA funding after a disaster).

226. Lyster, *supra* note 107, at 320.

unlikely to be a politically viable option in the near future. Without filibuster reform, it seems unlikely that both houses of Congress would pass the CRFA.

Moreover, the CRFA may have less support from some Democrats than a more bipartisan-focused or moderate effort, such as climate change infrastructure spending. The CRFA directly targets a tax on a powerful industry that has a cadre of lobbyists on hand to block legislation. Moreover, the CRFA targets climate change funding to the most climate-vulnerable. Less climate-vulnerable communities with a greater proportion of white and/or wealthy people may potentially object to the CRFA, as it is less likely to benefit their communities.

Second, the question of a fossil fuel industry liability protection threatens the political coalition that may support the CRFA. In addition, future administrations could try to undermine greenhouse gas emissions fees from the CRFA or otherwise defund the program, rendering it ineffective. Certainly, any liability protection for the fossil fuel industry in the CRFA would need to be conditioned on yearly payments into the Fund. Lawmakers considering the CRFA should investigate the extent to which any element of liability protection could ensure the bill's passage, and the consequences of such protection for the fossil fuel industry.

Third, the CRFA may face administrative challenges similar to those facing federal disaster relief and CERCLA. EPA will need to focus on avoiding inequities that emerged in CERCLA, where wealthier, whiter, more organized communities were prioritized for cleanup, at least in early years of the program.[227] As described in Part I, disaster relief has often advantaged white, wealthy homeowners.

Fourth, the CRFA could face legal challenges akin to those CERCLA faced early on. The CRFA avoids many of CERCLA's legal battles because it is structured as a no-fault compensation fund that is financed by an upstream tax on the fossil fuel industry. Thus, there is limited question as to who are the "potentially responsible parties," as companies will pay into the Fund based on current and historical greenhouse gas emissions based on data that are readily available, especially for large polluters.[228] Like CERCLA, the CRFA may face a retroactivity challenge because of its fee on historical emissions; however, like CERCLA, the CRFA calls for funding for actions taken after the Act's passage.[229] For CERCLA, "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."[230]

The Supreme Court also rejected a due process challenge to the Black Lung Benefits Act of 1972. Although the Act imposed new liability for injuries prior to enactment, it was "justified as a rational measure to spread the costs of the employees' disabilities to those who have profited from the fruits of their labor."[231] Overall "[t]he Due Process Clause of the Fourteenth Amendment generally does not prohibit retrospective civil legislation, unless the consequences are particularly 'harsh and oppressive.'"[232] These precedents suggest that the CRFA would be upheld in court.

D. *Why Should the Fossil Fuel Industry Cover the Cost of the Fund?*

One potential criticism against the CRFA is that the general population of the United States has been complicit in the extraction and consumption of fossil fuels through individual fossil fuel use, and thus the general population should bear the costs of climate change adaptation and resilience funding through a society-wide progressive tax. This criticism obscures how fossil fuel companies have promoted their products despite knowledge of their harms and have spread climate misinformation to perpetuate a fossil fuel-based energy system.[233] The CRFA seeks to hold the fossil fuel industry accountable for the harms they have knowingly caused.

In addition, the CRFA explicitly acknowledges the need to phase out fossil fuel energy to avoid the worst impacts of climate change. A fee on the fossil fuel industry on a per-ton-of-carbon-dioxide basis will drive the shift away from fossil fuels as it pays for the damages of climate change to communities and localities. However, the CRFA acknowledges that the fossil fuel industry alone may not be able to cover the costs of adaptation, which is why the proposal includes a wealth tax to fund climate adaptation if the fee alone cannot cover adaptation expenses.

227. Martin Burda & Matthew Harding, *Environmental Justice: Evidence From Superfund Cleanup Durations*, 107 J. Econ. Behav. & Org. 380 (2014).

228. *See* Kyle E. McSlarrow et al., *A Decade of Superfund Litigation: CERCLA Case Law From 1981-1991*, 21 ELR 10367 (July 1991) (describing CERCLA litigation); *see also* Burlington N. & Santa Fe Ry. Co. v. United States, 556 U.S. 599, 39 ELR 20098 (2009) (one of many CERCLA lawsuits defining who can be considered a potentially responsible party for a hazardous waste cleanup).

229. *See* United States v. Monsanto Co., 858 F.2d 160, 173, 19 ELR 20085 (4th Cir. 1988):

> The district court held that CERCLA does not create retroactive liability, but imposes a prospective obligation for the post-enactment environmental consequences of the defendants' past acts. Alternatively, the court held that even if CERCLA is understood to operate retroactively, it nonetheless satisfies the dictates of due process because its liability scheme is rationally related to a valid legislative purpose.

230. *Id.* at 174.

231. Usery v. Turner Elkhorn Mining Co., 428 U.S. 1, 18 (1976).

232. U.S. Tr. Co. of N.Y. v. New Jersey, 431 U.S. 1, 17 (1977) (citing Welch v. Henry, 305 U.S. 134 (1938)).

233. *See, e.g.*, Kathy Mulvey & Seth Shulman, Union of Concerned Scientists, The Climate Deception Dossiers: Internal Fossil Fuel Industry Memos Reveal Decades of Corporate Disinformation (2015), https://www.ucsusa.org/sites/default/files/attach/2015/07/The-Climate-Deception-Dossiers.pdf.

E. Why Not Just Increase Funding to Existing Programs?

Existing programs are not designed to center on environmental and climate justice in community- and local-led climate change adaptation. At the federal level, the Department of Housing and Urban Development (HUD) has $16 billion of funding for community block grants for climate resilience initiatives in places that have experienced presidentially declared disasters from 2015 to 2017.[234] However, this only applies to a narrow range of areas, and does not ensure that the block grant funding goes to the most climate-vulnerable communities. FEMA already has the BRIC program, created in 2017 in the aftermath of Hurricanes Harvey, Irma, and Maria and some of the worst California wildfires on record.[235]

However, the structure of BRIC places power in the hands of the "applicants"—states, tribal governments, territories, and the District of Columbia.[236] While this may support federally recognized tribal governments, local governments and unrecognized tribal governments are "sub-applicants" that must seek approval from the applicant for their proposed climate adaptation activities.[237] Community-based groups are not allowed to apply for BRIC funding directly.[238] While the Biden Administration is planning to make up to $3.7 billion available for BRIC grants, this funding would not change the structure of BRIC to empower community-based groups, localities, and tribes to lead on climate change adaptation.[239]

In addition, FEMA has recently been under scrutiny for racial and socioeconomic inequities in funding disaster preparedness and resilience projects.[240] Stakeholders have expressed concerns that BRIC does not well support small, impoverished, or rural communities.[241] In November 2020, the FEMA National Advisory Council issued a report calling on FEMA to, "by the end of 2021, create an 'equity standard' by which to judge whether grants (both disaster and non-disaster) increase or decrease equity over time." The report also calls on FEMA to "identify and incorporate equity-based performance measures into the process and support the importance of breaking data down by race/income/etc., where possible" and "incorporate social and physical determinants of health, as defined by CDC and Healthy People 2030, into funding decision-making matrices."[242] The CRFA proposal prioritizes climate change adaptation and resilience funds to low-income communities and communities of color by statutory design, not only by the agency's initiative.

The infrastructure bill passed in December 2021 does include some funding for climate resilience. President Biden's infrastructure plan

> will invest in vulnerable communities through a range of programs, including FEMA's Building Resilient Infrastructure and Communities program, HUD's Community Development Block Grant program, new initiatives at the Department of Transportation, a bipartisan tax credit to provide incentives to low- and middle-income families and to small businesses to invest in disaster resilience, and transition and relocation assistance to support community-led transitions for the most vulnerable tribal communities.[243]

President Biden is also "proposing to restore payments from polluters into the Superfund Trust Fund so that polluting industries help fairly cover the cost of cleanups."[244]

As described previously, HUD and FEMA programs will not meet the pressing need for climate adaptation and resilience projects in the coming decades. In addition, none of these programs would create anything like the CAP list proposed as part of the CRFA—a list that would prioritize funds to low-income communities and communities of color for community, local, and tribal climate resilience projects.

F. Global Climate Justice Critiques

The CRFA as proposed here does not provide compensation from the United States to countries or individuals in Africa, South and Central America, and Oceania for damages from climate change. Thus, the CRFA does not fully address global climate justice and wealthy nations' responsibility for climate change damages worldwide. As of 2020, the United States is responsible for 15% of global carbon dioxide emissions since the 1700s, yet the burden of climate change adaptation falls most heavily on people in low- and middle-income countries that have contributed only a minimal percentage of greenhouse gas emissions causing climate change.[245]

Some have called for climate reparations for the injuries the United States and other developed nations' fossil fuel

234. Morrison, *supra* note 30.
235. FEMA, *supra* note 215; Christopher Flavelle, *New U.S. Strategy Would Quickly Free Billions in Climate Funds*, N.Y. Times (Jan. 25, 2021), https://www.nytimes.com/2021/01/25/climate/fema-climate-spending-biden.html.
236. FEMA, *Before You Apply for Building Resilient Infrastructure and Communities (BRIC) Funds*, https://www.fema.gov/grants/mitigation/building-resilient-infrastructure-communities/before-apply (last updated Nov. 12, 2021).
237. *Id.*
238. *Id.*
239. Flavelle, *supra* note 235.
240. Thomas Frank, *Advisers Rebuke FEMA for Racial Disparities in Disaster Aid*, E&E News (Jan. 7, 2021), *available at* https://www.scientificamerican.com/article/advisers-rebuke-fema-for-racial-disparities-in-disaster-aid/.
241. Congressional Research Service, FEMA Pre-Disaster Mitigation: The Building Resilient Infrastructure and Communities (BRIC) Program 3 (2021), https://crsreports.congress.gov/product/pdf/IN/IN11515.
242. National Advisory Council, Report to the FEMA Administrator 13 (2020), https://www.fema.gov/sites/default/files/documents/fema_nac-report_11-2020.pdf.
243. Fact Sheet, The White House, The American Jobs Plan (Mar. 31, 2021), https://www.whitehouse.gov/briefing-room/statements-releases/2021/03/31/fact-sheet-the-american-jobs-plan/.
244. *Id.*
245. *Each Country's Share of CO_2 Emissions*, Union Concerned Scientists (Jan. 14, 2022), https://www.ucsusa.org/resources/each-countrys-share-co2-emissions; United Nations Environment Programme, Adaptation Gap Report 2020 (2021).

exploitation has wrought on developing nations.[246] Rosemary Lyster, among others, has advocated for a "Climate Disaster Response Fund" established under the United Nations Framework Convention on Climate Change's Warsaw International Mechanism for Loss and Damage Associated With Climate Change Impacts, financed by the top 200 fossil fuel companies and directed toward low-income and island nations that have contributed little to climate change, but face the most severe impacts.[247] Maxine Burkett has highlighted the efforts of the Alliance of Small Island States to create a funding mechanism for loss and damages from climate change, and proposed a framework for creating a compensation mechanism.[248]

A global climate change damages fund is beyond the scope of the proposal here, which focuses on U.S. domestic climate change resilience funding. Notably, the greenhouse gas emissions fee funding the CRFA would contribute to the mitigation of climate change, which could reduce, although certainly not eliminate, climate adaptation costs worldwide over the next century.

V. Conclusion

We are already living in an unsafe, unstable climate system. As we fight to mitigate climate change, we also need to prepare for the impacts of climate change we are already seeing and will continue to see. As Farber described in his article 14 years ago, "although the details would be complex, it seems clear that a feasible system [for climate change compensation] could be designed . . . . Thus, the real question is not whether such a system would be practical, but whether we have the will to establish it."[249]

I was 13 years old when Farber wrote these words. Since then, I have watched our country fumble, time and time again, at chances to meaningfully mitigate climate change, achieve a just transition to renewable energy, and ensure equitable climate change adaptation.[250] In 2011, I saw then-Tropical Storm Irene devastate communities nearby where I grew up in upstate New York. I witnessed the aftermath—homes washed away, the flood watermark up to my head inside ruined buildings in Middleburgh and Schoharie, New York. Now, I fear we have locked ourselves into these climate change impacts to which we will struggle to adapt, for which the fossil fuel industry has yet to pay. And these impacts are not borne evenly—they fall heavily on low-income communities and communities of color.

It is time for the fossil fuel industry to pay, to contribute directly to climate resilience and make climate change damage payments. Lyster emphasized how "it is no longer equitable to expect governments to be the primary financiers of disaster relief, as it absolves the private sector of its responsibility for contributing to the large pollution problem and provides no incentive to change any 'business as usual' practices."[251] If fossil fuel companies do not pay, we will—especially low-income, frontline communities that bear the brunt of climate impacts.

The fossil fuel industry is facing proliferating tort litigation for climate change damages, increasing pressure and financial incentives to shift to renewable energy, and collective, societal reckoning with how little time remains to rapidly decarbonize or face catastrophic climate impacts. It is time for the industry to read the writing on the wall—they will pay for the damage of climate change, and the question is: how? At this moment, the fossil fuel industry thinks it can continue to delay climate change damages litigation long enough to continue to extract profit from fossil fuel reserves, and as such prefers to continue the procedural acrobatics in the court system.

However, as our climate edges closer to a tipping point, perhaps climate litigation is reaching a tipping point as well. There may now be enough momentum to hold the fossil fuel industry accountable. There may be enough public motivation to push for a legislative response that will provide communities compensation for climate damages while holding the fossil fuel industry accountable for the harm they have caused. As communities struggle to adapt to the intensifying effects of climate change, as the tides are rising toward us, we may just have the will for change.

246. Maxine Burkett, *Climate Reparations*, 10 Melbourne J. Int'l L. 509 (2009).

247. Rosemary Lyster, *A Fossil Fuel-Funded Climate Disaster Response Fund Under the Warsaw International Mechanism for Loss and Damage Associated With Climate Change Impacts*, 4 Transnat'l Env't L. 125, 146-47 (2015); *see also* Farber, *supra* note 95 (describing mechanisms for climate damages compensation for low-income countries).

248. Burkett, *supra* note 107.

249. Farber, *The Case for Climate Compensation*, *supra* note 108, at 412.

250. As this Article went to press in August 2022, the House and Senate passed the Inflation Reduction Act, the largest climate change bill in U.S. history. This Act will drive significant reductions in greenhouse gas emissions while lowering energy costs for consumers. *See* An Act to Provide for Reconciliation Pursuant to Title II of S. Con. Res. 14 (Inflation Reduction Act), H.R. 5376, 117th Cong. (2022); *see also* Earthjustice, *What the Inflation Reduction Act Means for Climate* (Aug. 12, 2022), https://earthjustice.org/brief/2022/what-the-inflation-reduction-act-means-for-climate (summary of some major provisions of the Inflation Reduction Act).

While the Act includes $2.8 billion in environmental and climate justice block grants, it falls far short of the funding for community-led climate change adaptation and resilience that would be raised by the CRFA. Inflation Reduction Act, H.R. 5376, 117th Cong. §60201 (2022). Further, the Act does not ensure that fossil fuel companies pay for the costs of climate adaptation that fall on low-income communities and communities of color. Climate Justice Alliance opposed the Act because it insufficiently supports climate and environmental justice and will drive greater fossil fuel production in frontline communities. *Id.* §§50261, 50262, 50264, 50265 (provisions driving expansion of fossil fuel production); Press Release, Climate Justice Alliance, The Inflation Reduction Act Is Not a Climate Justice Bill (Aug. 6, 2022), https://climatejusticealliance.org/the-inflation-reduction-act-is-not-a-climate-justice-bill/.

251. Lyster, *supra* note 107, at 344.