

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

(EXCERPT)

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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 2009–2019, 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.

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

1. See, e.g., CHRISTOPHER B. FIELD ET AL., INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE [IPCC], CLIMATE CHANGE 2014: IMPACTS, ADAPTATION, AND VULNERABILITY: SUMMARY FOR POLICYMAKERS 3, 12 (2014), https://www.ipcc.ch/site/assets/uploads/2018/02/ar5_wgII_spm_en.pdf [<https://perma.cc/N379-AYHU>].

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)).

4. Elizabeth Fisher, Eloise Scotford & Emily Barritt, *The Legally Disruptive Nature of Climate Change*, 80 MOD. L. REV. 173, 173 (2017); see also J. B. Ruhl & James Salzman, *Climate Change, Dead Zones, and Massive Problems in the Administrative State: A Guide for Whittling Away*, 98 CALIF. L. REV. 59, 72–78 (2010) (describing the “massive” nature of climate change and the challenges to which it gives rise).

5. For a discussion of the challenges environmental law scholars confront as the field matures, see Elizabeth Fisher et al., *Maturity and Methodology: Starting a Debate About Environmental Law Scholarship*, 29 J. ENVTL. L. 213, 215, 250 (2009).

6. Cinnamon P. Carlarne, *The Space Between Grand Optimism and Grim Determination: Finding a Pathway Forward in International Climate Change Law*, LOY. U. CHIC. INT’L L. REV. (forthcoming 2019).

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

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 legalism⁹ 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 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 scholarship¹² by tracing the key trends in U.S. climate change law and policy over the period 2009 to 2019 to reveal how legal

7. Cinnamon Carlarne, *Notes from a Climate Change Pressure-Cooker: Sub-Federal Attempts at Transformation Meet National Resistance in the USA*, 40 CONN. L. REV. 1351 (2008).

8. *Id.* at 1351.

9. ROBERT A. KAGAN, *ADVERSARIAL LEGALISM: THE AMERICAN WAY OF LAW* 3 (2001) (defining Kagan's concept of adversarial legalism as "policymaking, policy implementation, and dispute resolution by means of lawyer-dominated litigation").

10. For an overview of regulatory change in the context of federal energy law, see Jim Rossi & Hannah J. Wiseman, *Constrained Regulatory Exit in Energy Law*, 67 DUKE L.J. 1687, 1688-90 (2018). For a helpful discussion of the complex and still poorly understood and conceptualized relationship between energy regulation and climate change law and policy in a comparative context, see Lincoln L. Davies et al., *Climate Regulation of the Electricity Industry: A Comparative View from Australia, Great Britain, South Korea, and the United States*, 13 S.C.J. INT'L L. & BUS. 109 (2017).

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/chapter/summary-for-policy-makers> [<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 SUMMARY FOR POLICYMAKERS* (2018), https://www.ipcc.ch/site/assets/uploads/sites/2/2018/07/sr15_headline_statements.pdf [<https://perma.cc/FZ7F-GXRX>].

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).

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”¹³ that characterized the state of play in 2008 has spawned legal change and innovation that could enable the emergence of a multi-dimensional rule of law¹⁴ 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.

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,¹⁵ New York City,¹⁶

13. Carlarne, *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.”).

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).

16. See, e.g., Rebecca Bratspies, *Protecting the Environment in an Era of Federal Retreat: The View from New York City*, 13 FLA. INT’L U. L. REV. 5, 10 (2018) (contrasting New York City’s climate-protective response with the federal government’s undercutting of environmental regulations after the 2016 election).

Michael Bloomberg,¹⁷ Unilever,¹⁸ Greta Thunberg,¹⁹ Representative Alexandria Ocasio-Cortez,²⁰ and the “We Are Still In” collective.²¹

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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.²² 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.²³ 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.

17. See, e.g., Press Release, Bloomberg Philanthropies, Michael Bloomberg Launches Beyond Carbon, the Largest-Ever Coordinated Campaign Against Climate Change in United States (June 7, 2019), <https://www.bloomberg.org/press/releases/michael-bloomberg-launches-beyond-carbon-the-largest-ever-coordinated-campaign-against-climate-change-in-united-states> [<https://perma.cc/6RDP-LL9A>] (announcing a \$500 million investment in a campaign “to tackle climate change”).

18. See, e.g., Letter from Alan Jope, CEO, Unilever, on Responsible Engagement in Climate Policy to Unilever, to Trade Ass’ns and Bus. Grps. (June 5, 2019), <https://www.unilever.com/sustainable-living/reducing-environmental-impact/greenhouse-gases/global-climate-action/responsible-engagement-in-climate-policy> [<https://perma.cc/UCX2-RGA8>] (announcing Unilever’s aspiration to reduce carbon emissions and expressing hope that its industry partners will join that commitment).

19. See, e.g., *Greta Thunberg: The Swedish Teen Inspiring Climate Strikes*, BBC NEWS (Feb. 14, 2019), <https://www.bbc.com/news/av/world-europe-47231271/greta-thunberg-the-swedish-teen-inspiring-climate-strikes> [<https://perma.cc/T55A-BAK6>] (reporting that Greta Thunberg’s climate activism has prompted many similar climate protests worldwide).

20. See, e.g., Matthew Daly, *Ocasio-Cortez: No ‘Middle-Ground’ on Fighting Climate Change*, AP NEWS (May 13, 2019), <https://www.apnews.com/4359d6588f9740aca1ab24a9745f2c9d> [<https://perma.cc/S2QG-NGHJ>] (describing Representative Ocasio-Cortez’s stance on climate change as a “no middle ground” position).

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).

22. See generally THE WHITE HOUSE: PRESIDENT BARACK OBAMA, PRESIDENT OBAMA ON CLIMATE & ENERGY: A HISTORIC COMMITMENT TO PROTECTING THE ENVIRONMENT AND ADDRESSING THE IMPACTS OF CLIMATE CHANGE, https://obamawhitehouse.archives.gov/sites/obamawhitehouse.archives.gov/files/achievements/theRecord_climate_0.pdf [<https://perma.cc/Q7VX-HAKL>].

23. See, e.g., Coral Davenport, *Trump Administration Unveils Its Plan to Relax Car Pollution Rules*, N.Y. TIMES (Aug. 2, 2018), <https://www.nytimes.com/2018/08/02/climate/trump-auto-emissions-california.html> (Obama-era fuel-efficiency standards for cars); John Flesher, *Trump Scraps Obama Policy on Protecting Oceans, Great Lakes*, ASSOCIATED PRESS, June 21, 2018, <https://www.apnews.com/57d405229ba844f59f9f2d06c65c4318> [<https://perma.cc/J5MJ-WB6G>] (Obama-era ocean protections); Lisa Friedman and Coral Davenport, *Trump Administration Rolls Back Clean Water Protection*, N.Y. TIMES (Sept. 12, 2019), <https://www.nytimes.com/2019/09/12/climate/trump-administration-rolls-back-clean-water-protections.html> (Obama-era limits on polluting chemicals near bodies of water); Emma Newburger, *Critics Rail Against Trump’s Methane Proposal as an ‘Unconscionable Assault on Environment*, CNBC (Aug. 29, 2019), <https://www.cnbc.com/2019/08/29/trump-to-roll-back-methane-climate-change-regulations.html> [<https://perma.cc/7A9W-HLH3>] (Obama-era limits on methane emissions).

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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.”²⁴ 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 domestic sources of fossil fuel energy.²⁵ Accordingly, it came as no surprise when President-elect Trump populated his energy transition team with climate skeptics and energy lobbyists.²⁶ 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.²⁷ 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.²⁸

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,”²⁹ 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.³⁰

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

24. Coral Davenport, *White House Set to Weaken Rules Curbing Methane Use*, N.Y. TIMES, Sept. 11, 2018, at A1.

25. See *supra* notes **Error! Bookmark not defined.**–**Error! Bookmark not defined.**

26. See, e.g., Robin Bravender, *Trump’s Energy Team Overhauled*, E&E NEWS (Nov. 21, 2016), <https://www.eenews.net/stories/1060046098> [<https://perma.cc/7782-ZN6F>] (explaining that many lobbyists are stepping down and being replaced with former lobbyists and climate change skeptics); Steven Mufson, *Trump’s Energy Policy Team Includes Climate Change Skeptic, Free-Market Advocate*, WASH. POST (Nov. 29, 2016), https://www.washingtonpost.com/business/economy/trumps-energy-policy-team-includes-climate-change-skeptic-free-market-advocate/2016/11/29/86e52004-b5a4-11e6-b8df-600bd9d38a02_story.html?utm_term=.6e9512e4c477 (stating that President-elect Trump met with former lobbyists and climate change skeptics for transition advice).

27. Timothy Cama & Devin Henry, *Trump Outlines ‘America First’ Energy Plan*, HILL (May 26, 2016), <https://thehill.com/policy/energy-environment/281430-trump-outlines-america-first-energy-plan> [<https://perma.cc/V5VW-Y6EA>].

28. *Id.*

29. OFFICE OF MGMT. & BUDGET, THE 2018 REGULATORY REFORM REPORT: CUTTING THE RED TAPE, UNLEASHING ECONOMIC FREEDOM, <https://www.whitehouse.gov/wp-content/uploads/2018/10/2018-Unified-Agenda-Cutting-the-Red-Tape.pdf> [<https://perma.cc/2N7K-TQXN>].

30. *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 (Sept. 12, 2019), <https://www.nytimes.com/interactive/2019/climate/trump-environment-rollbacks.html> (highlighting regulations that have been successfully repealed).

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.³¹ 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.”³² 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.”³³ 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 day after the next presidential election.³⁴ 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.³⁵ 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 commitments to the goals

31. President Donald J. Trump, Statement by President Trump on the Paris Climate Accord (June 1, 2017), <https://www.whitehouse.gov/briefings-statements/statement-president-trump-paris-climate-accord> [<https://perma.cc/U9YF-9792>]; see also *President Trump Announces U.S. Withdrawal from the Paris Climate Accord*, WHITE HOUSE (June 1, 2017), <https://www.whitehouse.gov/articles/president-trump-announces-u-s-withdrawal-paris-climate-accord> [<https://perma.cc/3DBE-WMFZ>].

32. Statement by President Trump on the Paris Climate Accord, *supra* note 31.

33. *Id.*

34. *Paris Agreement*, *supra* note **Error! Bookmark not defined.**, 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.F. 432, 468–70 (2018).

35. U.S. CLIMATE ALLIANCE, <https://www.usclimatealliance.org> [<https://perma.cc/G7F3-HR23>]. By summer 2019, 25 governors were members. Press Release, U.S. Climate Alliance, Montana Governor Steve Bullock Becomes 25th Governor to Join U.S. Climate Alliance (July 1, 2019), <https://www.usclimatealliance.org/publications/2019/7/1/montana-governor-steve-bullock-becomes-25th-governor-to-join-us-climate-alliance> [<https://perma.cc/A6SP-J5KA>].

enshrined in the Paris Agreement.”³⁶ 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.³⁷ 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.”³⁸ 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.³⁹

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.⁴⁰

He ended his statement with a not-so-subtle dig at Trump, declaring: “[m]ake our planet great again.”⁴¹ 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.”⁴² 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.⁴³

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 . . .”⁴⁴

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

36. *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.*

37. “*We Are Still In*” Declaration, WE ARE STILL IN, <https://www.wearestillin.com/we-are-still-declaration> [https://perma.cc/5B55-AZPU].

38. Press Release, Office of Governor Edmund G. Brown, California Governor Jerry Brown and Michael Bloomberg Launch “America’s Pledge” (July 12, 2017), <https://ca.gov/archive/gov39/2017/07/12/news19872/index.html> [https://perma.cc/K3U8-DYEE].

39. See *infra* Part IV.

40. *Statement of Emmanuel Macron, President of France* (June 1, 2017), <https://www.pscp.tv/w/1jMKgoodLyqKL>; see also Emmanuel Macron (@EmmanuelMacron), TWITTER (June 1, 2017, 2:46 PM), <https://twitter.com/emmanuelmacron/status/870396270829084672?lang=en> [https://perma.cc/6CC8-TEFY] (posting President Macron’s remarks to his Twitter feed).

41. *Statement of Emmanuel Macron, President of France*, *supra* note 40.

42. *Statement by Italy, France, and Germany on the US Withdrawal from the Paris Agreement on Climate*, AMBASCIATA D’ITALIA, WASH. D.C. (June 1, 2017), https://ambwashingtondc.esteri.it/ambasciata_washington/en/sala-stampa/dall_ambasciata/2017/06/dichiarazione-italia-germania-francia.html [https://perma.cc/LB3Q-TBSW].

43. *Statement by the Prime Minister of Canada in Response to the United States’ Decision to Withdraw from the Paris Agreement*, PRIME MINISTER CAN. (June 1, 2017), <https://pm.gc.ca/eng/news/2017/06/01/statement-prime-minister-canada-response-united-states-decision-withdraw-paris> [https://perma.cc/5ECX-YE83].

44. PMO India (@PMO India), TWITTER (June 3, 2017, 5:29 AM), <https://twitter.com/PMOIndia/status/870980871720845312> [https://perma.cc/BP5Q-QZA8].

history of climate governance. We must ensure this endeavor *is not derailed*. . . . All parties should work together to implement the Paris [A]greement. China will continue to take steps to tackle climate change and fully honor its obligations.”⁴⁵ 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.⁴⁶

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,⁴⁷ 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.⁴⁸ 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 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.⁴⁹ 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.”⁵⁰ 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”⁵¹

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

45. See Tom Phillips, *China’s Xi Jinping says Paris Climate Deal Must not be Allowed to Fail*, GUARDIAN (Jan. 18, 2017), <https://www.theguardian.com/world/2017/jan/19/chinas-xi-jinping-says-world-must-implement-paris-climate-deal> [<https://perma.cc/3E6Q-N34X>] (emphasis added) (quoting Xi Jinping).

46. See, e.g., Benjamin Haas, *China Sees an Opportunity to Lead as Trump Withdraws from Paris. But Will It?*, GUARDIAN (June 2, 2017), <https://www.theguardian.com/world/2017/jun/02/china-sees-an-opportunity-to-lead-as-trump-withdraws-from-paris-but-will-it> [<https://perma.cc/YNS9-G7QB>]; see also Hai-Bin Zhang et al., *U.S. Withdrawal from the Paris Agreement: Reasons, Impacts, and China’s Response*, 8 ADVANCES IN CLIMATE CHANGE RES. 220 (2017) (analyzing the range of actions China could, and should, take in response to the United States’ declared withdrawal).

47. For a reminder of the cumulative nature of law and a discussion the resilience of law across changes in radical leadership, see Jeremy Waldron, *The Concept and the Rule of Law*, 43 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.

48. See *infra* Part IV.

49. Exec. Order No. 13,783, 3 C.F.R. 314 (2017).

50. *Id.* at 314–15.

51. *Id.* at 315.

to Power Sector Carbon Pollution Standards and Climate Change and National Security.⁵² 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.⁵³ 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 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.⁵⁴ 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 CPP⁵⁵ and subsequently, on August 21, 2018, issued its proposed replacement, the Affordable Clean Energy (ACE) rule.⁵⁶ The CPP was finally repealed and replaced with the ACE on June 19, 2019.⁵⁷ 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."⁵⁸

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.⁵⁹ Accordingly, the CPP was designed to ratchet down emissions from power plants by 32% below 2005 levels by 2030.⁶⁰

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 million to \$730 million, including costs, domestic climate benefits, and health co-benefits."⁶¹ 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 2030.⁶² 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.⁶³ Notably, when the Trump administration issued the proposed rule, estimates suggested that the ACE would "reduce[] pollution only negligibly even

52. *Id.* at 316 (revoking Exec. Order No. 13,653, 3 C.F.R. 330 (2013) (Climate Change Preparedness), Memorandum on Power Sector Carbon Pollution Standards, and Memorandum on Climate Change and National Security).

53. *Id.*

54. *Id.* at 318.

55. Repeal of Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units, 82 Fed. Reg. 48,035 (proposed Oct. 16, 2017) (to be codified at 40 C.F.R. pt. 60).

56. *EPA Proposes Affordable Clean Energy (ACE) Rule*, EPA (Aug. 21, 2018), <https://www.epa.gov/newsreleases/epa-proposes-affordable-clean-energy-ace-rule> [<https://perma.cc/ZH42-KCEY>].

57. EPA, FACT SHEET: THE AFFORDABLE CLEAN ENERGY RULE, https://www.epa.gov/sites/production/files/2019-06/documents/bser_and_eg_fact_sheet_6.18.19_final.pdf [<https://perma.cc/NN9V-Q2WZ>].

58. *EPA Proposes Affordable Clean Energy (ACE) Rule*, *supra* note 56.

59. *See supra* note **Error! Bookmark not defined.** 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).

60. *See Fact Sheet: Overview of the Clean Power Plan*, EPA, https://19january2017snapshot.epa.gov/cleanpowerplan/fact-sheet-overview-clean-power-plan_.html [<https://perma.cc/VBE2-9ML7>].

61. *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 5700 tons, NO_x emissions by 7100 tons, PM_{2.5} emissions by 400 tons, and mercury emissions by fifty-nine pounds).

62. *Id.*

63. This argument has been undercut by recent trends, which reveal an increase in greenhouse gas emissions from the power sector as "natural gas generation increased to meet rising electricity demand, offsetting the emissions reductions associated with coal plant retirements." Benjamin Storrow, *2019 Power-Sector Trends Point to a Continued Rise in U.S. Emissions*, SCI. AM.: E&E NEWS (June 3, 2019), <https://www.scientificamerican.com/article/2019-power-sector-trends-point-to-a-continued-rise-in-u-s-emissions> [<https://perma.cc/TJ5L-6PKN>].

from a no-CPP baseline.”⁶⁴ 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 over 1000 people will die from exposure to particulate matter and ozone whose deaths would have been avoided under the CPP.”⁶⁵

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.”⁶⁶ 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.⁶⁷ 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.”⁶⁸ Taking the rebound effect into account, one early study suggests that while the ACE “only modestly reduces national power sector CO₂ emissions” it could lead to increases in CO₂ emissions “by up to 8.7% in 18 states plus the District of Columbia in 2030 compared to no policy” and increases in “SO₂ 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.”⁶⁹

Furthermore, while one of President Trump’s repeated objectives has been to remove the Obama Administration’s “overly prescriptive and burdensome”⁷⁰ 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 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.⁷¹

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.⁷² Taking into account all of the different dimensions of the rule, one group of legal commentators suggest that the ACE:

would increase pollution of CO₂ 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.⁷³

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

64. Letter from Cara Horowitz & Ann Carlson, UCLA Sch. of Law, to EPA, Re: Comment by Electricity Grid Experts Benjamin F. Hobbs, Brendan Kirby, Kenneth J. Lutz, and James D. McCalley on Docket ID No. EPA-HQ-OAR-2017-0355, Proposed Affordable Clean Energy Rule (Oct. 30, 2018), https://legal-planet.org/wp-content/uploads/2018/10/Grid-expert-comment-letter_ACE_proposal_Oct_30_2018_FINAL-1.pdf [<https://perma.cc/N8BY-WAHX>].

65. Nat Logar, *The Affordable Clean Energy Rule Would Be Neither Affordable nor Clean*, LEGAL PLANET (Oct. 31, 2018), <https://legal-planet.org/2018/10/31/the-affordable-clean-energy-rule-would-be-neither-affordable-nor-clean> [<https://perma.cc/5RPL-HAAD>] (quoting Cara Horowitz et al., Comment by Electricity Grid Experts Benjamin F. Hobbs, Brendan Kirby, Kenneth J. Lutz, and James D. McCalley on Docket ID No. EPA-HQ-OAR-2017-0355, Proposed Affordable Clean Energy Rule (Oct. 30, 2018), https://legal-planet.org/wp-content/uploads/2018/10/Grid-expert-comment-letter_ACE_proposal_Oct_30_2018_FINAL-1.pdf [<https://perma.cc/QK5A-KUWX>]).

66. Niina H. Farah, *Trump Admin Finalizes Clean Power Plan*, E&E NEWS (June 19, 2019), <https://www.eenews.net/stories/1060631669> [<https://perma.cc/EJ3A-W2UR>].

67. See William C. Schillaci, *Affordable Clean Energy Rule Puts States in Regulatory Driver’s Seat*, EHS DAILY ADVISOR (June 21, 2019), <https://ehsdailyadvisor.blr.com/2019/06/affordable-clean-energy-rule-puts-states-in-the-regulatory-drivers-seat> [<https://perma.cc/RA45-CTPF>].

68. See Amelia T. Keyes et al., *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).

69. *Id.*

70. *EPA Proposes Affordable Clean Energy (ACE) Rule*, *supra* note 56.

71. Logar, *supra* note 65 (emphasis added) (quoting Horowitz et al., *supra* note 65).

72. See, e.g., *Issue Brief: Final ACE Rule Raises State Concerns*, GEO. CLIMATE CTR. (July 2, 2019), <https://www.georgetownclimate.org/articles/issue-brief-final-ace-rule-raises-state-concerns.html> [<https://perma.cc/LGY3-7J4P>].

73. Horowitz & Carlson, *supra* note 64, at 1.

“Tailpipe Rule,” which provided the tool for limiting emissions from automobiles.⁷⁴ Together, these two CAA regulatory programs targeted the two largest sources of domestic greenhouse gas emissions.⁷⁵ 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.⁷⁶ Following the Court’s 2007 ruling, in 2009, the EPA issued the CAA section 202(a)(1) endangerment finding that triggered the EPA’s obligation to begin regulating greenhouse gas emissions from new automobiles.⁷⁷ 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.⁷⁸ 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 2012–2016 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 2017–2025.⁷⁹ 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.⁸⁰ As a result of these rules, automakers were required to nearly double the average fuel economy of new cars and trucks by 2025.⁸¹

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 that they were economically onerous and created safety concerns.⁸² 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.⁸³

74. See Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units, 80 Fed. Reg. 64,662 (proposed Oct. 23, 2015) (to be codified at 40 C.F.R. pt. 60) (the CPP); Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act, 74 Fed. Reg. 66,496 (proposed Apr. 24, 2009) (to be codified at 40 C.F.R. ch. 1) (the Tailpipe Rule).

75. Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units, 80 Fed. Reg. at 64,664; Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act, 74 Fed. Reg. at 66,517.

76. See *Massachusetts v. EPA*, 549 U.S. 497, 532–35 (2007).

77. 42 U.S.C. § 7521(a)(1) (2012).

78. *Timeline of Major Accomplishments in Transportation, Air Pollution, and Climate Change*, EPA, <https://www.epa.gov/air-pollution-transportation/timeline-major-accomplishments-transportation-air-pollution-and-climate#2000> [https://perma.cc/7FSU-XY8B].

79. *Regulations for Greenhouse Gas Emissions from Passenger Cars and Trucks*, EPA, <https://www.epa.gov/regulations-emissions-vehicles-and-engines/regulations-greenhouse-gas-emissions-passenger-cars-and> [https://perma.cc/9BAV-TBM2].

80. *Timeline of Major Accomplishments in Transportation, Air Pollution, and Climate Change*, *supra* note 78.

81. See Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles-Phase 2, 81 Fed. Reg. 73,478 (proposed Oct. 25, 2016) (to be codified at 49 C.F.R. pts. 523, 534, 535, 538); see also *Final Rule for Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles - Phase 2*, EPA, <https://www.epa.gov/regulations-emissions-vehicles-and-engines/final-rule-greenhouse-gas-emissions-and-fuel-efficiency> [https://perma.cc/L2LK-9XGW].

82. See Timothy Cama & Miranda Green, *Trump Moves to Roll Back Obama Emissions Standards*, HILL (Aug. 2, 2018), <https://thehill.com/policy/energy-environment/400036-trump-submits-rule-to-weaken-iconic-obama-car-efficiency-standards> [https://perma.cc/XQU6-UYZY].

83. The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021–2026 Passenger Cars and Light Trucks, 83 Fed. Reg. 42,986 (proposed Aug. 24, 2018) (to be codified at 40 C.F.R. pts. 85, 86) (proposing to “retain the model year 2020 standards . . . for [cars and light trucks] through model year 2026”).

At the time of writing, this rule is not yet final and is being challenged by environmentalists, consumer groups, and auto-industry representatives.⁸⁴ 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.⁸⁵ 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.⁸⁶

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 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,⁸⁷ 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;⁸⁸ proposed lifting an Obama-era coal leasing moratorium on public lands;⁸⁹ proposed an expanded oil and gas leasing program in the Arctic National Wildlife Refuge;⁹⁰ issued an executive order seeking to expedite approvals of energy infrastructure projects;⁹¹ proposed rolling back an Obama-era rule aimed at preventing hydrofluorocarbon leaks from air conditioners;⁹² rolled back regulatory limits on petroleum refineries;⁹³ quickened the pace of approving onshore drilling permits;⁹⁴ and proposed to dramatically expand the areas open to offshore oil and gas leasing.⁹⁵

84. See, e.g., *Academy Warns of Danger in Proposed SAFE Vehicles Rule*, AM. ACAD. FAM. PHYSICIANS (Nov. 7, 2018), <https://www.aafp.org/news/government-medicine/20181107epaletter.html> [<https://perma.cc/Q867-PWFS>]; Letter from Academy of Integrative Health & Medicine et al., to Andrew Wheeler, Acting Administrator, EPA, Public Health Organizations' Opposition to the Proposed "Safer Affordable Fuel-Efficient Vehicles Rule" for Model Years 2021-2026 Passenger Cars and Light Trucks (Oct. 26, 2018), <https://www.aafa.org/media/2221/aafa-sign-on-letter-opposing-safer-affordable-fuel-efficient-vehicles-rule.pdf> [<https://perma.cc/4MGV-TCUK>].

85. Carlson, *supra* note 15, at 271-72.

86. *Id.* at 272.

87. See, e.g., *Climate Deregulation Tracker*, COLUM. L. SCH.: SABIN CTR. FOR CLIMATE CHANGE L., <http://columbiaclimatelaw.com/resources/climate-deregulation-tracker> [<https://perma.cc/U7VG-WPPT>].

88. See *Proposed Improvements 2016 New Source Performance Standards*, EPA, <https://www.epa.gov/controlling-air-pollution-oil-and-natural-gas-industry/proposed-improvements-2016-new-source> [<https://perma.cc/EV8Q-5PR3>] (last updated Dec. 19, 2018).

89. See *BLM Publishes Draft Environmental Assessment for Lifting Coal Leasing Moratorium*, COLUM. L. SCH.: SABIN CTR. FOR CLIMATE CHANGE L. (May 22, 2019), <http://columbiaclimatelaw.com/climate-deregulation-tracker/blm-publishes-draft-environmental-assessment-for-lifting-coal-leasing-moratorium> [<https://perma.cc/L496-8ZFT>].

90. See Press Release, Bureau Land Mgmt., BLM Alaska Releases Draft Environmental Impact Statement for the Coastal Plain Oil and Gas Leasing Program (Dec. 20, 2018), <https://www.blm.gov/press-release/blm-alaska-releases-draft-eis-coastal-plain-oil-and-gas-leasing-program> [<https://perma.cc/QN4U-Q46P>].

91. See Exec. Order No. 13,868, 84 Fed. Reg. 15,495 (Apr. 15, 2019).

92. See Maxine Joselow, *Trump Admin to Alter Rollback over HFC Concerns*, E&E NEWS (Apr. 29, 2019), <https://www.eenews.net/stories/1060235551> [<https://perma.cc/584W-PJBC>].

93. See 40 C.F.R. §§ 60.100, 60.100a, 63.640, 63.1560 (2018); National Emission Standards for Hazardous Air Pollutants and New Source Performance Standards: Petroleum Refinery Sector Amendments, 83 Fed. Reg. 227, 60,696 (Nov. 26, 2018).

94. See Curt Devine et al., *Interior Dept. Approved Far More Oil and Gas Permits During Shutdown than Previously Known*, CNN (Mar. 27, 2019), <https://www.cnn.com/2019/03/27/politics/bernhardt-interior-approved-permits-shutdown/index.html> [<https://perma.cc/SN6R-2B8T>].

95. See Press Release, U.S. Dep't Interior, Secretary Zinke Announces Plan for Unleashing America's Offshore Oil and Gas Potential (Jan. 4, 2018), <https://www.doi.gov/pressreleases/secretary-zinke-announces-plan-unleashing-americas-offshore-oil-and-gas-potential> [<https://perma.cc/K4KG-URM9>] ("[T]he National Outer Continental Shelf Oil and Gas Leasing Program . . . proposes to make over 90 percent of the total OCS acreage and more than 98 percent of undiscovered, technically recoverable oil and gas resources in federal offshore areas available to consider for future exploration and development. By comparison, the current program puts 94 percent of the OCS off limits. In addition, the program proposes the largest number of lease sales in U.S. history.").

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 2025.⁹⁶

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.⁹⁷ Also, in 2018, the United States surpassed Russia and Saudi Arabia to become the world's largest crude oil producer.⁹⁸ 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"⁹⁹

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,¹⁰⁰ despite far-reaching concerns among military leaders about the effects of climate change on national security.¹⁰¹ 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 Sea¹⁰² and rescinding an Obama-era policy that integrates climate change into natural resource management decisions in national parks.¹⁰³ 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"¹⁰⁴ as well as the far-reaching National Environmental Policy Act (NEPA) guidelines directing agencies to take climate change into consideration when assessing the

96. See STATE ENERGY & ENVTL. IMPACT CTR., NYU SCH. L., CLIMATE & HEALTH SHOWDOWN IN THE COURTS: STATE ATTORNEYS GENERAL PREPARE TO FIGHT 5 (Mar. 2019), <https://www.law.nyu.edu/sites/default/files/climate-and-health-showdown-in-the-courts.pdf> [<https://perma.cc/GE9Y-RMFC>]; Valerie Volcovici, *Trump Climate Deregulation Could Boost CO₂ Emissions by 200 Million Tonnes a Year: Study*, U.S. NEWS & WORLD REP. (Mar. 5, 2019), <https://www.usnews.com/news/top-news/articles/2019-03-05/trump-climate-deregulation-could-boost-co2-emissions-by-200-million-tonnes-a-year-study> [<https://perma.cc/QK4T-GL43>].

97. See *Preliminary US Emissions Estimates for 2018*, RHODIUM GROUP (Jan. 8, 2019), <https://rhg.com/research/preliminary-us-emissions-estimates-for-2018> [<https://perma.cc/M627-2HSU>] (noting that the 2018 gain was "surpassed only by 2010 when the economy bounced back from the Great Recession").

98. See *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/F7UZ-2YT9>].

99. *The United States Is Expected to Export More Energy than it Imports by 2020*, U.S. ENERGY INFO. ADMIN. (Jan. 29, 2019), <https://www.eia.gov/todayinenergy/detail.php?id=38152> [<https://perma.cc/4UM9-C4KV>].

100. See Jean Chemnick, *Trump Drops Climate Threats from National Security Strategy*, SCI. AM.: E&E NEWS (Dec. 19, 2017), <https://www.scientificamerican.com/article/trump-drops-climate-threats-from-national-security-strategy> [<https://perma.cc/A6N4-EXTT>].

101. Revealing fissions between the Administration and the Pentagon, in 2019, the Department of Defense released a report declaring that "[t]he effects of a changing climate are a national security issue with potential impacts to Department of Defense missions, operational plans, and installations." U.S. DEP'T DEF., REPORT ON EFFECTS OF A CHANGING CLIMATE TO THE DEPARTMENT OF DEFENSE 2 (Jan. 2019), https://climateandsecurity.files.wordpress.com/2019/01/sec_335_ndaa-report_effects_of_a_changing_climate_to_dod.pdf [<https://perma.cc/PB6L-CU4Y>].

102. See Exec. Order No. 13,795, 3 C.F.R. 340 (2017).

103. See Rob Hotakainen, *NPS Chief Scraps Climate-Focused Order*, E&E NEWS (Aug. 31, 2017), <https://www.eenews.net/stories/1060059511> [<https://perma.cc/9UFC-EEWH>].

104. 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>].

environmental impacts of federal actions.¹⁰⁵ The cumulative effect¹⁰⁶ 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.¹⁰⁷ 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.¹⁰⁸

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.¹⁰⁹

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,¹¹⁰ but the

105. In 2019, the Council on Environmental Quality issued revised guidance designed to “facilitate more timely environmental reviews and permitting decisions for infrastructure projects” by limiting when, and to what extent the agency has to take into account climate considerations. COUNCIL ENVTL. QUALITY, FACT SHEET: CEQ’S DRAFT NEPA GUIDANCE ON CONSIDERATION OF GHG EMISSIONS (June 2019), <https://www.whitehouse.gov/wp-content/uploads/2017/11/20190621-FINAL-GHG-Guidance-Fact-Sheet.pdf> [<https://perma.cc/RG22-8HA7>]; *Guidance on Consideration of Greenhouse Gases*, NAT’L ENVTL. POL’Y ACT, https://ceq.doe.gov/guidance/ceq_guidance_nepa-ghg.html [<https://perma.cc/2H3B-M42Y>].

106. 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. *See As Risks Rise, an Overhaul Announced for Federal Flood Insurance*, 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-FPVY>].

107. For more details on the Trump era roll backs, in this regard, see *Climate Change, Sustainable Development, and Ecosystems*, in ABA SECTION ENV’T, ENERGY, & RESOURCES: 2017 ANNUAL REPORT 339–40 (Andrew Schatz et al. eds., 2017); STATE ENERGY & ENVTL. IMPACT CTR., NYU SCH. L., STATE ATTORNEYS GENERAL: 13 MONTHS OF CRITICAL ACTIONS 21–22 (Feb. 2018), https://gallery.mailchimp.com/8c3272f6cbbb6024dc1359725/files/fdbd6457-5cff-4672-8bd7-5cae63ba69aa/Web_Report_StateImpactCenter_Final.04.pdf [<https://perma.cc/39LG-7LTQ>].

108. *See, e.g.*, J.B. Ruhl, *The Political Economy of Climate Change Winners*, 97 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); *see also* Robin Kundis Craig, *The Social and Cultural Aspects of Climate Change Winners*, 97 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 that “winners could come at the expense of ultimately disastrous long-term consequences for the planet as a whole”).

109. Dan Farber, *Helping Repair Our Broken Governance System*, LEGAL PLANET (June 24, 2019), <https://legal-planet.org/2019/06/24/helping-repair-our-broken-governance-system> [<https://perma.cc/MM2V-2AB2>].

110. *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).

Administration has also faced significant losses in the courts¹¹¹ and persistent push-back from the public and private sector.¹¹²

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.¹¹³ Patterns of climate litigation exemplify this trend.

...

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,¹¹⁴ 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.

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.¹¹⁵ 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.¹¹⁶ Equally, with the President leading efforts to

111. See Ann Carlson, *The Trump Administration Is on an Environmental Losing Streak*, LEGAL PLANET (Aug. 17, 2018), <https://legal-planet.org/2018/08/17/the-trump-administration-is-on-an-environmental-losing-streak> [https://perma.cc/YC2W-6E9E]. As Carlson notes:

[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.

Id.

112. See Leading U.S. Businesses Call on Congress to Enact a Market-Based Approach to Climate Change, WORLD RES. INST. (May 15, 2019), <https://www.wri.org/news/2019/05/leading-us-businesses-call-congress-enact-market-based-approach-climate-change> [https://perma.cc/YN2P-8WT4] ("The CEOs of 13 U.S. and Global Fortune 500 companies or their subsidiaries, in collaboration with four leading environmental groups, today issued a call for action on climate change.").

113. 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." *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. *Id.*

114. See generally JOSEPH E. ALDY ET AL., PEW CTR. ON GLOBAL CLIMATE CHANGE, BEYOND KYOTO: ADVANCING THE INTERNATIONAL EFFORT AGAINST CLIMATE CHANGE (2003); Carlane, *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).

115. *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).

116. See Farber & Carlane, *supra* note **Error! Bookmark not defined.**, at 185; *Climate Change Partnerships: Working Across Agencies and Beyond Borders*, CA.GOV, https://www.climatechange.ca.gov/climate_action_team/partnerships.html [https://perma.cc/X6LG-AMXE].

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).¹¹⁷ Similarly, subnational governmental actors were able to focus on local adaptation needs and mitigation opportunities.¹¹⁸ At the same time, within the private sector, hundreds of companies began “taking action 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.”¹¹⁹ 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 Alabama¹²⁰—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.¹²¹

Despite aggressive¹²² and, at times, effective¹²³ 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-

117. See Rebecca Cohen, *The Trump Administration Wants to Roll Back Fracking Standards, So We’re Going to Court*, EARTHJUSTICE (Jan. 23, 2018), <https://earthjustice.org/blog/2018-january/blm-fracking-rule-lawsuit> [<https://perma.cc/H36H-5J6T>]; Betsy Lillian, *EPA Slapped with Another Suit over Vehicle Emissions Standards*, NGTNEWS (May 16, 2018), <https://ngtnews.com/epa-slapped-with-another-suit-over-vehicle-emissions-standards> [<https://perma.cc/Y3PJ-7AMU>].

118. See Sharyn Stein, *Groups Ask Court for Permission to Help Defend Colorado Clean Car Standards*, ENVTL. DEF. FUND (Mar. 11, 2019), <https://www.edf.org/media/groups-ask-court-permission-help-defend-colorado-clean-car-standards> [<https://perma.cc/FS8K-FZEW>]; Joshua Emerson Smith, *Sierra Club, Others Sue San Diego County to Block Carbon Credit Plan for New Development*, SAN DIEGO UNION-TRIB. (Mar. 19, 2018), <https://www.sandiegouniontribune.com/news/environment/sd-mesa-sierra-lawsuit-20180319-story.html> [<https://perma.cc/K355-2GAM>].

119. J. Kevin Healy & Bryan Keyt, *The Case for Corporate Action on Climate Change*, 48 ENVTL. L. REP. 10,381, 10,381–82 (2018).

120. See Petition for Review at 2, *West Virginia v. EPA*, No. 15-1363, 2019 U.S. App. LEXIS (D.C. Cir. Sept. 17, 2019), ECF No. 2 (noting that twenty-six of the fifty states joined in opposition to EPA’s CPP); see also *Texas v. EPA*, 726 F.3d 180 (D.C. Cir. 2013) (wherein Texas, Wyoming, and various industry groups petitioned for review of five EPA rules designed to ensure that a permitting authority existed to issue greenhouse gas permits under the CAA); Attorneys General of the States of Oklahoma, West Virginia, Nebraska, Alabama, Florida, Georgia, Indiana, Kansas, Louisiana, Michigan, Montana, North Dakota, Ohio, South Carolina, South Dakota, Utah and Wyoming, Comment Letter on Proposed Rule Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units (Nov. 24, 2014), <https://www.regulations.gov/document?D=EPA-HQ-OAR-2013-0602-25433> [<https://perma.cc/K9VW-HKNM>].

121. See Daniel A. Farber, *The Conservatives as Environmentalists: From Goldwater and the Early Reagan Era to the 21st Century*, 59 ARIZ. L. REV. 1005, 1042–43 (2017). Farber explains that:

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/2017/01/05/business/energy-environment/koch-brothers-fossil-fuels-minorities.html?emc=edit_th_20170106&nl=todayshheadlines&nid=15539613&_r=0); see also Robert J. Brulle, *Institutionalizing Delay: Foundation Funding and the Creation of U.S. Climate Change Counter-Movement Organizations*, 122 CLIMATIC CHANGE 681 (2014) (analyzing “the financial resource mobilization of the organizations that make up the climate change counter-movement”); Coral Davenport & Eric Lipton, *How G.O.P. Leaders Came to View Climate Change as Fake Science*, N.Y. TIMES (June 3, 2017), https://www.nytimes.com/2017/06/03/us/politics/republican-leaders-climate-change.html?_r=0.

122. See, e.g., Jean Galbraith, *Two Faces of Foreign Affairs Federalism and What They Mean for Climate Change Mitigation*, 112 AM. J. INT’L L. ENVIRONMENT 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”).

123. See, e.g., Sobie, *supra* note **Error! Bookmark not defined.** (discussing the Court’s stay of the CPP).

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.¹²⁴

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,¹²⁵ 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*¹²⁶ and the *Climate Alliance*,¹²⁷ “more than 2,500 non-federal actors representing more than half the U.S. economy . . . have pledged their support for the Paris Agreement goals.”¹²⁸ 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”¹²⁹ 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 (CO₂e) of GHG [greenhouse gas] emissions per year” that have voluntarily adopted GHG targets.¹³⁰

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.¹³¹ 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.¹³²

124. See, e.g., Carlson, *supra* note 15, at 271; Hoshijima, *supra* note **Error! Bookmark not defined.**, at 174–75; Michael B. Gerrard, *Environmental and Energy Legislation in the 112th Congress*, A.B.A. TRENDS, Mar./Apr. 2011, at 5.

125. See *supra* Part I.

126. WE ARE STILL IN, *supra* note 21.

127. U.S. CLIMATE ALLIANCE, *supra* note 35.

128. Kristin Ugusky & Kevin Kennedy, *By the Numbers: America's Pledge Shows How US Is Taking Climate Action Without Trump*, WORLD RESOURCES INST. (Nov. 11, 2017), <https://www.wri.org/blog/2017/11/numbers-americas-pledge-shows-us-moving-forward-climate-action> [<https://perma.cc/J345-UZH8>].

129. BLOOMBERG PHILANTHROPIES, AMERICA'S PLEDGE: PHASE 1 REPORT-STATES, CITIES, AND BUSINESSES IN THE UNITED STATES ARE STEPPING UP ON CLIMATE ACTION 14 (2017).

130. See *id.* at 14–15.

131. See Murthy, *supra* note **Error! Bookmark not defined.**, at 1.

132. See, e.g., Brad Plumer, *It's New York vs. California in a New Climate Race. Who Will Win?*, N.Y. TIMES (July 9, 2019), <https://www.nytimes.com/2019/07/08/climate/new-york-california-climate-race.html?rref=collection%2Fsectioncollection%2Fclimate>.

By 2019, for example, both New York¹³³ and California¹³⁴ 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 2045.¹³⁵

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 countertrend 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.¹³⁶ At the international level, it helps sustain U.S. climate leadership. As Galbraith describes:

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.¹³⁷

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.¹³⁸ 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,¹³⁹ build resiliency and adaptive capacity, demonstrate global leadership, and influence the federal government's willingness to respond to climate change in the long term.¹⁴⁰ 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

133. See Jesse McKinley & Brad Plumer, *New York to Approve One of the World's Most Ambitious Climate Plans*, N.Y. TIMES (June 18, 2019), <https://www.nytimes.com/2019/06/18/nyregion/greenhouse-gases-ny.html>; see also Matt Stieb, *New York to Enact One of the Most Aggressive Climate Bills in the U.S.*, N.Y. MAG. (June 19, 2019), <http://nymag.com/intelligencer/2019/06/new-york-state-to-approve-impressive-ambitious-climate-bill.html> [<https://perma.cc/6W5A-89G7>]. The bill is, in essence, "a legally binding legislative act to achieve an 85% reduction in greenhouse gas emissions by 2050 and a goal of net zero." Michael B. Gerrard, *The Heat Is On, New York: A New Climate Law Is a Major Landmark, but Now Requires Work and Sacrifice*, N.Y. DAILY NEWS (June 23, 2019), <https://www.nydailynews.com/opinion/ny-oped-start-innovating-new-york-20190623-3mucksnuazak3axpggpygxtly-story.html> [<https://perma.cc/PB7G-WJRM>].

134. See Clean Energy Act of 2018, S.B. 100, 2017 Leg., Reg. Sess. (Ca. 2018). This Bill, known as the *Clean Energy Act of 2018*, sets a state policy that eligible renewable energy and zero-carbon resources supply 100% of all retail sales of electricity in California by 2045. See also Exec. Order No. B-55-18 (Cal. 2018). In this executive order, then Governor Jerry Brown set out a statewide goal "to achieve carbon neutrality as soon as possible, and no later than 2045, and to achieve and maintain net negative emissions thereafter." *Id.*; see also David R. Baker, *Gov. Brown's New Climate Goal: Less than Zero Global Warming Emissions*, S.F. CHRON. (Sept. 10, 2018), <https://www.sfchronicle.com/business/article/California-to-go-100-percent-clean-energy-by-2045-13218236.php?psid=cEpQh> [<https://perma.cc/RLX8-BKV9>].

135. 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. 433, 443, 454 (2019).

136. See, e.g., Murthy, *supra* note **Error! Bookmark not defined.**, at 2; see also *About the Under2 Coalition*, UNDER 2 COALITION, <https://www.under2coalition.org/about> [<https://perma.cc/R355-BZ24>].

137. Galbraith, *supra* note 122, at 274.

138. Arroyo, *supra* note 135, at 433; 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. & POLY REV. 385 (2016).

139. See, e.g., Shelley Welton, *Electricity Markets and the Social Project of Decarbonization*, 118 COLUM. L. REV. 1067, 1097-99 (2018).

140. See Arroyo, *supra* note 138, at 437-40.

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.”¹⁴¹ 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 2050.¹⁴² Moreover, by 2030, the UN estimates that forty-three cities around the globe will have 10 million or more inhabitants.¹⁴³ Although much of the population growth over the next half century will be highly concentrated in a few 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 2018.¹⁴⁴ 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.¹⁴⁵

As urbanization continues and cities grow, these areas become increasingly important sites with respect to climate change for three primary reasons.¹⁴⁶ First, cities are vulnerable to climate impacts.¹⁴⁷ Second, although cities occupy only 2% of the world’s land, they consume more than two-thirds of global energy and produce

141. Bloomberg Cities, *The Future of City Innovation*, MEDIUM (Mar. 19, 2019), <https://medium.com/@BloombergCities/the-future-of-city-innovation-99a0950a76c3> [<https://perma.cc/JA4J-PT84>]; Richard Florida, *The Geography of Innovation*, CITYLAB (Aug. 3, 2017), <https://www.citylab.com/life/2017/08/the-geography-of-innovation/530349> [<https://perma.cc/SZD6-VP4E>]; Miguel Marshall, *Why Cities Are the Key to Innovation*, WORLD ECON. F. (Nov. 17, 2005), <https://www.weforum.org/agenda/2015/11/why-cities-are-the-key-to-innovation> [<https://perma.cc/N5L6-J5RR>].

142. *2018 Revision of World Urbanization Prospects*, U.N. DEP’T ECON. & SOC. AFF. (May 16, 2018), <https://www.un.org/development/desa/publications/2018-revision-of-world-urbanization-prospects.html> [<https://perma.cc/6JGM-YLW4>]; see also U.K. HOUSE OF COMMONS ENVTL AUDIT COMM., *OUR PLANET OUR HEALTH*, 2017-19, HC 1803, AT 42, <https://publications.parliament.uk/pa/cm201719/cmselect/cmenvaud/1803/1803.pdf> [<https://perma.cc/AG8B-2FFS>]. The House of Commons report states that:

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.

Id. (footnote omitted).

143. *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 . . .

Roland von Glasow et al., *Megacities and Large Urban Agglomerations in the Coastal Zone: Interactions Between Atmosphere, Land, and Marine Ecosystems*, 42 *AMBIO* 13, 13 (2012).

144. *2018 Revision of World Urbanization Prospects*, *supra* note 142.

145. See Michael B. McElroy & D. James Baker, *Climate Extremes: Recent Trends with Implications for National Security*, 15 *VT. J. ENVTL. L.* 727, 733 (2014).

146. See Magali Dreyfus, *Are Cities a Relevant Scale of Action to Tackle Climate Change? Some Reflections to Inform the Debate on the Post-2020 Regime*, 7 *CARBON & CLIMATE L. REV.* 283, 284 (2013); see also Alejandra Borunda, *This Is What Cities Need to Do by 2050 to Meet Climate Goals*, NAT’L GEOGRAPHIC (Sept. 19, 2019), <https://www.nationalgeographic.com/environment/2019/09/zero-carbon-cities-future>.

147. See, e.g., *Why Cities?*, C40, https://www.c40.org/why_cities [<https://perma.cc/Q488-1BEY>] (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).

approximately 70% of global greenhouse gas emissions.¹⁴⁸ Third, cities possess “important human, economic and knowledge resources which enable them to take action and design innovative solutions.”¹⁴⁹ 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, they can keep their communities ahead.”¹⁵⁰ Cities, therefore, have a significant role to play in mapping out how to live in a world indelibly altered by climate change.

Many city leaders worldwide have proved eager to take on the challenge.¹⁵¹ In the United States, cities have actively engaged in climate politics since the Bush Administration¹⁵² with the extent of activity picking up over time.¹⁵³ 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.¹⁵⁴

One of the most prominent advocates for city leadership has been Michael Bloomberg,¹⁵⁵ the former mayor of New York City turned vocal 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.”¹⁵⁶ 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.¹⁵⁷

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

148. See *id.*; UN HABITAT, HOT CITIES: BATTLE-GROUND FOR CLIMATE CHANGE (2011), http://mirror.unhabitat.org/downloads/docs/E_Hot_Cities.pdf [<https://perma.cc/U8WX-ZG6Z>]; see also U.K. HOUSE OF COMMONS ENVTL. AUDIT COMM., *supra* note 142, at 3.

149. Dreyfus, *supra* note 146, at 283.

150. Bloomberg Cities, *supra* note 141; see also Florida, *supra* note 141; Marshall, *supra* note 141.

151. See, e.g., GLOBAL COVENANT OF MAYORS FOR CLIMATE AND ENERGY, <https://www.globalcovenantofmayors.org/about> [<https://perma.cc/8DMT-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).

152. See, e.g., Carlarne, *supra* note 7, at 1380–81; Kirsten Engel, *State and Local Climate Change Initiatives: What Is Motivating State and Local Governments to Address a Global Problem and What Does This Say About Federalism and Environmental Law*, 38 URB. LAW. 1015, 1016 (2006).

153. See Arroyo, *supra* note 135, at 451–54.

154. See *About the Climate Mayors Electric Vehicle Purchasing Collaborative*, DRIVE EV FLEETS, <https://driveevfleets.org/what-is-the-collaborative> [<https://perma.cc/WQ9N-36QP>]; *City Climate Policy*, C2ES, <https://www.c2es.org/content/city-climate-policy> [<https://perma.cc/94NW-AEXS>].

155. 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-secretariat-fill-united-states-federal-funding-gap>; *Board of Directors*, C40, [c40.org/board_of_directors](https://www.c40.org/board_of_directors) [<https://perma.cc/SZ4L-EH76>].

156. Michael Bloomberg, *City Century: Why Municipalities Are the Key to Fighting Climate Change*, 94 FOREIGN AFF. 116, 116 (2015).

157. 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 (2018); 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); see also Daniel H. Cole, *From Global to Polycentric Climate Governance*, 2 CLIMATE L. 395 (2011).

associated with urban buildings, transport and waste disposal by nearly half (47%) in 2050.¹⁵⁸ 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.¹⁵⁹ 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.¹⁶⁰

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 influential on a global scale.¹⁶¹ It has a heavy carbon footprint.¹⁶² Moreover, as Hurricane Sandy viscerally demonstrated, it is geographically vulnerable, particularly to sea-level rise and coastal storms.¹⁶³

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.¹⁶⁴ 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.¹⁶⁵

With climate efforts dating back to 2007 and covering everything from mitigation and adaptation to climate finance,¹⁶⁶ 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 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.¹⁶⁷ 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:

158. See Peter Erickson & Kevin Tempest, *Advancing Climate Ambition: How City-Scale Actions Can Contribute to Global Climate Goals* 5 (Stockholm Env’tl. Inst., Working Paper No. 2014-06, 2014), <https://mediamanager.sei.org/documents/Publications/Climate/SEI-WP-2014-06-C40-Cities-mitigation.pdf> [<https://perma.cc/Z6N4-BM78>].

159. Andrea McArdle, *Local Green Initiatives: What Local Governance Can Contribute to Environmental Defenses Against the Onslaughts of Climate Change*, 28 FORDHAM ENVTL. L. REV. 102, 105 (2016).

160. *Id.*

161. See Bratspies, *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.

Id. (footnotes omitted).

162. See, e.g., N.Y.C. MAYOR’S OFFICE OF SUSTAINABILITY, INVENTORY OF NEW YORK CITY GREENHOUSE GAS EMISSIONS IN 2015 (2017), https://www.dec.ny.gov/docs/administration_pdf/nycghg.pdf [<https://perma.cc/K79S-SHXL>]; see also YOSEF JABAREEN, THE RISK CITY: CITIES COUNTERING CLIMATE CHANGE: EMERGING PLANNING THEORIES AND PRACTICES AROUND THE WORLD 84 (2015).

163. 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., *Neighborhood Context, Homeownership and Home Value: An Ecological Analysis of Implications for Health*, 14 INT. J. ENVTL. RES. & PUB. HEALTH 1098 (2017).

164. See JABAREEN, *supra* note 162, at 84 (quoting CITY OF N.Y., PLANYC: A GREENER, GREATER NEW YORK 7 (2007), http://www.nyc.gov/html/planyc/downloads/pdf/publications/full_report_2007.pdf [<https://perma.cc/C8TQ-DYYJ>]).

165. Bratspies, *supra* note 16, at 10.

166. E.g., N.Y.C., N.Y., 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 Local Law 55).

167. See generally Bratspies, *supra* note 16; Renee Cho, *How New York City Is Preparing for Climate Change*, PHYS.ORG (Apr. 29, 2019), <https://phys.org/news/2019-04-york-city-climate.html> [<https://perma.cc/S8H9-CD9P>].

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.¹⁶⁸

The day immediately following President Trump's condemnation of the Paris Agreement, Mayor De Blasio issued a *Climate Action Executive Order*.¹⁶⁹ 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."¹⁷⁰ Responding to this imperative, he declared the city's commitment to the Paris Agreement and reaffirmed the city's long-standing commitment¹⁷¹ to reducing its greenhouse gas emissions 80% by 2050.

Mayor De Blasio's *Climate Action Executive Order* had both symbolic and substantive impact.¹⁷² 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 . . ."¹⁷³ 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.¹⁷⁴

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 protocol to reduce our carbon footprint to zero."¹⁷⁵ 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

168. See Oliver Milman et al., *The Fight Against Climate Change: Four Cities Leading the Way in the Trump Era*, GUARDIAN (June 12, 2017, 6:00 AM), <https://www.theguardian.com/cities/2017/jun/12/climate-change-trump-new-york-city-san-francisco-houston-miami> [<https://perma.cc/6JPT-XXWF>].

169. City of New York, Office of the Mayor, Exec. Order No. 26 (2017) [hereinafter *Climate Change Executive Order*].

170. *Id.*

171. See *Mayor de Blasio Commits to 80 Percent Reduction of Greenhouse Gas Emissions by 2050, Starting with Sweeping Green Buildings Plan*, NYC.GOV (Sept. 21, 2014), <https://www1.nyc.gov/office-of-the-mayor/news/451-14/mayor-de-blasio-commits-80-percent-reduction-greenhouse-gas-emissions-2050-starting-with/#/0> [<https://perma.cc/P8FY-E7K3>]; see also CITY OF NEW YORK, ONE NEW YORK: THE PLAN FOR A STRONG AND JUST CITY 166, <http://www.nyc.gov/html/onenyc/downloads/pdf/publications/OneNYC.pdf> [<https://perma.cc/6A9L-QSRG>].

172. See, e.g., Carlarne, *supra* note 7, at 1405-08; Kirsten H. Engel & Scott R. Saleska, *Subglobal Regulation of the Global Commons: The Case of Climate Change*, 32 ECOLOGY L.Q. 183, 215 (2005).

173. *Climate Change Executive Order*, *supra* note 169.

174. De Blasio's actions mirror similar statements and efforts by subnational actors during the Bush Administration. See, e.g., Press Release, Office of the Governor, State of California, Governor Schwarzenegger Issues Statement After U.S. EPA Rejects California's Tailpipe Emissions Waiver Request (Dec. 19, 2007), <http://freerepublic.com/focus/f-news/1941980/posts> [<https://perma.cc/J2SC-JAUQ>]. In 2007, after the EPA denied California's petition for a CAA 202 waiver, Governor Schwarzenegger issued a statement noting that:

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 168 (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").

175. CITY OF NEW YORK, *1.5C: ALIGNING NEW YORK CITY WITH THE PARIS AGREEMENT 1* (2017), <https://www1.nyc.gov/assets/sustainability/downloads/pdf/publications/1point5-AligningNYCwithParisAgrmtFORWEB.pdf> [<https://perma.cc/QX9E-BH7H>].

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.¹⁷⁶

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.”¹⁷⁷

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.¹⁷⁸ 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.¹⁷⁹ 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.¹⁸⁰ 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.”¹⁸¹

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 mantle 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 Francisco¹⁸² to smaller, regional leaders such as Georgetown, TX¹⁸³—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,¹⁸⁴ agreed to pass an ambitious climate plan, the Climate Leadership and Community Protection Act.¹⁸⁵ This Act requires the state to reduce greenhouse gas emissions 70% by 2030, and calls for

176. *Id.*

177. *Id.* at 31.

178. Chris Mooney & Dino Grandoni, *New York City Sues Shell, ExxonMobil and Other Oil Companies over Climate Change*, WASH. POST (Jan. 10, 2018), <https://www.washingtonpost.com/news/energy-environment/wp/2018/01/10/new-york-city-sues-shell-exxonmobil-and-other-oil-majors-over-climate-change/?noredirect=on>.

179. *See, e.g.*, Hilary Schein, *New York City’s Curious Jurisdictional Choice in Its Fight Against “Big Oil”*, GEO. ENVTL. L. REV. ONLINE (Mar. 9, 2018), <https://gielr.wordpress.com/2018/03/09/new-york-citys-curious-jurisdictional-choice-in-its-fight-against-big-oil> [<https://perma.cc/7PX9-P58R>].

180. *See* Sarah L. Swan, *Plaintiff Cities*, 71 VAND. L. REV. 1227, 1238 (2018); William Neuman, *To Fight Climate Change, New York City Takes on Oil Companies*, N.Y. TIMES (Jan. 10, 2018), <https://www.nytimes.com/2018/01/10/nyregion/new-york-city-fossil-fuel-divestment.html>.

181. Press Release, Office of the N.Y.C. Comptroller, Mayor and Comptroller Announce Pension Fund Goal to Invest \$4 Billion in Climate Change Solutions By 2021 (Sept. 13, 2018), <https://comptroller.nyc.gov/newsroom/mayor-and-comptroller-announce-pension-fund-goal-to-invest-4-billion-in-climate-change-solutions-by-2021> [<https://perma.cc/QQS3-TJGQ?type=image>].

182. *See* Milman et al., *supra* note 168.

183. *See, e.g.*, Tom Dart, *This Is What America’s Eco-City of the Future Looks Like*, GUARDIAN (Oct. 16, 2017, 7:49 AM), <https://www.theguardian.com/environment/2017/oct/16/texas-town-georgetown-energy-green> [<https://perma.cc/Y8QN-8PDL>].

184. *See supra* note 133 and accompanying text.

185. S. 6599, A. 8429, 2019–20 Reg. Sess. (N.Y. 2019).

the state to all but eliminate its emissions by 2050.¹⁸⁶ 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.¹⁸⁷

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.

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 *We Are Still In* pledge.¹⁸⁸ Businesses that have signed on include global corporations such as Unilever, Mars Incorporated, Google Inc., Apple, and Walmart.¹⁸⁹ The scale of the *We Are Still In* Movement and parallel calls for corporate action at the international level—including by the World Economic Forum¹⁹⁰—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.”¹⁹¹ 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;¹⁹² Maersk,

186. Anne Barnard, *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>.

187. Press Release, N.Y. Attorney Gen., A.G. Underwood Files Lawsuit Against Exxonmobil for Defrauding Investors Regarding Financial Risk the Company Faces from Climate Change Regulations (Oct. 24, 2018), <https://ag.ny.gov/press-release/ag-underwood-files-lawsuit-against-exxonmobil-defrauding-investors-regarding-financial> [<https://perma.cc/2W8R-3T9J>].

188. *Who's In, WE ARE STILL IN*, <https://www.wearestillin.com/signatories> [<https://perma.cc/FDS6-KZUD>].

189. See *id.* Noticeably, but not surprisingly absent are the carbon majors and most of the large auto manufacturers.

190. See *These 79 CEOs Believe in Global Climate Action*, WORLD ECON. F. (Nov. 23, 2015), <https://www.weforum.org/agenda/2015/11/open-letter-from-ceos-to-world-leaders-urging-climate-action> [<https://perma.cc/Y4RX-DGJ2>]; see also Simon Jessop & Nina Chestney, *Exclusive: Investors with \$34 Trillion Demand Urgent Climate Action*, REUTERS (June 25, 2019, 7:09 PM), <https://www.reuters.com/article/us-climatechange-investment-letter-exclu/exclusive-investors-with-34-trillion-demand-urgent-climate-change-action-idUSKCN1TQ31X> [<https://perma.cc/YC8T-2SWF>]; *Ambitious Corporate Climate Action Needed for Paris Goals*, UNFCCC (Nov. 9, 2016), <https://unfccc.int/news/ambitious-corporate-climate-action-needed-for-paris-goals> [<https://perma.cc/X7DW-S6UQ>].

191. Daniel C. Esty & Michelle L. Bell, *Business Leadership in Global Climate Change Responses*, 108 AM. J. PUB. HEALTH S80 (2018), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5922211> [<https://perma.cc/MV9D-VL5N>]. Esty and Bell detail how:

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).

192. See Press Release, UNFCCC, *Business Is Key Driver of Global Climate Action* (June 28, 2016), <https://unfccc.int/news/business-is-key-driver-of-global-climate-action> [<https://perma.cc/RRL9-2PCJ>].

the world's largest shipping company, has committed to going carbon neutral by 2050;¹⁹³ IKEA has committed to going 100% renewable;¹⁹⁴ 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—¹⁹⁵ from its supply chains by 2030¹⁹⁶; Unilever has consistently advocated for carbon pricing policies and, in 2016, began setting an internal price on carbon,¹⁹⁷ and has also been deemed the global company “most ready for a low-carbon economy”.¹⁹⁸ More than a 180 additional companies—including Google, Apple, and Facebook—have committed to using 100% renewable energy in their operations.¹⁹⁹ 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.²⁰⁰ 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 movement has swelled in numbers and influence.²⁰¹ 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.²⁰² 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.²⁰³

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.²⁰⁴ 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,

193. See Christian Weinberg, *Shipping Giant Maersk Aims for Zero Net Carbon Emissions by 2050*, BLOOMBERG (Dec. 5, 2018), <https://www.bloomberg.com/news/articles/2018-12-05/shipping-giant-maersk-aims-for-zero-net-carbon-emissions-by-2050> [https://perma.cc/YT7X-XJP5].

194. See Business Is Key Driver of Global Climate Action, *supra* note 192.

195. See *Each Country's Share of CO₂ Emissions*, *supra* note **Error! Bookmark not defined.**

196. See *Project Gigaton*, WALMART SUSTAINABILITY HUB, <https://www.walmartsustainabilityhub.com/project-gigaton> [https://perma.cc/JAU6-XRGW].

197. See *Global Climate Action*, UNILEVER, <https://www.unilever.com/sustainable-living/reducing-environmental-impact/greenhouse-gases/global-climate-action> [https://perma.cc/NE2K-BENB].

198. See Emily Chasan & Katie Linsell, *Unilever and L'Oréal Deemed Most Ready for Climate Change*, BLOOMBERG (Feb. 24, 2019), <https://www.bloomberg.com/news/articles/2019-02-25/unilever-l-oreal-danone-deemed-most-ready-for-climate-change> [https://perma.cc/B3XK-MNS4].

199. See *Companies*, RE100, <http://there100.org/companies> [https://perma.cc/X35H-7QF9].

200. See, e.g., Jonathan M. Gilligan, *Carrots and Sticks in Private Climate Governance*, 6 TEX. A&M L. REV. 179 (2018); see also MICHAEL P. VANDENBERGH & JONATHAN M. GILLIGAN, *BEYOND POLITICS: THE PRIVATE GOVERNANCE RESPONSE TO CLIMATE CHANGE* (2017); Michael P. Vandenberg, *Motivating Private Climate Governance: The Role of the Efficiency Gap* (Vanderbilt Univ. Law Sch., Working Paper No. 18-35, 2018).

201. See, e.g., Angely Mercado, *The Youth Climate Movement Is Just Getting Started*, THE NATION (June 13, 2019), <https://www.thenation.com/article/the-youth-climate-movement-is-just-getting-started-global-warming-fridays-for-future> [https://perma.cc/W568-FQDD].

202. Leslie Hook et al., *Greta Thunberg's Influence Grows as Young Activist Heads for US*, FIN. TIMES (Aug. 4, 2019), <https://www.ft.com/content/c1fc37b4-bce4-11e9-89e2-41e555e96722>.

203. See, e.g., Communication to the Committee on the Rights of the Child in the Case of *Sacchi v. Argentina* (Sept. 23, 2019), <https://childrensvclimatecrisis.org/wp-content/uploads/2019/09/2019.09.23-CRC-communication-Sacchi-et-al-v.-Argentina-et-al-Redacted.pdf> [https://perma.cc/3ELM-RWLY]; Jonathan Watts, *The Greta Thunberg Effect: At Last, MPs Focus on Climate Change*, GUARDIAN (Apr. 23, 2019, 2:56 PM EDT), <https://www.theguardian.com/environment/2019/apr/23/greta-thunberg> [https://perma.cc/2ES6-8AS7].

204. See Tara Law, *Rep. Ocasio-Cortez Becomes Youngest Woman Ever to Preside over House of Representatives*, TIME (May 11, 2019), <https://time.com/5587669/ocasio-cortez-youngest-woman-preside-house> [https://perma.cc/VH2C-J8LS].

energy, and inequality challenges. This proposal, The Green New Deal,²⁰⁵ 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 approached in much the same way as the federal government approached the Great Depression.²⁰⁶ 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.²⁰⁷ The roll-out of the proposal was plagued by problems,²⁰⁸ and the proposal itself has been widely critiqued.²⁰⁹ However, the proposal has also garnered widespread support²¹⁰ 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.²¹¹

The fate of The Green New Deal is uncertain, but its effect on the mainstream and political conversations is indelible.²¹² 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.”²¹³

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

205. H.R. Res. 109, 116th Congress (2019).

206. See, e.g., Cinnamon Carlane, *Delinking International Environmental Law & Climate Change*, 4 MICH. 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).

207. See, e.g., Lisa Friedman, *What Is the Green New Deal? A Climate Proposal, Explained*, N.Y. TIMES (Feb. 21, 2019), <https://www.nytimes.com/2019/02/21/climate/green-new-deal-questions-answers.html> (reporting that the goal of the Green New Deal is “to reduce greenhouse gas emissions . . . while also trying to fix societal problems like economic inequality and racial injustice”); Joseph W. Kane, *The Green New Deal Promises Jobs, but Workers Need to be Ready to Fill Them*, BROOKINGS INST. (Jan. 25, 2019), <https://www.brookings.edu/blog/the-avenue/2019/01/25/the-green-new-deal-promises-jobs-but-workers-need-to-be-ready-to-fill-them> [<https://perma.cc/2NK2-KZBZ>] (stating that “jobs are a central element in the shift toward a cleaner economy, and the Green New Deal’s emphasis on this point serves as another reminder of that”).

208. 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).

209. 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”).

210. See, e.g., *The Guardian View on a Green New Deal: We Need it Now*, GUARDIAN (May 12, 2019, 1:25 PM), <https://www.theguardian.com/commentisfree/2019/may/12/the-guardian-view-on-a-green-new-deal-we-need-it-now> [<https://perma.cc/NH5H-LL6Q>]; Sean McElwee, Opinion, *People Actually Like the Green New Deal*, N.Y. TIMES (Mar. 27, 2019), <https://www.nytimes.com/2019/03/27/opinion/sunday/green-new-deal-mcconnell.html>.

211. 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).

212. See, e.g., Lisa Hymas, *The Green New Deal Is Pushing Climate Change into the Mainstream Media*, GRIST (Apr. 3, 2019), <https://grist.org/article/the-green-new-deal-is-pushing-climate-change-into-the-mainstream-media> [<https://perma.cc/PZZ9-EUE5>].

213. Emma Brockes, *When Alexandria Ocasio-Cortez Met Greta Thunberg: ‘Hope Is Contagious’*, GUARDIAN (June 29, 2019, 3:00 AM), <https://www.theguardian.com/environment/2019/jun/29/alexandria-ocasio-cortez-met-greta-thunberg-hope-contagious-climate> [<https://perma.cc/LYJ2-TCX2>] (quoting Alexandria Ocasio-Cortez).

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.”²¹⁴ 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.

214. Pres. Barack Obama, Remarks by the President in the State of the Union Address, WHITE HOUSE (Jan. 20, 2015), <https://obamawhitehouse.archives.gov/the-press-office/2015/01/20/remarks-president-state-union-address-january-20-2015> [<https://perma.cc/759F-WAQQ>].