U.S. Climate Change Law: A Decade of Flux and an Uncertain Future

Cinnamon P. Carlarne
Moritz College of Law, The Ohio State University, carlarne.1@osu.edu

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U.S. CLIMATE CHANGE LAW: A DECADE OF FLUX AND AN UNCERTAIN FUTURE

CINNAMON P. CARLARNE*

Climate change is a defining feature of contemporary existence. It also poses fundamental challenges to the rule of law. As the scale of the climate crises swells, so too do efforts to develop innovative strategies for addressing climate change at the local, state, and national levels. This innovation is driven by necessity and is fueled by creative and determined actors from across the public and private sectors. But the pace of legal innovation is uneven, and the consistency of political leadership is erratic. Nowhere is this more evident than at the federal level in the United States, where presidential politics vividly demonstrate the degree to which we still lack a collective national vision for how to respond to climate change.

In this Article, I argue that as important as presidential leadership is, lawmakers and scholars should not focus myopically on the vagaries of presidential climate politics and federal climate law. Between 2009 and 2019, the United States elected the most climate-friendly president in U.S. history and then replaced him with the most climate-skeptical president in U.S. history. Within this dramatic decade, notwithstanding the fluxes and flows in legal development at the federal level, there has been a steady stream of legal innovation by subnational and non-state actors. The interactions between national, subnational, and non-state climate governance efforts are one of the most under-explored dimensions of domestic climate change law. This Article addresses this gap by examining key developments in U.S. climate change law and policy over the period 2009 to 2019, to reveal how subnational and non-state initiatives complement and constrain the development of national climate change law and policy over time.

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INTRODUCTION

Climate change is the inescapable backdrop and impending horizon for contemporary existence. The reality of anthropogenic climate change is no longer subject to scientific debate. Greenhouse gases are accumulating in the atmosphere and the climate is warming. The question is not whether anthropogenic forcing of the climate system is occurring, but rather, what do we want to do about it and what is the role of law in this regard.¹

The experienced and anticipated effects of climate change are pervasive. All states, from the greatest superpowers to the tiniest, lowest lying islands, are affected by climate change. The resulting political debate over how to limit and respond to climate change is ubiquitous. Yet the substance and outcome of this debate continues to vary widely across and within states. The nature of the debate and the contours of legal responses vary not only as a result of the usual socio-legal factors that shape legal systems,² but also because climate change poses unique challenges that test the ingenuity of lawmakers and the capacity of the rule of law.³ As Fisher, Scotford, and Barritt explain, “[c]limate change gives rise to disputes and problems not easily addressed by existing legal doctrines and frameworks.”⁴ Consequently, creative legal efforts to respond to climate change have proliferated and so, too, has the body of climate law scholarship exploring these anticipated, avoided, and actual legal responses.


². See, e.g., CINNAMON PINON CARLARNE, CLIMATE CHANGE LAW AND POLICY: EU AND US APPROACHES 16 (2010).

³. See Elizabeth Fisher, Environmental Law as ‘Hot Law’, 25 J. ENVTL. L. 347, 347–48, 352 (2013) (“[W]hat we commonly understand as ‘environmental law’ is directly concerned with ‘hot situations’ in which the agreed frames, legal and otherwise, for how we understand and act in the world are in a constant state of flux and contestation. As such, environmental law stands in stark contrast to those areas of law where actors, interests, preferences, and thus rights and responsibilities, can be easily identified and thus workable frames of legal action can operate.” (footnote omitted)).

In common with the legal system itself, even as climate law scholarship has matured,\(^5\) it has struggled to conceptualize and respond to the disruptive nature of climate change. Climate law scholarship has expanded to consider increasingly numerous and complex questions related to everything from deforestation, adaptation, loss and damage to renewable portfolio standards, feed-in-tariffs, carbon sequestration, and solar radiation management. This scholarship contributes to efforts to conceptualize and respond to the discrete drivers and consequences of climate change, and it advances the “inevitably incremental and fragmented hard work of whittling away at the challenges climate change poses.”\(^6\) Even as scholars unravel and parse the multitude of legal challenges to which climate change gives rise, there is a continuing need for more comprehensive analyses of how the multitude of multi-level, multi-scale efforts to respond to climate change add up, how they are evolving or eroding, as the case may be and what this means for conceptualizing our ability to use law to create societies capable of minimizing the extent of climate change and thriving within an inevitably warmer and more variable climate. This Article builds on past work to help advance this line of analysis.

Just over a decade ago, in a 2008 article, *Notes from a Climate Change Pressure-Cooker: Sub-Federal Attempts at Transformation Meet National Resistance in the USA*,\(^7\) I examined the state of U.S. climate change law and policy during the waning hours of President George W. Bush’s Administration. At the time, the article offered one of the earliest reviews of U.S. climate change law at multiple levels of governance and provided insight into how federal abdication of leadership was prompting a variety of efforts on the part of subnational and non-state actors to respond to climate change. In particular, the article explored the extent to which local, national, and international law were being used to “overcome federal resistance” and “force legal transformations in climate change policy-making in America.”\(^8\)


\(^8\) *Id.* at 1351.
In 2008, the state of U.S. climate change law at the federal level looked bleak, but there were glimmers of hope. Progressive states, such as California, were developing comprehensive strategies to address climate change and, in the process, were pressuring Congress and the President to act on climate change. States, cities, and non-governmental organizations (NGOs) were drawing on a long history of social activism and adversarial legalism\(^9\) to find political, common law, and statutory footholds to prompt climate action. Equally, efforts to restructure the historically entrenched, vertically integrated, monopoly-driven U.S. electricity system so as to allow greater competition and more entry points for clean energy were picking up pace.\(^10\) It was a tumultuous period. The United States lacked any form of federal climate legislation and, really, any firm basis for crafting a national legal response to climate change, but diverse and creative efforts were afoot to create the foundations for a federal climate change policy by hook or by crook. In the ensuing decade, much has changed, but much remains the same.

Between 2009 and 2019, the United States elected the most climate-friendly president in U.S. history and then replaced him with the most climate-skeptic president in U.S. history. Within this dramatic decade, notwithstanding the fluxes and flows at the federal level, there has been a steady stream of social, technical, and legal innovation spurring the kind of dispersed, persistent, multi-level change necessary to build the backbone for a society that is capable of persisting, if not ultimately thriving, in a warmer world. These ongoing transformations, alone, are not enough to limit long-term changes in the climate system.\(^11\) Much more is needed. Yet


\(^{11}\) See, e.g., Myles Allen et al., INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, GLOBAL WARMING OF 1.5°C: SUMMARY FOR POLICYMAKERS 7 (Valérie Masson Delmotte et al. eds., 2018), https://www.ipcc.ch/sr15/pdf/sr15_spm_final.pdf [https://perma.cc/YFF8-SH6E]. This report details the varying risks of keeping warming to 1.5°C versus 2°C above pre-industrial levels and outlines the steps that would need to be taken to keep warming to 1.5°C above pre-industrial levels, as well as the short timeframe remaining in which to take the steps to do so. See INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, GLOBAL WARMING OF 1.5°C: HEADLINE STATEMENTS FROM THE
the changes taking place are significant, and the aggregate impact of ongoing legal developments requires more rigorous assessment.

This Article contributes to that work. It complements the maturing body of climate scholarship by tracing the key trends in U.S. climate change law and policy over the period 2009 to 2019 to reveal how legal developments by subnational and non-state actors intersect with and influence national climate policy. In doing so, it examines the extent to which the “complicated picture of pushes and pulls—of stagnation and resistance to change at the top” and “innovation and pressure for progress from below” that characterized the state of play in 2008 has spawned legal change and innovation that could enable the emergence of a multidimensional rule of law around climate change in the United States.

The objective of this Article is not to create a granular picture of every legal development that directly or indirectly intersects with climate change. Perhaps as testament to the rapid growth of climate law, that exercise would be too discursive to be helpful. Instead, the objective is to explore the dominant trends that characterize climate-related legal developments within the federal, subnational, and non-state contexts in order to better understand and advance efforts to construct a network of complementary legal structures.


12. See, e.g., Eloise Scotford & Stephen Minas, Probing the Hidden Depths of Climate Law: Analysing National Climate Legislation, 28 RECIEL 67 (2019) (providing a three part methodology for reviewing national climate legislation focused on: identifying legislation that directly intersects with climate change; identifying laws and regulations that indirectly intersect with climate change and identify linkages or tensions between direct and indirect climate leg; and examining aggregated national climate change legislation and regulation within the relevant legal context and culture).

13. Carlanne, supra note 7, at 1353.

14. For a discussion of the importance of the rule of law with respect to environmental matters, see Environmental Rule of Law, U.N. Env’t, https://www.unenvironment.org/explore-topics/environmental-rights-and-governance/what-we-do/promoting-environmental-rule-law-0 [https://perma.cc/M98Q-JAY3]; see also U.N. Secretary-General, The Rule of Law and Transitional Justice in Conflict and Post-Conflict Societies, 4, U.N. Doc. S/2004/616 (Aug. 23, 2004) (“The ‘rule of law’ is a concept at the very heart of the Organization’s mission. It refers to a principle of governance in which all persons, institutions and entities, public and private, including the State itself, are accountable to laws that are publicly promulgated, equally enforced and independently adjudicated, and which are consistent with international human rights norms and standards. It requires, as well, measures to ensure adherence to the principles of supremacy of law, equality before the law, accountability to the law, fairness in the application of the law, separation of powers, participation in decision-making, legal certainty, avoidance of arbitrariness and procedural and legal transparency.”).
To this end, this Article commences in Part I by mapping out the evolving terrain of climate change law in the United States. Parts II and III, respectively, examine the rapid expansion and, subsequent, dramatic contraction of federal climate change law during the Obama and Trump Administrations. These legal fluxes provide context for exploring the promise and perils of relying on executive power to tackle a massive problem such as climate change. The ensuing discussion of climate litigation in Part IV focuses on how litigation strategies are evolving in response to federal policy fluxes, judicial precedent, and advances in climate science.

Part V of this Article steps down from the federal level to explore how subnational efforts to address climate change have expanded over the past decade. Here, recognizing the seemingly infinite variety of instruments that subnational entities are employing to address the causes and consequences of climate change, this Article focuses on how the conduct of states, cities, and non-state actors reveals emerging trends and provides opportunities for legal experimentation and iterative learning. The goal is to provide a window into the multitude of ways in which subnational and non-state actors increasingly influence the state of play on climate change. In doing so, this Article spotlights the swelling social movement around climate change, including the escalating roles of individual and collective actors as varied as the state of California, New York City, Michael Bloomberg, Unilever.

15. See, e.g., Ann Carlson, Symposium on Climate Change Localism: The Trump Administration’s Assault on California’s Global Climate Change Leadership, 112 Am. J. Int’l L. Unbound 269, 271–72 (2018) (discussing the Trump Administration’s efforts to revoke California’s special authority under the Clean Air Act to regulate automobile tailpipe emissions more stringently than the federal government and the implications of this move for state efforts to cut greenhouse gas emissions and limit conventional pollutants).


Greta Thunberg, Representative Alexandria Ocasio-Cortez, and the “We Are Still In” collective.

I. U.S. CLIMATE CHANGE LAW: A CANVAS FOR CONSTANT CHANGE

A. The Global Context: International Climate Law Matures

The field of climate change law has exploded over the past decade hand-in-hand with the growing body of knowledge about climate change. At the international level, following two decades of meaningful but frustratingly slow international climate negotiations, the parties to the United Nations Framework Convention on Climate Change (UNFCCC) adopted a new international legal agreement on climate change, the Paris Agreement (or “the Agreement”). The Paris Agreement represents the maturing of the field. It frames the urgency of the challenge, calls upon all state parties to act with the highest level of ambition, prioritizes not only mitigation but also adaptation and loss and damage, and creates increasingly sophisticated financial, technological, and administrative support systems. Yet, for all of the progress that it represents, whether the Paris Agreement can provide the legal backbone for facilitating the extent of state-based efforts necessary to avoid catastrophic climate change remains to be seen.

Notably, at the time of adoption of the Paris Agreement, the aggregate mitigation contributions to which the parties had committed—even if fully implemented—would fail to keep warming


21. WE ARE STILL IN, https://www.wearestillin.com [https://perma.cc/B3UR-LSQH] (providing a platform whereby government officials, faith leaders, academics, and business executives can affirm their commitment to achieving the United States’ objectives under the Paris Agreement).


25. See Paris Agreement, supra note 23, art. 2.
below the 2°C target the Agreement establishes. Therefore, the willingness of key state actors to move more aggressively to limit domestic emissions is critical to efforts to keep warming within internationally agreed limits. Yet, in the wake of the adoption of the Paris Agreement, the rise of populist movements in the United States, Europe, Brazil, and worldwide place additional pressures on the already tenuous willingness of the great power states to be climate leaders. Meanwhile, growing political and economic tensions between the two largest emitters, the United States and China, further complicates efforts to build consensus among key state actors.

As the tides of populism, nationalism, and great power politics seem to pull the already fragile fabric of the international community asunder, however, a countertide of subnational action and transnational legal development and learning is taking place. The countertrends of high-level political and legal fluctuations and steady subnational and transnational legal developments create a complex picture of pushes and pulls in both international and domestic efforts to develop effective legal responses to climate change.

26. Id. ¶ 17.

27. See Dan Farber, Another Scary Election (But Not Here), LEGAL PLANET (Oct. 22, 2018), http://legal-planet.org/2018/10/22/another-scary-election-but-not-here [https://perma.cc/5JB3-DDSU] (describing Brazil’s then-candidate Bolsonaro’s climate policies, including opening up indigenous lands for commercial development). But see Paola Villavicencio Calzadilla & Louis J. Kotze, Living in Harmony with Nature? A Critical Appraisal of the Rights of Mother Earth in Bolivia, 7 TRANSNAT’L ENVTL. L. 397 (forthcoming 2018) (discussing the ways in which countries such as Ecuador and Bolivia are pushing for a more progressive re-imagining of environmental law).


31. See Kenneth Abbott, Strengthening the Transnational Regime Complex for Climate Change, 3 TRANSNAT’L ENVTL. L. 57, 60 (2014) (encouraging “innovative, complementary approaches” by transnational actors to develop networks and governance structures that can bypass recalcitrance states and contribute the development of a multi-level climate governance regime complex); Sharmila Murthy, States and Cities as “Norm Sustainers”: A Role for Subnational Actors in the Paris Agreement on Climate Change, 37 VA. ENVTL. L.J. 1, 1 (2019) (arguing that subnational actors are “norm sustainers” that can help ensure the success of the Paris Agreement even if the United States withdraws from the Agreement).
Within this oscillating web of national flux, subnational innovation, and transnational network building, the United States sits at the center pushing and pulling the strings of the larger international trends.

B. The Political Malleability of Climate Change in the United States

The principal challenge facing any effort to analyze the developmental arc of federal climate change law in the United States over the past decade is that the basic concept of climate change remains contested. Two of the United States’ past three presidents and many of our sitting legislators have questioned both the legitimacy of climate science and the desirability of the United States taking any concrete legal steps to limit climate change. Sandwiched between these two presidents and interacting with these skeptical federal legislators, however, was a president who provided not only significant domestic leadership but also important international leadership on climate change. The development of federal climate law thus is a non-linear story of extreme fluxes and flows riddled with, at times, dramatically contradictory narratives of the reality and urgency of climate change.

As context for the discussion of federal climate law that follows, it is helpful to understand the extent to which each of the three twenty-first century U.S. presidents has had access to assessments of the scientific basis of climate change and the manner in which they have used this data to contextualize their political strategies on climate change.

32. See Ellen Cranley, These Are the 130 Current Members of Congress Who Have Doubt or Denied Climate Change, BUS. INSIDER (Apr. 29, 2019, 1:36 PM), https://www.businessinsider.com/climate-change-and-republicans-congress-global-warming-2019-2 [https://perma.cc/43WA-2K9B] (highlighting the 130 members of Congress who have made statements such as “the earth is currently in a natural warming cycle rather than a man-made climate change”). In fact, as will be discussed, there has been a persistent undercurrent of efforts focused on increasing domestic production, consumption, and exportation of fossil fuels—particularly natural gas—and, more recently, presidential efforts to prop up the declining coal industry in direct opposition to market forces. See, e.g., The United States Is Now the Largest Global Crude Oil Producer, U.S. ENERGY INFO. ADMIN. (Sept. 12, 2018), https://www.eia.gov/todayinenergy/detail.php?id=37053 [https://perma.cc/9AHV-3EFS]; see also Jennifer A. Blouh, Trump Prepares Lifeline for Money-Losing Coal Plants, BLOOMBERG (May 31, 2018, 8:49 PM), https://www.bloomberg.com/news/articles/2018-06-01/trump-said-to-grant-lifeline-to-money-losing-coal-power-plants-jhv94ghl. For a more thorough, critical discussion of President Trump’s energy policy, see generally Carol J. Miller, For a Lump of Coal & a Drop of Oil: An Environmentalist’s Critique of the Trump Administration’s First Year of Energy Policies, 36 VA. ENVT. L.J. 185, 194-95 (2018).
As very brief background, since 1990, the Intergovernmental Panel on Climate Change (IPCC) has produced regular assessments of “the scientific basis of climate change, its impacts and future risks, and options for adaptation and mitigation.” Over time, the body of climate science has expanded exponentially; in turn, the IPCC reports have become increasingly comprehensive, with even the syntheses running thousands of pages. Equally, despite inevitable areas of uncertainty, each report has become increasingly confident and dire with respect to the impacts of anthropogenic warming of the climate system. The IPCC’s most recent report cautioned that “[w]arming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia. The atmosphere and ocean have warmed, the amounts of snow and ice have diminished, and sea level has risen.”

The IPCC reports assess the work of thousands of scientists and social scientists from around the world and provide a comprehensive and reliable source of information for policymakers to use when assessing potential responses to climate change. Over time, a body of domestically-focused assessments examining the ways in which climate change affects the United States has grown as a complement to the IPCC reports.

When George W. Bush assumed office in 2001, the IPCC was in the process of releasing its Third Assessment Report. In relevant part, this report determined that there was “new and stronger evidence that most of the warming observed over the last 50 years is attributable to human activities,” and that “observed changes in regional climate have affected many physical and biological systems, and there are preliminary indications that social and economic systems have been

36. See IPCC Factsheet, supra note 34 (emphasizing the Intergovernmental Panel on Climate Change’s role as a source for climate change assessments to provide policymakers with the information without “tell[ing] policymakers what actions to take”).
affected.” In response to this report, international efforts to develop a collective response to climate change intensified, leading to the adoption of a new international agreement on climate change, the Kyoto Protocol, and to the expansion of a plethora of state and regional legal efforts to address climate change.

By the end of President Bush’s second term, the state of climate science had advanced dramatically. By 2007, the IPCC had released its Fourth Assessment Report (“AR4”), which added even greater urgency to collective understanding of anthropogenic climate change. In particular, AR4 concluded that “warming of the climate system is unequivocal” and that “[m]ost of the observed increase in global average temperatures since the mid-20th century is very likely due to the observed increase in anthropogenic greenhouse gas concentrations.”

Even as collective understanding of climate change grew during the mid-2000s, efforts to respond to climate change at the domestic level flounderered under President Bush’s leadership. Despite early assertions that “[c]limate change, with its potential to impact every corner of the world, is an issue that must be addressed by the world,” under President Bush’s leadership, the United States questioned climate

38. Id. at ix; Dr. R.K. Pachauri, Chairman, Intergovernmental Panel on Climate Change, Address at the 11th Conference of the Parties to the United Nations Framework Convention on Climate Change and 1st Conference of the Parties Serving as Meeting of the Parties to the Kyoto Protocol (Dec. 7, 2005).


40. See Reports, IPCC, https://www.ipcc.ch/reports [https://perma.cc/JZL7-G89Z] (containing links to and information about all of the IPCC reports released to date).


science, 43 impeded international negotiations, 44 and thwarted efforts to develop domestic climate change law. 45 This questioning of climate science and near total abdication of leadership on climate change shifted abruptly in 2008 with the inauguration of President Barack Obama.

President Obama made it clear from the outset that he approached climate science and thus, climate policy, very differently than his predecessor. In the run-up to the election, then Senator Obama reprimanded the sitting president and declared his commitment to acting on climate change, noting:

Washington’s failure to lead on energy is the failure of a President who spent most of his time in office denying the very existence of global warming—a President who put more faith in the spin of a science fiction writer than the science facts of real experts. 46

He continued by declaring that “we cannot afford more of the same timid politics when the future of our planet is at stake . . . . I will set big goals for this country as President—some so large that the technology to reach them does not yet exist. But that has not stopped us before.” 47 Granted, this was a campaign speech, and the tone of the speech reflected the grandeur of a presidential campaign. Nevertheless, the shift in tone and in the resulting intent for policy change was clear. Subsequently, President Obama’s commitment to scientifically informed decision-making came to define his approach to climate change. 48

President Trump has adopted a different tack. Even before taking office, President Trump made it clear that he questioned the basic premise of climate change, paid little to no respect for scientific

43. See, e.g., Manipulation of Global Warming Science, UNION OF CONCERNED SCIENTISTS, https://www.ucsusa.org/our-work/center-science-and-democracy-promoting-scientific-integrity/manipulation-of-global.html [https://perma.cc/745M-CUNN] (chronicling the ways in which President Bush “consistently sought to undermine the view held by the vast majority of climate scientists that human-caused emissions of carbon dioxide and other heat-trapping gases are making a discernible contribution to global warming”).


47. Id.

findings related to climate change, failed to understand the elementary difference between weather and climate, and intended not only to stop the advancement of U.S. climate law, but also to do all he could to roll back existing legal provisions. President Trump’s provocative statements on climate change are too many to mention, but a quick review of his Twitter account edifies the general tenor of his stance on climate change. Starting with his infamous declaration that “[t]he concept of global warming was created by and for the Chinese in order to make U.S. manufacturing non-competitive,” and expanded upon by statements such as, “[w]e should be focused on magnificently clean and healthy air and not distracted by the expensive hoax that is global warming!” and “[i]t’s really cold outside, they are calling it a major freeze, weeks ahead of normal. Man, we could use a big fat dose of global warming!” President Trump has clearly communicated his stance as a climate skeptic.

Throughout his presidency, President Trump has routinely attacked and attempted to suppress science and science-based decision-making. As Farber characterizes it, the Trump Administration has adopted an unabashed “hostile attitude toward science” and “has used a triad of strategies: efforts to defund research, suppression of scientific findings, and embrace of fringe science” to accomplish these efforts.

Between 2017 to 2018, at the height of President Trump’s attack on climate science, the U.S. Global Climate Change Research Program released The Fourth National Climate Assessment (“4th NCA”).

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in two volumes, the 4th NGA provides an assessment of the foundational
science of climate change ("Volume I") and explores "the human welfare,
societal, and environmental elements of climate change" at the national
and regional levels ("Volume II") in the United States. The 4th NGA, in
essence, provides a federally mandated, domestically focused complement
to the IPCC reports.

Volume I sets the stage by confirming the anthropogenic patterns of
warming indicated by the IPCC AR5. Volume II then explores the
widespread threats climate change poses for the United States,
suggesting that "[c]limate change creates new risks and exacerbates
existing vulnerabilities in communities across the United States,
presenting growing challenges to human health and safety, quality of
life, and the rate of economic growth."

The findings of the 4th NCA paint a stark picture of the climate-
related risks facing the United States and highlight the degree to which
domestic responses continue to lag. Bringing together the lack of
ambition at both the international and national levels, the report warns
that "neither global efforts to mitigate the causes of climate change nor
regional efforts to adapt to the impacts currently approach the scales
needed to avoid substantial damages to the U.S. economy, environment,
and human health and well-being over the coming decades."

While the contents of the report came as no surprise to those versed
in climate science, in the wake of the release of the 4th NCA, there was
great anticipation as to how President Trump would respond to a
federal report that seemed to be in direct tension with his Administration’s
rhetoric and legal strategies. As one account bluntly suggests,

[https://perma.cc/FH72-ECC5] [hereinafter 4TH NCA VOL. II].
55. 4TH NCA VOL. II, supra note 54, at 1. The report also highlights the economic
dimensions of climate change, noting that “[w]ith continued growth in emissions at
historic rates, annual losses in some economic sectors are projected to reach hundreds
of billions of dollars by the end of the century—more than the current gross domestic
product (GDP) of many U.S. states.” Id. at 26.
56. 4TH NCA VOL. I, supra note 54, at 14. 4TH NCA VOL. II, supra note 54, at 25.
57. Id. at 34.
58. See, e.g., Brady Dennis & Chris Mooney, Major Trump Administration Climate
administration-climate-report-says-damages-are-intensifying-across-country.
[t]he report, which was mandated by Congress and made public by the White House, is notable not only for the precision of its calculations and bluntness of its conclusions, but also because its findings are directly at odds with President Trump’s agenda of environmental deregulation, which he asserts will spur economic growth.60

President Trump’s response to the report was rapid and direct. When asked by reporters about the findings of the report, he simply stated: “I don’t believe it.”61 The Trump Administration’s stance on climate change thus remains one of skepticism about the science of climate change and near absolute opposition to domestic action or international cooperation on climate change.

In light of the Bush, Obama, and Trump Administrations’ shifting interpretations of climate science, climate change continues to be treated as a politically malleable concept in domestic law. The dramatic swings in federal climate change law between 2008 and 2019 illustrate this malleability.

II. THE OBAMA ERA: CONSTRUCTING THE FOUNDATIONS FOR CHANGE

Over his two terms in office, President Obama drew upon his executive authority and political influence to take what was essentially an empty lot and construct a foundation for federal climate law. These eight years represented a period of incremental legal construction. The Obama Administration, alongside key federal agencies, supportive subnational leaders, and a wide-ranging group of non-state actors worked cooperatively to craft a growing body of judicial precedent, federal regulations, executive initiatives, and public-private partnerships to combat climate change.62 By the end of President Obama’s second term in office, the United States possessed the scaffolding necessary to build a more robust system of climate law. Being largely driven and supported by executive level actions, however, this scaffolding proved vulnerable to demolition efforts. Demolition is what President Trump set out to do.

During the first two years of President Trump’s presidency, the news was replete with stories about efforts to roll back President Obama’s climate initiatives. The dominant theme of the Trump Administration’s approach to climate law appears to be to reverse the steps that had been taken over the preceding eight years to develop a legal framework for combatting climate change and instead, to prop up, sustain, and nourish greenhouse gas intensive industries and activities.

This saga of construction and demolition reveals the continuing, emphatic power of the state—and, in particular, the President—to enable or to cripple large-scale change and the profound legal uncertainty this has created in the context of U.S. climate change law.

The discussion that follows explores the overarching approach that the Obama Administration employed in its efforts to address climate change. This is followed by a discussion of what steps the Trump Administration has taken to dismantle the spirit and structure of these efforts. The intent of the following section is not to provide an exhaustive list of all of the legal initiatives. Instead, it seeks to highlight key initiatives and important trends and to explore the implications of these changes for future efforts to craft a comprehensive system of climate law that facilitates change at the scale needed to protect “the U.S. economy, environment, and human health and well-being over the coming decades.”

A. Obama Era Initiatives

In contrast to the caricature of climate skepticism that President Trump has come to represent, President Obama is commonly portrayed as a champion of climate policy. During his presidential


64. 4TH NCA Vol. II, supra note 54, at 34.

65. See, e.g., John Abraham, Barack Obama Is the First Climate President, GUARDIAN (Nov. 2, 2016), https://www.theguardian.com/environment/climate-consensus-97-
campaign, he advocated for efforts to combat climate change and diversify the domestic energy system.\(^{66}\) Once elected, he expended significant political capital to develop a multifaceted response to climate change. In addition, he reasserted U.S. leadership on climate change at the international level. Over the course of his two terms in office, President Obama laid the foundations for an ambitious, economy-wide strategy for addressing climate change and combatted a paralyzed Congress by using executive and regulatory authority “to take a remarkable variety of steps to reduce greenhouse gas emissions.”\(^{67}\) Despite important successes, “President Obama’s climate legacy is more complex and the results more fragile than are often depicted.”\(^{68}\) While President Obama tackled climate change aggressively during his second term, his failure to successfully pursue federal legislative action during his first term,\(^{69}\) coupled with his extensive reliance on politically malleable executive and regulatory measures, limit his legacy of leadership on climate change.\(^{70}\)

Despite these limitations, President Obama is, without doubt, the president who has done the most to develop a domestic response to climate change. In the wake of political change, the pressing question is: what was he able to achieve that has lasting impact, either through enduring changes to the rule of law or through influencing societal and political shifts that perpetuate climate efforts even during a climate-skeptic Administration?\(^{71}\)

\(^{66}\) See, e.g., Obama, supra note 46.


\(^{69}\) See, e.g., Sunstein, supra note 67, at 245–47 (suggesting legislative defeats and comparative executive inaction during President Obama's first term are largely attributable to the ongoing economic crises); see also Yumehiko Hoshijima, Note, Presidential Administration and the Durability of Climate-Consciousness, 127 YALE L.J. 170, 172–73 (2017) (highlighting several significant environmental policy failures during President Obama’s first term).

\(^{70}\) See JONATHAN CHAIT, AUDACITY: HOW BARACK OBAMA DEFIED HIS CRITICS AND CREATED A LEGACY THAT WILL PREVAIL 123 (2017).

\(^{71}\) See Hoshijima, supra note 69, at 174–75 (explaining the connection between the unveiling of the Obama Administration’s Climate Action Plan and Congressional gridlock).
Much has been written about the various steps President Obama took to address climate change and the ways in which he leveraged a combination of legal and political strategies and executive power\(^{72}\) to advance these efforts. While the brunt of media and scholarly attention has focused on the Environmental Protection Agency’s (EPA) efforts to develop a regulatory regime for greenhouse gas emissions from new and existing sources under the Clean Air Act (CAA),\(^{73}\) namely the Timing and Tailoring Rules and the Clean Power Plan (CPP),\(^{74}\) these rules constitute only pieces of a much larger, more ambitious policy effort.

Of particular import here is the comprehensive and far-reaching approach that President Obama brought to bear in his efforts to address climate change and the degree to which he sought to leverage diverse actors and legal and extra-legal strategies to create a multifaceted climate change agenda.\(^{75}\) Many of these efforts escaped high-level political scrutiny, being overshadowed, as they were, by the high political drama surrounding the legal centerpiece of the agenda, i.e., the CPP.\(^{76}\) That the CPP is legally significant is uncontroversial. It would have provided the cornerstone tool for ratcheting down emissions from existing coal-fired power plants, the most singularly significant and difficult to regulate source of greenhouse gas emissions

\(^{72}\) See Jerry L. Mashaw & David Berke, *Presidential Administration in a Regime of Separated Powers: An Analysis of Recent American Experience*, 35 Yale J. Reg. 549, 580 (2018). Mashaw and Berke suggest that “[o]ur look at climate policy highlights both the power and perils of presidentialism. Bold action is possible, but it may not be durable.” Id. at 587. This is true in terms of the durability of “bold [legal] action,” but arguably less true of the lasting effect of the sweeping use of executive power in elevating the floor of the debate and mobilizing sub-federal and non-state actors even when the bold legal action that formed the centerpiece of a President’s strategy has been dismantled.


\(^{75}\) See generally Gabriel Pacyniak, *Making the Most of Cooperative Federalism: What the Clean Power Plan Has Already Achieved*, 29 Geo. Envtl. L. Rev. 301 (2017) (examining state-based policy engagement with federal greenhouse gas rulemaking in a cooperative federalism context and exploring the benefits of dynamic, iterative federalism processes even where the final rule is rejected).

\(^{76}\) See, e.g., Coral Davenport, *Obama’s Climate Plan May Hinge on a Clerical Error in a 1990 Law*, N.Y. Times, Sept. 26, 2016, at A17 (explaining that the focus was on the CPP because it played a key role in the negotiation of the Paris Agreement but was simultaneously subject to judicial challenge).
in the United States.77 Equally, the CPP emerged from and stretched the outer edges of administrative authority under the CAA, a statute already the subject of great contention not only with respect to its applicability to climate change but also with respect to fundamental questions of administrative and constitutional law.78 Hence, the attention paid to the birth and eventual demise of the CPP is warranted. It also, however, masks the variegated landscape of climate policy that the Obama Administration helped nurture and which, ultimately, evidences early efforts to cultivate the type of layered and integrated governance regime necessary to tackle the massive challenge that climate change poses.79

In his first week in office, President Obama followed up on campaign promises to take action on climate change. On January 26, 2009—six days after his inauguration—President Obama issued two presidential memoranda intended to initiate a new era of executive leadership on climate change.80 Drawing on federal legal authority to regulate

77. See Frequently Asked Questions: What Are U.S. Energy-Related Carbon Dioxide Emissions by Source and Sector?, U.S. ENERGY INFO. ADMIN. (May 15, 2019), https://www.eia.gov/tools/faqs/faq.php?id=75&t=11 (finding, in relevant part, that with respect to domestic carbon dioxide emissions, “[t]he electric power sector is the largest source, accounting for 40 percent of all energy-related CO₂ emissions. The electric power sector consists of those entities whose primary business is the production of electricity”); see also Bruce R. Huber, Transition Policy in Environmental Law, 35 HARV. ENVTL. L. REV. 91, 93, n.8 (2011) (describing the grandfathering of coal-fired power plants under the 1977 CAA Amendments as one of the most “egregious missteps” in environmental law, largely because it allowed these old facilities to continue operating subject to much more lenient environmental standards than new power plants would be subject to).

78. See Jody Freeman & David B. Spence, Old Statutes, New Problems, 163 U. PA. L. REV. 13, 20–43 (2014) (explaining “how federal agencies coping with new regulatory challenges often encounter problems of ‘fit’ with older statutes, which require them to make delicate legal and political judgments in the face of congressional silence,” including in the context of the CAA and climate change); Jody Freeman & Adrian Vermeule, Massachusetts v. EPA: From Politics to Expertise, 2007 SUP. CT. REV. 51, 52 (exploring the implications of the case with respect to “increasing worries about the politicization of administrative expertise”). See generally David M. Driesen et al., Half a Century of Supreme Court Clean Air Act Interpretation: Purposivism, Textualism, Dynamism, and Activism, 75 WASH. & LEE L. REV. 1781, 1786–87 (2018) (offering a comprehensive review of CAA Supreme Court jurisprudence in the wake of Justice Scalia’s death).

79. See Ruhl & Salzman, supra note 4, at 72–78 (contextualizing climate change as a “massive problem” and exploring the legal challenges this poses).

greenhouse gases pursuant to the Supreme Court’s decision in *Massachusetts v. EPA*,[81] these memoranda, in turn, directed the EPA to reconsider a March 2008 decision that denied California a CAA preemption waiver that would have allowed it to set greenhouse gas (GHG) emission standards for motor vehicles[82] and directed the National Highway Traffic Safety Administration to develop increased fuel economy standards for automobiles.[83] Together with the subsequently announced National Fuel Efficiency Policy,[84] these memoranda created a platform for what would become historically ambitious and substantively effective efforts to ratchet down GHG emissions—and conventional pollutants—from new automobiles. The transportation sector is the second largest source of domestic carbon emissions behind the energy sector, so this was an ambitious first move.[85]

Building on this momentum, many climate activists hoped to see a decisive shift in national climate policy during President Obama’s first term. As the President and Congress grappled with the pervasive impacts of the economic crisis, however, this decisive shift seemed more and more evasive. Following a failed push for congressional action on climate change and the resulting “demise of federal legislation as a realistic option for addressing climate change,”[86] President Obama’s first term slipped by without the hoped-for sea change.

If President Obama’s first term was characterized by promising but ultimately abortive legislative initiatives and fledgling efforts to develop a political strategy on climate change, his second term was characterized by a full-fledged re-direction of executive energy towards creating a robust national climate agenda. On a sweltering day in June

[https://perma.cc/C47M-P8AH] (listing Presidential Executive Orders related to climate change).

81. 549 U.S. 497 (2007); see also infra text accompanying note 198.


84. See President Barack Obama, Remarks on Fuel Efficiency Standards, in 1 PUBLIC PAPERS OF THE PRESIDENTS OF THE UNITED STATES 672, 673–74 (2009) (announcing a new policy that increases gas mileage and decreases emissions, that was developed by a partnership of two agencies, ten companies, and fourteen states).


86. DANIEL A. FARBER & CINNAMON P. CARLARNE, CLIMATE CHANGE LAW 151 (2018).
2013, speaking before an audience at Georgetown University, President Obama symbolically took off his jacket, rolled up his shirt sleeves and unveiled his Climate Action Plan (“the Plan”).

C. The Climate Action Plan

President Obama’s Climate Action Plan laid out a sweeping executive strategy based on three core pillars: (1) cut domestic carbon pollution; (2) prepare the United States for the impacts of climate change; and (3) lead international efforts to address global climate change. The agenda mirrored the international climate change regime with its joint focus on mitigation and adaptation, its emphasis on the importance of drawing on hard and soft law, and its efforts to leverage the public and private sector to address climate change. In key part, President Obama’s climate agenda envisioned developing a domestic climate system with a core legal backbone centered on mitigating greenhouse gas emissions from the energy and transport sectors, but then surrounding and supporting that legal backbone with an extensive set of executive-mandated and executive-facilitated initiatives to reconfigure everything from federal energy efficiency standards, to international energy investment, to agricultural emissions.


88. Id. at 5.

89. See Cinnamon P. Carlarne, Rethinking a Failing Framework: Adaptation and Institutional Rebirth for the Global Climate Change Regime, 25 GEO. INT’L. ENVTL. L. REV. 1, 21–22, 32 (2012) (discussing the evolution of UNFCCC negotiations and the increased focus on adaptation over time, as mitigation efforts languished and patterns of climate change advanced and citing the Cancun Agreement’s determination that “[a]daptation must be addressed with the same priority as mitigation and requires appropriate institutional arrangements to enhance adaptation action and support,” Decision 1/CP.16, The Cancun Agreements: Outcome of the Work of the Ad Hoc Working Group on Long-Term Cooperative Action under the Convention Part I(2)(b), FCCC/CP/2010/7/Add.1 (2010)).

Viewing the agenda from the vantage point of history, and through the lens of the Trump Administration, three aspects of President Obama’s agenda stand out.

First, the climate agenda was serious, far-reaching, and ambitious, but it was also smart and focused on incremental change. It neither attempted to dramatically reconfigure the US energy and transport sectors in one fell swoop, nor to position efforts to address climate change in such a way as to put a brake on economic activity or threaten core American values. It did, however, attempt to elevate climate change as an economic and social priority and to infuse climate considerations across all aspects of political decision-making.

Second, virtually all the legal components and executive initiatives that provided the core of the climate agenda were susceptible to political rollback. This was an inevitable and fully understood element of attempting to develop and implement an executive-led climate strategy during a second presidential term with a largely unsupportive Congress.

Third, the climate agenda vividly demonstrates the degree to which the Obama Administration understood the evolving role of federal leadership on climate change. President Obama understood the urgency and importance of national leadership. He recognized the power of the state to facilitate extensive, enduring change by providing vision, legal structure, high-level coordination, financial investment, and general economies of scale. He also, however, recognized the evolving role of subnational and non-state actors in shaping climate law, policy, and consciousness.91 The agenda was designed to harness the existing energy, initiatives, and infrastructure that subnational and non-state actors had been steadily building for almost two decades.92

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91. See Hoshijima, supra note 69, at 174–76. Hoshijima offers a helpful discussion of the way in which President Obama’s climate agenda sought to develop and embed climate consciousness at the federal level. Hoshijima suggests, in key part, that there was a fourth pillar to President Obama’s climate agenda that included a set of policies that advanced climate-consciousness in the executive branch . . . the Obama Administration championed climate-consciousness with tools that were deeply reliant on sound scientific, technical, and economic information. In other words, the Obama Administration sought to accomplish its objectives in a manner that enhanced bureaucratic rationality. This focus on reasoned administration responded to a judicial demand for scientifically rigorous government responses to climate change, while sidestepping congressional hostility to climate change action by finding a narrow zone of relative congressional inattentiveness.

92. See generally Carlarne, supra note 7, at 1353–54 (examining state and local law and policy-making efforts as well as civil society’s strategies for influencing climate
The Obama Administration understood that both the short-term success and long-term durability of the agenda would inevitably turn on its ability to tap into and advance the increasingly widespread, coordinated, and ambitious climate efforts of subnational and non-state actors. Even as President Obama boldly erected the scaffolding for U.S. climate policy seemingly from the ground up, he was drawing upon the blueprints, expertise, and enthusiasm from subnational and non-state actors to create a framework that could persist across the waxes and wanes of presidential leadership.

In 2013, even as President Obama girded for extreme political and legal backlash against his agenda, no one was anticipating the wrecking ball that would swing directly at its core in 2017. But before proceeding to examine the legacy of President Obama’s agenda in light of President Trump’s subsequent demolition efforts, it is useful to briefly examine each pillar of the Climate Action Plan in turn.

Providing the foundation for the Climate Action Plan, in 2009, President Obama pledged that, by 2020, the United States would reduce its greenhouse gas emissions in the range of 17% below 2005 levels. Subsequently, in 2014, in the run-up to negotiations for the Paris Agreement, President Obama announced a new, more ambitious target to cut greenhouse gas emissions 26% to 28% below 2005 levels by 2025.

These commitments form the backdrop for the first pillar of the Climate Action Plan, which laid out the President’s mitigation strategy. The first pillar emphasized federal leadership both through pursuing voluntary clean energy and energy efficiency initiatives and through adopting binding legal measures. The centerpiece of President Obama’s mitigation strategy focused on bolstering the evolving regulatory regime for automobile emissions with a commitment to establish national carbon pollution standards for power plants under the CAA. To this end, on the same day that President Obama rolled out his Climate Action Plan, he issued a Presidential Memorandum

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policy); Murthy, supra note 31, at 17–19 (discussing the role of subnational actors as norm sustainers during periods in which the state abdicates a leadership role).

93. CLIMATE ACTION PLAN, supra note 87, at 4.


95. These include, for example, pursuing greater energy efficiency and increasing the amount of electricity coming from renewable sources within the federal government. CLIMATE ACTION PLAN, supra note 87, at 6.
directing the EPA “to issue standards, regulations, or guidelines, as appropriate, that address carbon pollution from modified, reconstructed, and existing power plants and build on State efforts to move toward a cleaner power sector.”96 This Memorandum led to the release, on August 3, 2015, of the CPP.97 The CPP was designed to cut carbon emissions from power plants by 32% below 2005 levels by 2030. By targeting power plant emissions that constitute the “the largest concentrated source of emissions in the United States, together accounting for roughly one-third of all domestic greenhouse gas emissions,”98 the CPP provided the cornerstone for national efforts to begin ratcheting down emissions and a critical tool towards allowing President Obama to achieve domestic and international emissions reductions targets.99

Although the CPP and the automobile emissions standards provided the legal backbone for carbon pollution reduction efforts, the Climate Action Plan laid out a series of supporting executive-led strategies.100 The mitigation agenda reflected an effort to create a multi-sector, multi-level governance strategy that drew upon the collective abilities of the federal, state, and non-state sectors to advance public and private regulatory and market-based strategies for reducing emissions and sparking innovation.

In sum, the Climate Action Plan centered around developing an ambitious legal mitigation core, consisting of the CPP and the fuel


98. CLIMATE ACTION PLAN, supra note 87, at 6.

99. As a Party to the Paris Agreement, the United States had committed “to achieve an economy-wide target of reducing its greenhouse gas emissions by 26%–28% below its 2005 level in 2025 and to make best efforts to reduce its emissions by 28%.” U.S.A. First NDC Submission, NDC REGISTRY (Mar. 31, 2015), https://www.unfccc.int/sites/ndcstaging/PublishedDocuments/United%20States%20of%20America%20First%20NDC%20Submission.pdf [https://perma.cc/B2VS-9K6G].

100. See, e.g., CLIMATE ACTION PLAN, supra note 87, at 7–11. These included everything from accelerating the permitting process for renewable energy facilities, to increasing the federal budget and loan guarantee program for clean energy and advanced fossil energy projects, to advancing partnerships between the private and public sectors to deploy cleaner fuels and supporting state and city efforts to improve transportation options, to cutting energy waste through new adopting new efficiency standards for appliances and reduced barriers to investment in energy efficiency, to tackling emissions from other greenhouse gases such as HFCs and methane, to advancing efforts to reduce emissions from deforestation and degradation and enhance carbon uptake through forestry management efforts. Id.
economy standards, but then surrounding these regulatory pillars with a suite of supportive measures. Recognizing the political vulnerability of regulatory measures and the pressing reality that, even should these regulatory initiatives persist, successfully tackling greenhouse gas emissions in the long-term requires economy-wide transitions in how we live, move, and above all, consume energy, President Obama used the Climate Action Plan to sketch out a multi-layered strategy for addressing climate change.

The second pillar of President Obama’s Climate Action Plan, facilely titled, “Prepare the United States for the Impacts of Climate Change,” contained the adaptation and resiliency objectives of his climate agenda. In contrast to the rule-oriented and executive driven mitigation strategy, the adaptation strategy was less directive and more facilitative of ongoing subnational efforts, while still recognizing the important role of the federal government. President Obama framed the federal government’s role as follows:

The federal government has an important role to play in supporting community-based preparedness and resilience efforts, establishing policies that promote preparedness, protecting critical infrastructure and public resources, supporting science and research germane to preparedness and resilience, and ensuring that federal operations and facilities continue to protect and serve citizens in a changing climate.

In common with evolving adaptation and resiliency strategies worldwide, President Obama’s approach recognized that while there may be no “optimal” adaptation strategy, the best level for adaptation actions will often be at the local or regional levels. In contrast to mitigation policy, where the focus is often on overcoming collective action challenges and maximizing economies of scale in order to reduce greenhouse gas emissions through sweeping top-down decision-making, in the adaptation and resiliency planning context, the challenges are more varied and location specific. Adaptation

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101. CLIMATE ACTION PLAN, supra note 87, at 5, 12.
102. CLIMATE ACTION PLAN, supra note 87, at 12.
103. Elinor Ostrom, A Polycentric Approach for Coping with Climate Change 39 (World Bank Policy Research Working Paper No. 5095, 2009), http://documents.worldbank.org/curated/en/480171468315567893/pdf/WPS5095.pdf [https://perma.cc/72FK-4BJV]. Ostrom suggests that as a result of the complexity of the challenges associated with responding to climate change, there are no “optimal” solutions. Id. Within this context, a polycentric approach offers a variety of advantages in “that it encourages experimental efforts at multiple levels, as well as the development of methods for assessing the benefits and costs of particular strategies adopted in one type of ecosystem and comparing these with results obtained in other ecosystems.” Id.
104. Id.
planning, thus, requires greater nuance and specificity with respect to the multitude of challenges to which climate change gives rise. This, in turn, necessitates greater decentralization of decision-making authority and, often, more bottom-up policymaking processes. As Adger, Arnell, & Tompkins emphasize, “[a]dapting to climate change involves cascading decisions across a landscape made up of agents from individuals, firms and civil society, to public bodies and governments at local, regional and national scales, and international agencies.”\footnote{105} Governance in the adaptation context is therefore frequently decentralized, multi-layered, and messy. Further, this is an area of law and policymaking that is still young and evolving. There is a tremendous amount of experimentation and an increasing amount of cooperation and transnational learning taking place. There is, however, still a dearth of knowledge about the range of governance approaches being employed, the strengths of different strategies, and the ability to translate and repeat successful strategies in diverse geographical contexts. This is still an area ripe for development, legal analysis, and iterative learning. President Obama’s plan reflected the fragmentary and emergent nature of this field.

President Obama’s plan did not propose developing federal rules or a comprehensive national adaptation strategy. Instead, the Plan envisioned taking a variety of steps to maximize the role the federal government plays in accelerating research, planning, and experimentation.

During his first term, President Obama laid the groundwork for his plan by taking steps to create a federal presence in the adaptation and resiliency planning space. Shortly after coming into office, he established the first ever Interagency Climate Change Adaptation Task Force. Subsequently, in October 2009, President Obama signed an Executive Order directing the task force to “recommend ways federal policies and programs can better prepare the Nation for change.”\footnote{106} This was followed by the first ever National Climate Adaptation Summit, which brought together key stakeholders to identify pressing challenges and opportunities.\footnote{107} Building on these initial steps, in February 2013, just months before the release of the Climate Action Plan, federal agencies began


\footnote{106. \textit{CLIMATE ACTION PLAN}, supra note 87, at 12.}

releasing their first ever Climate Change Adaptation Plans in which they commenced the process of “outlining strategies to protect their operations, missions, and programs from the effects of climate change.”

Despite the tentative nature of these plans, the mainstreaming of adaptation into federal agency planning harks back to the early days of environmental law, when the first step towards more substantive environmentally minded decision-making was the integration of environmental considerations into federal decision-making processes.

Drawing from this momentum, the Climate Action Plan proposed strengthening federal support for adaptation in three core areas: (1) “Building Stronger and Safer Communities and Infrastructure”; (2) “Protecting our Economy & Natural Resources”; and (3) “Using Sound Science to Manage Climate Impacts.” In each of these areas, President Obama sought to harness federal powers and resources to advance research, planning, investment, and cooperation.

Following the release of the Climate Action Plan, President Obama took a number of steps to advance his agenda, including issuing an executive order on climate preparedness. Stressing the need to “improve the Nation’s preparedness and resilience,” the President directed agencies to report on planned changes to their policies and rules necessary to advance climate preparedness; he also established both a federal Council on Climate Preparedness and Resilience consisting of key senior agency officials and a new Task Force on Climate Preparedness and Resilience consisting of governors, mayors, county officials, and Tribal leaders.

From here, President Obama issued a number of complementary executive orders and presidential memoranda addressing federal goals

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108. CLIMATE ACTION PLAN, supra note 87, at 12.


111. CLIMATE ACTION PLAN, supra note 87, at 12–14.

112. Id. at 14–15.

113. Id. at 16.


115. Id. at 330–36.
and obligations with respect to a sweeping range of adaptation and resilience-related topics including: advancing climate-resilient international development;\textsuperscript{116} minimizing flood risks;\textsuperscript{117} minimizing wildfire risks;\textsuperscript{118} improving drought resilience;\textsuperscript{119} understanding and minimizing climate risks to the Arctic;\textsuperscript{120} and ensuring climate-related risks are integrated into national security planning.\textsuperscript{121}

President Obama’s agenda focused on leveraging federal resources to facilitate adaptation and resiliency efforts in discrete sectors (e.g., water, fire, disaster, flooding, agriculture) in ways that built on existing subnational momentum and advanced public-private partnerships. Consequently, while the conspicuous federal research and funding efforts under the second pillar provided easy targets for political roll-back,\textsuperscript{122} many of the initiatives proposed in the Climate Action Plan have proven less susceptible to sweeping political overhaul, with a number of adaptation and resiliency-focused executive orders (thus far) remaining on the books.\textsuperscript{123}

The third and final pillar of President Obama’s Climate Action Plan focused on reasserting U.S. leadership in the international arena.\textsuperscript{124} Under President Obama’s predecessor, President George W. Bush, the

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  \item \textsuperscript{116} Exec. Order No. 13,677, 3 C.F.R. 299, 299–300 (2014).
  \item \textsuperscript{118} Exec. Order No. 13,728, 3 C.F.R. 460, 460 (2016).
  \item \textsuperscript{119} Memorandum on Building National Capabilities for Long-Term Drought Resilience, 81 Fed. Reg. 16,053, 16,053 (Mar. 25, 2016).
  \item \textsuperscript{120} Exec. Order No. 13,689, 3 C.F.R. 264, 265 (2015).
  \item \textsuperscript{121} Memorandum on Climate Change and National Security, 2016 DAILY COMP. PRES. DOC. 1 (Sept. 21, 2016) (revoked by Exec. Order No. 13,783, 3 C.F.R. 314 (2017)).
  \item \textsuperscript{123} Benjamin Hulac, \textit{Key Obama Climate Orders Still on the Books}, E&E NEWS (May 2, 2018), https://www.eenews.net/stories/1060080615 [https://perma.cc/FQB7-KVC8].
  \item \textsuperscript{124} \textit{CLIMATE ACTION PLAN}, supra note 87, at 5, 17, 21; \textit{see also} Press Release, The White House: President Barack Obama, U.S. Leadership and the Historic Paris Agreement to Combat Climate Change (Dec. 12, 2015), https://obamawhitehouse.archives.gov/the-press-office/2015/12/12/us-leadership-and-historic-paris-agreement-combat-climate-change [https://perma.cc/RC9U-DT9N] (discussing the ambitious nature of the Paris Agreement’s commitment, including efforts to involve private, subnational, and individual actors; to increase financing options for mitigation and adaptation development programs; and to establish transparent reporting processes for each country).
United States did not merely abdicate leadership in international negotiations, it actively opposed the Kyoto Protocol, leading to significant delays in the Protocol entering into force.\(^{125}\) Following multiple years of stalled negotiations and the United States dragging its feet, in 2009, President Obama reasserted U.S. leadership in international climate negotiations.

Seeking to advance his international leadership role, President Obama used his Climate Action Plan to lay out a pathway towards advancing multilateral and bilateral engagement on climate change. In key part, the President highlighted the progress he had already made toward building working relationships with key emerging economies, including China, India, and Brazil,\(^ {126}\) as well as multilateral initiatives he has championed to reduce short-lived climate pollutants, to address emissions from deforestation, and to promote the expansion of clean energy worldwide.\(^ {127}\) The Plan then stressed the importance of liberalizing trade in environmental goods, increasing public sector financing for clean energy, and strengthening global resilience to climate change. Here, again, the Plan emphasized the Obama Administration’s track record in advancing these goals, highlighting the billions of dollars that the Administration had already mobilized for clean energy investments and climate preparedness worldwide.\(^ {128}\)

The Plan then briefly chronicled the successes the Obama Administration had achieved with respect to international negotiations, asserting that “[t]he United States has made historic progress in the international climate negotiations during the past four years.”\(^ {129}\) Building on this narrative, the Administration laid out its vision for what would ultimately become the Paris Agreement, stating that the Agreement must be “ambitious, inclusive and flexible.”\(^ {130}\)

Across the three pillars of his Climate Action Plan—mitigation, adaptation, and international leadership—President Obama was drawing on a relatively clean slate. As detailed elsewhere,\(^ {131}\) his

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\(^{126}\) These include bilateral partnerships such as the U.S.-China Clean Energy Research Center, the U.S-India Partnership to Advance Clean Energy, and the Strategic Energy Dialogue with Brazil. *CLIMATE ACTION PLAN*, supra note 87, at 17.

\(^{127}\) *Id.* at 18.

\(^{128}\) *Id.* at 20. The President also called for an end to U.S. support for public financing of most new coal plants overseas.

\(^{129}\) *Id.* at 21.

\(^{130}\) *Id.*

\(^{131}\) See, e.g., *Carlarne*, supra note 7, at 1360–63 (exploring President George W. Bush’s climate policy as non-committal and based on deceptive metrics).
predecessor, President George W. Bush, had done very little to construct either a legal regime or a substantive policy approach to addressing climate change. Consequently, as in the mitigation and adaptation contexts, where President Obama sought to use legal (e.g., the CPP) and executive (e.g., the Task Force on Climate Preparedness and Resilience) initiatives to lay the foundation for a multi-layered approach to climate change, here, as well, he attempted to create a comprehensive platform for action.

In the international context, however, President Obama not only had to chart a course of action, he also had to overcome a legacy of U.S. political opposition to climate negotiations. The obstructionist attitude of the Bush Administration created a legacy of frustration and ill-will that empowered other powerful polluting states, especially China in such a way as to make it more difficult for President Obama to reassert U.S. influence in climate negotiations. Congressional opposition at home further complicated his international leadership objectives. Despite these challenges, President Obama was able to reassert U.S. leadership on climate change at the international level in a way that enabled more fruitful bilateral and international negotiations that ultimately proved instrumental to the adoption of the Paris Agreement.

132. See, e.g., Carlarne, supra note 89, at 10. Carlarne explains that:

The re-engagement of the United States was met with the emergence of China and, to a lesser degree, India as dominant players in establishing the parameters of climate governance. In the end, the Conference was neither defined by the negotiating texts that diplomats had spent the past two years refining, nor by the long heralded re-engagement of the United States in global negotiations but by the new political paradigm that emerged.

The Copenhagen Conference revealed the degree to which power—whether political, symbolic, or merely procedural—was dispersed among the state participants. The Conference also demonstrated that there was no longer one clear hegemonic power that could shape negotiations. Rather, states grappled to hold the title of the hegemonic power.

Id. (footnote omitted).


134. Although President Obama actively engaged in international climate negotiations beginning with the 2009 Copenhagen Conference, the firmness of his rhetoric and the authoritativeness of his leadership on climate change increased notably during his second term. As just one example of this, when addressing the UN Climate Summit in September of 2014, he characterized climate change as the “one issue that will define the contours of this century more dramatically than any other, and that is the urgent and growing threat of a changing climate,” and declared:

[T]here should be no question that the United States of America is stepping up to the plate. We recognize our role in creating this problem; we embrace
Key to President Obama’s success in the international context was his ability to wield his executive authority to engage China on climate change and to negotiate an international agreement that the United States could become party to without requiring legislative approval.\textsuperscript{135}

As the two leading greenhouse gas emitters and two of the most powerful states in global politics, U.S.-Chinese participation on climate change was critical. Following President Xi Jinping’s assumption of power in 2012, President Obama sought to improve U.S. relations with China. In June 2013, President Obama and President Xi Jinping met to discuss a range of shared concerns, including climate change.\textsuperscript{136} Subsequently, in 2014, President Obama and President Xi Jinping jointly declared that the two countries “have a critical role to play in combating global climate change, one of the greatest threats facing humanity.”\textsuperscript{137} Accordingly, they reaffirmed their commitment to bilateral cooperation and announced the relative post-2020 actions they would commit to taking under the soon-to-be negotiated Paris Agreement.\textsuperscript{138} This unprecedented level of cooperation gave a boost to our responsibility to combat it. We will do our part, and we will help developing nations do theirs. But we can only succeed in combating climate change if we are joined in this effort by every nation—developed and developing alike. Nobody gets a pass.


\textsuperscript{137} Fact Sheet: U.S.-China Joint Announcement on Climate Change and Clean Energy Cooperation, \textit{supra} note 94.

\textsuperscript{138} These commitments were as follows:

The United States intends to achieve an economy-wide target of reducing its emissions by 26%–28% below its 2005 level in 2025 and to make best efforts to reduce its emissions by 28%. China intends to achieve the peaking of CO\textsubscript{2} emissions around 2030 and to make best efforts to peak early and intends to increase the share of non-fossil fuels in primary energy consumption to around 20% by 2030. Both sides intend to continue to work to increase ambition over time.

\textit{Id.}
international climate negotiations, with then UNFCCC Executive Secretary, Christiana Figueres, declaring that:

[The] joint announcement provides both practical and political momentum towards a new, universal climate agreement in Paris in late 2015 that is meaningful, forward-looking and recognizes that combating climate change is not a five or ten year plan—but is a long term commitment to keep a global temperature rise under [two] degrees throughout this century.139

President Obama achieved similar success in ensuring that the contours of the subsequently negotiated Paris Agreement, and the United States’ obligations thereunder, would allow President Obama to accept the agreement on behalf of the United States without seeking legislative approval.140 As a result, on September 3, 2016, the United States formally accepted the Paris Agreement.141 Symbolically, the United States and China submitted their respective instruments to join the Paris Agreement on the same day, marking a defining moment in international climate change law.142

Despite historic advances in international cooperation and ambitious work to structure robust domestic legal and political foundations for addressing climate change, President Obama’s climate legacy is both flawed and fragile.143 At the end of his second term, the future of his key legal initiative—the CPP—was tenuous at best given

140. For a discussion of different forms of executive agreements, see Daniel Bodansky & Peter Spiro, Executive Agreements+, 49 VAND. J. TRANSNAT’L L. 885, 916–19 (2016) (explaining how the President can accept procedural aspects of international agreements under the foreign affairs power to communicate with other nations under the following three conditions: (1) “the core obligations . . . are procedural in nature”: (2) the decision to join the agreement “finds significant support in the Senate’s prior approval” in a prior agreement that “largely elaborates obligations contained in [the prior agreement]”: and the agreement “is consistent with and can be implemented on the basis of existing legal and regulatory authorities”).
142. Id.
that the Supreme Court had stayed implementation of the rule.\textsuperscript{144} Moreover, the Presidents’ efforts to facilitate a coordinated approach to improving national adaptation and resiliency efforts remained fragmented and in their infancy, and the ability of the Paris Agreement to mobilize the level of commitments needed to limit dangerous anthropogenic climate change hung in the balance.\textsuperscript{145} The success of these initiatives depended on continuing efforts to strengthen the foundations that the Obama Administration had laid. Instead, the 2016 election brought these legal construction efforts to a dramatic halt. By late 2016, the question was no longer how to advance existing initiatives, but whether and how they could survive the impending swing of the wrecking ball that President Trump had already threatened.

III. THE TRUMP ERA: INTERNATIONAL OBSTRUCTION AND DOMESTIC Deregulation

President Obama was able to help bring about a relatively rapid set of changes to climate change law and policy at the international and domestic levels. He drew upon the full strength of his executive authority to achieve a degree of change that could only be achieved through the vehicle of the state. State power, of course, can be wielded to constructive or destructive ends. With the transition from President Obama to President Trump, we have witnessed President Trump wield the power of the state to dismantle domestic rules, derail international cooperation, deepen political polarization, and undermine science-based decision-making.

“They’re taking them down, one by one.”\textsuperscript{146} Thus did Janet McCabe, the EPA’s top climate and clean-air regulator during the Obama Administration, aptly sum up the Trump Administrations’ approach to the suite of climate-related rules adopted during the Obama-era.

As discussed, President Trump ran on a platform of Tweet-based mockery of climate science, flippant opposition to domestic and international climate action, and resolute commitment to propping up

\textsuperscript{144} Even before President Trump declared his intent to revoke the CPP rule, the Supreme Court had stayed implementation of the rule pending judicial challenge. \textit{See} Courtney Sobie, \textit{Supreme Court Stays EPA Clean Power Plan}, A.B.A. (Feb. 27, 2016), \url{https://www.americanbar.org/groups/litigation/committees/environmental-energy/practice/2016/021716-energy-supreme-court-stays-epas-clean-power-plan} [\url{https://perma.cc/Z9FL-QKVP}].

\textsuperscript{145} \textit{See}, e.g., \textit{Paris Agreement}, supra note 23, at 2 (summarizing the mitigation gap).

domestic sources of fossil fuel energy. Accordingly, it came as no surprise when President-elect Trump populated his energy transition team with climate skeptics and energy lobbyists. Moreover, President Trump organized his transition agenda around an “America First” policy premised, in the case of energy and the environment, on achieving energy independence; relieving burdens on the domestic fossil fuel industry; and unraveling many Obama-era regulations such as his “stupid” climate rule for power plants. President Trump’s energy and environment plan sought to prioritize a suite of policies, including: withdrawing the United States from the Paris Agreement; increasing domestic production of natural resources; reviving the coal industry; expediting environmental reviews of energy-related projects; accelerating large energy infrastructure projects, such as the Keystone XL Pipeline; reviewing subsidies for renewable sources of energy; repealing the CPP; and relaxing fuel economy standards.

Once President Trump assumed office, he immediately began the promised process of deregulation by rolling back Obama-era rules across the board. By 2018, the Administration boasted that “[s]ince January 2017, a total of 2253 regulatory actions have been delayed or withdrawn,” including the CPP, and highlighted priority areas for further regulatory roll-back, including initiatives to freeze CAFE standards and tailpipe carbon dioxide emission standards for passenger vehicles and light trucks.

147. See supra notes 50–52.
150. Id.
151. Id. (identifying additional further roll-backs to include freezing CAFE standards and tailpipe carbon dioxide emission standards for passenger vehicles and light trucks); see also Nadja Popovic et al., 85 Environmental Rules Being Rolled Back Under Trump, N.Y. TIMES
In common with President Obama’s ambitious construction of climate change laws and policies following the policymaking drought during the Bush-era, the litany of changes that President Trump has made to deconstruct Obama-era climate laws and policies are too many to review. Here, this Article examines key steps the Trump Administration has taken to alter the United States’ approach to climate change. The primary objective here, as throughout this Article, is to develop an understanding of how President Trump’s approach to climate change shapes larger domestic efforts to develop an effective system of climate law moving forward, particularly as we look ahead to the presidential election of 2020.

A. The Domestic Death of the “Draconian” Paris Agreement

Keeping with his campaign-trail promise, on June 1, 2017, President Trump announced that the United States would be withdrawing from the Paris Agreement.153 More precisely, he declared that “as of today, the United States will cease all implementation of the non-binding Paris Accord and the draconian financial and economic burdens the agreement imposes on our country.”154 In his speech he decried the Agreement as “simply the latest example of Washington entering into an agreement that disadvantages the United States to the exclusive benefit of other countries,” as “handicap[ping] the United States economy in order to win praise from the very foreign capitals and global activists that have long sought to gain wealth at our country’s expense” and, ultimately, as “very unfair, at the highest level, to the United States.”155 The United States, therefore, would terminate all steps to comply with the Agreement, including implementing domestic emissions reduction efforts and contributing to climate finance initiatives.

The legal effect of President Trump’s announcement was limited by the terms of the agreement, which prevent the United States from formally withdrawing from the Agreement until November 4, 2020, the


154. Statement by President Trump on the Paris Climate Accord, supra note 153.

155. Id.
day after the next presidential election. The symbolic and substantive effects of President Trump’s announcement, however, were significant. First, it set the tone for the Trump Administration’s approach to climate change. This tone being total defiance of the idea that the United States should be a cooperative actor on climate change and an unapologetic intent to undo the work of the previous administration to reassert U.S. leadership on climate change. Second, the decision to cease implementation of the Agreement had immediate effect on global mitigation and adaptation efforts, given that it meant that the United States—the second largest global GHG emitter—would no longer commit to reducing its emissions in line with the pledge that it made under the Agreement, thus undermining cumulative global efforts to limit warming. Further, it also meant that the United States would immediately stop providing the climate finance that it had committed to under the Obama Administration, with the effect of weakening global mitigation and adaptation efforts.

President Trump’s announcement, however, also had a side effect that he may not have predicted. At the domestic level, his announcement was met with an immediate outpouring of resistance and widespread efforts to mobilize subnational and non-state actors to step into the void to help keep the United States on track to pursuing domestic and international commitments to address climate change. On the same day that President Trump announced the United States’ de facto withdrawal from the Paris Agreement, the governors of California, Washington, and New York announced they had formed a new partnership, the United States Climate Alliance, aimed at advancing the goals of the Paris Agreement and fulfilling the United States’ obligations thereunder. On the same day, eighty-four U.S. mayors, representing forty million Americans, issued a joint statement declaring their intention to “adopt, honor, and uphold the

156. Paris Agreement, supra note 23, at Annex, art. 28.1–2 (“At any time after three years from the date on which this Agreement has entered into force for a Party [for the United States, November 4, 2016], that Party may withdraw from this Agreement by giving written notification to the Depositary. Any such withdrawal shall take effect upon expiry of one year from the date of receipt by the Depositary of the notification of withdrawal…”). The United States status is, thus, “pending withdrawal.” See Harold Hongju Koh, Presidential Power to Terminate International Agreements, 128 YALE L.J. 432, 468–70 (2018).

commitments to the goals enshrined in the Paris Agreement.\textsuperscript{158} Complementing the state and city initiatives, in June 2017, a group of mayors, governors, and business leaders launched the “We Are Still In” initiative that brought together a bipartisan coalition of “mayors, county executives, governors, tribal leaders, college and university leaders, businesses, faith groups, cultural institutions, healthcare organizations, and investors,” declaring their intent to continue efforts to implement the United States international climate pledge.\textsuperscript{159} Also in June 2017, California Governor, Jerry Brown, together with Michael Bloomberg launched “America’s Pledge,” an initiative to “compile and quantify the actions of states, cities and businesses in the United States to drive down their greenhouse gas emissions consistent with the goals of the Paris Agreement.”\textsuperscript{160} The swelling of support for climate action across the public and private sectors has continued to intensify in the wake of persistent presidential efforts to undermine U.S. climate actions.\textsuperscript{161}

At the international level, President Trump’s announcement was met with reactions varying from a symbolic shrug to exasperated defiance. President Emmanuel Macron of France responded to President Trump’s announcement by releasing a speech (in English, and on Twitter) stating that:

Tonight, I wish to tell the United States: France believes in you. The world believes in you. I know that you are a great nation. I know your history, our common history. To all scientists, engineers, entrepreneurs, responsible citizens who were disappointed by the decision of the President of the United States, I want to say that they will find in France, a second homeland . . . . I can assure you, France will not give up the fight.\textsuperscript{162}

\begin{enumerate}
\item \textsuperscript{158} Paris Climate Agreement: 407 US Climate Mayors Commit to Adopt, Honor and Uphold Paris Climate Agreement Goals, CLIMATE MAYORS, http://climatemayors.org/actions/paris-climate-agreement [https://perma.cc/2WED-J7QB]. As of July 2019, the pact included 407 U.S. Mayors representing 70 million Americans. Id.
\item \textsuperscript{159} “We Are Still In” Declaration, WE ARE STILL IN, https://www.wearestillin.com/we-are-still-declaration [https://perma.cc/5B55-AZPU].
\item \textsuperscript{161} See infra Part IV.
\item \textsuperscript{162} Statement of Emmanuel Macron, President of France (June 1, 2017), https://www.pscp.tv/w/1jMgoodLyqKL; see also Emmanuel Macron (@EmmanuelMacron), TWITTER (June 1, 2017, 2:46 PM), https://twitter.com/emmanuelmacron/status/870396270829084672 [https://perma.cc/6CC8-TEFY] (posting President Macron’s remarks to his Twitter feed).
\end{enumerate}
He ended his statement with a not-so-subtle dig at Trump, declaring: “[m]ake our planet great again.” Simultaneously, France joined with Germany and Italy in a statement taking note “with regret of the decision by the United States of America to withdraw from the universal agreement on climate change,” and committing to “step up efforts to support developing countries, in particular the poorest and most vulnerable, in achieving their mitigation and adaptation goals.”

The Prime Minister of Canada, Justin Trudeau, expressed similar frustration, stating that:

We are deeply disappointed that the United States federal government has decided to withdraw from the Paris Agreement. Canada is unwavering in our commitment to fight climate change and support clean economic growth . . . . While the U.S. decision is disheartening, we remain inspired by the growing momentum around the world to combat climate change and transition to clean growth economies.

The Prime Minister of India joined the sentiment of his Canadian and European counterparts, issuing a statement on Twitter stating that the “Paris Agreement reflects our duty towards protecting the Earth and our natural resources. For us, this is an article of faith . . . .”

Perhaps, most importantly, preceding and following President Trump’s announcement, the Chinese government has expressed support for the Paris Agreement and disappointment in the United States’ efforts to undermine the global pact. Prior to President Trump’s June 2017 announcement, at a speech before the United Nations, Chinese President, Xi Jinping, proclaimed that “[t]he Paris Agreement is a milestone in the history of climate governance. We must ensure this endeavor is not derailed . . . . All parties should work together to implement the Paris Agreement. China will continue to
take steps to tackle climate change and fully honor its obligations.\footnote{167} In the wake of President Trump’s announcement, China has continued to demonstrate support for the Agreement and appears to be exploring ways in which it can assert leadership in the vacuum created by the United States’ abdication.\footnote{168}

President Trump’s emphatic rejection of the Paris Agreement epitomized his emerging approach to climate policy at the domestic level, which similarly has focused on tearing down the existing legal architecture, undermining climate science, and juxtaposing climate action as in direct conflict with American jobs and economic development. While the President has great power to deconstruct and re-direct State action,\footnote{169} his ability to dismantle and undermine the emerging legal architecture and slow the momentum for climate law and policy has been hindered by systemic and social resistance at every level.\footnote{170} That is, President Trump has used executive authority to cease implementation of the Paris Agreement and to direct the EPA to repeal the regulatory foundations that President Obama put in place; however, he has not been able to wield that authority to undermine the cooperative momentum motivating international negotiations and


\footnote{169. For a reminder of the cumulative nature of law and a discussion the resilience of law across changes in radical leadership, see Jeremy Waldron, \textit{The Concept and the Rule of Law}, 43 \textit{Ga. L. Rev.} 1, 32–33 (2008). Waldron reminds us:

A legal system builds on itself. Though it is always possible for a law to be amended or revoked, it is not usual for each new legislature to wipe the slate clean of the work of its predecessors. Instead, what legislators do—and what courts also do in their law-making capacity—is add to the laws already in existence. . . . Even when there is a radical change of personnel in the political system—with liberals replacing conservatives—indeed, even when there is a revolution, we hardly ever see a return to “Year Zero” so far as the law is concerned. Instead, law grows by accretion, so that new liberal legislation takes its place alongside old conservative legislation—or at least alongside the old conservative legislation that has not been explicitly repealed.

Id.}

\footnote{170. See infra Part IV.}
domestic efforts to respond to climate change. President Obama was unable to create iron-clad legal architecture, but he successfully leveraged his authority to push forward international negotiations and to advance international cooperation. His efforts facilitated the creation of a robust international climate change agreement and a firm foundation for international cooperation that has proved resolute and able to withstand the Trump Administration’s reversal of course.

B. Gutting the Clean Air Act Regulatory Regime & Deregulating the Fossil Fuel Industry

One of the focal points of Trump’s presidency has been fast-tracking the move towards domestic energy independence. To this end, in March 2017, Trump issued an executive order, Promoting Energy Independence and Economic Growth. President Trump declared that, “[i]t is in the national interest to promote clean and safe development of our Nation’s vast energy resources, while at the same time avoiding regulatory burdens that unnecessarily encumber energy production, constrain economic growth, and prevent job creation.” Accordingly, the order directed all executive departments and agencies to “immediately review existing regulations that potentially burden the development or use of domestically produced energy resources and appropriately suspend, revise, or rescind those that unduly burden the development of domestic energy resources . . . .”

To jump start the process of reducing regulatory burdens on energy production and begin the process of reversing course on climate change, the order rescinds multiple Obama-era executive orders, including his order related to Preparing the United States for the Impacts of Climate Change and his memoranda related to Power Sector Carbon Pollution Standards and Climate Change and National Security. Further seeking to dismantle the core of President Obama’s climate agenda, the executive order also rescinds the Climate Action Plan and the Climate Action Plan Strategy to Reduce Methane Emissions. The order also directs immediate review of the CPP; disbands the Interagency Working Group on the Social Cost of Greenhouse Gases and withdraws its reports on the social cost of

172. Id. at 314–15.
173. Id. at 315.
175. Id.
carbon declaring them “no longer representative of governmental policy”; directs that “any and all moratoria on Federal land coal leasing activities” be lifted; and charges that a suite of other Obama-era rules regulating oil and gas development be reviewed with an eye towards rescinding or revising the rules in order to unencumber energy production.176 Hence, in one fell swoop, the Trump Administration sought to undermine the foundations of the existing domestic climate regime.

Pursuant to this order, on October 16, 2017, the EPA proposed repealing the CPP177 and subsequently, on August 21, 2018, issued its proposed replacement, the Affordable Clean Energy (ACE) rule.178 The CPP was finally repealed and replaced with the ACE on June 19, 2019. According to the EPA, the ACE replaces “the prior Administration’s overly prescriptive and burdensome [CPP] and instead empowers states, promotes energy independence, and facilitates economic growth and job creation.”180

With the CPP, the Obama Administration sought to create an enforceable legal backbone for reducing emissions from the largest source of emissions in the United States—e.g., existing power plants. Reducing emissions from existing coal-fired power plants is critical to long-term efforts to reduce domestic emissions and central to the United States’ ability to meet its commitments under the Paris Agreement.181 Accordingly, the CPP was designed to ratchet down emissions from power plants by 32% below 2005 levels by 2030.182

The EPA attests that the ACE will “reduce emissions of CO₂, mercury, as well as precursors for pollutants like fine particulate matter and ground-level ozone” and “result in annual net benefits of $120

176. Id. at 318.
180. EPA Proposes Affordable Clean Energy (ACE) Rule, supra note 178.
181. See supra note 94 and accompanying text (describing the United States’ commitment pursuant to the Paris Agreement to reduce greenhouse gas emissions 26% to 28% below 2005 levels by 2025).
million to $730 million, including costs, domestic climate benefits, and health co-benefits. In contrast to the CPP, which set out in a clear and transparent manner the net emissions reductions that the plan would achieve—i.e., reducing greenhouse gas emissions 32% below 2005 levels by 2030—with the ACE, the EPA states that “along with additional expected emissions reductions based on long-term industry trends” the rule could result in emissions reductions “as much as 35% below 2005 levels” by the year 2030. What is key here is that the rule does not seek to, or even attest to, achieve anything comparable to the emissions reductions the CPP would have achieved. Instead, the rule relies on ongoing industry trends—e.g., the shift from coal to natural gas and the growth of renewable energy to achieve emissions reductions. Notably, when the Trump administration issued the proposed rule, estimates suggested that the ACE would “reduce[ ] pollution only negligibly even from a no-CPP baseline.” The Trump Administration’s own analysis demonstrates that it would actually allow for an increase in particulate matter and ozone pollution, with dire impacts for human health. The EPA’s estimates suggest that increases in particulate matter and ozone pollution could lead to thousands of premature deaths and increases in pollution-related illness, as compared to the baseline under the CPP. In fact, the “EPA estimates, for example, that in the year 2030 alone somewhere between 350 and

183. EPA Finalizes Affordable Clean Energy Rule, Ensuring Reliable, Diversified Energy Resources While Protecting Our Environment, EPA (June 19, 2019), https://www.epa.gov/newsreleases/epa-finalizes-affordable-clean-energy-rule-ensuring-reliable-diversified-energy [https://perma.cc/A3Z3-UYPE] (suggesting that ACE will reduce CO₂ emissions by 11-million short tons—less than 1% of current U.S. emissions, SO₂ emissions by 5790 tons, NOₓ emissions by 7100 tons, PM2.5 emissions by 400 tons, and mercury emissions by fifty-nine pounds).

184. Id.


over 1000 people will die from exposure to particulate matter and ozone whose deaths would have been avoided under the CPP."\textsuperscript{187}

In contrast to the CPP, which set individualized emission caps for each state, the ACE jettisons emissions caps of any kind and, instead, "gives states broad latitude to determine how stringently they want to control power plant emissions under their jurisdiction."\textsuperscript{188} The rule operates by mandating heat-rate efficiency improvements ("HRIs") at individual facilities; the rule does not mandate net emissions reductions by state or even by facility.\textsuperscript{189} Because the rule does not set cumulative or individual emissions caps, there is a significant risk that "[d]ue to greater plant efficiency, such HRIs could lead to increased generation and emissions, known as an emissions rebound effect."\textsuperscript{190}

Taking the rebound effect into account, one early study suggests that while the ACE "only modestly reduces national power sector CO$_2$ emissions" it could lead to increases in CO$_2$ emissions "by up to 8.7\% in 18 states plus the District of Columbia in 2030 compared to no policy" and increases in "SO$_2$ and NO$_x$ emissions in 19 states and 20 states plus DC, respectively, in 2030 compared to no policy, with implications for air quality and public health."\textsuperscript{191}

Furthermore, while one of President Trump’s repeated objectives has been to remove the Obama Administration’s "overly prescriptive and burdensome"\textsuperscript{192} rule and to adopt a new rule that would reduce regulatory burden and minimize costs for industry, the ACE has been critiqued on just this count. One such critique suggests that, according to

\begin{itemize}
  \item \textsuperscript{190} See Amelia T. Keyes et al., \textit{The Affordable Clean Energy Rule and the Impact of Emissions Rebound on Carbon Dioxide and Criteria Air Pollutant Emissions}, 14 ENVTL. RES. LETTERS 044018 (2019).
  \item \textsuperscript{191} Id.
  \item \textsuperscript{192} \textit{EPA Proposes Affordable Clean Energy (ACE) Rule}, supra note 178.
\end{itemize}
a careful review of the EPA’s own models, the ACE is likely to “impose similar, or perhaps even greater, compliance costs” on industry than the CPP.\(^{193}\)

In sum, the ACE’s ability to bring about real emissions reductions or to achieve the promised cost savings for the energy industry has been called into question.\(^{194}\) Taking into account all of the different dimensions of the rule, one group of legal commentators suggest that the ACE would increase pollution of CO\(_2\) and other air pollutants; cost us billions of dollars in forgone benefits; and harm public health, resulting in thousands of premature deaths that the CPP would prevent. At the same time . . . the ACE Rule is not likely to save industry much in compliance costs.\(^{195}\)

The core of the Obama Administration’s efforts to limit greenhouse gas emissions under the umbrella of the CAA consisted of the CPP, which provided the tool for limiting emissions from power plants, and the “Tailpipe Rule,” which provided the tool for limiting emissions from automobiles.\(^{196}\) Together, these two CAA regulatory programs targeted the two largest sources of domestic greenhouse gas emissions.\(^{197}\) Replacing the CPP with the ACE deals a high-impact blow to the heart of the Obama Administration’s efforts to use the CAA to limit emissions from power plants. It is book-ended by the Trump Administration’s ongoing efforts to limit regulatory constraints on automobiles.

The origins of both the CPP and the Tailpipe Rule rest in the Supreme Court’s 2007 decision in Massachusetts v. EPA. In this seminal case, the Court ruled that the EPA possessed regulatory authority over greenhouse gases under the CAA, and that the Agency’s decision on whether to regulate these pollutants must be statutorily grounded and based on scientific (not political) considerations.\(^{198}\) Following the Court’s 2007 ruling, in 2009, the EPA issued the CAA section 202(a) (1)

193. Logar, supra note 187 (emphasis added) (quoting Horowitz et al., supra note 187).
an endangerment finding that triggered the EPA’s obligation to begin regulating greenhouse gas emissions from new automobiles.\textsuperscript{199} That same year, the EPA also granted a waiver of the CAA preemption to California, allowing it to adopt its greenhouse gas emission standards for motor vehicles.\textsuperscript{200} Subsequently, in May 2009, the EPA, the Department of Transportation, state regulators, and the auto industry established the first-ever nationwide greenhouse gas emission standards for light-duty vehicles and the most progressive fuel efficiency improvements in thirty years. The 2009 rule, known as the Tailpipe Rule, applied to model years 2012 to 2016 and was followed in 2012 by another rule requiring additional reductions in greenhouse gas emissions and additional improvements in fuel economy for light-duty vehicles for model years 2017 to 2025.\textsuperscript{201} In 2014 and 2015, the EPA continued to develop the regulatory regime, finalizing gasoline standards that further contribute to vehicle efficiency for passenger cars, light-duty trucks, medium-duty passenger vehicles, and some heavy-duty vehicles.\textsuperscript{202} As a result of these rules, automakers were required to nearly double the average fuel economy of new cars and trucks by 2025.\textsuperscript{203}

Unlike the CPP, which was released late in President Obama’s second term and remained in limbo even prior to President Trump taking office, the regulatory regime for auto emissions came into effect and was actively implemented and enforced during President Obama’s first and second terms in office. Despite the established nature of the regulatory regime and the proven environmental and human-health benefits associated with the efficiency and emissions improvements, the Trump Administration opposed the tightening standards arguing

\textsuperscript{202} Timeline of Major Accomplishments in Transportation, Air Pollution, and Climate Change, supra note 200.
that they were economically onerous and created safety concerns. Accordingly, on August 2, 2018, the EPA released a proposed rule—the Safe Affordable Fuel Efficient (SAFE) Vehicles proposal—that would freeze emissions and fuel-efficiency standards for cars after 2021, and would revoke the waiver of CAA preemption the EPA granted California to establish its greenhouse gas emissions standards. At the time of writing, this rule is not yet final and is being challenged by environmentalists, consumer groups, and auto-industry representatives. If the proposed rule comes into effect, it would deal a blow not only to efforts to limit emissions from the transportation sector, but also to the core remaining piece of President Obama’s CAA greenhouse gas regulatory regime. Additionally, revoking California’s waiver would challenge states’ rights to adopt more ambitious automobile standards and interfere with the ability of states to meet their own environmental objectives. As Carlson suggests, the proposed rule would deal a significant blow to U.S. efforts to reduce GHG emissions from the transportation fleet and hamper California’s ambitious climate goals and air pollution policy. In so doing, the Administration’s actions may also weaken California’s efforts to act as a global environmental policy and technology leader, demonstrating the potential limits of Governor Brown’s efforts to be the de facto leader of U.S. climate leadership. At the end of the day, in a system of federalism, a state can provide only so much global leadership in the face of national intransigence.

Taken together, the repeal and replacement of the CPP and the proposed freezing of the Tailpipe Rule erode the core of President Obama’s efforts to develop a federal legal regime for limiting


208. Id. at 272.
greenhouse gas emissions. The Trump Administration’s climate and energy related deregulatory efforts, however, are far more extensive and include efforts to remove limits on all aspects of fossil fuel development and to enable large-scale energy infrastructure development.

As just a few of examples of the steps taken to relieve regulatory burdens on the energy industry, the Trump Administration has removed requirements for oil and gas companies to report methane emissions while also revising and partially repealing Obama-era rules limiting methane emissions from the oil and gas industry; proposed lifting an Obama-era coal leasing moratorium on public lands; proposed an expanded oil and gas leasing program in the Arctic National Wildlife Refuge; issued an executive order seeking to expedite approvals of energy infrastructure projects; proposed rolling back an Obama-era rule aimed at preventing hydrofluorocarbon leaks from air conditioners; rolled back regulatory limits on petroleum refineries; quickened the pace of approving onshore drilling permits; and proposed to dramatically expand the areas open to offshore oil and gas leasing.

Cumulatively, these ongoing and proposed changes loosen environmental controls on the fossil fuel industry from the point of extraction to the point of combustion, expand the range of areas where extraction can take place, and facilitate the development of large-scale energy projects. While it is too early to fully understand the combined effect of all these changes, a new study prepared for state attorneys general describe the Trump Administration’s actions as amounting to a “virtual surrender to climate change” and suggest that the plans to roll back climate and energy-related regulations could drive up domestic greenhouse gas emissions by over two hundred million tonnes a year CO₂ Equivalent by 2025.218

Although the long-term impacts are unknown, the Trump Administration’s policies have already facilitated increases in fossil fuel production, greenhouse gas emissions, and energy exports. In 2018, U.S. CO₂ emissions rose by 3.4%; this spike represented the largest increase in domestic emissions in eight years and the second largest annual increase in more than two decades.219 Also, in 2018, the United States surpassed Russia and Saudi Arabia to become the world’s largest crude oil producer.220 In addition, U.S. exports of fossil fuels continue to increase. It is projected that, by 2020, “for the first time since the 1950s, the United States will export more energy than it imports . . . .”221


At the same time that the Trump Administration’s energy policies are facilitating increases in fossil fuel production, consumption, and exports, the Administration is also taking steps to limit domestic efforts to integrate climate change into policy planning, with the effect of undermining Obama-era climate resiliency strategies. In 2017, for example, the Trump Administration removed climate change from a list of threats to national security,\(^{222}\) despite far-reaching concerns among military leaders about the effects of climate change on national security.\(^{223}\) The Administration has also sought to thin-out climate change considerations from natural resource management strategies, including revoking an Obama-era executive order promoting “climate resilience” in the Bering Sea\(^{224}\) and rescinding an Obama-era policy that integrates climate change into natural resource management decisions in national parks.\(^{225}\) The Administration also rescinded an Obama-era policy directing the Department of Interior to “integrate climate change adaptation strategies into its policies, planning, programs and operations”\(^{226}\) as well as the far-reaching National Environmental Policy Act (NEPA) guidelines directing agencies to take climate change into consideration when assessing the environmental


\(^{226}\) See Michael Doyle, Department Rescinds Obama-era Mitigation and Climate Docs, E&E NEWS (Jan. 5, 2018), https://www.eenews.net/stories/1060070247 [https://perma.cc/C3RD-ZZB7].
impacts of federal actions.\textsuperscript{227} The cumulative effect\textsuperscript{228} of the Trump Administration’s roll-backs of resiliency and adaptation policies has been to minimize the extent to which the federal government must and even can take climate change into account when making short and long-term planning decisions across a range of issues.\textsuperscript{229} These roll-backs undermine what was already a thin and experimental set of strategies that President Obama had put in place to try to anticipate and respond to the pervasive threats that climate change poses to the United States. In common with efforts worldwide, U.S. adaptation planning is still in its infancy. Eroding the emerging foundations for national adaptation policy sets the United States back with the effect of minimizing the federal government’s ability both to limit the negative effects and to take advantage of any short-term positive effects of climate change.\textsuperscript{230}


\textsuperscript{228} There are exceptions to the dominant trend towards rolling-back climate resiliency efforts. The Trump Administration, for example, is overhauling the National Flood Insurance Program in a way that many climate advocates view as necessary in light of climate-related changes to flood-based risks. \textit{See As Risks Rise, an Overhaul Announced for Federal Flood Insurance}, \textit{YALE ENV’T 360} (Mar. 19, 2019), https://e360.yale.edu/digest/as-risks-rise-an-overhaul-announced-for-federal-flood-insurance [https://perma.cc/C8JM-AJ80].


\textsuperscript{230} \textit{See}, e.g., J.B. Ruhl, \textit{The Political Economy of Climate Change Winners}, 97 \textit{MINN. L. REV.} 206, 247, 269–70 (2012) (exploring the reality that, even if the global aggregate impacts of climate change are negative, some people—and some groups of people—stand to benefit from climate change in the near term, and discussing the complex interplay between climate change winners and losers over time); \textit{see also} Robin Kundis Craig, \textit{The Social and Cultural Aspects of Climate Change Winners}, 97 \textit{MINN. L. REV.} 1416, 1417, 1418, 1420 (2013) (cautioning that how we label people who benefit during times of social turmoil “depends as much on cultural constructions of their meaning and public relations as on actual differences in their motives and actions” and warning...
While it is beyond the ambit of this Article to explore the full range of actions that President Trump has taken to unravel the Obama Administration’s work on climate change, even examining these (very) few examples reveals the extent to which the Trump Administration not only has undermined efforts to limit the causes and consequences of climate change, but also has set the United States on a course towards increased fossil fuel dependency.

As Farber suggests:

Much of Trump’s damage to the environment is obvious: his efforts to increase gas and oil production, his regulatory rollbacks, and his efforts to gut the agencies charged with protecting the environment. But he has also done deeper damage to the institutions we need to address climate change and other daunting environmental challenges.231

In addition to direct attacks on core components of the United States’ burgeoning climate law foundation, President Trump has undermined the role of science in decision-making, deepened political polarization around climate change, and damaged the role and reputation of the United States in international climate negotiations.

Yet, as extensive as the Trump Administration’s efforts to undermine climate policy are, they are meeting resistance at every step. Not only does the sweeping nature of President Obama’s climate policies limit the Trump Administration’s ability to dismantle the existing climate strategy in one fell swoop,232 but the Administration has also faced

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232. See Benjamin Hulac, Key Obama Climate Orders Still on the Books, E&E NEWS (May 2, 2018), https://www.eenews.net/stories/1060080615 [https://perma.cc/YS8K-YM8C] (discussing some of the climate-related executive orders that have not yet been revoked).
significant losses in the courts\textsuperscript{233} and persistent push-back from the public and private sector.\textsuperscript{234}

President Trump will continue to chip away at President Obama’s climate strategy and to erode the remaining components of its legal core. President Obama’s overarching climate legacy, however, is proving durable. The steps that President Obama took to mobilize climate action at the international, national, and subnational levels and across the public and private sectors has created a platform of resistance and policy momentum that persists.\textsuperscript{235} Patterns of climate litigation exemplify this trend.

IV. THE EVOLUTION OF CLIMATE LITIGATION

Across the waxes and wanes of the Bush, Obama, and Trump Administrations, the courts have been a steady driving force in shaping the emerging rule of law around climate change. There is a rich and varied body of scholarship exploring the role that climate change

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    [C]ourts are continuing to hand the [A]dministration an impressive string of losses that mean that, at least in the short term, the assault is much less effective than the [A]dministration’s claims of deregulating the economy would lead us all to believe. In just the last 8 days, the Administration has lost four high profile environmental cases, adding to a string of losses over the past 18 months.


  \item \textsuperscript{235} See Jerry L. Mashaw & David Berke, Presidential Administration in a Regime of Separated Powers: An Analysis of Recent American Experience, 35 Yale J. Reg. 549, 587 (2018). Mashaw and Berke suggest that, “[o]ur look at climate policy highlights both the power and perils of presidentialism. Bold action is possible, but it may not be durable.”

  \item \textsuperscript{Id.} This is true in terms of the durability of bold legal action, but arguably less true of the lasting effect of the sweeping use of executive power in elevating the floor of the debate and mobilizing subnational and non-state actors even when the “bold action” that formed the centerpiece of a President’s strategy has been dismantled. \textit{Id.}
\end{itemize}
\end{footnotesize}
litigation has to play in shaping climate change law and policy. In the United States, in particular, climate litigation has been the meatiest subject for legal academics given the dearth of primary law with which to engage. It is well beyond the remit of this Article to review the breadth and impact of past and present climate litigation in depth. Rather, the goal here is to explore what patterns in domestic (and international) litigation reveal about the evolving state of climate change law.

The number and variety of climate change-related lawsuits that have been filed around the world is remarkable. A recent study of global trends in climate litigation reveals that, as of May 2019, 1,328 climate-related cases have been filed in twenty-eight countries around the world, “in addition to cases brought to the Court of Justice of the European Union . . . the Inter-American Court on Human Rights, the Inter-American Commission on Human Rights and the UN Human Rights Committee.” Of these 1328 global cases, “more than three-quarters of cases identified globally have been filed in the US.”

Globally, the number of cases filed has surged in recent years. The cases target a variety of defendants, namely governments and corporations, including the largest global greenhouse gas emitters, collectively referred to as the “carbon majors.” These cases are being


239. Id.

240. See id. at 1.

241. See Richard Heede, Tracing Anthropogenic Carbon Dioxide and Methane Emissions to Fossil Fuel and Cement Producers, 1854–2010, 122 CLIMATIC CHANGE 229 (2014). In his influential 2013 study, Richard Heede provided a quantitative analysis of historic fossil fuel and cement production records of 90 leading investor-owned, state-owned and nation-state producers of oil, natural gas, coal and cement. This study revealed 90
brought by non-profit organizations, states, cities, and, increasingly, by corporate investors, shareholders, and employees.\textsuperscript{242}

\section*{A. The First Wave}

While characterizations of the patterns of climate litigation vary, recent trends suggest that we have entered a second wave of litigation both in terms of strategy and transnational diffusion of litigation tactics. The first wave of climate litigation was driven by actions brought in the United States, largely in the wake of federal inaction. During this first wave of litigation, domestic claimants—largely environmental organizations and subnational actors—sought to use existing statutes and tort law claims first, to compel the federal government to limit greenhouse gas emissions pursuant to existing environmental laws and, second, to force large corporate actors to reduce their emissions or provide compensation for the harms caused by climate change.\textsuperscript{243} The most prominent examples of these two types of cases, respectively, are \textit{Massachusetts v. EPA} and \textit{American Electric Power Company, Inc. v. Connecticut (“AEP”).}\textsuperscript{244}

\textit{Massachusetts v. EPA} represents the height of domestic climate litigation and provides the solid core for domestic climate change law. In this pivotal case, a group of state and local governments, and thirteen leading environmental organizations, sought to force the Bush Administration’s hand in regulating greenhouse gas emissions from new vehicles under the CAA.\textsuperscript{245} Specifically, they petitioned EPA to regulate greenhouse gases under section 202(a)(1) of the CAA, which applies to air pollution from new vehicles.\textsuperscript{246} The Court ultimately concluded that the CAA plainly covers greenhouse gases and tasked the EPA with determining whether, pursuant to the

\begin{footnotesize}
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\item[242.] See generally Benjamin, supra note 237, at 4, 33–34, 36, 61–62.
\item[244.] 564 U.S. 410 (2011).
\item[245.] \textit{Massachusetts v. EPA}, 549 U.S. 497, 505 (2007).
\item[246.] 42 U.S.C. § 7521(a) (1); 549 U.S. at 505–06.
\end{enumerate}
\end{footnotesize}
language of the statute, greenhouse gas emissions constituted air pollutants that cause or contribute to air pollution that endangers human health or welfare.\textsuperscript{247} In tasking the EPA with making this statutorily grounded determination, the Court limited the agency’s ability to defer the decision to regulate greenhouse gas emissions based on political considerations or general arguments of scientific uncertainty.\textsuperscript{248} This was a key turning point in domestic climate law because it provided the first viable avenue for developing a statutorily grounded federal response to climate change. Ultimately, as discussed, the decision in \textit{Massachusetts v. EPA} led the EPA to issue the Endangerment Finding, which triggered the EPA’s responsibility under the CAA to regulate greenhouse gas emissions from automobiles and, ultimately, formed the foundation for President Obama’s climate law efforts.\textsuperscript{249} Although \textit{Massachusetts v. EPA} is the most high-profile CAA climate case, claimants pursued numerous other statute- and regulation-based cases during the early and mid-2000s in an effort to find footholds for forcing federal regulatory action on climate change.

The primary complement to these regulatory cases were federal common law cases that sought—largely unsuccessfully—to hold corporations legally accountable for their contributions to climate change. Plaintiffs in high profile examples of these cases unsuccessfully sought compensation from large energy producers for property damage associated with climate-exacerbated natural disasters such as Hurricane Katrina\textsuperscript{250} as well as for the costs of relocating an entire community of native Alaskans due to climate-induced threats to their village.\textsuperscript{251} The Supreme Court’s decision in \textit{AEP} is the most high profile and decisive response to attempts to use federal common law to hold large emitters accountable for their emissions.\textsuperscript{252} Here, eight states, New York City, and three conservation organizations brought a nuisance suit against four electric power companies and the Tennessee

\textsuperscript{247} 549 U.S. at 532–35.
\textsuperscript{248} Id. at 533–34.
\textsuperscript{249} See supra text accompanying notes 93–100, 198–203.
\textsuperscript{250} Comer v. Murphy Oil USA, Inc., No. 1:05-CV-436-LG-RHW, 2007 WL 6942285, at *1 (S.D. Miss. Aug. 30, 2007). Murphy Oil was appealed to the Fifth Circuit, where the panel initially reversed and remanded the case. Comer v. Murphy Oil USA, 585 F.3d 855 (5th Cir. 2009). The Fifth Circuit granted rehearing en banc, 598 F.3d 208 (5th Cir. 2010), but ultimately dismissed the appeal because it lacked a quorum to decide the issue. Comer v. Murphy Oil USA, 607 F.3d 1049 (5th Cir. 2010).
\textsuperscript{251} Native Vill. of Kivalina v. ExxonMobil Corp., 696 F.3d 849, 858 (9th Cir. 2012).
Valley Authority—the five largest emitters of greenhouse gases in the United States—claiming that the defendants’ emissions contributed to climate change and resulting harms to the plaintiffs and thus constituted a public nuisance. 253 The petitioners asked the court to cap the defendants’ emissions and then require them to reduce their emissions “by a specified percentage each year for at least a decade.” 254

In AEP, the Court held that, pursuant to its decision in Massachusetts v. EPA, “the Clean Air Act and the EPA actions it authorizes displace any federal common-law right to seek abatement of carbon-dioxide emissions from fossil-fuel fired power plants.” 255 As a result of the decision in AEP, very little room is left for climate litigation sounding in federal common law.

While the decision in AEP provided a decisive obstacle to federal common law causes of action, in the years leading up to the Court’s 2011 decision, various lower courts grappled with underlying substantive challenges in these cases, including questions related to standing, the political question doctrine, and causation. Questions of causation proved particularly challenging for the courts given the attenuated causal chain between particular sources of emissions, patterns of global climate change, and the climate-related harms that the plaintiffs suffered. 256 Thus, as fast as climate science was evolving during the mid-2000s, it remained factually difficult for plaintiffs to demonstrate the requisite degree of causal connection between the harms they suffered and the defendants’ emissions.

As a result of the decision in AEP and ongoing challenges relating to climate science and harm attribution, by 2011, most of the first round of common law cases had run aground. Similarly, by this time, the primary pathways for challenging agency actions and inaction on climate change under existing environmental law had been tried. Around this same time, however, climate attribution science began to evolve rapidly, climate litigation picked up around the world, and new classes of plaintiffs began to emerge, prompting a new wave of climate litigation.

253. Id. at 418.
B. The Second Wave

The ongoing wave of climate litigation includes a wide range of cases and claims, but two dominant themes emerge: (1) litigants are refining their approach to common law claims and expanding the scope of claims outward to make greater use of private law claims; and (2) litigants are seeking to situate state obligations to address climate change as a matter of fundamental constitutional and human rights.\footnote{257. See Den P. Adler, Columbia Law Sch., Sabin Ctr. for Climate Change Law, U.S. Climate Litigation in the Age of Trump: Year Two 19 (2019), http://columbiaclimatelaw.com/files/2019/06/Adler-2019-06-US-Climate-Change-Litigation-in-Age-of-Trump-Year-2-Report.pdf [https://perma.cc/JUH9-KUAY].}

First, domestic litigation is entering a second phase wherein judges and litigants are more actively engaging with advanced climate research such as Heede’s groundbreaking carbon majors study\footnote{258. See Heede, supra note 241.} and probabilistic event attribution science. Attribution science “increasingly allows a quantitative assessment of the extent to which human-induced climate change is affecting local weather events.”\footnote{259. Friederike Otto, Rachel James & Miles Allen, Envtl. Change Inst., The Science of Attributing Extreme Weather Events and its Potential Contribution to Assessing Loss and Damage Associated with Climate Change Impacts, https://unfccc.int/files/adaptation/workstreams/loss_and_damage/application/pdf/AttributingExtremeEvents.pdf [https://perma.cc/PG8D-2HG6]; see also Benjamin, supra note 237, at 17–18.} Together, these data sources help establish causal links between specific sources of emissions and climate-related harms.\footnote{260. Benjamin, supra note 237, at 17–18.} In addition, litigants are learning from the first round of common law litigation and are “becoming more creative, attempting to avoid federal displacement arguments encountered in the first wave by focusing on state-based common law and statutory claims . . . [and] moving beyond tort-based claims to employ diverse causes of action, including corporate law.”\footnote{261. See id. at 1.} The combined effect of these trends is that litigants are employing a refined set of causes of actions—drawing from common law claims and corporate law claims—and using advanced research to help establish causal connections between defendants’ emissions and specific climate-related injuries.

One of the most defining aspects of this trend is the focus on holding the carbon majors legally accountable for their contributions to climate change.\footnote{262. See Ganguly et al., supra note 256.} Cities and municipalities around the United States, as well as shareholders, investors, and employees, are bringing a flood

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\footnote{258. See Heede, supra note 241.}


\footnote{260. Benjamin, supra note 237, at 17–18.}

\footnote{261. See id. at 1.}

\footnote{262. See Ganguly et al., supra note 256.}
ri of claims ranging from nuisance,\textsuperscript{263} to fraud,\textsuperscript{264} to allegations of statutory violations\textsuperscript{265} against these large fossil fuel companies.\textsuperscript{266}

For example, by July 2019, at least fourteen cities and counties, three states, and one territory had filed tort suits or launched climate-based fraud investigations\textsuperscript{267} against the carbon majors in the United States. The entities bringing suit range from big actors such as the State of Rhode Island, New York City, Oakland, and San Francisco to smaller entities such as the cities of Boulder, CO; Santa Cruz, CA; and King County, WA.\textsuperscript{268} In addition to these public entities, crab fisherman in California and Oregon have also brought suits against the carbon majors.\textsuperscript{269} Most of these lawsuits were filed between 2017 and 2018, meaning that they are still in the early stages of litigation. Despite their


\textsuperscript{266} While the focus here is on domestic actions, it is important to note that similar actions are being brought around the world. One of the most high-profile examples of this is the ongoing Philippines Human Rights Commission carbon majors inquiry. See National Inquiry on Climate Change, PHIL. COMMISSION ON HUM. RTS., https://chr.gov.ph/nicc-2 [https://perma.cc/E35P-9WQI]. The inquiry is a response to a petition that was filed with the Commission “seeking to establish how climate change is related to the increasing frequency and severity of natural disasters and how human rights of the Filipinos are affected by them.” Id. The inquiry includes an investigation of the responsibility of the “Carbon Majors” for human rights violations resulting from climate impacts, drawing upon the abovementioned study by Richard Heede and advancements in attribution science. See The Carbon Majors Inquiry Comes to London, GRANTHAM RES. INST. ON CLIMATE CHANGE & THE ENV’T. (Oct. 30, 2018), http://www.lse.ac.uk/GranthamInstitute/news/the-carbon-majors-inquiry-comes-to-london [https://perma.cc/97VE-TQR8].


\textsuperscript{268} Id.

still emergent nature, litigants are already engaged in a process of iterative learning and are refining their approaches in response to each decision the courts make. This is particularly true with respect to the state and city litigation.

The first wave of cities to bring suits against the carbon majors, including New York City, Oakland, and San Francisco, suffered early setbacks. These cases make similar arguments, claiming that the five largest investor-owned producers of fossil fuels in the world—who, cumulatively are responsible for 11% of global greenhouse gas emissions—have knowingly contributed to climate change, resulting in injuries to the cities due to sea level rise and other climate-induced harms.

While New York City sought compensatory damages to cover the costs that the City incurred as a result of climate impacts as well as an equitable order requiring the defendants to abate the nuisance and trespass to which their emissions give rise, San Francisco and Oakland requested more limited relief in the form of an abatement fund to pay for seawalls and other infrastructure needed to address rising sea levels. In both jurisdictions, the plaintiff cities sought to avoid federal preemption challenges by moving to remand their cases to the state level. In both cases, however, their motions to remand were denied and, in summer 2018, both cases were dismissed based on a number of grounds, including federal preemption and the political question doctrine.

These early decisions reveal “how difficult a hurdle the federal displacement issue is to overcome,” but they also demonstrate that the courts are taking climate science seriously even as they struggle to grapple with the appropriate judicial response to a problem of such massive scale.

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270. These five are: Chevron Corp, Exxon Mobil Corp, British Petroleum Plc, Royal Dutch Shell, and ConocoPhillips. These defendants are, respectively, the first, second, fourth, sixth and ninth largest cumulative producers of fossil fuels worldwide. Complaint at 1, 2, 31, New York v. BP P.L.C., 325 F. Supp. 3d 466 (S.D.N.Y. July 19, 2018) (No. 1:18-cv-00182-JFK).

271. See id. at 2.

272. Id. at 63.


276. Benjamin, supra note 237, at 22.

277. Id. at 22–23.
over the combined Oakland and San Francisco cases, requested a tutorial on climate change science. Following a five-hour tutorial, in his decision to dismiss he declared that “[a]ll parties agree that fossil fuels have led to global warming and ocean rise and will continue to do so,” while also calling the scope of the plaintiffs’ theory “breathtaking” and ultimately concluding that the “problem deserves a solution on a more vast scale than can be supplied by a district judge or jury in a public nuisance case.”

In a strikingly similar decision dismissing New York City’s case, U.S. District Judge John Keenan said “[c]limate change is a fact of life, as is not contested by Defendants. But the serious problems caused thereby are not for the judiciary to ameliorate. Global warming and solutions thereto must be addressed by the two other branches of government.”

As the appeals for these two cases make their way through the courts, a host of other governmental actors have watched carefully and refined their claims accordingly. As Benjamin describes:

The second group of cases brought by California cities and counties attempted to avoid the federal displacement doctrine by making a more diverse set of claims, . . . including public and private nuisance, strict liability for failure to warn customers of the dangers of climate change, design defect, negligence and trespass. These suits were patterned more closely on tobacco and asbestos litigation.

This novel climate litigation is just beginning to percolate, but the litigants—including governmental entities from California, Colorado, Washington, Rhode Island, and Baltimore—are drawing from the first wave of climate litigation, the ongoing carbon majors litigation in the U.S. and around the world, and the lessons offered from litigation.


281. Benjamin, supra note 237, at 23.

282. In one of the most prominent examples of an international carbon major tort-based case, Lliuya v. RWE, a Peruvian farmer filed claims for declaratory judgment and damages in a German court against Germany’s largest electricity producer, RWE, alleging that RWE, having knowingly contributed to climate change by emitting substantial volumes of greenhouse gases, bore some measure of responsibility for the melting of mountain glaciers near his town of Huaraz, population 120,000. Lliuya v. RWE: Summary, GRANTHAM RES. INST. ON CLIMATE CHANGE & THE ENV’T., http://wwwlse.ac.uk/granthamInstitute/litigation/lliuya-v-rwe [https://perma.cc/7ACC-4B84]. This groundbreaking case used refined attribution science to make one of the most precise causation-based arguments to date. The court
successes on other complex public health challenges to continually refine their litigation strategies.

Alongside this evolving body of common law-based litigation, there are growing efforts to use corporate law to compel fossil fuel entities to disclose information and modify their business practices. Together, the common law and corporate law litigation is bringing the carbon majors under increased legal, ethical, and financial scrutiny. These entities will continue to push back against efforts to hold them legally liable for climate injuries or to force them to modify their business practices. However, their ability to evade scrutiny over their responsibilities and choices with respect to climate change is rapidly eroding. Increasingly, the carbon majors will be forced to be more transparent and accountable not only to their shareholders, investors, and employees, but also to the general public.

As litigants refine their common law and corporate law strategies, a second litigation trend is emerging. In courts around the world, litigants are drawing upon constitutional and human rights law to assert that the state has a fundamental legal obligation to address climate change. These cases are moving beyond the constraints of existing statutory and regulatory regimes to try to situate state obligations to address climate change as a matter of fundamental constitutional and human rights. As Carlson suggests, these claims are driven by “the compelling nature of climate change as an existential risk and the failure of our institutions to address it, in the face of a mountain of evidence . . .”


284. For a discussion of other ways in which the energy sector is coming under pressure in ways that could influence their behavior, see Hari M. Osofsky et al., Energy Re-Investment, 94 IND. L.J. 595 (2019).


The case that best embodies this new approach is the Children’s Trust case in the United States.  

The Children’s Trust litigation seeks to embed the responsibility to address climate change at the heart of legal obligations the state owes to its citizenry.

In this case—commonly referred to as “the Juliana case”—twenty-one young people, represented by the non-profit organization, Our Children’s Trust, filed suit against the United States claiming that the federal government has violated their legal rights by knowingly contributing to climate change and failing to take decisive steps to reduce domestic greenhouse gas emissions or otherwise address the causes and consequences of climate change. Specifically, the plaintiffs argue that the federal government has deprived them of their right to a safe climate without due process of law and thereby violated

287. See Juliana v. United States, 217 F. Supp. 3d 1224, 1233 (D. Or. 2016). The complement to the Juliana case in the United States is the Urgenda case in the Netherlands. In Urgenda, 886 citizens, represented by the NGO Urgenda, brought a case in Dutch court claiming that the Dutch state is constitutionally obligated to reduce its greenhouse gas emissions by 25% to 49% by 2030 compared to 1990 levels and that by failing to do so, the Dutch government had acted tortuously. In 2015, the lower court ruled in Urgenda’s favor and ordered that the Dutch government must ensure that it reduce its emissions at least 25% by 2020 in order to avoid being negligent in its duties under the Dutch Constitution. See 7196 m.nt. (Urgenda Foundation/Kingdom of the Netherlands). This case was groundbreaking; it was the first case in which the courts found that the state is legally obligated to lower greenhouse gas emissions. In 2018, the Dutch appellate court upheld the lower court’s ruling and extended the decision even farther, finding that the failure of the Dutch government to reduce its emissions to 25% by 2030 below 1990 levels would also constitute a breach of the European Convention on Human Rights. Hof’s-Gravenhage 9 oktober 2018, AB 2018, 417 m.nt. GA van der Veen, Ch.W. Backes (Staat der Nederlanden/Stichting Urgenda) (Neth.). The case is now on appeal to the Dutch Supreme Court. Revealing the degree of transnational learning that is taking place, the Urgenda case has inspired a burst of similar litigation in the European Union and beyond, e.g., in the United Kingdom, Belgium, New Zealand, Ireland, and Switzerland. For further discussion of this case, see Benoit Mayer, Note, The State of the Netherlands v. Urgenda Foundation: Ruling of the Court of Appeal of The Hague (9 October 2018), 8 Transnat’l Envtl. L. 167 (2019).


290. Youth Complaint, supra note 288, at 56–57.
their constitutional rights of due process, equal protection, and unenumerated rights protected under the Ninth Amendment. In addition, the plaintiffs allege that the federal government is the sovereign trustee of the “country’s life-sustaining climate system” and, pursuant to the public trust doctrine, has an affirmative duty to present and future generations to “take affirmative steps to protect those trust resources” and that they “have failed in their duty of care to safeguard the interests of Plaintiffs as the present and future beneficiaries of the public trust.” As the presiding district court judge summed up, the core of the plaintiffs’ claim is that the federal government’s actions and inactions—“whether or not they violate any specific statutory duty—have so profoundly damaged our home planet that they threaten plaintiffs’ fundamental constitutional rights to life and liberty.”

As relief, the plaintiffs ask the court to declare that the United States’ current environmental policy infringes their fundamental rights and direct the federal government to take affirmative, enforceable steps to “swiftly phase out” greenhouse gas emissions and to take any other actions necessary to keep concentrations of greenhouse gas emissions in the atmosphere at a safe level.

The constitutional and public trust claims driving this case have been the subject of extensive debate. These plaintiffs’ claims test the boundaries of constitutional law jurisprudence and propose a novel, untested theory of the federal public trust doctrine. While it is beyond the ambit of this Article to explore the nuances and likely success of the plaintiffs’ claims in this case, the case teaches us (a lot) about the progression of climate litigation. As Farber suggests, while the legal prospects of the case are problematic, “at the core of the plaintiff’s case is a powerful insight. The government really does have an obligation...”

291. Id. at 84–88.
292. Id. at 88–91.
293. Id. at 91–92.
296. Youth Complaint, supra note 288, at 4, 94–95.
to preserve our lands and sea for the benefit of all Americans—including future generations. And climate change really is a dire threat to the future.”

This insight—that climate change poses an existential threat to present and future generations and that the state must, in some meaningful way, be accountable for addressing this threat resounds throughout Juliana, through the political discourse pushing back against President Trump’s erosion of domestic and international climate law structures, through ongoing efforts to recognize that climate change poses a risk to fundamental human rights, and through subnational and non-state efforts to create upward pressure on the state to fulfill its obligations to protect its citizens. This insight is a product of nearly three decades of learning about the depth of the threat climate change poses and the juxtaposition of that looming threat with the persistent absence of an adequate state response. It is an insight that began percolating during the Bush Administration, informed intensifying efforts to reconceptualize the role of the state during President Obama’s second term, and finally came to a boil in the face of the total abdication of responsibility during the Trump Administration.

The harsh juxtaposition of such an extreme threat with the continued absence of defined state responsibility comes to the surface of legal consciousness in an emphatic way in the Juliana case. Not only do the young plaintiffs highlight this insight throughout their pleadings in visceral ways as they describe their climate injuries, but, in her order denying the defendant’s motions to dismiss, U.S.

298. Daniel Farber, What’s Wrong with Juliana (and What’s Right), CPRBLOG (Jan. 22, 2019), http:// para.m.ca/6K5X-D7GM.


300. Youth Complaint, supra note 288, at 6–35.

301. This case has a complicated procedural history involving both the President and the Supreme Court. In brief, in 2016, U.S. District Court Judge Anne Aiken denied the federal government’s motion to dismiss, the Trump Administration’s Justice Department then mounted repeated efforts in the appellate courts to stay or dismiss the district court proceedings. After the Ninth Circuit rejected those attempts, the government appealed the Ninth Circuit’s decision to the Supreme Court. Justice Anthony Kennedy initially rejected the government’s appeal as premature but, subsequently, Chief Justice Roberts stayed all district court proceedings in the case and ordered the plaintiffs to file a response to the Trump Administration’s petition to the Supreme Court seeking to dismiss the case. Finally, in December of 2018, the Ninth Circuit granted the federal government’s petition for permission to appeal Judge Aiken’s order allowing the case to go to trial and, in June 2019, the Ninth Circuit heard oral arguments.
District Court Judge, Anne Aiken, takes on this seemingly inexplicable legal gap headlong. Breaking from her counterparts in San Francisco and Manhattan who, when confronted with complex legal and political questions in the carbon majors nuisance litigation expressed, at once, deep concern over the implications of climate change and caution over the role of the judiciary in shaping a response to climate change, Judge Aiken adopts a distinctively different approach to the role of the courts. In denying the defendant’s motion to dismiss, Judge Aiken declares this case is “no ordinary lawsuit” and rebukes judicial diffidence in the face of the overwhelming nature of the climate challenge, stating that the “[f]ederal courts too often have been cautious and overly deferential in the arena of environmental law, and the world has suffered for it.”

Judge Aiken draws upon the words of Circuit Judge Alfred Goodwin, to make her point:

> The current state of affairs . . . reveals a wholesale failure of the legal system to protect humanity from the collapse of finite natural resources by the uncontrolled pursuit of short-term profits . . . . 

> [T]he modern judiciary has enfeebled itself to the point that law enforcement can rarely be accomplished by taking environmental predators to court . . . . The third branch can, and should, take another long and careful look at the barriers to litigation created by modern doctrines of subject-matter jurisdiction and deference to the legislative and administrative branches of government.

Bringing Judge Goodwin’s insight to bear in *Juliana*, Judge Aiken concludes: “[e]ven when a case implicates hotly contested political issues, the judiciary must not shrink from its role as a coequal branch of government.”

Throughout her decision, Judge Aiken carefully grapples with the complex questions of law that the plaintiffs’ claims present for the court. In doing so, she refuses to allow the sometimes novel and always on the appeal. For a full procedural history and supporting documents, see *Juliana v. United States*, CLIMATE CHANGE LITIG. DATABASES, http://climatecasechart.com/case/juliana-v-united-states [https://perma.cc/ET5X-FQ22].

302. In similar fashion to Judges Alsup and Keenan, however, Judge Aiken is careful to note that climate science is not on trial, stating: “[t]his lawsuit is not about proving that climate change is happening or that human activity is driving it. For the purposes of this motion, those facts are undisputed.” *Juliana v. United States*, 217 F. Supp. 3d 1224, 1224, 1224 (D. Or. 2016).

303. *Id.*

304. *Id.* at 1262.


306. *Id.* at 1263.
challenging nature of the legal conundrum that climate claims pose to be a reason to punt the claims out of the court or defer to the legislature.

Ultimately, in determining the level of judicial scrutiny applicable to the plaintiffs constitutional due process claims, Judge Aiken makes one of the most critical judicial findings to date in domestic climate litigation, holding that “the right to a climate system capable of sustaining human life is fundamental to a free and ordered society.” That is, she finds that under U.S. constitutional law, the right to a climate system capable of sustaining human life is a fundamental right. Recognizing the right to a climate system capable of sustaining human life as a “new” fundamental right breaks legal ground and affords the plaintiffs with a heightened level of constitutional protection.

The future of this case is uncertain. Even its proponents recognize that the case faces a long, uphill battle and that, as a necessary next step, it will be a “heavy lift to have the 9th Circuit recognize a constitutional right to a stable climate.” Despite the odds, the case has been called “the [climate [trial of the [c]entury” for its potential to profoundly reconfigure primary legal rights and responsibilities with respect to climate change. A victory for the plaintiffs in Juliana would allow the courts to compel governmental

307. Id. at 1250. Judge Aiken qualifies the recognition of a new fundamental right, explaining:

In framing the fundamental right at issue as the right to a climate system capable of sustaining human life, I intend to strike a balance and to provide some protection against the constitutionalization of all environmental claims.

On the one hand, the phrase “capable of sustaining human life” should not be read to require a plaintiff to allege that governmental action will result in the extinction of humans as a species. On the other hand, acknowledgment of this fundamental right does not transform any minor or even moderate act that contributes to the warming of the planet into a constitutional violation.

308. Id. (“To hold otherwise would be to say that the Constitution affords no protection against a government’s knowing decision to poison the air its citizens breathe or the water its citizens drink.”).

309. Judge Aiken uses the Court’s recognition of a new constitutional right to same-sex marriage in Obergefell as an analogy and jurisprudential lesson for finding a “new” right to a climate system capable of sustaining human life, drawing upon the reminder that Justice Kennedy offers in Obergefell that “[t]he identification and protection of fundamental rights is an enduring part of the judicial duty to interpret the Constitution”.


action on climate change, thus redrawing the legal landscape of domestic climate change law with sweeping effect.

Ultimately, Juliana may teach us a good deal about how the federal judiciary views its role and responsibility with respect to climate change. Regardless of how the courts decide the case, Juliana has already demonstrated that, beyond the high-profile fluctuations of federal climate policy across the past three presidential administrations, cultural consciousness and resolve on climate change has solidified and is driving increasingly ambitious efforts to find legal footholds for compelling profound and durable state action.

The ongoing second wave of litigation seeks definitive outcomes that recognize new fundamental rights and force governmental and corporate actors to modify their behavior and provide compensation for harms done. The litigation also forces state and private actors to publicly disclose how their actions and inactions impact the planet and its people, and to directly address what they see as their legal and moral obligations in the face of these revelations. This forced transparency and public grappling with legal roles and moral responsibilities highlights the increasingly inexplicable gap between the threat climate change poses and the legal responses offered. This public reckoning may not lead to decisive legal victories in every case, but it provides critical insight and, inevitably, strengthens the resolve of those fighting for climate action.

V. BEYOND THE STATE—THE EVOLVING ROLE OF SUB-FEDERAL AND NON-STATE ACTORS

The cultural consciousness and resolve underpinning the second wave of climate litigation mirrors and complements ongoing efforts by subnational and non-state actors to develop legal infrastructure, social capital, and private networks for addressing climate change. These flourishing climate efforts emerged during the Bush Administration but the movement builds on a long history of cooperative environmental federalism and grassroots environmental movements. The scale of the climate effort, however, is both unparalleled and of unprecedented importance given the state’s inability to settle on a course of action on climate change.

312. See generally Joseph E. Alby et al., Pew Ctr. on Global Climate Change, Beyond Kyoto: Advancing the International Effort Against Climate Change (2003); Carlarne, supra note 7, at 1365–83; Cary Coglianese & Jocelyn D’Ambrosio, Policymaking Under Pressure: The Perils of Incremental Responses to Climate Change, 40 CONN. L. REV. 1411 (2008).
A. From Complementary to Contradictory: The Evolving Impact of the Executive on Non-State Climate Actions

With the shifts from the Bush to the Obama to the Trump Administrations, the role that subnational and non-state actors have played in shaping climate policy has varied, but the momentum and influence of these cumulative efforts have steadily grown over time. In key part, during the Obama-era, the Administration complemented burgeoning subnational and non-state efforts by creating a parallel set of federal initiatives and by minimizing federal obstructions to subnational efforts.313 Moreover, President Obama’s leadership on climate change largely obviated the need for defensive policy or litigation efforts designed to force the federal government’s hand. Instead, his leadership created an enabling environment for key actors, such as California and New York, to develop increasingly sophisticated subnational legal regimes and innovative public and private partnerships that pushed the boundaries of federalism.314 Equally, with the President leading efforts to develop an expansive federal regulatory regime to limit emissions under the CAA, environmental NGOs could dedicate greater resources to challenging federal policies in complementary areas (e.g., fracking and the Keystone Pipeline).315 Similarly, subnational governmental actors were able to focus on local adaptation needs and mitigation opportunities.316 At the same time, within the private sector, hundreds of companies began “taking action

313. Climate Change and President Obama’s Action Plan, WHITE HOUSE, https://obamawhitehouse.archives.gov/president-obama-climate-action-plan [https://perma.cc/YS7T-FWMS] (discussing the Clean Power Plan, the Paris Agreement, and federal cooperation with tribal, state, and local governments such as through the President’s State, Local and Tribal Leaders Task Force on Climate Preparedness and Resilience).


to reduce their exposure to the financial risks of climate change, quantify and control their greenhouse gas emissions, and adapt to impacts either now occurring or just over the horizon.”

The relationship between the Obama Administration and many of these actors was mutually supportive. Burgeoning subnational and non-state efforts to address climate change were enabled by a supportive executive branch and, in turn, facilitated the Administration’s efforts to structure domestic and international climate regimes.

This era of mutually reinforcing federal and subnational development was not without its challenges, of course. While states such as California and New York encouraged complementary federal action on climate change and took advantage of the mutually supportive environment to push for more aggressive climate efforts at the state level, other powerful subnational actors—e.g., Texas, West Virginia, and Alabama—fought back aggressively against the expansion of the federal climate regime, challenging key moves the Obama Administration made to expand regulatory efforts. Equally politically influential actors, representing the fossil fuel industry and non-state actors, such as the Koch Foundation, continued to prove powerful counterpoints to the President’s climate agenda.


The Koch family, whose wealth derives from the oil industry, also created a network of political groups to oppose climate change regulation. Moreover, promotion of fossil fuels remains a key objective of the Kochs. For instance, one of their groups, Fueling U.S. Forward, is “dedicated to educating the public about the value and potential of American energy, the vast majority of which comes from fossil fuels.”

Id. (footnotes omitted) (quoting Hiroko Tabuchi, Sensing Gains Ahead Under Trump, the Kochs Court Minorities, N.Y. TIMES (Jan. 5, 2017), http://www.nytimes.com/2017/
Despite aggressive\textsuperscript{320} and, at times, effective\textsuperscript{321} push-back, President Obama’s presidency was characterized by constructive efforts to facilitate the growth of a polycentric governance system that maximized federal, subnational, and non-state efforts to address climate change. President Obama, perhaps most critically, removed obstacles and provided momentum and incentives for change. This enabled subnational and non-state actors committed to addressing climate change to enact a diverse suite of climate laws and policies. Moreover, it created room for the climate movement to grow and solidify more easily than during both the preceding and following periods of executive obstruction.\textsuperscript{322}

With the election of President Trump, the era of mutually reinforcing federal and subnational climate actions came to an abrupt halt. In the Trump-era, subnational climate efforts now lack the support and facilitation of the state and face greater pushback at every step. This pushback includes challenges to the constitutionality of subnational laws and regional or foreign partnerships, deep budget cuts to climate-related programs, aggressive assaults on climate rules, and the general diffusion of non-state actor resources as the suite of unaddressed environmental challenges grows.

As discussed in Part I,\textsuperscript{323} the dramatic reversal in the state’s position has been met with active resistance. Federal recalcitrance has prompted a deluge of legal and extra-legal efforts to address climate change. In key part, through initiatives such as We Are Still In\textsuperscript{324} and the Climate Alliance,\textsuperscript{325} “more than 2,500 non-federal actors representing more

\begin{thebibliography}{9}
\bibitem{1} \url{01/05/business/energy-environment/koch-brothers-fossil-fuels-minorities.html}; \textit{see also} Robert J. Brulle, \textit{Institutionalizing Delay: Foundation Funding and the Creation of U.S. Climate Change Counter-Movement Organizations}, 122 \textit{CLIMATIC CHANGE} 681 (2014) (analyzing “the financial resource mobilization of the organizations that make up the climate change counter-movement”); Coral Davenport & Eric Lipton, \textit{How G.O.P. Leaders Came to View Climate Change as Fake Science}, \textit{N.Y. TIMES} (June 3, 2017), \url{https://www.nytimes.com/2017/06/03/us/politics/republican-leaders-climate-change.html}.
\bibitem{2} \textit{see, e.g.}, Jean Galbraith, \textit{Two Faces of Foreign Affairs Federalism and What They Mean for Climate Change Mitigation}, 112 Am. J. Int’l L. \textit{UNBOUND} 274, 276 (2018) (describing how some states went as far as to “pas[s] legislation signaling their disapproval of the EPA’s attempts to regulate climate and urging maximum flexibility for states”).
\bibitem{3} \textit{see, e.g.}, Sobie, \textit{supra} note 144 (discussing the Court’s stay of the CPP).
\bibitem{5} \textit{See supra} Part I.
\bibitem{6} \textit{WE ARE STILL IN}, \textit{supra} note 21.
\bibitem{7} \textit{U.S. CLIMATE ALLIANCE}, \textit{supra} note 157.
\end{thebibliography}
than half the U.S. economy . . . have pledged their support for the Paris Agreement goals.\textsuperscript{326} The scale of these commitments is significant: “the combined Gross Domestic Product (GDP) of U.S. states and cities that have stated they remain committed to action in line with the emissions reductions goals of Paris Agreement would be larger than 195 out of 197 Parties to the Framework Convention . . . .”\textsuperscript{327} These commitments are further bolstered by the “more than 1,300 businesses with U.S. operations, representing $25 trillion in market capitalization and accounting for 0.9 gigatons (Gt) carbon dioxide equivalent (CO\textsubscript{2}e) of GHG [greenhouse gas] emissions per year” that have voluntarily adopted GHG targets.\textsuperscript{328}

Many of the actors driving these initiatives were active climate advocates during the Obama Administration. However, President Trump’s obstructionist approach to climate change triggered defiant efforts to concentrate and mobilize burgeoning subnational and civil society actions.\textsuperscript{329} In response to President Trump’s seeming attempts to race to the bottom of international leadership on climate change, these entities have worked collectively to create a counter-narrative of race to the top. Not only have subnational and non-state actors proved willing to take on voluntary commitments to address climate change, they have also adopted some of the world’s most ambitious climate goals.\textsuperscript{330}


\textsuperscript{327} \textsc{Bloomberg Philanthropies}, \textit{America’s Pledge: Phase 1 Report-States, Cities, and Businesses in the United States Are Stepping Up on Climate Action} 14 (2017).

\textsuperscript{328} See id. at 14–15.

\textsuperscript{329} See Murthy, \textit{supra} note 31, at 1.

By 2019, for example, both New York and California had embraced plans to reduce greenhouse gas emissions down to nearly zero by 2050, and Hawaii had passed a law committing to achieving the goals of the Paris Agreement and becoming carbon neutral by 2045.

The cumulative impact of the efforts to advance U.S. action on climate change in defiance of the Trump Administration’s regressive climate policies reveals the irrepressible nature of the domestic climate consciousness. The strength of this counter trend has domestic and international impact. At the domestic level, it advances both substantive efforts to limit climate change and symbolic efforts to nurture and advance the climate movement. At the international level, it helps sustain U.S. climate leadership. As Galbraith describes:

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333. S.B. 559, 29th Leg., Reg. Sess. (Haw. 2017) (stating that the Bill “document[s] the State’s commitment to combat climate change by systematically reducing greenhouse gas emissions and improving our resiliency to climate change aligned with the principles and contributing to the goals set by the Paris Agreement’’); see also Vicki Arroyo, From Paris to Pittsburgh: U.S. State and Local Leadership in an Era of Trump, 31 GEO. ENVTL. L. REV. 435, 443, 454 (2019).

334. See, e.g., Murthy, supra note 31, at 2; see also About the Under2 Coalition, UNDER 2 COALITION, https://www.under2coalition.org/about [https://perma.cc/R355-BZ24].
President Trump has done the impossible: he has made the international community enthusiastic about U.S. federalism. Even as they express dismay at Trump’s plan to abandon the Paris Agreement, foreign leaders and internationalists have praised the efforts of U.S. states and cities to combat climate change mitigation in accordance with the Agreement’s goals.\footnote{Galbraith, supra note 320, at 274.}

Thus, despite President Trump’s best efforts to roll back climate laws and quell domestic demand for climate actions, subnational climate leadership not only persists but flourishes. For more than two decades, subnational and non-state actors have steadily increased their climate related activities and incrementally influenced federal and international climate policy. The Trump Administration’s approach to climate change, however, has given rise to a renewed era of subnational climate leadership.

The “breadth and depth of engagement by leading states and cities” has received significant attention in the academic literature.\footnote{Arroyo, supra note 333; see also Sarah J. Adams-Schoen, Beyond Localism: Harnessing State Adaptation Lawmaking to Facilitate Local Climate Resilience, 8 Mich. J. Envtl. & Admin. L. 185 (2018); Vicki Arroyo, State and Local Climate Leadership in the Trumpocene, 11 Carbon & Climate L. Rev. 303 (2017); Vicki Arroyo et al., State Innovation on Climate Change: Reducing Emissions from Key Sectors While Preparing for a “New Normal”, 10 Harv. L. & Pol’y Rev. 385 (2016).} For the purposes of this Article, it is unnecessary to retrace this literature. It will suffice to note that subnational actors are finding new and creative ways to push the boundaries of the interstitial spaces within which they operate in order to reduce greenhouse gas emissions, facilitate the transition to clean energy,\footnote{See, e.g., Shelley Welton, Electricity Markets and the Social Project of Decarbonization, 118 Colum. L. Rev. 1067, 1097–99 (2018).} build resiliency and adaptive capacity, demonstrate global leadership, and influence the federal government’s willingness to respond to climate change in the long term.\footnote{See Arroyo, supra note 336, at 437–40.} These efforts are indispensable to addressing climate change. However, they are not enough. The state remains an essential source of power and arbiter of influence. Limiting dangerous anthropogenic climate change requires state leadership or, at a minimum, the absence of state obstruction. The United States is failing in both regards. Therefore, the onus falls on subnational leaders to keep climate efforts alive during the executive leadership drought. While this Article avoids a discursive analysis of the myriad of subnational climate efforts afoot, the next section looks briefly at the expanding role of cities as important sites of climate governance and as microcosms for exploring emerging trends and future opportunities.
B. Cities as Microcosms for Climate Challenges & Opportunities

Cities are critical sites of global innovation. They are also the “places where humanity’s greatest challenges, from climate change to migration to inequality, impact the most people.”\(^{339}\) Ongoing global trends towards urbanization and the consequent growth of megacities mean that today, “55% of the world’s population lives in urban areas” with that number expected to increase to 68% by 2050.\(^{340}\) Moreover, by 2030, the UN estimates that forty-three cities around the globe will have 10 million or more inhabitants.\(^{341}\) Although much of the population growth over the next half century will be highly concentrated in a few


The UN estimates around 55 per cent of the world’s population lived in urban areas in 2018. This is expected to rise to 60 per cent by 2030 and 68 per cent by 2050. Most of this increase in urban populations is expected to occur in Asia and Africa, with India, China and Nigeria accounting for 35 per cent of the projected growth of the world’s urban population by 2050. The number of cities worldwide with one million or more inhabitants was 548 in 2018—by 2030 it is projected to be 706. The number of cities with over 10 million inhabitants (“megacities”) is expected to rise from 33 in 2018 to 43 in 2030.

\(^{341}\) Id. (footnote omitted). Id. Although it is not the focus of this Article, the fact that the majority of population growth and urbanization is expected to be highly concentrated in a few rapidly developing countries, including India, China, and Nigeria creates additional concerns about resource stress, socio-economic inequality, and the impact of disasters on heavily populated areas. These are critical areas of concern in the context of global economic, development, human rights, and climate policy. With respect to megacities, Glasow et al. emphasize that these areas

[a]re not only important drivers for socio-economic development but also sources of environmental challenges. Many megacities and large urban agglomerations are located in the coastal zone where land, atmosphere, and ocean meet, posing multiple environmental challenges . . . .

rapidly developing countries in Asia and Africa, North America is currently the most urbanized region in the world, with 82% of its population living in urban areas in 2018. In addition, many of the most heavily concentrated urban areas are in coastal zones, which are increasingly vulnerable to sea level rise and other climate impacts.

As urbanization continues and cities grow, these areas become increasingly important sites with respect to climate change for three primary reasons. First, cities are vulnerable to climate impacts. Second, although cities occupy only 2% of the world’s land, they consume more than two-thirds of global energy and produce approximately 70% of global greenhouse gas emissions. Third, cities possess “important human, economic and knowledge resources which enable them to take action and design innovative solutions.” Critically, in the context of climate law and policy, “[t]hey’re also where ambitious leaders are stepping up to think creatively, not only about the catalytic role local government can play in solving these problems—but how, in a time of rapid technological, social, and economic change,

342. 2018 Revision of World Urbanization Prospects, supra note 340.
345. See, e.g., Why Cities?, C40, https://www.c40.org/why_cities [https://perma.cc/Q488-TBEY] (suggesting that “with 90 percent of the world’s urban areas situated on coastlines, cities are at high risk from some of the devastating impacts of climate change, such as rising sea levels and powerful coastal storms”). Although it is beyond the scope of this Article to address in-depth, pervasive problems of climate justice mean that certain residents will be more vulnerable and harder hit by climate impacts than others. In coastal cities, for example, low-income communities are particularly vulnerable to rising sea levels. It is predicted that by 2035, the number of American communities that will experience “chronic inundation”—a sea level rise induced flooding that occurs twenty-six times per year or more—will double and that 55% of the communities expected to suffer from chronic inundation are home to socioeconomically vulnerable neighborhoods. Inequality and climate justice challenges are further compounded at the global level. See Courtney Lauren Anderson, Climate Change and Infrastructure, 18 HOUS. J. HEALTH L. & POL’Y 1, 4–5 (2018).
347. Dreyfus, supra note 344, at 283.
they can keep their communities ahead. Citations are included to provide context for these sentences:

Many city leaders worldwide have proved eager to take on the challenge. In the United States, cities have actively engaged in climate politics since the Bush Administration, with the extent of activity picking up over time. As just two brief examples, more than 350 mayors in the United States have adopted the Paris Agreement goals for their cities, and more than 400 cities are participating in the “EV Purchasing Collaborative” — an agreement amongst “Climate Mayors” to leverage their collective buying power and accelerate the conversion of public fleets to electric vehicles.

One of the most prominent advocates for city leadership has been Michael Bloomberg, the former mayor of New York City turned vocal

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348. Bloomberg Cities, supra note 339; see also Florida, supra note 339; Marshall, supra note 339.
349. See, e.g., GLOBAL COVENANT OF MAYORS FOR CLIMATE AND ENERGY, https://www.globalcovenantofmayors.org/about [https://perma.cc/SDMT-WVUS] (providing that the alliance is the world’s largest cooperative effort among mayors and city officials to reduce greenhouse gas emissions and climate risks in cities); CLIMATE MAYORS, http://climatemayors.org [https://perma.cc/G5MX-C7UZ] (describing the group as a “bipartisan peer-to-peer network of U.S. mayors working together to demonstrate leadership on climate change through meaningful action in their communities, and to express and build political will for effective federal and global policy action”); C40, THE COMPACT OF MAYORS: GOALS, OBJECTIVES AND COMMITMENTS, https://www.c40.org/researches/compact-of-mayors [https://perma.cc/2RVG-E5MY] (stating that C40 is a network of the world’s megacities committed to addressing climate change that supports cities to collaborate effectively, share knowledge and drive meaningful, measurable, and sustainable action on climate change).
351. See Arroyo, supra note 333, at 451–54.
353. The initiatives that Bloomberg has contributed to include “We Are Still In,” “America’s Pledge,” the “C40 Cities Climate Leadership Group,” and “The American Cities Climate Challenge,” to which his philanthropy organization pledged $70 million dollars; additionally, he served as the United Nations Secretary-General’s Special Envoy for Climate Action. See Michael Bloomberg Contributes Additional $5.5 Million to United Nations Climate Change Secretariat to Again Fill United States Federal Funding Gap, BLOOMBERG (Apr. 22, 2019), https://www.bloomberg.org/press/releases/michael-bloomberg-contributes-additional-5-5-million-united-nations-climate-change-
climate advocate, who has suggested that “[a]lthough history is not usually taught this way, one could argue that cities have played a more important role in shaping the world than empires.” In the climate context, cities have an especially important role to play both because political power is increasingly concentrated at the local level and local authorities may be motivated to act earlier than their state or national counterparts because the effects of climate change will be felt earlier and most acutely at the local level. Additionally, cities can often be nimbler in adopting new legal and political strategies.

Given their growing scale, nimbleness, and heavy carbon footprints, climate action at the city level is not just possible, but vital. In fact, one study suggests that city-level actions could reduce greenhouse gas emissions associated with urban buildings, transport and waste disposal by nearly half (47%) in 2050. Cities have ample tools at their disposal to reshape urban consumption and energy patterns. These include efficiency standards for residential and commercial buildings and “green” building codes. For example, cities can use efficiency standards and building codes to regulate everything from energy efficiency, water consumption, and choice of materials, to storm water management systems.

In the realm of climate-focused cities, New York City (“NYC” or “the City”) stands out in every way. It is economically, socially, and politically

355. Although cities are often nimbler than their state and federal counterparts, their jurisdiction and capacity in the climate context, of course, has important limits that demonstrate why it is so critical to focus on developing multi-level, multi-scalar, polycentric governance approaches. See Bratspies, supra note 16, at 30–33; see also SABRINA DEKKER, CITIES LEADING CLIMATE ACTION: URBAN POLICY AND PLANNING 66 (2019); Elinor Ostrom, Nested Externalities and Polycentric Institutions: Must We Wait for Global Solutions to Climate Change before Taking Actions at Other Scales?, 49 ECON. THEORY 353, 356, 365, 366 (2012); Daniel H. Cole, From Global to Polycentric Climate Governance, 2 CLIMATE L. 395 (2011).
358. Id.
influential on a global scale.\textsuperscript{359} It has a heavy carbon footprint.\textsuperscript{360} Moreover, as Hurricane Sandy viscerally demonstrated, it is geographically vulnerable, particularly to sea-level rise and coastal storms.\textsuperscript{361}

New York City’s climate vulnerability is further compounded by the fact that its infrastructure is amongst the “oldest in America”; the city’s water infrastructure, subway systems, highway networks, and up to 3000 miles of roads, bridges, and tunnels are all in need of repair.\textsuperscript{362} As Bratspies explains, the

combination of a large population at high vulnerability puts New York City on the front lines of climate change. Fortunately, New York City’s political leaders are well-aware of the vulnerability, and eager to position the city to play a leadership role in driving national and global action to combat climate change.\textsuperscript{363}

With climate efforts dating back to 2007 and covering everything from mitigation and adaptation to climate finance,\textsuperscript{364} New York City has been on the front line of climate change for a number of years, but those efforts intensified in the wake of Hurricane Sandy and, again

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\textsuperscript{359} See Bratspies, \textit{supra} note 16, at 10. Bratspies describes New York City’s importance:

New York City stands alone as by far the most economically powerful city in the world. New York City is the nation’s largest city, with more than 8.4 million residents. The New York City metro area, which includes Newark, is the single most populous urban area, with more than 18.3 million inhabitants. Thus, the choices that New York City makes have the potential to shape the environmental behaviors of roughly 17\% of the United States population.

\textit{Id.} (footnotes omitted).


\textsuperscript{361} While it is beyond the ambit of this Article, it is important to highlight that deep equity challenges pervade climate responses in New York City. While everyone in the City is at risk, low-income communities often face disproportionate risk with respect to climate change impacts. See Roshanak Mehdipanah et al., \textit{Neighborhood Context, Homeownership and Home Value: An Ecological Analysis of Implications for Health}, 14 \textit{Int. J. Envtl. Res. & Pub. Health} 1098 (2017).


\textsuperscript{363} Bratspies, \textit{supra} note 16, at 10.

\textsuperscript{364} E.g., N.Y.C., N.Y., \textit{New York City Climate Protection Act}, Local Law No. 55 (Dec. 5, 2007). The Climate Protection Act amended the New York City Administrative Code in Relation to Greenhouse Gases (although it was subsequently repealed and replaced by N.Y.C. Local Law No. 22, which recodified the substantive provisions of \textit{Local Law} 55).
following the election of President Trump. The list of actions New York City has taken to address climate change have been examined in detail elsewhere and are too numerous to review here. Rather, the purpose of this Section is to explore briefly some of the key steps that New York City has taken in the wake of President Trump’s election to illustrate the role that cities can play in shaping the state of play on climate change during a period of federal neglect.

In June 2017, in the wake of President Trump’s announcement that the United States would withdraw from the Paris Agreement, New York City accelerated its climate change law and policymaking initiatives. The city’s Mayor Bill De Blasio set the tone when he responded to the President’s Paris announcement by declaring that:

This is a dagger aimed straight at the heart of New York City . . . We have to understand that if climate change is not addressed, one of the greatest coastal cities on the earth will be increasingly threatened. It’s very painful to reflect the fact that Donald Trump is from New York City. He should know better.

The day immediately following President Trump’s condemnation of the Paris Agreement, Mayor De Blasio issued a Climate Action Executive Order. In the order, Mayor De Blasio condemned President Trump’s decision to withdraw from the Paris Agreement as “put[ting] millions of Americans at risk,” and placing the onus on cities such as New York City to “step up to stop climate change,” before calling for collective action based on a “moral, economic, public health, and security imperative to act to protect our planet, fellow human beings, and future generations.”

Responding to this imperative, he declared the city’s commitment to the Paris Agreement and reaffirmed the city’s long-standing commitment to reducing its greenhouse gas emissions 80% by 2050.


368. Id.

Mayor De Blasio’s *Climate Action Executive Order* had both symbolic and substantive impact. The order publicly denounced President Trump’s decision and cast him as a moral and political failure while juxtaposing New York City as a climate warrior, ready and able to step in to protect its citizens—and the citizens of America—from the inevitable threats climate change poses. The symbolic frame is backed up with a viable, substantive commitment. Mayor De Blasio not only reaffirms that the city will reduce its emissions by 80% by 2050, but also commits to working with cities worldwide to develop further emissions reductions strategies, underscoring that “climate action taken by cities in the United States and around the world can result in 40% of the pollution reduction needed globally to limit warming to only 1.5 degrees Celsius . . . .” New York City, thus, both can and will step up to protect its citizens and advance meaningful efforts to address climate change, even as the President neglects his obligations in this regard.

Three months later, Mayor De Blasio doubled down on these commitments with the release of *1.5C: Aligning New York City with the Paris Agreement*, a “first of its kind” plan laying out in detail the work that New York City must do to reduce emissions 80% by 2050 and committing the city to working with cities worldwide to “develop a

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> It is disappointing that the federal government is standing in our way and ignoring the will of tens of millions of people across the nation. We will continue to fight this battle. California sued to compel the agency to act on our waiver, and now we will sue to overturn today’s decision and allow Californians to protect our environment.

*Id.* For further discussion of the substantive value of De Blasio’s commitments, see Milman et al., *supra* note 306 (noting that, by this time, “New York City has already earmarked billions of dollars to retrofit 1m buildings to make them more energy efficient, electrify its municipal vehicle fleet, plant thousands of trees and coat rooftops in solar panels”).
protocol to reduce our carbon footprint to zero.”

Here, again, Mayor De Blasio marries symbolism with substance. He situates New York City’s efforts to address “the existential crisis of climate change” in direct contrast to the President’s failures:

We had hoped we could depend on the federal government for leadership. Now we know we cannot. President Trump’s decision to pull the United States out of the Paris Climate Agreement has set us on a dangerous path of denial. The City of New York was already taking action to reduce emissions 80 percent by 2050. Now, we have to take matters into our own hands and go further . . . . When our national government falls down, local governments have to step up.

To this end, focusing on two deadlines—in 2020 and 2050—the plan lays out a detailed strategy for achieving deep and sustainable emissions reductions.

Mayor De Blasio lays out a meaningful action plan for reducing emissions and preparing the city for the impacts of climate change in full acknowledgment that the task of addressing climate change requires collective action at every level. New York City cannot achieve the goals of the Paris Agreement alone. De Blasio knows this; the plan acknowledges this. In the short-term, however, New York City and its counterparts have no choice but to plow forward because, at least, “[f]or the time being, the mantle of leadership in our country has passed to cities and states to fight climate change.”

Complementing the ongoing city-wide efforts to address climate change, in January 2018, New York City became the first municipality outside of California to bring an action against the carbon majors.

As discussed above, New York City’s common law action seeks compensatory damages for the costs the city incurs in its efforts to protect its infrastructure and inhabitants from climate impacts.

374.  Id.
375.  Id. at 31.
Additionally, in a pivotal moment for global divestment campaigns, Mayor De Blasio simultaneously announced that the city would divest roughly five billion dollars of its pension investments from fossil fuel investments within five years.\footnote{378} Later that year, city officials announced a “new goal to double the investments of the NYC Funds in climate change solutions to $4 billion or 2% of the City’s $195 billion pension portfolio over the next 3 years.”\footnote{379}

Thus, by fall 2018, New York City had reaffirmed its commitment to fulfilling the goals of the Paris Agreement, laid out a comprehensive plan to reduce the city’s emissions 80% by 2050, brought suit against the carbon majors, and committed to divesting from fossil fuels and investing in renewable energies and climate solutions. All these efforts complement strategies dating back to the Bush Administration designed to limit emissions, strengthen the resiliency of the city, and demonstrate New York City’s national and global leadership on climate change. President Trump’s intransigence on climate change merely served to strengthen Mayor De Blasio’s resolve to lead the city in efforts to do more faster, propelled by the dual goals of protecting the citizenry and helping carry the mantel of leadership until such a time as to be able, once again, to work hand-in-hand with the federal executive branch.

New York City does not stand alone in these efforts, of course. Cities across the United States—from large cities such as Houston, Miami, and San Francisco\footnote{380} to smaller, regional leaders such as Georgetown, TX\footnote{381}—have stepped up efforts to demonstrate climate leadership in reaction to the Trump Administration’s efforts to unravel domestic and international climate law. Moreover, closer to home, New York City’s climate leadership is paralleled by the state. In 2019, New York lawmakers, who have long been national leaders on climate change,\footnote{382} agreed to pass an ambitious climate plan, the Climate Leadership and


\footnote{380} See Milman et al., supra note 366.


\footnote{382} See supra note 331 and accompanying text.
Community Protection Act.\textsuperscript{383} This Act requires the state to reduce greenhouse gas emissions 70\% by 2030, and calls for the state to all but eliminate its emissions by 2050.\textsuperscript{384} In addition, complementing the city’s carbon major litigation, in 2018, the New York Attorney General brought suit against ExxonMobil for shareholder fraud, alleging that the company misled its investors with respect to the risk that climate change regulations posed to its business.\textsuperscript{385}

Across the Bush, Obama, and Trump Administrations, subnational actors have incrementally expanded their influence on climate policy. Subnational entities have long been environmental leaders in the United States. The sudden and dramatic change in course at the federal level, however, has prompted many of these entities, such as New York City, to intensify their efforts to develop legal blueprints and leadership models for addressing climate change and to do so in collaboration with other subnational actors. New York City’s climate efforts provide a model for urban climate action; the successes and failures the city encounters as it works to reduce its emissions and improve its resiliency will inform efforts worldwide to scale up climate change strategies. These efforts also nurture climate consciousness and signal to relevant constituencies—including citizens, the private sector, and the federal government—that key subnational actors are fully committed to addressing climate change regardless of the obstacles that might arise along the way.

\textbf{C. Extra-Legal Pressure Points: A Brief Hint of What’s to Come}

Parallel to patterns in subnational climate leadership, the role that the private sector and other extra-legal actors are playing in climate governance is significant and growing. At the time of writing, 2,228 business and investors, 28 health care organizations, 50 faith groups, 353 colleges and universities, and 67 cultural institutions had joined the 287 cities and counties, 10 states, and 10 tribes that have signed onto the

\begin{footnotesize}
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\item \textsuperscript{384} Anne Barnard, \textit{Demise of Gasoline Cars? What We Know About N.Y.’s Ambitious Climate Goals}, N.Y. TIMES (June 20, 2019), https://www.nytimes.com/2019/06/20/nyregion/greenhouse-gases-ny.html.
\end{itemize}
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We Are Still In pledge.\(^{386}\) Businesses that have signed on include global corporations such as Unilever, Mars Incorporated, Google Inc., Apple, and Walmart.\(^{387}\) The scale of the We Are Still In Movement and parallel calls for corporate action at the international level—including by the World Economic Forum\(^{388}\)—suggests that a growing number of “corporate executives are recognizing the need to address the greenhouse gas emissions of their companies and the business logic of strong environmental, social, and governance practices more generally.”\(^{389}\) Although it is difficult to quantify the scale and dependability of corporate support for climate action, an increasing number of business leaders are integrating climate considerations into corporate practice and advocating for more consistent and predictable climate governance.

As just a few examples of the steps that significant multinational corporations are taking to address climate change: Kellogg has cut its carbon emissions by 14% per metric ton of food produced since 2005;\(^ {390}\) Maersk, the world’s largest shipping company, has committed

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\(^{386}\) Who’s In, We ARE STILL IN, https://www.wearestillin.com/signatories [https://perma.cc/FDS6-KZUD].

\(^{387}\) See id. Noticeably, but not surprisingly absent are the carbon majors and most of the large auto manufacturers.


More than 1000 companies joined the World Bank’s 2015 call for a carbon charge. Hundreds of companies joined the Carbon Pricing Leadership Coalition, a group of governments and businesses launched in 2014 at the UN Climate Summit and led by the World Bank, which aims to grow the application of carbon pricing to lower emissions of greenhouse gases, while keeping economic advantages. Hundreds of US companies publicly announced support for the Paris Agreement and commitments to reduce their emissions.

Id. at S81 (footnotes omitted).

to going carbon neutral by 2050;\textsuperscript{391} IKEA has committed to going 100% renewable;\textsuperscript{392} Walmart, the world’s largest retailer, has committed to avoiding one billion metric tons (a gigaton) of greenhouse gases—an amount roughly equivalent to the annual emissions of Japan—\textsuperscript{393} from its supply chains by 2030;\textsuperscript{394} Unilever has consistently advocated for carbon pricing policies and, in 2016, began setting an internal price on carbon,\textsuperscript{395} and has also been deemed the global company “most ready for a low-carbon economy”.\textsuperscript{396} More than a 180 additional companies—including Google, Apple, and Facebook—have committed to using 100% renewable energy in their operations.\textsuperscript{397} These business are leading the way for widespread change; however, pushback from powerful energy lobbies, inconsistent regulatory signals, and contradictory federal and subnational messaging limits the pace of progress. Nonetheless, corporate climate activism and private climate governance will play an increasingly important role in climate governance and is the subject of extensive scholarly thought.\textsuperscript{398} Here, it will suffice to note that in an era of federal recalcitrance, private sector support for climate action provides an important counterpart to subnational climate leadership and another backstop to ongoing efforts to roll back climate action in the United States.

Alongside the burgeoning private climate governance movement, the global climate movement continues to grow and has been fed in recent years by new and powerful voices. Globally, the youth climate


\textsuperscript{392} See Business Is Key Driver of Global Climate Action, supra note 390.

\textsuperscript{393} See Each Country’s Share of CO\textsubscript{2} Emissions, supra note 29.


\textsuperscript{397} See Companies, RE100, http://there100.org/companies [https://perma.cc/X35H-TQF9].

movement has swelled in numbers and influence. Mobilized by the raw, powerful messages of the likes of the plaintiffs in *Juliana* and Greta Thunberg—the 16-year-old Swedish climate activist whose climate strike outside the Swedish Parliament has inspired activists and politicians worldwide—the youth message has changed the tone of the climate movement. The message is simple and powerful: our future is at stake and inaction is intolerable. Existing largely outside the tangled realm of state politics, the youth movement has become a particularly powerful vehicle for diffusing the message of the urgency of climate change to a wider audience, and for finding new ways to make inroads into the political conversations around climate change.

At the level of domestic politics, in the mid-term elections of 2018, the Democrats not only regained control of the House of Representatives, but did so, in part, through the election of a new group of younger, more diverse congresswomen, including the democratic representative for New York’s fourteenth congressional district, Alexandria Ocasio-Cortez, the youngest woman ever to serve in Congress. Buoyed by the new group of motivated and undaunted representatives, on February 7, 2019, Representative Ocasio-Cortez together with veteran climate advocate, Senator Ed Markey, proposed a new approach to addressing a suite of climate, energy, and inequality challenges. This proposal, The Green New Deal, reframed the narrative around climate change in domestic politics. In key part, The Green New Deal framed climate change not just as another environmental problem, but as a challenge—intrinsically linked to human health, well-being, and economic inequality—that should be

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approached in much the same way as the federal government approached the Great Depression.\footnote{See, e.g., Cinnamon Carlarne, Delinking International Environmental Law & Climate Change, 4 Michel J. Envtl. & Admin. L. 1, 6 (2014) (arguing that framing climate change in a narrow way as a conventional environmental law problem constrains efforts to experiment and think more creatively about how to address a challenge that defies classification as an environmental issue and demands more innovative, system-wide governance approaches).


\footnote{See, e.g., Justin Worland, How the Green New Deal Is Forcing Politicians to Finally Address Climate Change, Time (Mar. 21, 2019), https://time.com/5555721/green-new-deal-climate-change [https://perma.cc/RF34-BGMZ] (observing that the Green New Deal unleashed a national conversation where Democrats jumped to endorse the resolution and Republicans scrambled to come up with viable alternative positions on climate change).} The roll-out of the proposal was plagued by problems,\footnote{See, e.g., Jonathan Chait, The Green New Deal Is a Bad Idea, Not Just a Botched Rollout, N.Y. Mag. (Feb. 12, 2019), http://nymag.com/intelligencer/2019/02/green-new-deal-aoc-bad-idea.html [https://perma.cc/46K9-XX8R] (critiquing the Green New Deal and referring to Ocasio-Cortez as a “radical outlier”).} and the proposal itself has been widely critiqued.\footnote{See, e.g., Bill Scher, The Weak Rollout of the Green New Deal, Real Clear Pol. (Feb. 11, 2019), https://www.realclearpolitics.com/articles/2019/02/11/the_weak_rollout_of_the_green_new_deal_139426.html [https://perma.cc/87V5-KQ24] (criticizing the Green New Deal’s “polarized reception,” lack of specificity or solutions, and unintended release of additional drafted measures).} However, the proposal has also garnered widespread support\footnote{See, e.g., Jonathan Chait, The Green New Deal Is a Bad Idea, Not Just a Botched Rollout, N.Y. Mag. (Feb. 12, 2019), http://nymag.com/intelligencer/2019/02/green-new-deal-aoc-bad-idea.html [https://perma.cc/46K9-XX8R] (critiquing the Green New Deal and referring to Ocasio-Cortez as a “radical outlier”). and referring to Ocasio-Cortez as a “radical outlier”). and propelled the conversation around climate change into the political arena in a way that has created new pressure on Democratic and Republican politicians alike.\footnote{See, e.g., Justin Worland, How the Green New Deal Is Forcing Politicians to Finally Address Climate Change, Time (Mar. 21, 2019), https://time.com/5555721/green-new-deal-climate-change [https://perma.cc/RF34-BGMZ] (observing that the Green New Deal unleashed a national conversation where Democrats jumped to endorse the resolution and Republicans scrambled to come up with viable alternative positions on climate change).} The objective behind The Green New Deal is not only to prioritize action on climate change but also to create a frame of action for climate change based on maximizing the economic and social opportunities associated with transitioning justly to a low-carbon economy.\footnote{Se...
The fate of The Green New Deal is uncertain, but its effect on the mainstream and political conversations is indelible. In a much-publicized moment, when the voices of these two movements—Greta Thunberg and Representative Ocasio-Cortez—came together to discuss the future of climate action, the primary message that they shared was hope. Facing the threat of climate change and the obstacles to political action on climate change, Representative Ocasio-Cortez responded to the budding sense of hope and motivation inspired by the youth climate movement by suggesting that “[h]ope is something that you create, with your actions. Hope is something you have to manifest into the world, and once one person has hope, it can be contagious.”

Together, the youth climate movement and the debate over The Green New Deal have created a powerful counternarrative to President Trump’s climate skepticism and, once again, demonstrated that irrespective of the waxes and wanes of presidential policy, the challenge of climate change cannot be ignored, and support for climate action persists even amidst full-scale presidential blitzkrieg.

The principal lesson that the efforts of these varied subnational, non-state, and political actions teach is that, even in an era when the President is launching a full-out war on climate science and climate politics, the march towards climate action moves forward undaunted, perhaps even more emphatically as a result of the opposition it faces. This is not to say that the actions of the Trump Administration are ineffective. Quite the opposite. The Trump Administration’s approach to climate change demonstrates the continuing power and importance of the state. Yet, the widespread push back against the Trump Administration’s approach also reveals the depth and diversity of actors that are operating individually and collectively to effect change in response to perceived deficiencies of the state.


CONCLUSION

Climate change is a defining feature of contemporary existence. It is also a fundamental challenge to the rule of law as we know it. As the scale of the climate crises swells, so too do efforts to develop innovative, multi-dimensional strategies for addressing climate change. This innovation is driven by necessity and is fueled by creative and determined actors from across the public and private sectors. Climate leaders run the gambit from teenagers, to philanthropists, to mayors, to Congresswomen, to presidents. But the pace of legal innovation is uneven, and the consistency of political leadership is erratic. Even in the face of this existential threat, policymakers continue to stumble in their efforts to develop an effective legal response. Nowhere is this more evident than at the federal level in the United States where presidential politics vividly demonstrate the degree to which we still lack a collective national vision for how to respond to climate change.

The scale and drama of presidential climate politics is undeniable. Over the past decade, U.S. presidents have led the construction and demolition of climate law on a grand scale. Long-term efforts to stave off catastrophic climate change and protect the American people, and the American economy, from the negative impacts of climate change requires more consistent federal leadership. However, as critical and as disruptive as high-level federal climate politics are, and as much attention as they deserve, they should not overshadow the larger picture of domestic climate law and policy. Underneath the flickering national vision and behind uneven national leadership, a clearer picture of climate law and policy trends emerges. In scanning the past decade to determine what is constant and what changes, we begin to see that for all of the fluctuations at the federal level, across the past three presidential administrations, subnational climate law and policy, climate consciousness, and a resulting sense of determination has not only developed consistently, but has deepened over time.

President Obama’s and President Trump’s respective abilities to construct and demolish a system of federal climate law reveal the extent of the underlying base of social capital and the evolving norms that sustain climate action nationwide. President Obama successfully leveraged, learned from, and relied on existing social capital to erect the foundations for a system of climate law over a relatively short period of time. Equally, that same climate base has limited President Trump’s ability to demolish the foundations of federal climate law at the speed, and to the extent that he desires, and that base has created counterapproaches using every available legal and political tool.
As extensive and persistent as the network of multi-level, multi-scale climate responses are in the United States, the vagaries of presidential climate politics demonstrate that these upward forces have not yet reached the level of compelling decisive and predictable federal action on climate change. Nevertheless, what this Article reveals is the depth, sophistication, and intractability of efforts to develop an effective response to climate change in order to preserve the integrity of the rule of law in the United States.

In 2015, President Obama declared that “[n]o challenge—no challenge—poses a greater threat to future generations than climate change.”412 Half a decade later and the extent of the threat has only grown. Just as the science of climate change is irrefutable, so too is the necessity of legal and political action. The stability of the rule of law and the well-being of U.S. citizens depends on developing effective legal responses to climate change and doing so quickly.