DEVELOPMENTS IN THE LAW
CLIMATE CHANGE

“Don’t it always seem to go
That you don’t know what you’ve got ‘til it’s gone?”

JONI MITCHELL, Big Yellow Taxi,

“Our planet is a lonely speck in the great enveloping cosmic dark. In
our obscurity, in all this vastness, there is no hint that help will come
from elsewhere to save us from ourselves.”

CARL SAGAN,
PALE BLUE DOT 7 (1994).

“It was all the people of the world who know that we have to change
now. And we cannot back down.”

LaDonna Brave Bull Allard, Standing Rock Sioux Tribe,
Remarks at Defiance: Disobedience for the Good of All (July 21, 2017).

“[I]n nature nothing exists alone.”

RACHEL CARSON,
SILENT SPRING 51 (1962).

“You have to act as if it were possible to radically transform the world.
And you have to do it all the time.”

Angela Y. Davis, Lecture at Southern Illinois
University Carbondale (Feb. 13, 2014).

“Tell me, what is it you plan to do
with your one wild and precious life?”

MARY OLIVER, The Summer Day,
in HOUSE OF LIGHT 60 (1990).
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INTRODUCTION

The months leading up to the 2021 United Nations Climate Change Conference (COP26) in Glasgow put the climate crisis in stark relief. Heatwaves blanketed the American Northwest, shattering temperature records as mortality rates surged.1 Wildfires raged across Greece, destroying over 120,000 acres of pine forests.2 Unexpected monsoons and dry spells disrupted weather patterns in Madagascar, resulting in famine for hundreds of thousands of people.3 And scarcity in freshwater sources in Asia exacerbated geopolitical tensions, as China’s efforts to redirect rivers caused extraterritorial droughts and floods.4

During the summer before COP26, the United Nations Intergovernmental Panel on Climate Change (IPCC) released a report hailed as “the clearest and most comprehensive summary yet of the physical science of climate change.”5 The IPCC report detailed harsh realities. Human activity has increased global temperatures by around 1.1°C from preindustrial levels6 and has emitted enough greenhouse gases (GHGs) that the world will continue to warm for around thirty years, even if drastic measures are taken today.7 The landmark Paris Agreement, adopted in 2015, established a goal to limit the global temperature increase to “well below 2°C” with 1.5°C as a target.8 The 1.5°C target aims to sustain critical ecological systems.9 However, the latest IPCC report left open only a narrow window of hope for this goal. Only

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4 Hal Brands, Opinion, China Is Running Out of Water and That’s Scary for Asia, BLOOMBERG (Dec. 29, 2021, 5:00 PM), https://www.bloomberg.com/opinion/articles/2021-12-29/china-s-water-shortage-is-scary-for-india-thailand-vietnam [https://perma.cc/KEF3-YEPS].


6 INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, supra note 5, at SPM-6.

7 Id. at SPM-17.


9 Ove Hoegh-Guldberg et al., Impacts of 1.5°C of Global Warming on Natural and Human Systems, in INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, GLOBAL WARMING OF 1.5°C, at 175, 177–81 (Valérie Masson-Delmotte et al. eds., 2018).
the best-case scenario contemplated by the IPCC — featuring aggressive emissions cuts over the upcoming decades — will confine the global temperature increase to around $1.5^\circ C$.\(^{10}\)

Against this backdrop, some commentators referred to COP26 as “a last-ditch effort”\(^{11}\) — a dramatic shift in tone from only a few years earlier, when the adoption of the Paris Agreement was celebrated as “a victory for all of the planet and for future generations.”\(^{12}\) At COP26, participating nations made various pledges to reduce emissions.\(^{13}\) Nonetheless, climate scientists concluded that, while narrow progress occurred at the conference, the world was still far from on track to meet the $1.5^\circ C$ target or even to constrain the temperature increase to $2.0^\circ C$.\(^{14}\) Protests erupted around the globe.\(^{15}\)

* * *

While mainstream coverage of COP26 tended to focus on major nations,\(^{16}\) the conference also reflected a trend toward the involvement of various levels of government in climate change action. Glasgow featured a record number of U.S. governors,\(^{17}\) broad coalitions of local governments,\(^{18}\) and “a historic presence of Indigenous leaders.”\(^{19}\)

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\(^{10}\) See INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, supra note 5, at SPM-18.


\(^{14}\) E.g., id. at 1; CLIMATE ACTION TRACKER, WARMING PROJECTIONS GLOBAL UPDATE, at i (2021).


\(^{18}\) See, e.g., LGA at COP26, LOCAL GOV’T ASS’N, https://www.local.gov.uk/lga-cop26 [https://perma.cc/DYY6-LXX3].

This edition of *Developments in the Law* builds on scholarship that embraces the potential for various levels of government to coexist and collaborate in combating climate change.\(^{20}\) The five Chapters catalog developing spaces for climate action across various domains of government: local prosecution, American Indian treaty litigation, state preemption of local zoning laws, state public service commissions, and tariffs aimed at foreign emissions.\(^{21}\) Although the first four Chapters center on efforts within the United States, it is worth noting that the involvement of various levels of government in climate policy is a global phenomenon.\(^{22}\)

First, this Introduction reviews how climate change has been generally discussed as a collective action problem. One pervasive framing is the tragedy of the commons, which proposes that individuals cannot preserve common resources without top-down regulation due to their self-interests. This Introduction considers how this framing has been applied in discussions of the inadequate responses to climate change at the federal and international levels. Second, this Introduction turns to subnational governments, which have been entering the climate policy arena since the early 2000s.\(^{23}\) Notably, the phenomenon of subnational governments taking voluntary action to combat a global problem raises questions about the tragedy of the commons, and scholars now generally view this framing as incomplete. Instead, recent scholarship tends to embrace the role of a range of government actors in climate action, providing a breadth of responses beyond traditional top-down regulation.

Third, this Introduction references the five Chapters to discuss some of the advantages of a dynamic, multilevel approach to climate change. As the first four Chapters reflect, many of these advantages are associated with subnational governments, such as regulatory gap filling and addressing intersectional issues that involve both climate policy and social inequities at a local level. Other advantages can be uniquely implemented at the national level, as seen in Chapter V’s exploration of carbon tariffs as a means to incentivize collective action between nations. What all of the Chapters have in common is their outpouring of


\(^{22}\) *See Jeroen van der Heijden, City and Subnational Governance: High Ambitions, Innovative Instruments and Polycentric Collaborations?, in GOVERNING CLIMATE CHANGE* 81, 81–91 (Andrew Jordan et al. eds., 2018).

innovation and creativity aimed at combating the world’s greatest environmental challenge. This Introduction concludes by providing summaries of the five Chapters.

A. The Wait for Top-Down Solutions

To understand the significance and limitations of efforts at various levels of government, it is useful to recognize that climate change is a global collective action problem. For decades, ecologist Garrett Hardin’s account in *The Tragedy of the Commons* has pervaded environmental policy debates. In Hardin’s view, “[f]reedom in a commons brings ruin to all.” If individuals are free to act in their self-interests, they will exploit and derogate common resources to their mutual detriment. To each individual, the behavior is rational, since the individualized benefits of preservation pale in comparison to those of exploitation. Thus, Hardin’s solution to preserve environmental commons that cannot be privatized, such as the air, is for individuals to constrain their freedom by binding themselves to a system of centralized rules — in other words, “mutual coercion, mutually agreed upon.”

This framing in favor of top-down regulation has influenced multiple eras of environmental policymaking. For instance, uncoordinated subnational actors’ struggles to manage pollution justified federal intervention in the 1970s through legislation such as the Clean Air Act. In

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27 Hardin, supra note 25, at 1244.
28 Id. at 1244–45.
29 Id. at 1244.
30 Id. at 1245; see also Richard B. Stewart, *Pyramids of Sacrifice? Problems of Federalism in Mandating State Implementation of National Environmental Policy*, 86 YALE L.J. 1196, 1211 (1977) (“The Tragedy of the Commons arises in noncentralized decisionmaking under conditions in which the rational but independent pursuit by each decisionmaker of its own self-interest leads to results that leave all decisionmakers worse off than they would have been had they been able to agree collectively on a different set of policies.”).
31 Hardin, supra note 25, at 1247.
32 Caggiano & Landau, supra note 26, at 1; see, e.g., Stewart, supra note 30, at 1211.
33 See Stewart, supra note 30, at 1211 (“States and local communities whose citizens desire environmental quality are also concerned with employment and economic growth.”); Katrina M. Wyman & Danielle Spiegel-Feld, *The Urban Environmental Renaissance*, 108 CALIF. L. REV. 305, 319–22 (2020) (“[T]he inability of cities and states to resolve air pollution problems in major interstate metropolitan regions ‘became a prime justification for increased federal intervention in interstate air pollution control.’” Id. at 321 (quoting SCOTT HAMILTON DEWEY, DON’T BREATHE THE AIR 158 (2000))).
recent decades, many commentators have viewed climate change as “a classic tragedy of the commons,”34 in which “[t]he atmosphere is the ultimate example of a commons at risk of being destroyed by global society.”35 Under this framing, “rational actors should be incentivized to overuse the atmosphere because no small entity acting independently can benefit by withholding its pollution and the costs of reducing emissions are localized while the benefits are widespread, indeed worldwide.”36

To Hardin, then, the optimal way to combat climate change would be through top-down global rules,37 and nations should coalesce if they can agree upon a “fair means of allocating the burden of solving the tragedy.”38 But differing conceptions of fairness and self-interests have limited cooperation.39 At the 1997 United Nations Climate Change Conference, many industrialized nations joined the Kyoto Protocol, a treaty that set binding targets for emissions reductions.40 To allocate burdens, the treaty exempted developing countries from binding targets while placing the heaviest burdens on the industrialized nations that had historically contributed most to GHG emissions.41

At the time, the United States was the largest emitter of GHGs42 but did not ratify the Kyoto Protocol due to its own conception of fairness and self-interests. Earlier in 1997, the Senate had passed a unanimous resolution asserting that the United States would not join an international agreement to reduce emissions that exempted developing countries or would significantly harm the nation’s economy.43 As a result, the Clinton Administration opted not to submit the Kyoto Protocol

34 Katherine A. Trisolini, All Hands on Deck: Local Governments and the Potential for Bidirectional Climate Change Regulation, 62 STAN. L. REV. 669, 681 (2010).
36 Trisolini, supra note 34, at 681–82.
38 Barton H. Thompson, Jr., Essay, Tragically Difficult: The Obstacles to Governing the Commons, 30 ENV’T L. 241, 259 (2000).
39 Id. at 259–60.
41 Harris, supra note 40, at 28; Thomson & Arroyo, supra note 40, at 4 n.2.
42 Harris, supra note 40, at 31.
43 Id. at 36–37; Thomson & Arroyo, supra note 40, at 5.

In 2015, the Paris Agreement succeeded the Kyoto Protocol as the key international instrument to reduce global emissions. Unlike the top-down Kyoto Protocol, the Paris Agreement employs a bottom-up approach, in which nations voluntarily set nonbinding emissions targets.\footnote{Jessica Durney, \textit{Defining the Paris Agreement: A Study of Executive Power and Political Commitments}, 11 \textit{Carbon & Climate L. Rev.} 234, 238–39 (2017); \textit{see also} Caggiano & Landau, \textit{supra} note 26, at 6; Murthy, \textit{supra} note 20, at 9. The framework is accompanied by a process for nations to collectively review their progress every five years. Murthy, \textit{supra} note 20, at 10.} The Obama Administration played an instrumental role in designing the nonbinding features.\footnote{Manjana Milkoreit, \textit{The Paris Agreement on Climate Change — Made in USA?}, 17 \textit{PerspS. on Pol.} 1019, 1026–28 (2016).} This structure allowed the Administration to join the Agreement through executive action, bypassing what stood to be an ill-fated treaty-ratification process in the Senate.\footnote{Id.; \textit{see also} Durney, \textit{supra} note 48, at 242.} However, in 2017, the Trump Administration announced an intent to withdraw from the Paris Agreement, contending that it was unfair to hold the United States to higher standards than developing nations that were also major contributors to GHG emissions, such as China and India.\footnote{Statement by President Trump on the Paris Climate Accord, \textit{White House} (June 1, 2017, 3:32 PM), https://trumpwhitehouse.archives.gov/briefings-statements/statement-president-trump-paris-climate-accord [https://perma.cc/F9RM-P5MM]; \textit{see also} Durney, \textit{supra} note 48, at 242 (“[W]hile President Obama could navigate around the Senate to sign the Agreement, so too could...”)} President Trump famously declared that he was...
“elected to represent the citizens of Pittsburgh, not Paris.”52 The withdrawal was readily viewed as another instantiation of the tragedy of the commons, fraught with self-interests and differing beliefs on how to allocate burdens fairly.53 Despite the Biden Administration’s reentry into the Paris Agreement,54 over time, familiar dynamics have left a lasting impression: “Hardin’s legacy looms in climate policy.”55

B. The Rise of Bottom-Up Approaches

As responses to climate change at the federal and international levels have proven inadequate, subnational governments have ascended to the forefront of the United States’ response to climate change.56 The first major push occurred in the 2000s, as the Bush Administration solidified the nation’s opposition to the Kyoto Protocol and walked back campaign promises to reduce GHG emissions from power plants.57 In an attempt to fill the void, hundreds of local governments adopted measures aspiring to meet the emissions targets of the Kyoto Protocol.58 The 2000s saw a breadth of subnational initiatives, such as regulating vehicle emissions, creating requirements for renewable energy, instituting standards for power plants, forging interstate agreements to report emissions, and litigating against the federal government59 — famously in Massachusetts v. EPA.60 In essence, “if one were to peer beneath the federal lid to see what sub-federal actors [were] doing with respect to climate change, there would be no shortage of things to watch.”61

52 Statement by President Trump on the Paris Climate Accord, supra note 51.
55 Caggiano & Landau, supra note 26, at 3.
57 Id. at 386; see also Vicki Arroyo, From Paris to Pittsburgh: U.S. State and Local Leadership in an Era of Trump, 31 GEO. ENV’T L. REV. 433, 434 (2016).
During this era, the phenomenon of *subnational* actors taking responsibility for a *global* collective action problem puzzled scholars, as the trend did not neatly map onto Hardin’s framing of the tragedy of the commons.\(^{62}\) After all, under that view, “[a]ction by a jurisdiction of any small geographic scope outside a cooperative international agreement is widely considered economically irrational.”\(^{63}\)

Regardless of the cause, scholars readily debated the merits. Proponents of subnational efforts pointed toward regulatory gap filling, experimentation for shared learning, and generating public support for national and international measures.\(^{65}\) Meanwhile, more critical scholars recognized benefits of subnational action but highlighted that subnational efforts alone would provide only trivial emissions reductions while potentially creating negative externalities.\(^{66}\) For instance, scholars suggested that the lack of coordination invites market inefficiencies like free riding,\(^{67}\) imposes high transaction costs through regulatory complexities,\(^{68}\) and creates regulatory “leakage” where the sources of emissions shift to unregulated spaces.\(^{69}\) Given such considerations, some environmental scholars suggested it was “better to wait to develop a comprehensive and effective climate change policy rather than to continue succumbing to pressure to adopt incremental options.”\(^{70}\)

Nonetheless, as the climate crisis grew, the involvement of subnational governments did as well. The trend advanced during the years of the Obama Administration.\(^{71}\) Then, the Trump Administration’s 2017 announcement of its intent to withdraw from the Paris Agreement

\(^{62}\) See, e.g., 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 Environment Law?,* 38 URB. LAW. 1015, 1022 (2006); see also Engel & Orbach, supra note 58, at 120–21 (“Why are the public and local decisionmakers willing to invest in such measures when they will share the benefits of their investment with everyone on the globe?” Id. at 120.)

\(^{63}\) Engel, supra note 62, at 1022 (citing Esty, supra note 37, at 1554).

\(^{64}\) See, e.g., Engel & Orbach, supra note 58, at 128–35 (offering a breadth of hypotheses for the interest in subnational responses to climate change, such as an overemphasis on benefits despite the low GHG emissions impact, the psychological benefits of altruism, and voter appeal).


\(^{67}\) Id. at 1965.

\(^{68}\) Stewart, supra note 65, at 701.

\(^{69}\) Wiener, supra note 66, at 1967.

\(^{70}\) Cary Coglianese & Jocelyn D’Ambrosio, Comment, *Policymaking Under Pressure: The Perils of Incremental Responses to Climate Change,* 40 CONN. L. REV. 1411, 1429 (2008); see also Doran, supra note 61, at 194 (characterizing subnational climate mitigation efforts as “akin to placing a brightly colored paper hat on the head of a child sitting on the railroad tracks in the hopes that the hat will, somehow, stop the incoming locomotive from harming the child”).

\(^{71}\) Carlarne, supra note 58, at 455–58.
ignited a new wave of subnational efforts.\textsuperscript{72} States, local governments, and tribes formed broad bipartisan coalitions, such as “We Are Still In,” to affirm an intent to meet the nation’s Paris Agreement emissions targets.\textsuperscript{73} The mass of subnational efforts even helped to sustain the United States’ international reputation on climate policy during the years in which the nation was not committed to the Paris Agreement.\textsuperscript{74} On the state level, recent initiatives have included adopting ambitious plans toward clean energy and adapting infrastructure for increasingly severe weather.\textsuperscript{75} On the local level, recent efforts have included implementing low-emissions public transportation and studying how climate change gentrifies low-income communities and how to adjust property taxes accordingly.\textsuperscript{76} Subnational trends have not been uniformly positive for the climate, however. For instance, general trends of state preemption of local policy can stifle environmentally friendly policies.\textsuperscript{77}

Still, state, tribal, and local governments are recognized as “key leaders on climate ambition” in the United States today.\textsuperscript{78} And unlike the mixed reaction in the 2000s, recent literature broadly embraces the involvement of various levels of government.\textsuperscript{79} Some justifications contain themes that reprise from earlier eras, such as pressuring action at higher levels of government,\textsuperscript{80} allowing for more experimentation,\textsuperscript{81} and regulating areas within a state’s traditional authority.\textsuperscript{82} Additional points include how local actors are best positioned to address the intersections between climate change and social inequities\textsuperscript{83} and how the transformation of cities into economic hubs has positioned them to undertake sustainability initiatives.\textsuperscript{84} Meanwhile, the more critical

\textsuperscript{72} Vicki Arroyo, \textit{State and Local Climate Leadership in the Trumpocene}, 11 CARBON \& CLIMATE L. REV. 303, 305–06 (2017); Carlarne, \textit{supra} note 58, at 457–60 (“In response to [the federal government’s] seeming attempts to race to the bottom of international leadership on climate change, these [subnational and civil society] entities have worked collectively to create a counter-narrative of race to the top.” \textit{Id.} at 458.).

\textsuperscript{73} Carlarne, \textit{supra} note 58, at 424.

\textsuperscript{74} \textit{Id.} at 457–60.

\textsuperscript{75} Arroyo, \textit{supra} note 57, at 438–51.

\textsuperscript{76} \textit{Id.} at 451–53.

\textsuperscript{77} Sarah Fox, \textit{Localizing Environmental Federalism}, 54 U.C. DAVIS L. REV. 133, 171 (2020).


\textsuperscript{79} See, e.g., Caggiano & Landau, \textit{supra} note 26, at 6; Fox, \textit{supra} note 77, 194; Murthy, \textit{supra} note 20, at 32.

\textsuperscript{80} Murthy, \textit{supra} note 20, at 32.

\textsuperscript{81} Fox, \textit{supra} note 77, at 185.

\textsuperscript{82} Arroyo et al., \textit{supra} note 56, at 385.

\textsuperscript{83} Fox, \textit{supra} note 77, at 180–87; see also Ostrom, \textit{supra} note 20, at 99.

\textsuperscript{84} Wyman & Spiegel-Feld, \textit{supra} note 33, at 329.
scholarship on subnational initiatives has shifted to accepting them while focusing on limiting their negative externalities.85

The trend toward embracing the role of various actors can be contextualized within broader shifts in economic theory and environmental planning. In 2010, Professor Katherine Trisolini suggested that earlier dismissive views about subnational governments were connected to the entrenchment of the tragedy of the commons in theoretical literature on environmental law.86 However, recent decades have seen recognition of the incomplete nature of the tragedy of the commons across academic disciplines.87 For instance, political scientist Elinor Ostrom demonstrated how communities with cooperative social norms can successfully self-organize to preserve resources within free markets.88 In addition, scholars observe that while Hardin’s framing presupposes that serving self-interests results in degradation, there are instances in which self-interests align with environmentally friendly action.89 Thus, with recognition of the incomplete nature of Hardin’s framing, recent theory on environmental planning embraces dynamic policy responses throughout a multilevel government, providing a breadth of responses beyond traditional top-down regulation.90

C. Multilevel Governance of the Climate Commons

This edition of Developments in the Law is situated in an era in which the world faces its greatest environmental challenge, but governments have not produced the kind of comprehensive, top-down regulation that environmental scholarship has long suggested is the proper solution. Key countries, such as the United States, have not consistently cooperated. Yet a range of government actors has assembled in the climate policy arena. While unexpected, this multilevel approach has a great deal of merit within a broader response to climate change. With reference to the Chapters, this Introduction discusses a sampling

85 See, e.g., Jim Rossi, "Maladaptive" Federalism: The Structural Barriers to Coordination of State Sustainability Initiatives, 64 CASE W. RES. L. REV. 1759, 1777–78 (2014).
86 Trisolini, supra note 34, at 681.
87 See Brett M. Frischmann et al., Feature, Retrospectives: Tragedy of the Commons After 50 Years, 33 J. ECON. PERSPS., Fall 2019, at 211, 217–18.
88 Id. at 212, 217–19 (discussing Ostrom’s works including ELINOR OSTROM, GOVERNING THE COMMONS (1990); see Caggiano & Landau, supra note 26, at 5. Many scholars argue that Hardin’s underlying vision can still hold in situations that lack cooperative features, which are especially likely to occur at a global scale. See, e.g., Eduardo Araral, Ostrom, Hardin and the Commons: A Critical Appreciation and a Revisionist View, 36 ENV’T SCI. & POL’Y, Feb. 2014, at 11, 15, 21–22; Kaveh Madani, Hardin Versus Ostrom: Can Development Affect the Propensity to Cooperate over Environmental Commons?, 88 SOC. RSCH. 99, 109–11 (2021).
89 Anthony Patt, Beyond the Tragedy of the Commons: Reframing Effective Climate Change Governance, 34 ENERGY RSCH. & SOC. SCI., Dec. 2017, at 1, 2.
90 See, e.g., Caggiano & Landau, supra note 26, at 5.
of the many advantages, including: (1) addressing climate policy alongside social inequities, (2) offering greater opportunities for experimentation, (3) regulating in a state’s traditional domain, sometimes by leveraging instances in which self-interests align with pro-climate policies, (4) pressuring nations to raise ambitions under the Paris Agreement, and (5) using trade law to incentivize collective action among nations without relying on multilateral negotiations.

First, a multilevel approach best serves issues affecting both the climate and social inequities. While top-down policymaking is prone to overlooking local inequities, local governments “may have more context-specific knowledge and a better ‘social and ecological fit’ for the communities they serve.”91 Thus, efforts by local actors complement the climate justice movement,92 which addresses the links between climate change and sociological inequities, such as the disproportionate impacts of climate change on people of color.93 There are even situations in which climate-friendly policies are in tension with other social interests. For instance, environmental improvements in a locality can raise property values and inadvertently displace low-income individuals.94 As Professor Sarah Fox explains, local governments are well positioned to represent these kinds of minority interests that might not be addressed at the state and federal levels.95

Chapter I provides an archetypal discussion of the interactions between local governments and social justice in its discussion of local prosecutors’ role in the climate crisis. The Chapter explains how local prosecutors are best positioned to understand how a community is uniquely impacted by climate change and to shape prosecutorial policy accordingly. Moreover, Chapters II and III demonstrate spaces for intersectional climate policy even outside of the context of local government. Chapter II argues that American Indian treaty litigation can both safeguard Indigenous communities and fight climate change. Meanwhile, Chapter III argues that state preemption of local zoning can reduce both emissions and zoning’s segregating effects.

Second, Fox suggests that subnational experimentation is particularly valuable for climate policy, given that climate change is a novel problem.96 In this spirit, Chapter II’s discussion of treaty litigation has yet to be tested in a courtroom. Likewise, Chapter I recognizes that its

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91 Id. at 8 (citing Keith Carlisle & Rebecca L. Gruby, Polycentric Systems of Governance: A Theoretical Model for the Commons, 47 POL’Y STUD. J. 927, 941 (2017)); see id. at 7–8; see also Ostrom, supra note 20, at 99.
93 Mattar et al., supra note 92, at 1309–10.
95 Fox, supra note 77, at 186–87; see also Ostrom, supra note 20, at 99.
96 Fox, supra note 77, at 185.
proposals may “ask local prosecutors to take on tasks and assume priorities they may be largely unfamiliar with.”97 And while experimentation is often associated with subnational governments, Chapter V examines how national governments, including the U.S. federal government, are considering using trade law to catalyze international action.

Third, subnational climate policymaking is valuable in domains of traditional state authority, including land use and utilities regulation.98 Chapters III and IV speak to this, discussing zoning policies and public services commissioners, respectively. The Chapters argue that states have yet to provide adequate responses and present arguments that rely on less traditional concepts in environmental planning. While Hardin’s framing presupposes that serving self-interests results in degradation, today, policymakers can take advantage of instances in which self-interests align with climate-friendly policies.99 For instance, installing modern clean energy sources can be in one’s economic interests.100 Indeed, “reducing emissions is not just good for the environment — it can also boost bottom lines.”101 Tellingly, even amid decades of congressional inaction on “climate change” legislation,102 Congress passed significant climate-friendly legislation modernizing energy sources.103 Fitting within this dynamic, Chapter IV’s discussion of public service commissioners contains an argument that states should adopt clean energy mandates as a politically palatable short-term solution. Similarly, Chapter III’s promotion of the trend of states preempting local zoning observes its political feasibility given that “almost everyone agrees that housing is too expensive.”104

Fourth, subnational actors can play an important role in combating climate change within the Paris Agreement’s “hybrid architecture.”105 The Paris Agreement is largely a bottom-up measure as nations voluntarily set nonbinding targets.106 Unlike the top-down Kyoto Protocol,

99 *Patt, supra note 89*, at 1, 2.
100 *Id.*
the structure of the Paris Agreement has facilitated near-unanimous participation by the international community. Working within this framework, Professor Sharmila Murthy argues that subnational actors can play an important role as subnational movements shape norms over time, pressuring nations to keep up and set more ambitious targets. The four Chapters on subnational action all embody this call to action by presenting arguments that contribute toward climate-conscious norms. For example, Chapter IV argues for measures aimed at shifting the “institutional culture” of state public service commissioners. Away from subnational action, Chapter V argues that carbon tariffs may shape norms of customary international law on climate change.

Fifth, even if the Paris Agreement is a valuable tool, trade measures can help to shape global climate policy even without multilateral agreements. This supplement may be useful in the face of persistent arguments that Hardin’s vision of the tragedy of the commons can hold true in large competitive environments. While Hardin’s framing depicted top-down coercion as the solution, “governance tools are not necessarily ‘top-down’ or ‘bottom-up’ in themselves, but in how they are implemented.” Accordingly, Chapter V explores carbon tariffs as an alternative to multilateral treaties. As the Chapter explains, carbon tariffs impose a cost on imports based on the exporting jurisdiction’s carbon footprint for goods; thus, the exporting jurisdiction is “incentivized to implement climate policies in order to gain an exemption.” In effect, carbon tariffs seek to coerce collective action while avoiding the need for traditional top-down regulation.

D. Chapter Summaries

This edition of Developments in the Law proceeds in five Chapters, cataloging a diverse set of efforts to combat climate change in a multilevel government. The Chapters take on different projects, ranging from addressing the unique needs of local communities to reviewing novel trade regulation to incentivize global policy reform. What all five Chapters

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107 Murthy, supra note 20, at 11.
108 Id. at 32 (citing Hari M. Osofsky & Janet Koven Levit, Global Networks: The Environment and Trade, 8 CHI. J. INT’L. L. 409, 429 (2007)); see also Caggiano & Landau, supra note 26, at 6.
109 Infra ch. IV, pp. 1634–35; see also infra ch. I, p. 1567 (arguing that local prosecutors can signal that climate change is a topic of broad public concern); infra ch. II, p. 1591 (arguing that Native nations can use treaty litigation for the protection and promotion of “thousands of years of land management knowledge”); infra ch. III, p. 1607 (suggesting that “every important policy must be enacted with climate in mind”).
110 See Araral, supra note 88, at 15, 21–22; Madani, supra note 88, at 109–11.
111 Caggiano & Landau, supra note 26, at 6.
113 See Battersby, supra note 47, at 6; see also William Nordhaus, Climate Clubs: Overcoming Free-Riding in International Climate Policy, 105 AM. ECON. REV. 1339, 1341, 1344 (2015).
have in common is that they represent an outpouring of creativity and innovation as the world faces its greatest environmental challenge.

Chapter I situates the role of local prosecutors in the climate crisis. The Chapter begins by examining how climate change will impact the criminal justice system, including by changing patterns of crime and exacerbating conditions of confinement in prisons and jails. The Chapter provides a framework for how local prosecutors should deploy their authority, recognizing that local prosecutors have familiarity with their communities and will likely be at the forefront of any criminal justice response to these climate-driven disruptions. The Chapter argues that local prosecutors should resist employing the type of “tough on crime” ethos that has failed to solve other systemic social problems, as the war on drugs has exemplified. Rather, the Chapter argues that local prosecutors should aim to foster community resiliency to help withstand the effects of climate change, primarily by adopting restorative justice approaches. The Chapter further argues that local prosecutors would be justified in focusing their resources on the “root cause[s]” of climate change by holding corporate polluters accountable.

Next, Chapter I discusses how local prosecutors can apply those principles in practice. To do so, the Chapter surveys recent examples of local prosecutions against corporations that contributed to climate change or exacerbated its consequences. For instance, local prosecutors have brought charges against an electric utility for sparking wildfires, a chemical manufacturer for failing to anticipate a climate-fueled hurricane, and a natural gas company for facilitating the largest methane leak to date in the United States. These sorts of actions have numerous limitations, including the relatively low penalties and resource-intensive nature of such investigations, but the Chapter argues that the actions “may have an impact in the aggregate” alongside enforcement

114 For discussions of how climate change stands to increase crime rates, see Matthew Ranson, Crime, Weather, and Climate Change 2 (Harvard Kennedy Sch., M-RCBG Associate Working Paper Series No. 8, 2012); and Ryan D. Harp & Kristopher B. Karnauskas, Global Warming to Increase Violent Crime in the United States, 15 ENV'T RSCH. LETTERS, Mar. 2020, at 1. For a study on how climate change will impact the conditions of prisons and, in turn, the health of inmates and staff, see DANIEL W.E. HOLT, SABIN CTR. FOR CLIMATE CHANGE L., HEAT IN US PRISONS AND JAILS, at i-iii (2015).

115 Infra ch. I, pp. 1549-50 (citing DAVID CLOUD, ALISSA MARQUE HEYDARI & RENA PAUL, INST. FOR INNOVATION IN PROSECUTION, A NEW APPROACH: A PROSECUTOR’S GUIDE TO ADVANCING A PUBLIC HEALTH RESPONSE TO DRUG USE 2 (2021)).

116 Infra ch. I, pp. 1550-51 (characterizing this restorative approach as “one that ‘respond[s] to individual harm without relying on alienation, punishment, or State or systemic violence,’” id. at 1551 (alteration in original) (quoting Note, Prosecuting in the Police-less City: Police Abolition’s Impact on Local Prosecutors, 134 HARV. L. REV. 1859, 1871 (2021) (internal quotation marks omitted))).


118 Infra ch. I, section B.1.a, pp. 1554–58.
actions at the state and federal levels as well as civil suits. Moreover, the Chapter explains that local prosecutors are best positioned to pursue remedies that are responsive to the communities affected. Chapter I also discusses the possibility of imposing criminal liability on policymakers for climate-related decisions, though the Chapter suggests that such charges may be appropriate only in “extreme cases.”

Finally, Chapter I discusses how local prosecutors can wield their general authority in a climate-changed world. The Chapter argues that local prosecutors should resist relying on incarceration when it constrains the community resilience necessary to weather climate change and places prisoners at risk of climate-fueled disasters. Further, the Chapter discusses how local prosecutors can use their platforms for climate advocacy efforts, including by lobbying in favor of climate policies and participating in civic demonstrations on climate change.

Chapter II centers Indigenous perspectives on combating climate change. American Indian lands are among the most affected by climate change in the United States, and the Chapter argues that tribes can seek to hold state and federal governments accountable for their activities that lead to the environmental degradation of tribal lands protected under sovereign-to-sovereign treaties. The Chapter suggests that tribes may strengthen their claims by invoking an Indian canon of construction that requires courts to interpret treaties as Indigenous peoples would have at the time of signing.

Chapter II explicates the origins of the Indian canons of construction and their use by the Supreme Court over time. Next, the Chapter illustrates how the canon that courts interpret treaties based on Indigenous understandings played critical roles in the long-running United States v. Washington litigation and recent Supreme Court treaty cases. The Chapter argues that the cases offer precedents for tribes to cite in climate change litigation, particularly for the principle that the government must affirmatively act to preserve hunting, fishing, and gathering rights articulated in treaties. The Chapter then reviews several ways that tribes have recently brought climate-related suits against state governments and the federal government. For instance, litigation has

120 Infra ch. I, section B.2, pp. 1560–62.
123 384 F. Supp. 312 (W.D. Wash. 1974), aff’d, 520 F.2d 676 (9th Cir. 1975).
124 Chapter II discusses cases such as Washington State Department of Licensing v. Cougar Den, Inc., 139 S. Ct. 1000 (2019); Herrera v. Wyoming, 139 S. Ct. 1086 (2019); and McGirt v. Oklahoma, 140 S. Ct. 2452 (2020).
targeted environmental destruction from fires\textsuperscript{125} and the fossil fuel industry.\textsuperscript{126} The Chapter claims that these suits’ prospects for success can be improved by arguments that government activities harming species contradict tribes’ original understandings of their treaties’ hunting, fishing, and gathering rights, which they expected to endure in perpetuity.

Lastly, Chapter II addresses counterarguments. For instance, the Chapter argues that the canon requiring courts to rely on Indigenous understandings could prevent unfavorable interpretations of treaties that could be read to say that rights to resources expire when the resources do.\textsuperscript{127} In addition, the Chapter observes how tribes face challenges in bringing these suits in the absence of clear causation between government actions and the decline of a treaty-protected species. The Chapter also responds to assertions that the canon does not comply with textualist interpretations of treaty rights. Ultimately, Chapter II concludes that by bringing this climate change litigation, tribes can insist that courts recognize the importance of tribal sovereignty, treaty rights, and the inclusion of Indigenous voices in the courtroom.

Chapter III identifies recent efforts by state legislatures to preempt local zoning regulations, situates the efforts within the broader landscape of climate policymaking, and ultimately argues that states should undertake these measures as “intersectional” policy that addresses overlapping crises of climate change, housing unaffordability, and racial segregation. First, the Chapter reviews a history of zoning law in the United States. The Chapter explains that single-family zoning emerged in the early twentieth century as a tool for wealthy localities to insulate themselves from integration with people in poverty and people of color. The Chapter describes how single-family zoning subsequently proliferated and led to features that continue to characterize the American housing market, including urban sprawl, segregation, and unaffordability. The Chapter then synthesizes research on urban sprawl’s negative impacts on the climate. For instance, low population densities cause increases in vehicle use, energy use per household, and infrastructure construction.\textsuperscript{128}

With this background, Chapter III reviews states’ recent legislative efforts to preempt local zoning power over land use. California and


\textsuperscript{127} \textit{Infra} ch. II, section D.1, pp. 1588–89.

\textsuperscript{128} \textit{Infra} ch. III, pp. 1598–99.
Oregon have passed the most robust measures, which fully preempt municipalities from prohibiting multifamily housing.\textsuperscript{129} Meanwhile, Connecticut, Nebraska, and Utah have passed narrower preemption laws that either bar localities from prohibiting multifamily housing in certain locations, permit self-contained units on the property of single-family homes, or require cities to develop plans for affordable housing.\textsuperscript{130} Support for these measures has been bipartisan.\textsuperscript{131} As a result, the Chapter argues that this type of climate policy — which simultaneously addresses GHG emissions and housing affordability — is politically promising both for appealing to those who do not prioritize climate policy and for motivating those who hold climate policy as a top priority but have yet to prioritize affordable housing reform.

Lastly, Chapter III assesses whether states should pursue these preemptive zoning measures in light of arguments against stripping localities of their policymaking authority. The Chapter recognizes that, to those who prioritize climate policy, normalizing state preemption may be a slippery slope, as states have preempted localities from pursuing many environmentally friendly policies, like fracking bans and restrictions on the use of plastic bags. After engaging with counterarguments, the Chapter endorses a view that state preemption can be used sparingly based on principled considerations — for instance, when the measures are a “product of a credibly majoritarian lawmaking process”\textsuperscript{132} and when local governments impose externalities on other state residents while facing collective action difficulties.\textsuperscript{133} The Chapter argues that preemption of local zoning of land use meets the criteria.

Chapter IV analyzes a misalignment between the movement to decarbonize the U.S. energy grid and the historically conservative mandate of state public service commissions (PSCs) to keep electricity reliable and affordable. The Chapter explains that the nation’s reliance on fossil fuels for power has long contributed to climate change and that PSCs hold a great deal of power over a climate-friendly energy future. The burning of fossil fuels and industrial processes has accounted for three-quarters of GHG emissions increases since 1970,\textsuperscript{134} and in 2019, the

\textsuperscript{131} Infra ch. III, p. 1608 (noting that, while there is a partisan divide on climate policy, “almost everyone agrees that housing is too expensive”).
\textsuperscript{133} Infra ch. III, p. 1612 (citing Nestor M. Davidson, Essay, \textit{The Dilemma of Localism in an Era of Polarization}, 128 YALE L.J. 954, 992 (2019)).
burning of fossil fuels accounted for seventy-four percent of all U.S. GHG emissions.\textsuperscript{135} Most electric power is regulated by state agencies, PSCs.\textsuperscript{136} Every state has its own energy-regulating agency, resulting in 201 commissioners across the county,\textsuperscript{137} who decide when to build a power plant and which sources will power that plant.\textsuperscript{138}

Chapter IV argues that PSCs have failed to adapt decisionmaking adequately to account for climate change. The agencies have long had a mandate to keep affordable rates.\textsuperscript{139} For decades, the quasi-judicial state agencies have made case law, staffing decisions, and internal procedures aimed at achieving this economic goal.\textsuperscript{140} Today, as the Chapter explains, stakeholders, the public, and state legislators are increasingly pressuring PSCs to consider the climate in their decisionmaking, but PSCs have generally resisted change.

Chapter IV reviews recent examples of state PSCs reacting to pressure to consider climate change when making decisions about the energy grid. Based on the survey, the Chapter suggests that state PSCs across the country are not taking adequate responsibility for climate impacts, sometimes even in spite of clear legislative mandates to consider the environment or climate. The Chapter proposes that, in order to modernize the energy grid, states must modernize their PSCs. In the short term, the Chapter argues that 100% clean energy mandates are effective and politically palatable policy tools to redirect state PSCs. In the long term, the Chapter suggests that all branches of state government should take steps to shift the institutional agency culture of PSCs toward modern climate goals.

Chapter V begins by returning to Glasgow, where this edition of Developments in the Law began, and the Chapter observes the lack of binding emissions targets set at COP26. Looking to an alternative to multilateral treaties, the Chapter explores carbon tariffs as a measure to address the problem of “carbon leakage,” the process by which carbon-intensive production relocates to a jurisdiction with more relaxed climate policies.\textsuperscript{141} Carbon leakage undercuts emissions-reductions policies while incentivizing jurisdictions to relax standards to gain a market


\textsuperscript{137} See Public Service Commissioner (State Executive Office), BALLOTPEDIA, https://ballotpedia.org/Public_Service_Commissioner [https://perma.cc/72RH-33WD].

\textsuperscript{138} See infra ch. IV, p. 1620.

\textsuperscript{139} See Peskoe, supra note 136, at 224–25, 228.

\textsuperscript{140} Infra ch. IV, p. 1622.

\textsuperscript{141} Joshua Elliott et al., Unilateral Carbon Taxes, Border Tax Adjustments and Carbon Leakage, 14 THEORETICAL INQUIRIES L. 207, 208 (2013).
advantage.\textsuperscript{142} Carbon tariffs seek to remediate the commons problem by imposing a cost on imports equal to the effective carbon price borne by domestic producers and by exempting imports from jurisdictions with comparable carbon pricing regulatory standards.\textsuperscript{143} The Chapter proceeds by surveying prominent models under consideration, including proposals being examined by the federal executive,\textsuperscript{144} Congress,\textsuperscript{145} and the European Union.\textsuperscript{146}

Next, Chapter V assesses the legality of carbon tariffs under the World Trade Organization’s (WTO) rules of trade law. The Chapter summarizes competing views in trade law scholarship, argues that the legality of carbon tariffs under the WTO system is ambiguous, and notes that there is no timeline for a final disposition on the matter, as the WTO’s Appellate Body has lacked a quorum since 2019.\textsuperscript{147} With the WTO in a deadlock, the Chapter looks to core principles of international law and state responsibility to analyze whether carbon tariffs can be justified as a response to violations of a responsibility to respond to climate change. Ultimately, the Chapter argues that these doctrines do not provide a clear legal answer either.

Lastly, Chapter V considers the implications of the imminent arrival of carbon tariffs despite their ambiguous status under international law. The Chapter suggests that the effects could undermine the WTO system and exacerbate concerns about its structural integrity. At the same time, the Chapter suggests that carbon tariffs could advance the development of customary international law and help clarify the contours of a state responsibility to respond to climate change. Chapter V concludes by suggesting that policymakers should give serious consideration to the promise of carbon tariffs in overcoming carbon leakage, without looking past their uncertain status under international law.

\begin{itemize}
  \item \textsuperscript{142} \textit{Infra} ch. V, pp. 1643–44. Due to the dynamic, the fear of losing domestic jobs undermines political support for regulating emissions. \textit{Infra} ch. V, p. 1643.
  \item \textsuperscript{143} \textit{Infra} ch. V, p. 1644.
  \item \textsuperscript{145} See S. 2378, 117th Cong. § 9901(15) (2021).
\end{itemize}
Together, the Chapters in this edition of *Developments in the Law* represent a modern response to climate change by a multilevel government, as the world increasingly seeks solutions. The global response to climate change in upcoming decades will determine the degree to which “[f]reedom in a commons brings ruin to all.”148 However, the latest IPCC report found that the goals of the Paris Agreement are still within reach, and the following Chapters catalog the sorts of developing efforts that will play a role in the years to come.

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CHAPTER ONE

LOCAL PROSECUTION IN THE ERA OF CLIMATE CHANGE

On May 15, 2013, Ken Ward and Jay O’Hara piloted a lobster boat into the path of a coal freighter, dropped anchor, and for one day delayed the delivery of 40,000 tons of coal to the largest coal-fired power plant (and one of the largest sources of carbon emissions) in New England.1 After the Coast Guard boarded the boat, the two environmental activists returned to land and were charged with conspiracy, disorderly conduct, and several other counts that threatened them with multiyear prison sentences.2 Shortly before the trial was scheduled to begin, Sam Sutter, the District Attorney (DA) for Bristol County, Massachusetts, dropped the charges in exchange for $2000 in restitution from each.3 From the steps of the county courthouse, Sutter stated:

The decision that [we] reached today . . . certainly took into consideration the cost to the taxpayers . . . but was also made with our concerns for their children, and the children of Bristol County and beyond in mind. Climate change is one of the gravest crises our planet has ever faced. In my humble opinion, the political leadership on this issue has been sorely lacking.4

Sutter’s decision received immediate praise, with one commentator describing it as “an unusual and rare example of a prosecutor exercising his conscience and using prosecutorial discretion while still upholding the rule of law.”5 But if Sutter was among the first local prosecutors to publicly acknowledge the climate crisis, he would not be the last. During his 2017 campaign for Philadelphia DA, Larry Krasner noted that it was “essential for local prosecutors to vigorously prosecute pollution when the [federal government] refuses to do its duty,” and that “the rule of law must remain paramount” even as “we face the prospect of life-threatening disruptions” due to climate change.6 And while running for Los Angeles DA three years later, George Gascón included environmental justice as a focus of his policy platform, promising to “hold oil and

4 Press Release, supra note 3.
6 Q&A with Philly District Attorney Candidate Larry Krasner, PHILLY THRIVE (May 15, 2017), https://www.phillythrive.org/krasner [https://perma.cc/K5FS-ZPS7].
gas accountable for their ongoing actions to fuel climate change” and to crack down on environmental crime.⁷

Despite statements like these, conversations around local prosecution and those around climate change rarely intersect.⁸ The climate justice movement has, for the most part, neglected to turn its attention toward local prosecutors, despite growing demand from voters for local climate action.⁹ By the same token, scholars and advocates for criminal justice reform have largely overlooked the ways that climate change will affect the criminal justice system.¹⁰ Yet independently, both topics have garnered enormous public and academic attention in recent years. Climate activists have increasingly pushed for large-scale action to combat climate change by decarbonizing the economy.¹¹ And with the growth of the Black Lives Matter movement, especially in the wake of the 2020 murders of George Floyd and Breonna Taylor, millions have demanded fundamental transformation of the criminal justice system — including by reassessing the role and power of prosecutors.¹²

These conversations can no longer remain separate. It is a near certainty that the planet will face unprecedented disruptions as a result of climate change, and the criminal justice system will not be immune from them — and not simply because of climate-related disruptions to courts and to prosecutors’ physical offices.¹³ Climate change will necessarily impact the frequency and types of conflicts that arise between people; to the extent the criminal justice system is called upon to address these challenges (as it so often has been in response to other sociopolitical

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⁸ There is, however, a rich literature discussing the application of criminal law principles to the problem of climate change. See generally RONALD C. KRAMER, CARBON CRIMINALS, CLIMATE CRIMES (2020); ROB WHITE, CLIMATE CHANGE CRIMINOLOGY (2018).


¹⁰ See, e.g., WHITE, supra note 8, at 9–10.


local prosecutors will be at the forefront of that response. Purely as a matter of scale, there are over 2300 local prosecutors’ offices in the United States that collectively employ tens of thousands of attorneys.\footnote{Lijia Gong, PUB. RTS. PROJECT, GROWING AN EQUITABLE ENFORCEMENT PRACTICE: A GUIDE FOR LOCAL PROSECUTORS TO FIGHT CORPORATE ABUSE 5 (2019); see BUREAU OF JUST. STAT., U.S. DEP’T OF JUST., PROSECUTORS IN STATE COURTS, 2007, at 4 (2007), https://bjs.ojp.gov/content/pub/pdf/psc07st.pdf [https://perma.cc/T6GB-5JAC]. This Chapter uses the term “local prosecutors” to encompass the offices variously labeled “district attorneys,” “state’s attorneys,” “commonwealth attorneys,” or “county attorneys” by different municipalities.} By contrast, the ninety-three U.S. Attorneys’ offices employ a total of roughly 5500 attorneys.\footnote{U.S. DEP’T OF JUST., U.S. ATTORNEYS (USA) 1 (2017), https://www.justice.gov/jmd/file/822056/download [https://perma.cc/B42T-SMU5].} Not only do local prosecutors thus make up the largest contingent of prosecutors in the country, they also prosecute ninety-five percent of the nation’s criminal cases.\footnote{Emily Bazelon & Miriam Krinsky, Opinion, There’s a Wave of New Prosecutors. And They Mean Justice., N.Y. TIMES (Dec. 11, 2018), https://www.nytimes.com/2018/12/11/opinion/how-local-prosecutors-can-reform-their-justice-systems.html [https://perma.cc/L6TE-X8CL].} Unsurprisingly, then, scholars and activists have deemed local prosecutors “the most powerful officials in the criminal justice system.”\footnote{Angela J. Davis, Reimagining Prosecution: A Growing Progressive Movement, 3 UCLA CRIM. JUST. L. REV. 1, 4 (2019); see Benjamin Levin, Essay, Imagining the Progressive Prosecutor, 105 MINN. L. REV. 1415, 1421–22 (2021).}

Assuming, for the sake of argument, that the criminal justice system will continue to exist in more or less the same form it does today (a proposition that is itself deeply contested),\footnote{As noted above, a growing academic and popular movement has called for the wholesale reimagining of the criminal justice system and its instruments — including by calling for the abolition of prisons, police, and prosecutors themselves. \textit{See}, e.g., Dorothy E. Roberts, The Supreme Court, 2018 Term — Foreword: Abolition Constitutionalism, 133 HARV. L. REV. 1 (2019); see also Mariame Kaba, Opinion, Yes, We Mean Literally Abolish the Police, N.Y. TIMES (June 12, 2020), https://www.nytimes.com/2020/06/12/opinion/sunday/floyd-abolish-defund-police.html [https://perma.cc/HN3Z-MPBF]; Taylor Blackston & Sojourner Rivers, Op-ed, To Confront Sexual Violence, We Don’t Need Better Prosecutors — We Need to Abolish Them, TRUTHOUT (June 17, 2021), https://truthout.org/articles/to-address-gender-based-violence-first-defund-the-prosecutors [https://perma.cc/R5JK-CJW1D]. While such critiques are deeply important, this Chapter focuses on what actions local prosecutors can and should take (or have already taken) in response to climate change within the criminal justice system as it exists today.} how should local prosecutors react to the challenges posed by climate change, and what actions have they already begun to take? Rather than simply responding to climate change’s consequences as they unfold, can local prosecutors help to mitigate climate change — and, if so, who should be held accountable? And in all of this, what challenges will local prosecutors face?

This Chapter begins to explore these questions. Section A provides an overview of the ways climate change will impact the criminal justice system and offers a framework for how local prosecutors should exercise their authority in response. Sections B and C then address the various tools local prosecutors have to respond to climate change, some of which
certain prosecutors have already begun to utilize (even if they rarely frame their actions explicitly in terms of climate change). Section B examines the steps prosecutors can take to hold accountable those who contribute to climate change or exacerbate its consequences — namely, corporations, corporate executives, and policymakers. Section C then discusses how local prosecutors should exercise their day-to-day authority, including by pursuing decarceration, exercising leniency toward climate protesters, and advocating for climate action.

A. Climate Change as a Criminal Justice Priority

Given the scientific consensus around the threat posed by climate change, political leaders and politicians of all kinds and at all levels of government must plan for how to respond to the many challenges the climate crisis will bring. Local prosecutors are no exception.19 This section begins by highlighting some of the many changes the criminal justice system can anticipate due to climate change; indeed, some have already begun to materialize. In response to these changes, local prosecutors should adopt a public health approach to projected increases in crime by looking toward restorative justice models, rather than incarceration, while still seeking to hold accountable those who contribute to climate change or who exacerbate its consequences.

1. How Climate Change Impacts the Criminal Justice System. — First, climate change is expected to alter the frequency and types of crimes that the criminal justice system will be forced to confront, especially in the absence of stronger social safety nets. According to a 2012 working paper from the Harvard Kennedy School, between 2010 and 2099, the United States will experience an additional 3.8 million cases of larceny, 3.1 million burglaries, 2.4 million simple assaults, 1.4 million vehicle thefts, 409,000 robberies, 216,000 cases of rape, and 35,000 murders compared to the baseline as a result of climate change.20 A 2020 study reached similar conclusions with respect to violent crime generally.21 Both studies discuss several hypotheses for these increases: first, longer periods of temperate weather (namely during winter months) will increase opportunities for crime; second (and relatedly), changing weather patterns may increase the probability that crimes are committed successfully; and third, increased temperatures will cause higher rates of physiological heat stress, leading to more frequent conflicts.22

22 Id., Ranson, supra note 20, at 3.
Beyond its impact on more traditional crimes, climate change will also likely increase the frequency of less common crimes and create new forms of crime altogether. Professor Laurie Levenson notes that the anticipated surge of climate refugees seeking entry to the United States may produce scores of immigration-related offenses like illegal entry.23 Professor Rob White further notes that climate-related events will increase the prevalence of crimes including “looting and blackmarketering in relation to food products, illegal fishing and killing of birds and land animals, and trafficking in humans and valued commodities such as water and food.”24 Levenson also anticipates the continued proliferation of fraud and property crimes in the aftermath of climate-fueled disasters, and more novel crimes such as criminal negligence in cases where “defendants ignore the dangers from climate change and their actions contribute to deaths.”25 And those who refuse or are unable to obey evacuation orders may, at least in theory, be criminally prosecuted.26

In addition, climate change is contributing to increasingly dangerous conditions within carceral facilities. Extreme heat poses a risk to both prisoners and correctional officers: according to a recent analysis by The Intercept, over half of prisons, jails, and detention centers will experience more than ten days a year exceeding 105 degrees by century’s end; nearly 700 facilities will experience more than fifty days annually at these levels.27 Already, prisoners in California’s Central Valley have consistently reported lack of access to fans and air-conditioning, and have described their conditions of confinement during heat waves as “a living hell.”28 Climate-fueled wildfires pose an additional threat to prisoners not only in the American West, but also in less obvious areas like Oklahoma and Florida.29 And as hurricanes, sea level rise, and extreme rainfall intensify, flooding will increasingly expose prisoners to

23 Levenson, supra note 19, at 340–42. More aggressive efforts to criminalize immigration would lead to “a tsunami of new cases.” Id. at 342.
24 White, supra note 8, at 44.
25 Levenson, supra note 19, at 363; see id. at 346–49, 354–56; infra ch. I, section B.1.a, pp. 1554–58.
26 E.g., William S. Gribble, It’s a Trap!: Responsible Enforcement of Texas Disaster Evacuation Orders, 52 TEX. TECH L. REV. 725, 737–34 (2020).
“horribly, inhumane conditions,,” including power outages and sewage backups inside cells. In many cases, these climate risks overlap.31

Finally, to the extent that political inaction continues to stall progress on climate action, and as the effects of climate change become more readily apparent, it is reasonable to expect more frequent acts of civil disobedience in response. Activists across the country have in recent years staged increasingly large-scale protests, including interfering with pipelines and interrupting sessions of state legislatures.32 Especially considering the widespread support for climate justice among younger generations, these types of actions seem likely to continue or intensify.33

2. Building Community Resilience. — If history is any guide, the societal disruptions caused by climate change will likely invite a response by the criminal justice system.34 As this occurs, local prosecutors will play a substantial role in shaping such a response, given that they are “responsible for the vast bulk of criminal law enforcement” within the states and have typically been vested with tremendous power to manage these problems.35 This allocation of power is partly the product of the “law and order” or “tough on crime” ethos common in American


33 E.g., Emma Marris, Why Young Climate Activists Have Captured the World’s Attention, NATURE (Sept. 18, 2019), https://www.nature.com/articles/d41586-019-02060-0 [https://perma.cc/U9M4-MMR7].


politics and among many local prosecutors. A similar knee-jerk impulse will likely accompany the disruptions caused by climate change.

But this “law and order” approach has largely failed to meaningfully prevent other social ills, exemplified most notably by the failure of the U.S. war on drugs. As a 2021 report concluded, the United States’ reliance on prosecution and policing “has failed to achieve many of its purported goals of reducing the supply, demand, and markets for illicit drugs on a meaningful scale.” In the context of the opioid epidemic, similar failures have prompted some prosecutors to recognize that we “cannot prosecute our way out of” the crisis and to focus instead on providing public health–oriented solutions. Other advocates have arrived at the same conclusion with respect to homelessness, noting that criminalization of unhoused people is not only ineffective and costly but also “serve[s] as a barrier to income and housing stability.”

By the same measure, we cannot prosecute our way out of the disruptions caused by the climate crisis. While harsh criminal enforcement may mollify some constituents in the short term, local prosecutors should instead view the risks posed by climate change as presenting “an opportunity to rethink what it means for communities to be cared for and ‘safe.’” And in a world of climate change, public safety would be best served not by coercion and incarceration, but instead by fostering resilient communities that protect their most vulnerable members.

As White argues, building such resilience is “[a] vital component of any criminological project concerned with global warming.” This aim could be realized by adopting a more restorative approach to

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36 See Levin, supra note 17, at 1423–25 & n.46.
37 See White, supra note 8, at 124; cf. Kramer, supra note 8, at 220–21.
43 White, supra note 8, at 44. It should be acknowledged that governments and corporations have elsewhere deployed the language of “building resilience” to justify militarized responses to emergencies and disasters. See The Secure and the Dispossessed, supra note 42, at 103–04.
prosecution — one that “respond[s] to individual harm ‘without relying on alienation, punishment, or State or systemic violence.’”

Supporting climate resilience is a task that local prosecutors are uniquely situated to take on relative to their state and federal analogues. Communities across the country will experience climate change in different ways and to different degrees, and its impacts will be magnified by existing social vulnerabilities. Communities of color, for instance, will disproportionately bear the brunt of climate change’s burden and already experience significant health consequences as a result of mass incarceration. With this information in mind, local prosecutors are well positioned to understand the needs and circumstances of their constituents and to shape their local criminal justice policies accordingly — including by rejecting incarceration and other harshly punitive policies in favor of policies that bolster community cohesion and resilience. And these decisions could, for the most part, be made independently of state or federal political leadership. Thus, even with a state attorney general inclined to punish harshly, or a U.S. Attorney General indifferent to climate change, a local prosecutor could fashion, and their constituents could demand, a criminal justice policy that promotes resilience, rather than retribution.

Such an approach could prove to be politically beneficial for local prosecutors, the vast majority of whom are elected. For one thing, a large majority of Americans, across the political spectrum, agree that climate change is an urgent issue that the federal government is not doing enough to remedy, and that climate change is affecting their local communities. Stepping into this leadership vacuum could therefore provide local prosecutors with a political boost, especially at a time when voter demand for local climate solutions is on the rise. But even where climate change is a politically sensitive topic, local prosecutors
could instead benefit from promoting their commitment to building resilience. Eli Lehrer, the president of the libertarian think tank R Street Institute, has suggested that resilience is “a mom-and-apple-pie issue. How could anybody say, ‘It’s a bad idea to make people safer against extreme weather’?”50 And while some progressive districts across the country have begun embracing restorative justice models, these models are gaining support among members of the political right as well.51

3. Addressing Climate Change Through Prosecution. — Fostering community resilience and pursuing less carceral approaches to prosecution does not necessarily require eschewing criminal enforcement altogether. Rather, local prosecutors could shift their focus more toward “eliminat[ing] the environmental, economic, and sociopolitical forces that are the root causes of many discrete, interpersonal injuries.”52 While this might not compose their bread-and-butter work, local prosecutors are well positioned to combat offenses like wage theft, predatory lending, pollution, and unsafe rental housing conditions.53 Local prosecutors have already been identified as critical to combatting environmental crimes, like hazardous waste dumping and water contamination, since they may react more quickly than other agencies and “may be more attuned to the particular problems and needs of local communities.”54 This enforcement is important given that access to clean air and water is “an essential part of community health and well-being.”55

From this perspective, local prosecutors would be justified in using their resources to directly address climate change — itself a “root cause” of many criminal acts and a primary source of community harm. While climate change is a global problem with many discrete contributors and structural causes, this should not obscure the fact that there are specific individuals and corporations who “can and should be deemed responsible in the eyes of the law.”56 Under existing law, this would most obviously include targeting illegal greenhouse gas emissions, but it might also encompass knowing or negligent failures to act in anticipation of climate change. And while it might be true that ordinary people are “implicated in activities that contribute to global warming,” targeting them for prosecution in the same way would be counterproductive given

53 Gong, supra note 14, at 7.
54 THEODORE M. HAMMETT & JOEL EPSTEIN, NAT’L INST. OF JUST., U.S. DEP’T OF JUST., LOCAL PROSECUTION OF ENVIRONMENTAL CRIME xi (1993); see also id. at iii.
55 Gong, supra note 14, at 16.
56 WHITE, supra note 8, at 112.
that their contributions by and large originate “in structures over which the participants have little or no direct control.”\(^{57}\)

This approach would require turning an eye toward the actions of corporations and corporate executives. Although federal prosecutors have historically taken the lead in controlling corporate crime, local prosecutors do pursue such investigations, which have several advantages over more common civil and regulatory enforcement actions.\(^{58}\) First, criminal prosecutions do not face the same “structural barriers” that suits by private attorneys general face, such as forced arbitration clauses or limitations on class actions.\(^{59}\) Second, and relatedly, criminal prosecutions are not subject to the same remedial limits that exist in civil enforcement actions, and prosecutors’ “discretion, resources, and power in the criminal system permit far more expansive remedies than are available in civil cases brought by private attorneys general.”\(^{60}\) This is relevant since many corporate criminal prosecutions are resolved through settlements, rather than trials; these settlements can require corporations to make public apologies, conduct community service, or establish compliance and oversight programs.\(^{61}\) And third, many consider criminal liability to carry a more negative stigma than civil liability — that is, corporations “do not want to be labeled corporate criminals and therefore may have more incentives to avoid criminal sanctions than otherwise comparable civil or administrative sanctions.”\(^{62}\)

Beyond the strong interest in preventing these harms in the first place, corporate prosecutions raise fewer carceral concerns than prosecutions of individuals, since “corporations can neither be jailed nor have their individual liberties restricted when they commit crimes.”\(^{63}\) Just as local prosecutors can adopt policies that differ from their state and federal counterparts, they can also “close the corporate enforcement gap” caused by weak enforcement at the federal or state levels.\(^{64}\) Finally, just

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\(^{59}\) Gong, supra note 14, at 7.

\(^{60}\) Brandon L. Garrett, Structural Reform Prosecution, 93 VA. L. REV. 853, 874 (2007). But see Benson, supra note 58, at 105 (“[M]any [environmental] violations that could be handled in a criminal forum instead receive treatment via administrative or civil proceedings.”).


\(^{63}\) Id. at 1243. This is obviously not true for prosecutions of corporate executives.

\(^{64}\) Gong, supra note 14, at 7; see Mihailis E. Diamantis & William S. Laufer, Prosecution and Punishment of Corporate Criminality, 15 ANN. REV. L. & SOC. SCI. 453, 458 (2019) (noting decline in federal corporate prosecutions in the last decade).
as building resilience may be politically popular, corporate enforcement priorities may enjoy similar support among local prosecutors’ constituents of many different political affiliations. None of this is meant to suggest that corporate prosecutions would be easy for local prosecutors to undertake; and, as suggested by the next section, the efficacy of such prosecutions in preventing corporate misconduct may be questionable. But considering the magnitude of climate change, local prosecutors should be open to reallocating their resources in this way.

B. Prosecuting Climate Criminals

With this framework in mind, this section and the next begin to assess some of the concrete actions local prosecutors can take to respond to climate change and its consequences. In several cases, these actions have already begun, even if they have not been explicitly identified as relating to climate change. Recognizing the systemic harm that climate change creates, local prosecutors should view their public safety mandate as requiring them to combat climate change, or at least minimize its consequences. This section explores several tools local prosecutors can use to do so, though they are imperfect tools at best. The most obvious options likely include prosecutions for illegal emissions, under existing environmental criminal law, and for corporate failures to prepare adequately for climate change. While local prosecutors can bring such charges, their deterrent effect may be limited. Less obvious tools include prosecutions of government officials for failures to prepare for climate change, and fraud and nuisance prosecutions of corporations.

1. Prosecuting Emissions and Failures to Adapt. — In recent years, local prosecutors have demonstrated their capacity to bring charges against corporations (and sometimes corporate executives) for illegal emissions as well as failures to adapt to or prepare for climate change. The first section below surveys some of these actions, while the second section addresses their relative merits.

(a) Examples of Local Prosecution. — For local prosecutors interested in addressing the “root causes” of climate change, there is an obvious place to start: stemming carbon emissions. Though carbon emissions are not usually criminalized (so long as they fall within regulatory limits), there are some instances where prosecutions can take place under state or local health and safety codes or environmental laws.


In 2015, for instance, a fuel storage facility operated by the Southern California Gas Company (SoCalGas) began leaking natural gas in the Porter Ranch area of Los Angeles.67 Scientists soon thereafter identified it as “the largest methane leak in U.S. history.”68 While the health effects of the leak were felt by residents immediately,69 the leak also had implications for climate change: for the first twenty years after it is released, methane is roughly eighty times more powerful than carbon dioxide in trapping heat in the atmosphere.70 SoCalGas quickly became the target of not only dozens of civil lawsuits and regulatory actions but also criminal charges brought by the Los Angeles DA under the state’s environmental and health codes.71 The DA ultimately allowed SoCalGas to plead no contest to one misdemeanor count for failing to notify the state of the leak immediately, dropping three other misdemeanor charges in exchange for a $4 million settlement.72

Beyond mitigating climate change, local prosecutors can also pursue charges against corporations whose actions facilitate disasters exacerbated by climate change. Notably, district attorneys in California have brought criminal charges against Pacific Gas & Electric (PG&E) in response to devastating wildfires caused, at least in part, by the company’s negligent maintenance of its power lines. Scientists have demonstrated that climate change has “inexorably stacked the deck in favor of bigger and more intense fires across the American West over the past few decades,” due to increased temperatures, lower precipitation, and other factors.73 The 2018 Camp Fire, which infamously razed the town of Paradise, became the most destructive fire in California history when it burned over 18,000 buildings and killed at least eighty-four people.74

68 Id.
69 Id. (noting that residents “report[ed] symptoms such as headaches and nausea”).
72 Walton, supra note 71.
Investigators quickly pointed to a poorly maintained PG&E power line as the likely source of the fire.\footnote{See BUTTE CNTY. DIST. ATT’Y, THE CAMP FIRE PUBLIC REPORT 2–3 (2020).}

As a result of these deaths, the Butte County DA Office brought felony charges against PG&E.\footnote{See Whitcomb, supra note 74. It’s worth noting that prosecuting failures to prevent wildfires can also be considered an effort to mitigate climate change: wildfires not only create “immense emissions of carbon dioxide,” but they also hamper the effectiveness of renewable energy technologies. Josh Lappen, \textit{How Climate-Driven Disasters Threaten Climate Progress}, \textit{The Nation} (Oct. 19, 2020), https://www.thenation.com/article/environment/climate-fires-california-blackout [https://perma.cc/VR6S-FBNZ].} Reassigning prosecutors and partnering with the California Attorney General’s Office, the Butte County DA convened a grand jury that reviewed troves of evidence over the course of nearly a year.\footnote{Id. at 3–4.} The grand jury ultimately recommended eighty-five felony counts, including one count of “unlawfully and recklessly causing the Camp Fire as a result of [PG&E’s] gross negligence in maintaining its power line” and eighty-four counts of involuntary manslaughter.\footnote{Id. at 79–80.}

While the DA’s report concluded that the evidence did not support indictments against any of the company’s executives, PG&E itself was indicted based on its reckless behavior and knowledge of the risk its actions created.\footnote{Whitcomb, supra note 74.} PG&E ultimately pled guilty to the charges and, in its plea deal, agreed to pay “a maximum $3.5 million fine plus $500,000 in costs, and up to $15 million to provide water to residents after the fire destroyed the utility’s Miocene Canal.”\footnote{Whitcomb, supra note 74.} California DAs brought similar charges after the 2019 Kincade Fire and the 2020 Zogg Fire.\footnote{See Kavya Balaraman, \textit{PG&E Will Fight Criminal Charges Tied to 2019 Kincade Fire, CEO Patti Poppe Says}, UTIL. DIVE (Apr. 30, 2021), https://www.utilitydive.com/news/pge-will-fight-criminal-charges-tied-to-2019-kincade-fire-ceo-patti-poppe/599325 [https://perma.cc/V9Q2-Y46C]; J.D. Morris, \textit{Shasta County D.A. Hits PG&E with Involuntary Manslaughter Charges over 2020 Zogg Fire}, S.F. CHRON. (Sept. 24, 2021, 6:42 PM), https://www.sfchronicle.com/bayarea/article/Shasta-County-D-A-hits-PG-E-with-manslaughter-16485257.php [https://perma.cc/8KSJ-JTD7]. Both prosecutions are ongoing as of this writing.}

In addition to pursuing charges for \textit{causing} disasters, local prosecutors have also recently sought to charge corporate failures to \textit{prepare} adequately for climate-driven disasters. These investigations could take place in the context of workplace safety, where researchers have noted that local prosecutors have taken an increasingly active role by bringing charges for “workplace or involuntary manslaughter, criminally negligent homicide, reckless endangerment, and assault,” in addition to regulatory violations.\footnote{See TERRI GERSTEIN, E CON. POL’Y INST., \textit{HOW DISTRICT ATTORNEYS AND STATE ATTORNEYS GENERAL ARE FIGHTING WORKPLACE ABUSES} 18 (2021).} With respect to climate change, such charges
could follow from, for example, failures to provide workers with adequate protective equipment, shade, or rest during periods of extreme heat. In 2009, for example, prosecutors in San Joaquin County, California, charged the owner, supervisor, and safety director of a farm with criminal manslaughter and labor code violations after the death of a seventeen-year-old worker from heat exposure.83 Failures to stop work or protect workers in advance of or during a natural disaster could also lead to criminal sanctions.84

Some local prosecutors have, more controversially, demonstrated an interest in prosecuting corporate failures to prepare for climate disasters that lead to even greater environmental harm. In 2018, for example, prosecutors in Harris County, Texas, indicted chemical manufacturer Arkema North America, its chief executive, and a plant manager following a chemical plant explosion in the wake of Hurricane Harvey.85 Floodwaters from the devastating, climate-aggravated storm had knocked out power to the plant, which led to chemical stores at the plant overheating and combusting.86 A grand jury indictment pursued by the DA alleged that the company had acted recklessly by not taking adequate precautions as the storm approached, and that the “toxic cloud” caused by the explosions “could and should have been prevented.”87 The corporation strenuously contested the charges and the underlying evidence, and the trial court ultimately issued a directed verdict resulting in no convictions, and it found that the Harris County attorneys had committed prosecutorial misconduct.88


such prosecutions may for now be somewhat untenable, Professor Tracy Hester argues “the door is now open” to similar prosecutions.\(^89\)

(b) Analyzing Efficacy. — These types of prosecutions, while promising, have obvious shortcomings. In the immediate sense, they are inherently reactive: they can occur only after fires have burned or pollutants have been released into the atmosphere. And to the extent prosecutions like these serve to prevent future harms, the deterrent effect of fines, restitution, and stipulated remedial actions is dubious at best.\(^90\) Although the SoCalGas settlement required the company to pay for new methane-detection equipment and policies, one local environmental leader described the action as “barely a slap on the wrist for [SoCalGas],” given the billions of dollars in profits its parent company makes every year.\(^91\) The $3.5 million fine secured against PG&E in the Camp Fire prosecution similarly translates to “about as much as its parent company collects in revenue [in just over] 90 minutes”\(^92\) and amounted to a little more than one-hundredth of one percent of the fire’s cost.\(^93\) These comparatively small fines may undermine the “expressive” purpose of a criminal prosecution, especially where corporations, like PG&E and SoCalGas, control a monopoly such that the public cannot effectively express disdain by divesting from the company’s goods; or where, like Arkema, the public is not the primary consumer. Furthermore, even when prosecutors do pursue stringent penalties, courts may nevertheless impose lower sentences.\(^94\) And where both regulatory and criminal penalties exist, the former may be much larger, suggesting the additional deterrent effect of criminal sanctions is fairly small.\(^95\)


\(^90\) See Diamantis & Laufer, supra note 64, at 466.


\(^94\) See, e.g., Jody Godoy, Judge Cuts Max Criminal Fine to $562M in PG&E Pipeline Blast, LAW360 (Dec. 9, 2015, 6:10 PM), https://www.law360.com/articles/736687 [https://perma.cc/3DY-RBH9].

\(^95\) See, e.g., Hiltzik, supra note 92 (comparing a $1.6 billion penalty against PG&E by the state Public Utilities Commission with a maximum $62 million criminal fine, which was not pursued).
Moreover, even where corporate prosecutions are appropriate, local prosecutors may be ill suited to undertake them given the “special investigatory and prosecutorial problems that make successful application of the criminal law complicated and difficult” in this area. 96 While they may be fully prepared to investigate ordinary street crime, “local prosecutors must rely on personnel from criminal justice and regulatory agencies to build cases against corporations and business executives who violate the law.” 97 These investigations are difficult, expensive, and time consuming; prosecuting executives is especially challenging given that “piecing together who did what within a complex organization is no easy task.” 98 And even offices that have specialized environmental or consumer protection units often dedicate few resources to them. 99 This might explain why, in most states, these types of investigations fall to state-level prosecutors. 100

Individually, then, such prosecutions may be of limited utility in actually preventing climate change or climate-caused disasters. But they may have an impact in the aggregate. The enhanced threat of local prosecution — on top of federal prosecution, state regulatory sanction, and suits by private attorneys general — may encourage corporations to step up their preventive and adaptive efforts in order to avoid liability. 101 As climate change accelerates, the risk of disasters increases, and as the need to curb emissions becomes more dire, prosecutions such as these could prove to provide an important additional incentive for corporations to take climate change seriously. This is especially true where local prosecutors are willing to investigate and charge corporate officials, who are “more likely to comply with the law when they fear that they may go to jail if their violations are discovered.” 102 Further, such prosecutions could help communicate the seriousness of climate change to the local community in which the prosecution is brought and to the public more broadly. 103 And when such investigations do lead to convictions

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96 Benson, supra note 58, at 89.
97 Id.
98 Diamantis & Laufer, supra note 64, at 466.
100 See Barkow, supra note 35, at 547–48.
101 See Hester, supra note 89, at 5; GERSTEIN, supra note 82, at 11.
103 See Anthony Moffa, Environments Res., 122 PENN. ST. L. REV. 209, 305 (2018) (noting social science indicates reframing bad environmental actions as crimes may change cultural values, which is the most effective way to change minds).
or settlements, local prosecutors can pursue remedies that center the harms of the communities most immediately affected.\textsuperscript{104}

2. Prosecuting Political Failures to Prepare. — Beyond corporations and executives whose actions contribute to climate change or facilitate climate-related disasters, government officials could also be held criminally liable for their policy choices. While such prosecutions have thus far been virtually unprecedented, prosecutors in Michigan are currently pursuing such a strategy in the wake of the Flint water crisis.\textsuperscript{105} In 2014, local officials, attempting to save money, switched the city’s water supply without adopting an anticorrosion agent, exposing thousands of residents (including many children) to lead from the aging pipes; this led to an outbreak of Legionnaire’s disease that killed twelve people and left dozens more sickened.\textsuperscript{106} Following a nearly seven-year investigation, the state, working with the Wayne County Prosecutor’s Office, convened a grand jury that secured the indictment of nine state and local government officials on a variety of charges including involuntary manslaughter, willful neglect of duty, and official misconduct.\textsuperscript{107}

While the Flint criminal cases are pending as of this writing, any convictions would “set the precedent necessary to pursue other government officials . . . who knowingly select policies that will result in death when real alternative options exist.”\textsuperscript{108} These prosecutions could arguably proceed where policymakers act contrary to (or fail to act in response to) the vast amounts of detailed climate modeling and risk assessment data now available to them.\textsuperscript{109} Indeed, French prosecutors pursued a similar route in 2010, indicting a village mayor and other local officials on charges of involuntary manslaughter after a cyclone led to

\textsuperscript{104}In the SoCalGas prosecution, for example, community members criticized DA Lacey’s settlement because it preempted their ability to pursue restitution claims against the company. See Olga Grigoryants, Attorneys Try to Persuade Judges that SoCalGas Should Pay Restitution to Porter Ranch Residents, L.A. DAILY NEWS (May 29, 2019, 6:53 AM), https://www.dailynews.com/2019/05/24/attorneys-try-to-persuade-judges-that-socalgas-should-pay-restitution-to-porter-ranch-residents [https://perma.cc/8TWU-E927]. George Gascón, running against Lacey four years later, criticized the move as clearly illustrating “injustice and indifference for these victims and LA’s environment.” Press Release, supra note 7.

\textsuperscript{105}Moffa, supra note 103, at 329–30.


\textsuperscript{108}Moffa, supra note 103, at 345.

\textsuperscript{109}See id. at 304.
flooding that killed twenty-nine residents whose homes had been built in an area where “officials should have barred construction.”\textsuperscript{110} Italian prosecutors brought similar charges against a local official in the wake of an earthquake that killed over 300 people, arguing the officials had criminally “downplay[ed] the risk from earthquakes.”\textsuperscript{111} Analogously, local prosecutors in the United States could pursue or assist investigations of policymakers who downplay known climate risks or who neglect their official duties by failing to take sufficient action to protect residents from climate-fueled disasters.\textsuperscript{112} Such prosecutions could, like those discussed in the previous section, carry important expressive weight “by reframing bad environmental actions as potential crimes.”\textsuperscript{113}

Prosecuting policymakers would come with a number of risks and challenges, and in many cases these prosecutions would be plainly inappropriate. “Clearly, society would not be better off,” Professor Anthony Moffa notes, if the threat of prosecution and personal liability “paralyzes” government decisionmaking or discourages participation in government.\textsuperscript{114} Further, “there are some decisions wherein every option will almost certainly result in loss of life above the baseline.”\textsuperscript{115} Local prosecutors may also feel reluctant to use their tools to steer public policy or to indict their fellow public servants.\textsuperscript{116} As a matter of efficacy, individual prosecutions may fail to heal the victims adequately and to deter future harm by the government entity itself.\textsuperscript{117} Thus, pursuing change through the electoral process, rather than the criminal system, may prove more effective. Prosecutors would also need to navigate around existing immunities for policymakers,\textsuperscript{118} while increased prosecutions of officials could prompt states to “circle the wagons” and enact

\textsuperscript{110} Buford, supra note 106; see Moffa, supra note 103, at 328.

\textsuperscript{111} Buford, supra note 106. Both prosecutions resulted in conviction. \textit{Id}.


\textsuperscript{113} Moffa, supra note 103, at 305.

\textsuperscript{114} \textit{Id}. at 340; see \textit{id}. at 314.

\textsuperscript{115} \textit{Id}. at 340.


\textsuperscript{118} Nearly all states, for instance, recognize some form of legislative immunity that limits criminal inquiry into or prosecution of legislative activity — including that of local legislators. \textit{See} Steven F. Huefner, \textit{The Neglected Value of the Legislative Privilege in State Legislatures}, 45 WM. & MARY L. REV. 221, 224–25, 234 n.42 (2003). This immunity does not automatically preclude prosecutions for official misconduct, however. \textit{Id}. at 301. And municipal officers are generally not excused “from liability for violating laws applicable to the public generally, including the common law.” 4 \textit{MCQUILLIN MUN. CORP}. § 12:307 (3d ed.), Westlaw (3d ed., database updated Sept. 2021).
more extensive immunities. Finally, prosecuting policymakers may also encourage high-level officials to maintain ignorance of their subordinates’ decisions.

Given this, prosecutorial discretion would “counsel[] against prosecution in almost all instances.” But criminal liability may be justified in more extreme cases, like the Flint water crisis, where policymakers knowingly expose residents to serious harm and where alternative courses of action are readily available. In doing so, local prosecutors (likely working in tandem with state analogues) could potentially spur greater action by government officials to prepare for the “foreseeable harm caused by climate-exacerbated extreme events.”

3. Prosecuting Criminal Fraud and Public Nuisance. — Finally, local prosecutors could, at least in theory, seek criminal charges against fossil fuel companies and others for misleading the public about the dangers posed by climate change or for creating public nuisances through their emissions. In recent years, states and municipalities, including Massachusetts and Oakland, California, have pursued this exact route using civil lawsuits, arguing that fossil fuel corporations knew about the threats posed by their products and deliberately misled the public about the risk. But even if such corporate action might give rise to criminal liability, securing these prosecutions would be difficult. Beyond the challenges associated with and resources necessary for corporate prosecution, as well as almost-certain procedural and jurisdictional challenges, local prosecutors have to establish guilt beyond a reasonable doubt, compared to the lower “preponderance of the evi-

121 Moffa, supra note 103, at 340.
“clear and convincing evidence” standard that even the parallel civil suits have failed to establish.127 These obstacles might explain why no such prosecutions have been attempted to date.

C. Day-to-Day Prosecution in a Climate-Changed World

As the climate changes, local prosecutors will be faced with many day-to-day decisions around how to wield their authority in response. This section argues that, in an effort to foster more resilient communities, local prosecutors should first focus on seeking decarceral solutions to crime. Further, recognizing the severity of the climate crisis, local prosecutors should exercise leniency with respect to climate protesters. Finally, this section outlines other forms of advocacy that local prosecutors could use to bring attention to the climate crisis.

1. Decarceration as Climate Policy. — Although climate change is projected to lead to increases in various forms of crime, prosecutors should keep in mind their bedrock principle of promoting community safety and avoid relying on incarceration as the default response to crime. Beyond undermining public health and community resilience, particularly in communities of color, incarceration exposes people to the dangers of extreme heat, wildfires, and flooding with no ability to seek refuge but at the mercy of the state.128 Furthermore, incarceration consumes state funding and resources that could otherwise be devoted to more socially beneficial public programs, including those that address climate change adaptation or foster improvements in public health.129

Currently, incarceration does assist government efforts to combat climate change in at least one respect: it allows states to rely on unpaid (or extremely low-wage) labor to respond to the effects of climate change.


128 Kim Kelly, The Climate Disaster Inside America’s Prisons, NEW REPUBLIC (Sept. 18, 2019), https://newrepublic.com/article/155092/climate-disaster-inside-americas-prisons [https://perma.cc/AP2X-AALK]; see sources cited supra notes 26–30. Decarceration should therefore “undeniably be recognized as climate policy.” Infra ch. III, p. 1607; see also Brown, supra note 30 (“Experts are increasingly arguing for prison abolition as the most effective climate disaster mitigation strategy.”).

129 Some evidence also suggests that incarceration is associated with increased carbon emissions, though the research in this area is limited and somewhat contradictory. Compare Julius Alexander McGee, Patrick Trent Greiner & Carl Appleton, Locked into Emissions: How Mass Incarceration Contributes to Climate Change, 8 SOC. CURRENTS 326, 335 (2021) (prisons increase overall carbon emissions), with Helen Skudder et al., Addressing the Carbon-Crime Blind Spot, 21 J. INDUS. ECOLOGY 829, 839 (2016) (prisons may reduce overall carbon emissions). Meanwhile, prisons have increasingly begun adopting “green” policies, such as reducing food waste or upgrading facilities to be more energy efficient. E.g., Rob White & Hannah Graham, Greening Justice: Examining the Interfaces of Criminal, Social and Ecological Justice, 55 BRIT. J. CRIMINOLOGY 845, 852–55 (2015). Regardless of such efforts, or prisons’ carbon impacts, prisons still leave people in the path of climate disasters; ultimately, “true sustainability hinges upon the impetus to decarcerate, diminish in size and de-commission, restricting the use of confinement as a genuine last resort.” Id. at 860.
In 2017, roughly one-third of California’s forest firefighters were prisoners who contributed their labor for two dollars a day or less.130 And following Hurricane Irma in 2017, Florida prisoners were dispatched to clean up damage from the storm without being compensated at all.131 Regardless of any cost savings this approach accrues to the state, incarceration undermines the community resilience necessary to survive climate change and forestalls a “fair and just transition to a green society for all” by entrenching the state’s reliance on prison labor.132

Instead, local prosecutors should consider turning away from incarceration and toward restorative justice.133 Such policies vary widely in design and application, and local prosecutors can work within their communities to determine what this approach would look like on the ground.134 Local prosecutors should also consider adopting non prosecution and/or sentence-reduction policies if they conclude that further prosecution would inhibit community safety and resilience.135

2. Climate Protest. — As Ward and O’Hara’s lobster boat protest suggests, local prosecutors will increasingly be forced to evaluate whether to bring criminal charges against activists. Appreciating the harms of climate change and understanding the potential of protest to spur action, a local prosecutor should not view harsh punishment of climate protest as in the community’s best interest. This discretion is particularly relevant in jurisdictions with “critical infrastructure” laws, which are designed to target climate protesters with “particularly harsh penalties” for interfering with infrastructure such as oil pipelines.136


133 See supra ch. I, section A.2, pp. 1549–52.


Approaching these cases with leniency would not require local prosecutors to adopt a blanket nonprosecution policy toward acts of climate protest. Even Sam Sutter, the DA who dropped the charges against Ward and O’Hara, noted in an interview following the decision that future charges would be decided on a “case-by-case basis” and that, though he agreed with the activists’ aims, he “disagree[d] with the action” and “definitely discourag[ed] anybody from doing this again.” Nevertheless, in shaping a punishment commensurate with the actual harm, Sutter’s exercise of discretion took a broader view of community safety that included considering the larger consequences of climate change.

Local prosecutors could also exercise leniency by recognizing the validity of the “climate necessity defense.” This defense, a form of the familiar common law necessity defense, posits that the protester’s actions were necessary to prevent the harms caused by climate change. While courts have historically blocked defendants from raising the defense, this trend may be changing. In 2018, a group of Massachusetts pipeline protesters charged with civil infractions was acquitted by a judge relying on the theory; and in 2021, an Oregon court allowed climate protesters to present the defense along with expert testimony, resulting in a hung jury and a mistrial. Recognizing this trend, local prosecutors should scale back their challenges to defendants’ attempts to present the defense. Moreover, local prosecutors could also conclude that, since a jury that actually hears the defense would be more

likely to acquit, some charges would not be prudent given that a conviction may be more difficult to secure.

3. Advocacy Efforts. — Finally, local prosecutors wield tools outside of actual prosecution that could be deployed to address climate change. First, given their substantial influence over the development of criminal justice legislation and their ability to shape the community’s view of criminal justice policy, local prosecutors should use their platforms and political connections with legislators to advocate for equitable criminal justice policies in light of climate change. This could include, for instance, advocating in favor of different or more severe criminal penalties against polluting corporations where the current statutes do not adequately deter or remediate the harm posed by this pollution.

By the same token, local prosecutors could advocate against legislative attempts to, for example, create harsh penalties for looting in the wake of climate-driven natural disasters. Local prosecutors could also lobby for the redistribution of resources away from the criminal legal system and, instead, to improving public health or tackling climate change, such as by building green energy infrastructure on former prison land.

In addition, local prosecutors could write or join amicus briefs in civil climate change lawsuits. While their work mainly addresses individual cases, local prosecutors have used amicus briefs to weigh in on broader systemic issues, such as challenges to the death penalty and to abortion restrictions. Local prosecutors could similarly file briefs in some of the civil suits against fossil fuel companies and other corporations, illustrating the public safety impacts raised by climate change and the need to hold its most egregious corporate contributors to account.

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144 While this section focuses on climate protest, local prosecutors could also apply the logic of the necessity defense when considering other protest cases, including those seeking to advance civil rights. See Quigley, supra note 141, at 60–61.
145 See Bruce A. Green & Lara Bazelon, Restorative Justice from Prosecutors’ Perspective, 88 FORDHAM L. REV. 2287, 2310 (2020).
146 E.g., Diamantis & Laufer, supra note 64, at 462 (discussing proposed “equity fine” that would transfer corporate shares to the government); see also Lea Babucke & Max Schwerdtfeger, Climate Change and Criminal Law, FRESHFIELDS BRUCKHAUS DERINGER (Jan. 7, 2022), https://riskandcompliance.freshfields.com/post/102hfrx/climate-change-and-criminal-law [https://perma.cc/REK9-DCZS] (anticipating expansion of German corporate criminal law to combat climate change).
Finally, a local prosecutor’s act of publicly acknowledging the climate crisis could help build support for climate action, both within their communities and beyond. By discussing climate change’s impact on the criminal legal system, or attending climate rallies, local prosecutors would help signal to the public that climate change is not just an issue that scientists and environmentalists care about. In addition to potentially helping spur support for local climate change measures, such support may also, in the aggregate, help build a political environment that “trigger[s] action at higher levels of government.”

Conclusion

It is encouraging that some local prosecutors have begun to acknowledge the climate crisis and to pledge their support for efforts to address it. But public statements of support are not enough; nor is it sufficient for prosecutors to acknowledge that climate change may require them to invest in new office technology or to hire additional translators to help interface with climate refugees. Rather, the magnitude of the climate crisis, and its impact on the criminal justice system, should prompt local prosecutors to fundamentally rethink what it means to keep a community safe in light of unprecedented disruption.

Many of the solutions proposed in this Chapter ask local prosecutors to take on tasks and assume priorities they may be largely unfamiliar with or skeptical of. And, especially if “mass migration is perceived to pose a threat to internal order,” it may be difficult for local prosecutors to “stem the ‘law and order’ brigade” and its demands for harsh criminal enforcement. But taking the climate crisis seriously means that local prosecutors must discard failed approaches of the past and look for alternatives that rise to the challenge, even if these require departing from the status quo. As the author and activist Naomi Klein has famously declared, the climate crisis changes everything; local prosecution, in turn, must change as well.

150 Notably, DA Sam Sutter did exactly this after dropping the charges against Ward and O’Hara. See Kieffer, supra note 2.
153 See Phila. Dist. At’y’s Off., supra note 13, at 12.
156 NAOMI KLEIN, THIS CHANGES EVERYTHING (2014).
CHAPTER TWO

INDIGENOUS INTERPRETATIONS: INVOKING THE THIRD INDIAN CANON TO COMBAT CLIMATE CHANGE

“As long as the rivers run, as long as the tide flows, and as long as the sun shines, you will have land, fish and game for your frying pans, and timber for your lodges,” Washington Territorial Governor Isaac Stevens reassured the signatories of the 1855 Treaty of Point Elliott.1 The Duwamish, Suquamish, Snoqualmie, Snohomish, Lummi, Nooksack, Skagit, Swinomish, and other allied tribes’ delegates took him at his word when formulating the agreement.2 Yet today, in what is now Washington State, climate change threatens to dry rivers, raise tides, burn timber, and deprive Indigenous communities of ancestral lands and subsistence sources.3

Climate conditions disproportionately impact Native nations, especially in coastal regions like the Pacific Northwest.4 Indigenous peoples are turning to traditional management practices to revive struggling ecosystems.5 The Swinomish Tribe, sitting on low-lying coastal land it has inhabited for ten thousand years, calls itself the People of the Salmon.6 But the centerpiece of its culture is in danger; due to warming waters,

2 See generally Treaty Between the United States and the Dwámish, Suquámish, and Other Allied and Subordinate Tribes of Indians in Washington Territory, Jan. 22, 1855, 12 Stat. 927 [hereinafter Treaty of Point Elliot].
4 Memorandum on Tribal Consultation and Strengthening Nation-to-Nation Relationships, 2021 DAILY COMP. PRES. DOC. 1 (Jan. 26, 2021), reprinted in 86 Fed. Reg. 7491 (Jan. 29, 2021) (“The United States has made solemn promises to Tribal Nations for more than two centuries. Honoring those commitments is particularly vital now, as our Nation faces crises related to health, the economy, racial justice, and climate change — all of which disproportionately harm Native Americans.”) [discussing a multiyear study showing that as a result of their displacement and the loss of ninety-nine percent of their lands, Native Americans live in areas that are “more exposed to climate change hazards like extreme heat and decreased precipitation”).
the salmon season has shrunk from eight months to a few days.\textsuperscript{7} To fight the further degradation of the coastal habitat, the Tribe has invested in restoring tidelands and channels, planting trees along streambeds to cool waters, cultivating native plants to manage coastal flooding naturally, and restoring reefs to reduce ocean acidification.\textsuperscript{8} Even with these efforts, experts estimate that it could take ninety years for their fisheries to recover.\textsuperscript{9} This climatological innovation illustrates Indigenous resilience;\textsuperscript{10} however, tribes alone should not bear the burden of these mitigation efforts.

As climate conditions worsen, scholars and tribal leaders have proposed using treaty-based litigation to spur remediation of tribal lands.\textsuperscript{11} Some have highlighted how tribes are both adapting to climate change\textsuperscript{12} and fighting to maintain treaty rights as climate change forces migration away from treaty homelands.\textsuperscript{13} Others have observed that tribes are well positioned to bring these claims because “tribal treaty rights claims may face fewer issues related to redressability, such as manageable standards of judicial review and concerns about the political question doctrine, as compared to other climate change suits.”\textsuperscript{14} Several have

\textsuperscript{7} Id.
\textsuperscript{9} Morrison, supra note 6.
\textsuperscript{10} See generally, e.g., NW. INDIAN FISHERIES COMM’N, CLIMATE CHANGE AND OUR NATURAL RESOURCES: A REPORT FROM THE TREATY TRIBES IN WESTERN WASHINGTON (2016).
\textsuperscript{12} See, e.g., Jamie Kay Ford & Erick Giles, Climate Change Adaptation in Indian Country: Tribal Regulation of Reservation Lands and Natural Resources, 41 WM. MITCHELL L. REV. 519, 528 (2015).
\textsuperscript{13} See, e.g., Hope Babcock, Here Today, Gone Tomorrow — Is Global Climate Change Another White Man’s Trick to Get Indian Land? The Role of Treaties in Protecting Tribes as They Adapt to Climate Change, 2017 Mich. St. L. Rev. 371, 371; Scott W. Stern, Rebuilding Trust: Climate Change, Indian Communities, and a Right to Resettlement, 47 ECOLOGY L.Q. 179, 179 (2020).
argued the federal government must act proactively to reduce the effects of climate change on Indigenous homelands to fulfill its federal trust obligation as a guardian to tribal interests.\textsuperscript{15} And a few have pointed to litigation from tribes in Washington State as illustrating that state and federal governments must affirmatively protect treaty habitats.\textsuperscript{16} Despite academic interest in this area, treaty-based litigation to combat the effects of climate change remains relatively untested.\textsuperscript{17}

Another strand of scholarship focusing on interpretative theories in American Indian law has identified the growing utility of the Indian canons of construction to treaty-based litigation.\textsuperscript{18} The Supreme Court established these canons in the nineteenth century.\textsuperscript{19} The purpose of these interpretive rules is to ensure that “[t]he language used in treaties with the Indians should never be construed to their prejudice.”\textsuperscript{20}

While the U.S. Supreme Court has applied the Indian canons since the 1800s, its adherence to them has waxed and waned over two centuries.\textsuperscript{21} Following Justice Gorsuch’s arrival, the Court has more explicitly


\textsuperscript{19} See 1 COHEN’S HANDBOOK OF FEDERAL INDIAN LAW § 2.02 (Nell Jessup Newton ed., 2017).


\textsuperscript{21} Skibine, supra note 18 (manuscript at 12–15); cf. Samuel E. Ennis, Implicit Divestiture and the Supreme Court’s (Re)Construction of the Indian Canons, 35 VT. L. REV. 623, 623 (2011) (“Rather, the Court has selectively employed the canons in order to sequester tribal rights within ‘traditional’ Indian activities such as hunting and fishing, areas where the Court is comfortable with Indian self-government.”).
embraced the third canon of interpreting treaty language in the way that Indigenous peoples would have understood it at the time of signing. The result has been resounding victories for tribes. While publications about treaties and climate change have discussed the canons, they have not extensively examined the third canon and its utility to climate change suits. All the canons are crucial in treaty-based litigation, but this Chapter focuses on the third as it especially empowers Indigenous perspectives and emphasizes Native nations’ sovereignty in making these agreements. This approach may yield better litigation outcomes for tribes than pursuing causes of action under federal law that do not foreground Indigenous voices.

This Chapter argues that by showing courts how tribes would have understood treaty language at the time of signing, tribes can successfully sue to enforce treaty provisions that may blunt the worst impacts of climate change on traditional lifeways. Because many tribal hunting, fishing, and gathering resources are disappearing due to environmental degradation, this interpretive canon may be a potent tool for tribes in climate change litigation. By underscoring Indigenous understandings of these resources' preservation in perpetuity, treaty-based litigation may force states and the federal government to protect this wildlife, even as it faces extinction fueled by climate change. Tribes may seek government removal of man-made structures that harm the environment and support for state-tribal and federal-tribal co-management of resources, among other remedies. Ultimately, by integrating Indigenous worldviews into legal arguments via this canon, tribes may convince federal courts to vindicate the rights of nature for the first time.

Section A gives background on treaty-making with Native nations, tribal litigation against states and the federal government, and the Indian canons of construction. Section B shows how the third canon played a critical role in the long-running United States v. Washington (Culverts Case) litigation and Supreme Court treaty cases, which provide

22 See Matsaw et al., supra note 18, at 418–20 (arguing that the Rehnquist Court retreated from the Indian canons but that the Roberts Court has shown renewed interest in the Indian canons).
24 See, e.g., Gravotta, supra note 14, at 131–32 (“[T]ribal claims would be bolstered by the ‘Indian canons’ . . . [because] these canons can read ambiguity and uncertainty to favor tribal litigants’ claims, where non-Indian litigants may have been disfavored.”); Warner, supra note 11, at 933 (“In the context of climate change, however, the question becomes whether the treaty language requires the federal government to take affirmative action to protect fisheries in the region from the impacts of climate change. . . . Based on the importance of fish to many tribes both historically and contemporaneously, it seems reasonable that the tribes negotiating for such provisions would have assumed that fisheries would exist in perpetuity.”). These assertions deserve greater unpacking to describe how the third canon leads to understandings of resource protection in perpetuity.
25 See infra ch. II, section A.3, pp. 1574–75 (discussing the other canons).
26 384 F. Supp. 312, 330 (W.D. Wash. 1974), aff’d, 520 F.2d 676 (9th Cir. 1975).
precedents for tribes’ climate change suits. Section C surveys how tribes have brought climate-related suits against state governments and the federal government in the past two years. It suggests that tribes should explicitly invoke the third canon in suits addressing megafires, drought-stricken rivers, and fossil fuel pollution plaguing tribal lands. Section D addresses counterarguments and illustrates how this canon will effectively defend tribes’ rights, even as available resources are rapidly disappearing due to climate change.

A. Background

1. Native Nations, Treaty-Making, and Sovereign Agreements. — Between 1778 and 1868, the United States ratified approximately 368 treaties with Native nations.27 These agreements were between sovereigns — negotiated by federal commissioners of an American empire intent on expansion and tribal representatives seeking to shield their people and lifeways from settler violence.28 Tribes ceded millions of acres in exchange for the federal government’s guarantee of tribal self-government,29 as well as hunting, fishing, and gathering rights. Under the U.S. Constitution, these treaties are the “supreme Law of the Land,” and courts are bound to uphold their terms.30 There are 574 federally recognized tribes and hundreds of state-recognized tribes, many of which were parties to these documents ratified by Congress.31

But some tribes do not have these documents.32 Because formal congressional treaty-making with tribes ended in 1871, many Native nations instead procured executive agreements or sought legislation to

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28 See id. at 41, 44.
30 U.S. CONST. art. VI, cl. 2 (“[A]ll Treaties made, or which shall be made, under the Authority of the United States, shall be the supreme Law of the Land; and the Judges in every State shall be bound thereby, any Thing in the Constitution or Laws of any State to the Contrary notwithstanding.”); McGirt v. Oklahoma, 140 S. Ct. 2452, 2462 (2020) (stating that the Constitution “directs that federal treaties and statutes are the ‘supreme Law of the Land’” (quoting U.S. CONST art. VI, cl. 2)).
protect tribal sovereignty for the last 150 years. The move away from ratifying treaties was characteristic of not just federal Indian law but also international law in the late nineteenth and especially twentieth centuries, when executive agreements and legislation supplanted the old form of treaty-making. Recently, some courts have refused to apply the Indian canons of interpretation to these statutes. Yet this ignores the profound role Native nations had in shaping these agreements by legislation. Courts should continue to apply the Indian canons to safeguard the sovereign interests of tribes in these more modern cases of agreement-making, which the Supreme Court has held to have the same status as treaties.

2. Litigation Possibilities. — As these agreements constitute federal law, the federally recognized tribes — or the United States on behalf of tribes — may litigate to enforce treaty rights. The United States can sue states that infringe on treaty rights in federal court and has done so on numerous occasions. While tribes typically cannot sue states, they can ask states to waive their sovereign immunity, request that the federal government sue on their behalf, or seek prospective equitable relief against a state official who violated a treaty. Beyond suing states, tribes can sue the federal government for breach of its treaties if the U.S.

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35 See, e.g., Penobscot Nation v. Frey, 3 F.4th 484, 503 (1st Cir. 2021) (not applying principles of treaty interpretation to an agreement between the United States and the Penobscot Nation passed by statute).

36 See Brief of Members of the Cong. Native Am. Caucus as Amicus Curiae in Support of Petitioners at 1–2, Penobscot Nation v. Frey, Nos. 21-838, 21-840 (U.S. Jan. 6, 2022) (arguing the First Circuit broke with precedent by not applying the canons to a legislatively enacted agreement between the Penobscot Nation, Maine, and the United States to “preserve the rights of the Nation’s members to sustenance fishing, hunting, and trapping within its reservation without interference from the State,” id. at 2).

37 See, e.g., Antoine v. Washington, 420 U.S. 194, 204 (1975) (“Once ratified by Act of Congress, the provisions of the agreements become law, and like treaties, the supreme law of the land.”).

38 See, e.g., Rosebud Sioux Tribe v. United States, 9 F.4th 1018, 1020, 1023 (8th Cir. 2021) (holding that the Rosebud Sioux Tribe may sue the United States to enforce duties based on an 1868 treaty between the parties).

39 See United States v. Minnesota, 270 U.S. 181, 195 (1926) (holding that the United States can sue to protect tribes’ rights because a state’s sovereign immunity “is subject to the constitutional qualification that she may be sued in this Court by the United States” (citing United States v. Texas, 143 U.S. 621, 642 (1891))).


41 See Ex parte Young, 209 U.S. 123, 159–60 (1908).
government consents to suit.\textsuperscript{42} They can also sue agencies.\textsuperscript{43} But in some areas, tribal suits against the federal government are rare, including for environmental harm to tribal lands held in trust or ecological damage on off-reservation hunting and fishing grounds recognized in treaties.\textsuperscript{44} But moving forward, tribes might begin suing to remove man-made structures that exacerbate climate change’s effects, to force the federal government to adopt better management practices, or to stop permitting of industries that harm the environment of hunting, fishing, and gathering species protected by agreements between the United States and Native nations.\textsuperscript{45}

3. Indian Canons of Construction. — The Supreme Court first articulated the Indian canons in 1832 in \textit{Worcester v. Georgia}.\textsuperscript{46} The canons interpret treaties to “manifest a firm purpose to afford that protection which treaties stipulate”\textsuperscript{47} and ensure that “[t]he language used in treaties with the Indians should never be construed to their prejudice.”\textsuperscript{48} There are four canons.\textsuperscript{49} The first canon mandates that courts construe treaties, agreements, statutes, and executive orders liberally to tribes’ benefit.\textsuperscript{50} The second resolves ambiguities in treaties, agreements, statutes, and executive orders in favor of tribes.\textsuperscript{51} The third

\begin{footnotesize}
\begin{enumerate}
    \item The U.S. government consented to suit in one of the largest class actions in its history, which resulted in a $3.4 billion settlement to tribal members. See Armen H. Merjian, \textit{An Unbroken Chain of Injustice: The Dawes Act, Native American Trusts, and Cobell v. Salazar}, 46 \textit{GONZ. L. REV.} 609, 653 (2011).
    \item See, e.g., Rosebud Sioux Tribe, \textit{9 F.3d} at 1021 (suing a department — the United States Department of Health and Human Services — and an agency — the Indian Health Service).
    \item Tribes also may seek injunctive relief under the Administrative Procedure Act (APA), \textsection\textsection 551, 553-559, 701-706. Mary Christina Wood, \textit{Indian Trust Responsibility: Protecting Tribal Lands and Resources Through Claims of Injunctive Relief Against Federal Agencies}, 39 \textit{TULSA L. REV.} 355, 362 (2003). For example, the Standing Rock Sioux Tribes and Cheyenne River Sioux Tribes sued the U.S. Army Corps of Engineers under the APA for violating federal law by failing to conduct a proper environmental impact study before granting an easement to Dakota Access Pipeline, LLC. Standing Rock Sioux Tribe v. U.S. Army Corps of Eng’rs, \textit{471 F. Supp. 2d} 71, 77 (D.D.C. 2020), aff’d in part, rev’d in part, 985 F.3d 1032 (D.C. Cir. 2021). The district court found for the tribe and vacated the easement, thus requiring the suspension of the pipeline’s operation. \textit{Id.} at 88 (requiring “the oil to stop flowing and the pipeline to be emptied within 30 days”). Despite this brief victory, the U.S. Court of Appeals for the D.C. Circuit soon overturned this injunction, even as it upheld the finding of a violation. \textit{Standing Rock}, 985 F.3d at 1053-54.
    \item See infra ch. II, section C, pp. 1582-88, for further discussion of possible suits.
    \item 31 U.S. (6 Pet.) 515 (1832).
    \item \textit{Id.} at 556-57.
    \item See 1 \textit{COHEN’S HANDBOOK OF FEDERAL INDIAN LAW}, supra note 19, \textsection 2.02. But see Skibine, \textit{supra} note 18 (manuscript at 2) (defining a fifth canon of tribal sovereign immunity, which states that tribes are exempt from suit unless there is congressional authorization, as first elaborated in \textit{Santa Clara Pueblo v. Martinez}, 436 U.S. 49 (1978)).
\end{enumerate}
\end{footnotesize}
requires judges to interpret the language of treaties as Indians would have understood it at the time.\textsuperscript{52} And the fourth dictates that the rights reserved by treaties persist unless Congress explicitly abrogates them.\textsuperscript{53} Together, these canons recognize that tribes were at a disadvantage in the treaty-making process: often their “only knowledge of the terms in which the treaty [was] framed [was] that imparted to them by the interpreter employed by the United States.”\textsuperscript{54} They also respect that tribes made tremendous land concessions to procure terms; indeed, the canons acknowledge tribes’ preexisting rights, such that a treaty is “not a grant of rights to the Indians, but a grant of rights from them — a reservation of those not granted.”\textsuperscript{55} The Court has been particularly committed to preserving hunting, fishing, and gathering rights.\textsuperscript{56}

**B. The Use of the Third Canon in Recent Cases**

Recent litigation suggests that tribes can use the third canon to combat climate change’s effects on tribal lands. Although other canons are useful and should be cited in these cases, the third canon’s emphasis on original Indigenous understandings of treaties especially allows for creativity in thinking about how to hold the government to its treaty guarantees on Indigenous terms.

1. United States v. Washington. — These cases show how tribes can employ the third canon to enforce treaty rights affected by climate change and to interpret treaty rights to impose affirmative obligations on the states — and the United States — to take action to ensure that the environment does not become degraded to the point that tribes cannot exercise their treaty rights. This line of litigation has spanned nearly fifty years.\textsuperscript{57} The ongoing dispute revolves around the tribal fishing rights established in the eleven treaties negotiated by Washington

\textsuperscript{52} See, e.g., Minnesota v. Mille Lacs Band of Chippewa Indians, 526 U.S. 172, 196 (1999) (citing Washington v. Wash. State Com. Passenger Fishing Vessel Ass’n, 443 U.S. 658, 675–76 (1979)) (looking to the historical record to “shed[] light on how Chippewa signatories to the Treaty understood the agreement because we interpret Indian treaties to give effect to the terms as the Indians themselves would have understood them”).


\textsuperscript{54} Jones v. Meehan, 175 U.S. 1, 11 (1899).

\textsuperscript{55} United States v. Winans, 198 U.S. 371, 381 (1905).

\textsuperscript{56} See King, supra note 18, at 403–04; see, e.g., Tulee v. Washington, 315 U.S. 581, 684–85 (1942) (holding the State could not charge tribal citizens a fishing license fee because it is the Court’s “responsibility to see that the terms of the treaty are carried out, so far as possible, in accordance with the meaning they were understood to have by the tribal representatives at the council,” id. at 684); Winans, 198 U.S. at 381 (preserving fishing rights that “were not much less necessary to the existence of the Indians than the atmosphere they breathed”). But cf. King, supra note 18, at 405 (noting that this bar has been lower with cases involving the diminishment of tribal reservations).

\textsuperscript{57} See United States v. Washington (Boldt Decision), GALLAGHER L. LIBRS. (Feb. 25, 2022, 11:46 AM), https://guides.lib.uw.edu/law/indian-tribal/us-v-wash [https://perma.cc/5ZS-U8DJ].
Territorial Governor Isaac Stevens with tribes between 1854 and 1855. These treaties almost identically provide that “[t]he right of taking fish at usual and accustomed grounds and stations is further secured to said Indians in common with all citizens of the Territory.” Throughout the 1950s, 1960s, and early 1970s, state officers harassed and arrested tribal members exercising these rights on nonreservation land. In response, in 1970, the U.S. Attorney for the Western District of Washington sued the State for injunctive relief on behalf of the United States and seven tribes to allow tribal citizens to assert their fishing rights.

The 1974 decision by Judge Boldt upheld the tribes’ right to fish off-reservation under the third canon. The district court noted that “[t]reaties with Indian tribes must be construed . . . with the meaning they were understood to have by the tribal representatives at the treaty council and in a spirit which generously recognizes the full obligation of this nation.” Based on this canon, the court recognized that every fishing ground that tribal members had customarily fished at “from time to time at and before treaty times, however distant from the then usual habitat of the tribe, . . . is a usual and accustomed ground or station at which the treaty tribe reserved . . . the right to take fish.” Environmental degradation could not abrogate these rights, for “changed conditions affecting the water courses and the fishery resources in the case area have not eroded and cannot erode the right secured by the treaties.” While later decisions modified the tribes’ allocation, sixty-plus opinions published since 1974 have upheld Judge Boldt’s decision.

59 Id. at 331.
60 See, e.g., Treaty of Point Elliot, supra note 2, art. 5.
61 Jovana J. Brown, Treaty Rights: Twenty Years After the Boldt Decision, WICAZO SA REV., Fall 1994, at 1, 2.
63 Id. at 331–32.
64 Id. at 401.
65 Id. at 406 (“Usual and accustomed places: Those areas in, on and around the freshwater and saltwater areas within the Western District of Washington, which were understood by the Indian parties to the Stevens’ treaties to be embraced within the treaty terms ‘usual and accustomed’ ‘grounds,’ ‘stations’ and ‘places.’”).
66 Id. at 332. The only restriction on this right was that the share of this resource “in common with all the citizens of the territory,” id. at 406 — up to fifty percent of the annual catch, id. at 343 — had to be consistent with the preservation of that fish, id. at 402.
67 Id. at 401.
68 See Washington v. Wash. State Com. Passenger Fishing Vessel Ass’n, 443 U.S. 658, 686 (1979) (holding that treaty rights to a natural resource, like fish, once exclusively used by Indians secure as much of that resource as is necessary to preserve Indians’ livelihood and provide a “moderate living”).
69 See United States v. Washington (Boldt Decision), supra note 57.
In 2001, the United States and tribes party to the treaty again sued the State to replace its state-managed culverts over streams and rivers containing salmon.\footnote{United States v. Washington, 853 F.3d 946, 954 (9th Cir. 2017), aff'd by an equally divided court, 138 S. Ct. 1832 (2018) (mem.) (per curiam).} The culverts inadvertently obstructed the passage of salmon on a thousand miles of stream, resulting in substantial decreases to their population.\footnote{Id. at 970.} Both the tribes and the United States requested a declaration that the Stevens Treaties’ fishing clauses imposed a duty on the state government “to refrain from degrading the fishery resource” through culverts constructed on state-owned roads and highways because to do so deprived tribes of a moderate living from fishing.\footnote{Id. at 961.} The federal government sought injunctive relief requiring Washington to replace or repair 817 state-owned culverts in treaty areas.\footnote{Id. at 960, 976.} The district court held for the plaintiffs and issued a permanent injunction in 2013.\footnote{Id. at 961.}

The Ninth Circuit affirmed,\footnote{Id. at 980.} reasoning that maintaining fisheries that could feed the tribe was a central concern for tribal representatives in 1855 when granting land cessions.\footnote{Id. at 964.} The Indigenous signatories “did not understand the Treaties to promise that they would have access to their usual and accustomed fishing places, but with a qualification that would allow the government to diminish or destroy the fish runs.”\footnote{Id. at 964.} According to the panel, the purpose of the agreement required interpreting the promise to last “forever.”\footnote{Id. at 961.} Culverts were not the primary reason for the salmon population’s decline, but the culverts’ role in leading to the deaths of an estimated several hundred thousand mature salmon in the treaty area — and the corresponding harm to the tribal members, who could no longer earn a living from fishing — was sufficient to show a treaty violation.\footnote{Id. at 976; see also id. at 955 (“[L]egal standards that will govern the State’s precise obligations and duties under the treaty with respect to the myriad State actions that may affect the environment of the treaty area will depend for their definition and articulation upon concrete facts which underlie a dispute in a particular case.” (quoting United States v. Washington, 759 F.2d 1333, 1357 (9th Cir. 1985) (en banc))). The Ninth Circuit panel concluded that the district court’s injunction accorded with equitable principles, noting the district court’s analysis of treaty purposes and the public interest. Id. at 977.}
The decision, which was affirmed by an equally divided Supreme Court in a per curiam opinion, had massive implications. Most importantly, the holding forced the State to take affirmative steps to ensure that tribes continue to enjoy the rights guaranteed in their treaty. It required the State to modify its culverts within seventeen years at a cost of hundreds of millions if not billions of dollars. Despite the State’s arguments that it would divert revenue that could be spent on other salmon recovery efforts, the Court affirmed that neither the federal government nor the states may violate treaty provisions interpreted as Indians would have understood them.

2. Recent Developments in Treaty-Based Litigation at the Supreme Court. — Several recent Supreme Court cases, spurred by the changed composition of the Court, reveal the power of the third canon in treaty-based litigation and offer lessons for future litigation.

(a) Indian Law in the Current Supreme Court. — Between 1986 and 2016, the Supreme Court decided seventy-two percent of Indian law cases against Native interests; however, it has increasingly ruled in tribes’ favor following Justice Gorsuch’s 2017 confirmation. The Justice’s previous post in the western Tenth Circuit ensured his exposure to Indian law, and his jurisprudence illustrates his enduring commitment to upholding its principles. Over the past several years, he joined with an otherwise liberal voting bloc of Justices Ginsburg, Breyer, Sotomayor, and Kagan to vindicate treaty rights through the Indian canons. As a result, the Court ruled in tribes’ favor in Washington State Department of Licensing v. Cougar Den, Inc., Herrera v. Wyoming, and McGirt v. Oklahoma. Other federal courts may follow suit.

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81 United States v. Washington, 864 F.3d 1017, 1023 n.1 (9th Cir. 2017) (O'Scannlain, J., dissenting from the denial of rehearing en banc).
84 The Supreme Court, 2019 Term — Leading Cases, 134 HARV. L. REV. 410, 609 & n.106 (2020).
87 139 S. Ct. 1000 (2019).
88 139 S. Ct. 1686 (2019).
89 140 S. Ct. 2452 (2020).
(b) Applications of the Canon to Climate Change Litigation. — Applying the Court’s understanding of the canon to these cases will be crucial for attorneys seeking to bring treaty-based climate change litigation. When citing the third canon, litigants should look to records of negotiations, analyze treaty text using Indigenous languages, and acknowledge Indigenous cultural practices to evaluate how tribal representatives understood a treaty’s terms at the time of signing.

First, in Cougar Den, the Court used the third canon to hold that a provision of an 1855 treaty between the United States and the Yakama Nation preempted the State’s $3.6 million fuel tax on a Yakama company’s importing fuel via public highway within the reservation. The treaty established the “right, in common with citizens of the United States, to travel upon all public highways.” Justice Breyer, writing for a plurality of the Court, referred to the historical record — especially treaty negotiations discussing Yakama members’ emphasis on the right to travel on public highways with goods for trade purposes without burden — to discern the Indigenous meaning of this provision in 1855.

In his concurrence, Justice Gorsuch elaborated on the Yakama peoples’ conception of the treaty. First, he underscored that the Tribe ceded ten million acres in exchange for promises, including travel, signifying its importance to tribal members. “In common with” in the Yakama language would have indicated a lack of restrictions to tribal representatives. In addition to probing Yakama linguistic understandings, he showed that far-reaching travel and trade were essential to Yakamas’ way of life. He reasoned that they would not agree to a treaty unless it protected their preexisting access to the markets. Since there was no ambiguity in how Yakama signers viewed the treaty,
their understanding was “binding” and sufficient to “resolve this case.”

Second, courts should not void a treaty right when Indigenous signatories did not contemplate that future conditions would extinguish that right. In Herrera, the Court held that Wyoming’s admission to the Union and the establishment of the Bighorn National Forest did not abrogate the Crow Tribe’s 1868 treaty “right to hunt on the unoccupied lands of the United States.” Because Congress had not clearly stated that Wyoming’s admission to the Union extinguished the treaty right, the Tribe’s hunting right was intact. Writing for the majority, Justice Sotomayor turned to the treaty’s text and construed it as it would have been understood by Indians at the time. The meaning of “occupation” in 1868 was “[t]o hold in possession; to hold or keep for use”—where “use” implied “actual use, possession or cultivation by a particular person.” There was very little settlement of the Bighorn Forest in 1868, so the Crow Nation would not have thought of it as “occupied,” nor would they have anticipated that statehood would diminish that land. Since they agreed to the treaty’s terms with that understanding, subsequent occupation or statehood could not change them.

Third, courts must uphold a treaty right even where it significantly impacts the State. In McGirt, Justice Gorsuch’s majority opinion held that the Oklahoma land reserved for the Creek Nation in its 1866 treaty remains Indian country because Congress never diminished or disestablished it through a “clear expression of [its] intention” in its subsequent allotment statutes. The Court found no ambiguity in the language of later statutes, so it did not consider contemporary understanding of the congressional statutes or treatment of those lands. The State’s erroneous exercise of jurisdiction over criminal cases on these lands for over a hundred years did not authorize further unlawful exercise.

101 Id. at 1016.
103 Id. at 1698 (“If Congress seeks to abrogate treaty rights, ‘it must clearly express its intent to do so.’” (quoting Minnesota v. Mille Lacs Band of Chippewa Indians, 526 U.S. 172, 202 (1999)).
104 Id. at 1701 (citing Washington v. Wash. State Com. Passenger Fishing Vessel Ass’n, 443 U.S. 658, 676 (1979)).
105 Id. at 1702 (alteration in original) (quoting WILLIAM C. ANDERSON, A DICTIONARY OF LAW 725 (Chicago, T.H. Flood & Co. 1889)). The Court suggested that “unoccupied” and lack of non-Indian settlement were synonymous. Id.
106 Id. at 1701–02.
108 Id. at 2468.
109 Id. at 2481 (“By suggesting that our interpretation of Acts of Congress adopted a century ago should be inflected based on the costs of enforcing them today, the dissent tips its hand. Yet again,
Native peoples would have never anticipated this condition at the time the treaty was signed. The possible repercussions of the ruling included recognizing that almost half of Oklahoma’s land was still Indian country and overturning more than a thousand criminal convictions. Still, this consequentialist argument was not sufficient for the Court to ignore the treaty’s guarantees.

(c) Changes in the Court’s Composition. — Since these 5-4 opinions, the Court’s composition has shifted, calling into question the Court’s recent embrace of the third canon. Justice Ginsburg, who was in the majority in each of the aforementioned cases, passed away, and Justice Barrett joined the Court. However, Justice Barrett might follow Justice Gorsuch’s lead in using the canons. In her article Substantive Canons and Faithful Agency, Justice Barrett detailed the history of six well-known substantive canons, including “the Indian canon.” She described it as: “How the words of the treaty were understood by this unlettered people, rather than their critical meaning, should form the rule of construction.” Her acknowledgment of the Indian canons’ ongoing application suggests she will be familiar with the third canon if treaty-based climate change litigation comes before the Court. She has expressed slight skepticism about the canons’ applications to statutes, but she has not questioned their continued use in treaty interpretation. This distinction raises concerns for tribes who

the point of looking at subsequent developments seems not to be determining the meaning of the laws Congress wrote in 1901 or 1906, but emphasizing the costs of taking them at their word.”

110 See id. at 2479-82 (“[M]any [Oklahoma residents] will be surprised to find out they have been living in Indian country this whole time. But we imagine some members of the 1832 Creek Tribe would be just as surprised to find them there.” Id. at 2479.).

111 See id. (“The magnitude of a legal wrong is no reason to perpetuate it.” Id. at 2480.)


115 Id. at 151 (quoting Worcester v. Georgia, 31 U.S. (6 Pet.) 515, 582 (1832) (M’Lean, J., concurring)).

116 See id. at 152.

117 See id. (“What is interesting about the Indian canon for present purposes is that it jumped without discussion from the interpretation of treaties to the interpretation of statutes. . . . When courts began interpreting these statutes in the early 1900s, they assumed, without reflection, that the canon should continue to apply. . . . That is not to say that federal courts have been wrong to apply the Indian canon to statutes.”). But see Matthew L.M. Fletcher, Textualism’s Gaze, 25 MICH. J. RACE & L. 111, 116 (2020) (“Federal Indian affairs statutes are usually more than mere federal statutes; they are negotiated agreements between sovereign entities: the United States and the Indian tribes. To treat a federal Indian affairs statute as merely a creature of Congress is wrong.”).
have agreements with the federal government rather than ratified treaties, but it seems to suggest that the present Court may faithfully execute the third canon, at least for pre-1871 treaties.

C. Strategies for Treaty-Based Climate Change Litigation

In the past several years, tribes have begun to bring treaty-based litigation to combat climate change’s effects. They may improve their prospects by foregrounding tribes’ interpretations of treaty provisions at the time of signing. Promising avenues include suing federal agencies for federally managed infrastructure contributing to drying waterways; for failure to manage forest fires destroying treaty-guaranteed hunting, gathering, and fishing grounds; and suing federal and state agencies for permitting pipelines that interfere with the rights of nature.

1. Droughts. — Tribes can sue the federal government for changing water levels that harm their traditional fishing grounds. In the summer of 2021, the Klamath River Basin experienced an unprecedented drought that caused the suckerfish — the heart of the Klamath Tribes’ subsistence diet and creation story — to die in droves. Without an immediate increase in water levels, which are limited by a nearby federally managed dam, the suckerfish species likely will disappear within decades. This trajectory undermines the United States’ agreement with the Tribes, who in 1864 ceded twenty-two million acres to the United States in exchange for retaining 1.5 million acres on which they had “the exclusive right of taking fish in the streams and lakes, included in said reservation, and of gathering edible roots, seeds, and berries within its limits.” Their Chairman lamented: “I don’t think any of our leaders, when they signed the treaties, thought that we’d wind up in a place like this. We thought we’d have the fish forever.”

To enforce their treaty right, the Klamath Tribes may sue the Federal Energy Regulatory Commission (FERC) for its dam management.
of dams to protect the treaty’s right to fishing in this area in perpetuity. To strengthen their claims, the Klamath Tribes can cite Cougar Den for the proposition that the suckerfish is essential to the Tribes’ traditional lifeway and thus the treaty preserved their right to fishing. Herrera supports the argument that changing environmental conditions do not abrogate that right. And because there is clear and direct federal action damaging fish runs by maintaining the dams, the Culverts Case further bolsters the argument that treaty signers would not have understood the right to fish “with a qualification that would allow the government to diminish or destroy the fish runs.” The Culverts Case and McGirt also support the idea that even if dam removal is logistically difficult and costly for the federal government, such challenges would not be sufficient to defeat a treaty right. Although the Tribes’ treaty does not specify a water right, the treaty creates a duty to maintain enough water to support the Tribes’ fishing population per the Ninth Circuit’s opinion in United States v. Adair. With the assistance of the third canon, the Tribes’ lawsuit to remove the Klamath Dams may be among the first successful tribal suits to mitigate climate change’s impact on the surrounding ecosystem.

2. Forest Fires. — As rising temperatures stoke forest fires, tribes can sue the U.S. government for failing to manage forest health. The

[https://perma.cc/3D2E-QoGB] [describing the removal of four of the six such dams clogging the Klamath river]; cf. Snoqualmie Indian Tribe v. Fed. Energy Regul. Comm’n, 545 F.3d 1207, 1212 (9th Cir. 2008) (reviewing FERC’s order granting a license to a hydroelectric power-plant operator on petition by the Snoqualmie Tribe).

124 Letter from Deb Haaland, Sec’y, Dep’t of the Interior, to Kimberly D. Bose, Sec’y, Fed. Energy Regul. Comm’n 2 (June 10, 2021), https://elibrary.ferc.gov/eLibrary/filelist?accession_num=20210611-5056 ([R]emoval will advance the Biden-Harris administration’s commitments to combat the climate crisis, increasing resilience to the impacts of climate change[,] … and fulfill the Federal Government’s … treaty responsibilities.”); Wear, supra note 123 (noting that dam removal will open up 420 miles of salmon-spawning habitat by improving water quality and temperature).


127 United States v. Washington, 853 F.3d 946, 964 (9th Cir. 2017), aff’d by an equally divided court, 138 S. Ct. 1832 (2018) (mem.) (per curiam).

128 McGirt v. Oklahoma, 140 S. Ct. 2452, 2479–82 (2020); Washington, 853 F.3d at 967.

129 723 F.3d 1394 (9th Cir. 1983); see Washington, 853 F.3d at 965 (inferring “a promise of water sufficient to ensure an adequate supply of game and fish” guaranteed by the treaty (citing Adair, 723 F.3d at 1411)).

federal government holds eighteen million acres of Indian forests in trust across twenty-four states.131 Timberlands make up almost half, if not more, of total trust lands.132 Woodlands are the principal source of income for many tribes, and they are critical to fish, wildlife, sustenance, medicines, fuel, shelters, transportation, and spiritual practice.133 The task of maintaining them to prevent destructive fires is part of the federal government’s responsibility to safeguard treaty lands.134 But its management was so insufficient that Congress passed a 1990 law mandating ongoing assessments of tribal forest lands to ensure compliance.135 Decades later, reports showed little progress toward preventing fires in Indian country.136 With climate change warming the American West and worsening wildfires, tribes have borne the brunt of these blazes, particularly in California, Oregon, and Washington.137 In response, in 2021, the Confederated Tribes of the Colville Reservation filed suit against the U.S. government, seeking monetary compensation for the wildfires that scorched 240,000 acres, “sterilized the soil[,] and created a moonscape.”138

The Colville tribes and others can strengthen their suit over forest-fire mismanagement by alleging not simply economic hardship from the government’s failures but also the federal government’s affirmative

131 Improving Interagency Forest Management to Strengthen Tribal Capabilities for Responding to and Preventing Wildfires, and S. 3044, A Bill to Improve the Management of Indian Forest Land, and for Other Purposes: Hearing Before the S. Comm. on Indian Affs., 114th Cong. 8 (2016) (statement of Michael Black, Director, Bureau of Indian Affairs).
132 Id.
134 Id. at 10 (statement of James Hubbard, Deputy Chief, State & Private Forestry, U.S. Forest Service).
duty to improve these practices to protect hunting, fishing, and gathering grounds from further fires. Many treaties in Oregon granted the tribes “the privilege of hunting” and “gathering roots and berries” on unclaimed lands, which were mostly forest lands. These areas are especially susceptible to climate change–related fires. As a former resident of the Warm Springs Reservation and now acting Fire Chief for the Bureau of Indian Affairs (BIA) reflected: “We didn’t have that decades ago . . . Fires just never burned that hot.” Per Herrera, these changed conditions should not infringe on the tribes’ rights because tribes did not anticipate these conditions at the time. Tribes can show that the United States’ rejection of the controlled burns practiced by Indigenous peoples for hundreds to thousands of years has resulted in a proliferation of highly combustible underbrush and, as a result, more intense fires; these fires have destroyed traditional food systems in violation of the treaty. The Culverts Case additionally suggests that even though the BIA’s mismanagement is a secondary cause of forests burning on treaty lands (relative to climate change), the agency must pay for the damage and take affirmative measures to mitigate future environmental degradation.

139 Treaty Between the United States and the Confederated Tribes and Bands of Indians in Middle Oregon art. 1, June 25, 1855, 12 Stat. 963, 964. Likewise, a fire recently destroyed 180,000 acres — or twenty-five percent — of the Klamath Tribes’ praying, hunting, and gathering grounds. Mariah Mills, Klamath Tribes Concerned About Scorched Land Following Bootleg Fire, KOB-NBC (Aug. 17, 2021), https://kob5.com/news/local-news/klamath-tribes-concerned-about-scorched-land-following-bootleg-fire-16508 [https://perma.cc/G7Z-UQEP]. In addition to decimating subsistence sites, the runoff from the blackened fields sickened endangered fish populations the Tribes had spent significant capital trying to restore. See Alex Schwartz, Crews Work to Mitigate Bootleg Fire Sediment Loading, But Hurdles Remain, HERALD & NEWS (Nov. 22, 2021), https://www.heraldandnews.com/news/local_news/crews-work-to-mitigate-bootleg-fire-sediment-loading-but-hurdlesremain/article_cdca2fe1-4169-53b6-87d4-6a3b567c82a4.html [https://perma.cc/6KXY-2EVC]. The Tribes might sue the federal government for harming “usual and accustomed stations for fishing” by failing to stop these fires and compel it to remediate these waters.


142 Tribes can also petition the Department of the Interior to transfer management authority to tribes themselves. In 2020, the Coquille Indian Tribe became the first tribe to participate in the Indian Trust Asset Management Demonstration Project. Press Release, U.S. Dep’t of the Interior, Indian Affs., Assistant Secretary Sweeney Signs Coquille’s Indian Trust Asset Management Plan and Tribal Forestry Regulations (Oct. 20, 2020), https://www.bia.gov/as-ia/opa/online-press-release/assistant-secretary-sweeney-signs-coquilles-indian-trust-asset [https://perma.cc/2E5H-8VK6]. It enabled the Tribe to “take control of its trust forest land and resources, and manage them in a way that meets their needs,” strengthening sovereignty in the process. Id. (quoting Assistant Secretary of Indian Affairs Tara Katuk Sweeney).

143 See United States v. Washington, 853 F.3d 946, 977 (9th Cir. 2017), aff’d by an equally divided court, 138 S. Ct. 1832 (2018) (mem.) (per curiam).
3. Pipelines. — Tribes may bring suits that interpret treaty text using tribes’ understanding of their relationship to nonhuman relatives. Some tribes and tribal courts are already beginning to recognize the rivers’ rights against environmental degradation. U.S. courts have yet to establish the “rights of nature” — when an ecosystem has legal personhood and thus the right to defend itself in court against harm. Although other countries’ court systems have recognized rights of nature, attempts in the United States have faltered. U.S. courts have long rejected the legal personhood of ecosystems under the standing doctrine. But tribes may convince federal courts to acknowledge the rights of nature by showing how tribes understood the provisions of their treaties to recognize the personhood of those resources at the time of signing.

As resistance against the Enbridge Line 3 oil pipeline ramped up in Minnesota in 2021, the White Earth Band of Ojibwe sued the Minnesota Department of Natural Resources Commissioners in tribal court in the “first case brought in a tribal court to enforce the rights of nature.” The Tribe asserted that the State’s issuance of a permit to

144 Anglo-American law refers to these relatives as natural resources. See Tribal Nations, U.S. CLIMATE RESILIENCE TOOLKIT (Sept. 28, 2020, 9:55 AM), https://toolkit.climate.gov/topics/tribal-nations [https://perma.cc/R174-PJWJ] (“By regarding all things as relatives — not resources — natural laws dictate that people care for their relatives in responsible ways. As climate change increasingly threatens Tribal Nations, cultural identities, and practices, documenting the impacts on traditional lifestyles may strengthen adaptive strategies.”).
147 Id.
149 See Sierra Club v. Morton, 405 U.S. 727, 741 (1972) (Douglas, J., dissenting) (“The critical question of ‘standing’ would be simplified and also put neatly in focus if we fashioned a federal rule that allowed environmental issues to be litigated before federal agencies or federal courts in the name of the inanimate object about to be despoiled, defaced, or invaded by roads and bulldozers and where injury is the subject of public outrage.” (footnote omitted)).
use five billion gallons of public groundwater for Enbridge’s Line 3 pipeline project violated the Tribe’s rights recognized in its 1837, 1854, and 1855 treaties with the United States. The Tribe argued that the pipeline’s permitting violated the treaty rights of manoomin, wild rice that is the cultural center and subsistence staple of the Anishinaabe peoples. Climate change presents an existential threat to manoomin. The Tribe offered evidence of its original understandings about usufructuary property rights to the lands and waters being ceded and held in common among Chippewa Indians across Mississippi and Lake Superior, exclusive from the state and federal government. According to the Tribe, the water diverted for Line 3 was not the State’s to give because it belonged to manoomin. It is an open question whether a tribe can sue a state department official for violation of a treaty right in tribal court. But a federal court recently dismissed the State’s bid to end the case. This case’s outcome may bring hope to other tribes trying to recognize the rights of nonhuman relatives mentioned in treaties.

The White Earth Band of Ojibwe also may endeavor to bring this claim in federal court and bolster its chances for success by invoking the third canon. Since courts will consider Indigenous linguistic understandings of treaties, the Tribe might use testimony from language keepers of Anishinabemowin to demonstrate that manoomin’s relationship


152 Complaint for Declaratory and Injunctive Relief, supra note 151, at 7, 38–39.

153 Id. at 1–3, 8–9.


155 Complaint for Declaratory and Injunctive Relief, supra note 151, at 4–6.

156 Id. at 7–8.

157 See Alex Brown, Cities, Tribes Try a New Environmental Approach: Give Nature Rights, THE PEW CHARITABLE TRS.: STATETLINE (Oct. 30, 2019), https://www.pewtrusts.org/en/research-and-analysis/blogs/statetline/2019/10/30/cities-tribes-try-a-new-environmental-approach-give-nature-rights [https://perma.cc/ZLT9-BZDL] (“It’s very difficult to get standing [to sue],’ said Rain Bear Stands Last, executive director of the Global Indigenous Council. ‘When you come to wild rice protection or protection of rivers or salmon, you can go into a tribal court theoretically with a case, but you actually would have to get the defendant to show up . . . . The tribe doesn’t have jurisdiction outside the boundaries of the reservation.’” (alteration and omission in original)).

with the Tribe has existed for centuries. It can also use language to show manoomin was not simply an object but a relative to the Anishinaabe people with its own stories and history. Finally, it might point to manoomin’s primacy in the negotiations, in which tribal representatives endeavored to ensure that tribal members would always have enough water to thrive.

D. Challenges to Using the Third Canon in Climate Change Litigation

This section responds to possible arguments against relying on the third canon, including that some treaties have qualified provisions that suggest rights to resources expire when the resources do, that there are cases where it may be more difficult to prove causation, and that the third canon may contradict the textual reading of a treaty.

1. Treaties with Qualified Provisions Affected by Climate Change. — Some treaties have terms with language like “until” and “so long as” that seem to imply that the relevant right lasts only as long as that resource does, but the third canon can protect even these seemingly qualified rights from changed climate conditions. For example, from Washington to Minnesota, dozens of treaties specified “the right to hunt on the unoccupied lands of the United States so long as game may be found thereon.” But game may no longer live in tribes’ traditional hunting grounds because of inhospitable conditions caused by climate change. Tribes in this predicament may analogize to the Culverts Case litigation by showing that state or federal activities contributed to the decline. Defendants likely will counter that unlike the fishing rights in usual and accustomed places, this right expires when game disappears. And no case has decided what “game thereon” means for this

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160 See Johnson, supra note 154.


162 See Herrera v. Wyoming, 139 S. Ct. 1686, 1705 (2019) (Alito, J., dissenting) (suggesting that treaty rights are not reserved in perpetuity if they depend “on the continuation of several conditions”).


165 See, e.g., Katherine M. Cole, Note, Native Treaties and Conditional Rights After Herrera, 73 STAN. L. REV. 1047, 1087 (2021) (“There could be some higher threshold required than a single elk — if Herrera had shot the very last animal in the forest, for example, that may not have been
climate change question and in the context of the *Culverts Case*, where the government cannot contribute to destroying or diminishing game.  

But by citing Justice Gorsuch’s concurrence in *Cougar Den* or the Ninth Circuit’s opinion in the *Culverts Case*, tribes could provide evidence that “so long as game may be found thereupon” was understood to mean “forever” by Indigenous signatories. For instance, that phrase appeared in the Fort Laramie Treaty of 1868 with the Ocêhëthi Šakówin, or Great Sioux Nation. The word meaning for “as long as” in Lakhótiyapi, “toháŋhuŋniyan,” denotes “forever, always, all the time, from time immemorial.” So, a tribe bringing suit under this treaty could show, along with other notes from the negotiations and oral histories, that Lakota treaty signers considered this provision to mean that they could hunt on these lands for all time — not conditionally. Tribes bringing suits can consult language speakers to see if “so long as” has different understandings in their Indigenous languages and worldviews. Even if the translation of “so long as” were ambiguous, courts should resolve ambiguities in favor of tribes under the second canon. Tribes also might show that the treaty signers could not imagine a world without a specific right or resource because it was so central to lifeways for hundreds to thousands of years before climate change. For instance, it was persuasive to Justice Gorsuch in *Cougar Den* that travel along highways to facilitate trade was essential to Yakama lifeways at that time and that they would never sign this right away. The case for the centrality of hunting to lifeways will likely be easier to prove because it was crucial to feeding the Tribe. Thus, tribes likely will prevail despite the uncertainty around this language.

2. The Harder Cases. — The case studies involving man-made, government-managed culverts, pipelines, and dams that debilitate fish

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A Westlaw case search has not identified any case that addressed this particular question. See also id. at 1085 (“No court has held that a Native hunting right has lapsed just because the game no longer be found on the land.”).

166 Treaty Between the United States of America and Different Tribes of Sioux Indians art. XI, Apr. 29, 1868, 15 Stat. 635, 639 (reserving “the right to hunt on any lands north of North Platte, and on the Republican Fork of the Smoky Hill river, so long as the buffalo may range thereon”).


168 The case may be harder to make for treaties that refer to a “number” of game, such as the Navajo Treaty of 1868, which states that tribes “retain the right to hunt on any unoccupied lands contiguous to their reservation, so long as the large game may range thereon in such numbers as to justify the chase.” Treaty Between the United States of America and the Navajo Tribe of Indians art. IX, June 1, 1868, 15 Stat. 667, 670.

runs demonstrate clear causation to those species’ decline. But many tribes also suffer from climate change–related conditions, such as rising sea levels, where the state and federal governments’ roles are less concrete. These cases are more challenging than the Culverts Case. However, they suggest that as long as the government-related decision was an “important cause of the decline” of a species, even if it was not a primary cause, the United States must take affirmative actions to remediate treaty-related habitats. Still, courts may invoke Judge O’Scannlain’s dissent from the denial of rehearing en banc in the Culverts Case, which was deeply concerned about turning federal courts into environmental regulators in treaty cases — even where a physical government barrier had a demonstrable connection to the decline of a species.

3. Textualist Rebuttals to the Third Canon’s Use. — Opponents may assert that using the third canon to prioritize Indigenous linguistic understandings of treaty provisions is incompatible with textualism. In Cougar Den, Justice Kavanaugh, a self-professed textualist, argued against well-established precedent, contending that the plurality and concurrence did not adhere to the treaty’s “textual meaning” by considering what the treaty text would mean to signatory tribes. This approach to interpreting Indian law treats “Indians and Indian tribes as passive recipients of federal law and policy, with little or no input in the


174 See United States v. Washington, 864 F.3d 1017, 1032 (9th Cir. 2017) (O’Scannlain, J., dissenting from the denial of rehearing en banc); see also Diarmuid F. O’Scannlain, 19th Century Indian Treaties and 21st Century Environmental and Natural Resources Issues: Is There a Connection?, 49 ENV’T L. 837, 851 (2019) (“By relying on local environmental agencies tasked with solving such a problem, the State had crafted a finely-tuned regulatory scheme that kept one eye toward preserving salmon runs, with another aimed at preserving other important State interests. Yet one could argue that by affirming the district court’s broad injunction, our court ignored the State’s expertise and abandoned such delicate balance.”).

175 There is also an argument about its compatibility with originalism. See generally Note, Indian Canon Originalism, 126 HARV. L. REV. 1100, 1101 (2013) (“A treaty should be read as the tribe would have understood it because this method reflects the most faithful application of the original meaning of the treaty text.”).

176 Brett M. Kavanaugh, Two Challenges for the Judge as Umpire: Statutory Ambiguity and Constitutional Exceptions, 92 NOTRE DAME L. REV. 1907, 1909-10 (2017) (reaffirming Justice Scalia’s position to “read the words of the statute as written,” id. at 1909).

Because of this perception, this textualism uses only the semantic context of non-Indians.\textsuperscript{179} But as Justice Gorsuch’s concurrence explains, textualism should highlight not only non-Indigenous perspectives: reading a treaty provision just to “some modern ears” would favor “the drafter who enjoys the power of the pen.”\textsuperscript{180} Native nations’ representatives often negotiated in second languages and could not review the final treaties transcribed in English.\textsuperscript{181} They had to trust interpreters’ translations and promises.\textsuperscript{182} As one of the oldest substantive canons favored by textualists,\textsuperscript{183} the third canon recognizes that these supreme laws of the land were more than simply congressional dictates — they were agreements between nations in which peoples without the pen’s original understanding of terms mattered, as well.\textsuperscript{184}

\textit{Conclusion}

Native nations have been at the forefront of fighting climate change. Now, tribes have brought this battle to the courtroom. Building on the \textit{Culverts Case} and recent Supreme Court readings of treaty rights using the third canon, tribes can pursue litigation to reduce federal and state governments’ roles in environmental degradation related to climate change. Tribes can wield the third canon creatively to argue for extending the rights of nature to resources that tribes viewed as relatives when drafting their treaties. Claims grounded in the third canon can help uphold rights that may disappear with the changing climate and may be particularly strong in cases where the federal government has assumed management over resources. Such strategies — combined with efforts outside the courtroom that strengthen tribal sovereignty, restore Indigenous stewardship, and prioritize thousands of years of land management knowledge — will help ensure that the rivers, game, and fish continue to run as long as the sun shines.

\textsuperscript{179} See id.
\textsuperscript{180} See \textit{Cougar Den}, 139 S. Ct. at 1016 (Gorsuch, J., concurring in the judgment).
\textsuperscript{181} See id.
\textsuperscript{182} See id.
\textsuperscript{183} See Barrett, supra note 114, at 127; see also Antonin Scalia, Essay, \textit{Assorted Canards of Contemporary Legal Analysis}, 40 CASE W. RESRV. L. REV. 581, 583 (1986) (noting that once canons of construction “have been long indulged, they acquire a sort of prescriptive validity, since the legislature presumably has them in mind when it chooses its language”).
\textsuperscript{184} Cf. Barrett, supra note 114, at 181 (“At least when a substantive canon promotes constitutional values, the judicial power to safeguard the Constitution can be understood to qualify the duty that otherwise flows from the principle of legislative supremacy.”).
CHAPTER THREE

STATE PREEMPTION OF LOCAL ZONING LAWS AS INTERSECTIONAL CLIMATE POLICY

Since the inception of zoning in the early twentieth century, municipal governments have dominated land use decisionmaking. Cities and towns decide where, what, and how to build, almost entirely without state oversight. This system, which has contributed to the housing crisis Americans face today, goes largely without question.¹

That may soon change. Recently, several states have considered or passed laws that impinge on this area of traditionally local power.² These laws, which have surfaced in both blue and red states, preempt restrictive local zoning regulations in favor of regulations that encourage the development of denser housing. Most typically, these states mandate that any land zoned for single-family housing — the majority of residentially zoned land in the United States³ — allow “middle housing,” typically defined as duplexes, triplexes, and the like.⁴ Advocates of these laws hope that by removing barriers to multifamily housing, developers will build more units of housing at more reasonable prices.⁵

These laws merit attention for their potential to mitigate climate change. Today, transportation accounts for the largest share of America’s emissions; urban sprawl contributes heavily to the problem.⁶ Single-family homes located far from city centers are energy inefficient and, more importantly, force residents to drive longer distances.⁷ Denser zoning reduces greenhouse gas (GHG) emissions on both accounts,⁸ but the climate benefits of encouraging density are not always discussed by those who advocate for density-enhancing measures.

This Chapter identifies recent state attempts to preempt local zoning regulations, situates them within the broader framework of climate

¹ See Kenneth Stahl, Home Rule and State Preemption of Local Land Use Control, 50 URB. LAW. 179, 182 (2020) (describing how “many residents have become so accustomed to local control [of zoning] that they perceive it as something akin to a birthright”).
² See infra ch. III, section B.1, 1601–05.
⁴ See infra ch. III, section B.1, 1601–05.
⁷ See infra pp. 1598–99.
⁸ Adie Tomer et al., We Can’t Beat the Climate Crisis Without Rethinking Land Use, BROOKINGS INST. (May 12, 2021), https://www.brookings.edu/research/we-cant-beat-the-climate-crisis-without-rethinking-land-use [https://perma.cc/qFHW-2EJH].
policymaking, and analyzes whether this type of state preemption is normatively desirable. Section A opens with a short history of U.S. zoning law, explaining how it emerged at the beginning of the twentieth century largely as a response to wealthy homeowners’ attempts to isolate themselves from poor people and people of color. In the following decades, restrictive, single-family zoning continued to spread, causing the sprawl, segregation, and unaffordability that characterize the American housing market today. One consequence of this pervasive sprawl is high levels of GHG emissions. This section concludes by summarizing the research regarding the link between zoning and climate, which, while mixed, supports the contention that denser zoning leads to lower rates of vehicle use.

From there, section B describes the recent spate of state zoning legislation in more detail and explains how this legislation, though not always described in climate terms, is ultimately climate policy. In fact, this type of policy, which addresses the multiple overlapping crises of climate change, housing unaffordability, and racial segregation, is exactly what policymakers should advocate for. Not only does this type of “intersectional” climate policy better utilize scarce funding sources, but it may also be more politically palatable across the ideological spectrum, as it could appeal to constituencies who do not prioritize climate change as a policy problem and could motivate actors who do care about climate change, but have yet to devote adequate attention to the problem.

The Chapter ends by addressing arguments against the use of state zoning preemption. Section C contends that state preemption of restrictive local zoning policy is justifiable in ways that preemption of other local prerogatives, such as the regulation of hydraulic fracturing (“fracking”) or antidiscrimination measures, is not. When localities prevent dense housing, they impose externalities on the rest of the state that warrant a centralized response. This is especially true given that, because of collective action dynamics and the nature of local government, municipalities are unlikely to act on the issue themselves. Furthermore, while zoning preemption in itself is unlikely to meaningfully increase housing density, preemption combined with progressive state housing policy is another matter. If they take seriously their responsibility to provide for the general welfare, state governments should do what it takes to provide their populations with livable, sustainable housing.

A. Land Use and Climate

1. A Brief History of U.S. Land Use Law. — Although zoning is now an integral part of municipal policymaking, this wasn’t always the case. In 1916, New York City became the first municipality to enact a comprehensive zoning law after New York State passed a law enabling the
City to do so. Zoning’s popularity quickly increased, especially after 1923, when the U.S. Department of Commerce disseminated the Standard State Zoning Enabling Act. The publication, zoning law’s “fundamental DNA,” provided states with model statutory language they could use to enable municipal zoning.

Four years later, the Supreme Court vindicated the law’s purposes in *Village of Euclid v. Ambler Realty*, which recognized as legitimate a locality’s state-delegated right to exclude undesirable uses from certain areas. According to the Court, a state’s power to separate different types of uses stemmed from its ability to police public nuisances. Unfortunately, what uses states considered undesirable hinged largely on the race and socioeconomic status of those undertaking the uses. *Euclid* is filled with barely coded language about the dangers of allowing poor people and people of color into suburban life. Indeed, *Euclid* can be viewed

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9 Jerry Frug, *The Geography of Community*, 48 STAN. L. REV. 1047, 1081 (1996). Like many zoning ordinances, New York City’s emerged because of racist and/or classist concerns. In particular, this ordinance responded to “Fifth Avenue merchants’ fears of being overrun by immigrant garment workers.” Id. at 1082. America’s earliest zoning measures appeared a few decades earlier “as an effort to curb the spread of Chinese laundries in Modesto and San Francisco.” Id.

10 ADVISORY COMM. ON ZONING, DEP’T OF COM., A STANDARD STATE ZONING ENABLING ACT (rev. ed. 1926) (1922). This authorization was necessary because at the time, states followed Dillon’s Rule, which prevented local governments from acting unless the state explicitly delegated the relevant authority. *Euclid*, 272 U.S. at 755. Although fewer states today follow Dillon’s Rule, localities in most states still derive their power from the delegation of state authority. JOHN R. NOLON, CHOOSING TO SUCCEED: LAND USE LAW & CLIMATE CONTROL 23 (2021). Even in states where municipalities have been granted home rule authority, or the “right of self-governance in local matters,” courts frequently interpret this authority narrowly, courts frequently interpret this authority narrowly, Stahl, *supra* note 1, at 187 & n.28.

11 Christopher Serkin, *A Case for Zoning*, 96 NOTRE DAME L. REV. 740, 755, 758 (2020). This conception of a nuisance was broad and included apartment buildings located in single-family neighborhoods. *Euclid*, 272 U.S. at 394–95. In a recent article, Professor Molly Brady traces the historical connection between apartment buildings and nuisance law, finding that it was not until the early twentieth century that courts began to conceive of apartment buildings as nuisances, and that this shift was largely a response to the push for more zoning. See Maureen E. Brady, *Turning Neighbors into Nuisances*, 134 HARV. L. REV. 1609, 1663–73 (2021).

12 272 U.S. 365 (1926).

13 See *id*. at 388; *see also* Serkin, *supra* note 11, at 757 (noting that the Court concluded zoning “was analogous to an application of nuisance law and therefore was justified as a valid exercise of the state’s police power”). The Court’s conception of a nuisance was broad and included apartment houses located in single-family neighborhoods. *Euclid*, 272 U.S. at 394–95. In a recent article, Professor Molly Brady traces the historical connection between apartment buildings and nuisance law, finding that it was not until the early twentieth century that courts began to conceive of apartment buildings as nuisances, and that this shift was largely a response to the push for more zoning. See Maureen E. Brady, *Turning Neighbors into Nuisances*, 134 HARV. L. REV. 1609, 1663–73 (2021).


15 For example, the opinion, written by Justice Sutherland, describes apartment buildings as “mere parasite[s], constructed in order to take advantage of the open spaces and attractive surroundings created by the residential character of [a] district.” *Euclid*, 272 U.S. at 394. It warns that the coming of apartment buildings into a neighborhood “utterly destroy[s] the “residential character of [a] neighborhood and its desirability as a place of detached residences.” *Id*. In one
as a direct response to the 1917 case *Buchanan v. Warley*, in which the Supreme Court held that the freedom of contract promised by the Fourteenth Amendment prohibited municipalities from barring the sale of property to Black people. *Euclid* ratified the racist zoning policies that localities enacted in response to Buchanan’s moratorium on explicitly racial zoning ordinances, policies that localities continue to enact today. 

The trend toward racialized suburbanization that *Euclid* identified and endorsed continued and gained even more speed after World War II. In the 1950s and 1960s, laws like the Federal Aid Highway Act enabled city dwellers with means to relocate further from their places of work. Once the largely white upper and middle classes made it to the suburbs, they enacted land use policies that entrenched sprawl. These policies included single-family zoning mandates and minimum lot-size requirements. Frequently, when making zoning decisions, localities concerned themselves primarily with keeping property values high, which resulted in exclusionary housing policy by suppressing the total housing supply. Importantly, these localities did not themselves face the consequences of their policies, as potential residents simply looked elsewhere for housing.

Today, the desire for low-density, socioeconomically homogenous neighborhoods continues to dominate U.S. land use policy. Zoning has continued to grow more restrictive into the twenty-first century. In most U.S. cities, three-quarters of land is zoned only for single-family

particularly evocative line, the majority implies that constructing apartment buildings in single-family suburbs is akin to placing “a pig in the parlor instead of the barnyard.” Id. at 388.

245 U.S. 60 (1917).

See id. at 81; see also Richard Rothstein, The Color of Law 45 (2017). It should be noted that many cities, especially those in the South, ignored this decision and continued to administer racial zoning laws for decades after. Id. at 46–48.

Serkin, supra note 11, at 757 (describing *Euclid* as “zoning’s original sin”).


Frug, supra note 9, at 1068.


Medina & Tarlock, supra note 20, at 1745–46.


See id. at 402.

See id. at 403.

detached housing. This statistic includes cities like Chicago (79% of residential land zoned for detached single-family housing), Seattle (81%), and San Jose (94%). The sprawl that restrictive zoning policies engender, combined with a lack of investment in public transit infrastructure, has fueled America’s overreliance on cars, which themselves take up space. Certain cities devote over one-third of their land area to parking lots; Des Moines, Iowa, possesses around seven parking spaces per resident. Restrictive policies also exacerbate the country’s widespread lack of housing, resulting in the affordability crisis that the United States faces today. Nearly half of all renters spend over 30% of their pretax income on housing, and around one-quarter spend over 50%.

For reference, a “broad consensus” exists that American families should spend no more than 30% of their incomes on housing, lest they be unable to afford other necessities. Furthermore, even though the United States no longer permits race-based zoning or race-based covenants, restrictive zoning has resulted in de facto housing segregation.


30 Badger & Bui, supra note 3.
31 Shill, supra note 23, at 538.
32 Id. at 547.
33 Id. at 545.
34 Architect Daniel Parolek describes this phenomenon as the “missing middle housing.” DANIEL PAROLEK, MISSING MIDDLE HOUSING 8 (2020).
37 See Buchanan v. Warley, 245 U.S. 60 (1917).
40 Shertzer et al., supra note 14 (article in press at 2) (“The historical record is filled with examples of real estate agents colluding with developers, white communities threatening black families, arson and other property damage, and even mob violence.”).
their town limits. Even after the Civil Rights Era and passage of the Fair Housing Act, cities and towns effectively excluded people of color from certain neighborhoods by imposing zoning restrictions that made purchasing a home unaffordable for many people of color. Today, municipalities, states, and the federal government perpetuate racial segregation by both engaging in exclusionary zoning and adopting regulations like crime-free housing ordinances, which prohibit or discourage landlords from renting to people who have criminal records and disproportionately target people of color.

While all levels of government contributed to this broken state of affairs, only local governments have traditionally wielded power over zoning, arguably the most immediate cause of unaffordable housing and racial segregation. When the federal government did try to make land use policy more inclusive and coherent, it quickly failed. In 1973, Congress considered the Land Use Policy and Planning Assistance Act, which would have offered states money to create more careful processes to determine land use. Opposed by both states and localities, the bill failed. This bill was one of several proposed or enacted around the same time that attempted to incentivize regional coordination around land use and development policies by offering grants and loans for projects conducted with “some comprehensive regional review and comment process.” A few years later, the U.S. Department of Housing and Urban Development (HUD) proposed to withhold federal infrastructure funds from municipalities that would not eliminate exclusionary zoning policies or allow subsidized housing, but President Nixon

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44 Archer, supra note 41, at 175–76; see also Layser, supra note 39, at 919 (analyzing how the federal low-income housing tax credit and the mortgage interest deduction cause housing segregation).
47 Id. § 103; see also A. Dan Tarlock, Land Use Regulation: The Weak Link in Environmental Protection, 82 Wash. L. Rev. 651, 656 (2007).
48 Tarlock, supra note 47, at 656.
quickly shut down the effort.\textsuperscript{50} Since then, the federal government has done little to address the problems associated with exclusionary zoning\textsuperscript{51} and has largely discontinued its regional planning initiatives.\textsuperscript{52} And except for certain isolated efforts,\textsuperscript{53} states have also avoided intervening.

2. Zoning Law’s Climate Impacts. — Land use decisions undeniably impact the world’s climate.\textsuperscript{54} Policies that foster sprawl, loosely defined as development characterized by low population density,\textsuperscript{55} are particularly harmful. Sprawling land patterns increase the distance that people must travel from place to place, like from home to work. These distances increase total vehicle miles traveled (VMT), a key determinant of GHG emissions from transportation.\textsuperscript{56} Dispersed housing also requires the construction of more municipal infrastructure, like streets and sewers,\textsuperscript{57} and encourages the construction of larger houses with correspondingly larger energy demands.\textsuperscript{58} These homes, which are typically detached, lack the energy efficiencies associated with shared walls and


\textsuperscript{51} Robert L. Glicksman, Climate Change Adaptation: A Collective Action Perspective on Federalism Considerations, 40 ENV’T L. 1159, 1173 (2010) (“Congress has almost always steered clear of establishing anything that remotely resembles a federal land use regulatory program . . . .”).

\textsuperscript{52} GREENE & ELLEN, supra note 50, at 5 (“HUD has exerted very narrow and limited oversight of local land-use regulations only in a handful of actions enforcing the Fair Housing Act of 1968, and it has done so inconsistently over the years.”); Briffault, supra note 49, at 1148.

\textsuperscript{53} Among state initiatives, Massachusetts’s 1969 adoption of Chapter 40B is most notable. MASS. GEN. LAWS ch. 40B, §§ 20–23 (2020). This measure allows the state to override decisions made by local Zoning Boards of Appeal under certain conditions, including if less than 10% of a municipality’s total housing units are not low- or moderate-income. Ryan Forgione, Note, A New Approach to Housing: Changing Massachusetts’s Chapter 40B from an Incentive to a Mandate, 53 SUFFOLK U. L. REV. 199, 207 (2020). Although Chapter 40B allows only marginal state intervention into local decisions, it “remains the ‘principal vehicle’ for creating affordable housing in Massachusetts.” Id. at 208 (quoting Kara L. Dardeno, Note, Chapter 40B Should Buy the Farm, 42 SUFFOLK U. L. REV. 129, 139 (2008)).

\textsuperscript{54} See, e.g., Katherine A. Trisolini, All Hands on Deck: Local Governments and the Potential for Bidirectional Climate Change Regulation, 62 STAN. L. REV. 669, 710–11 (2010) (highlighting the relationship between sprawl and vehicle use). In addition, a robust literature describes the potential for land use decisions to facilitate resilience in the face of climate change. See, e.g., Sarah J. Adams-Schoen, Beyond Localism: Harnessing State Adaptation Lawmaking to Facilitate Local Climate Resilience, 8 MICH. J. ENV’T & ADMIN. L. 185 (2018). This Chapter focuses not on land use policy’s adaptive potential but instead on its mitigation potential.


\textsuperscript{57} Trisolini, supra note 54, at 714.

increased insulation.59 One study finds that, for example, households living in detached housing use 54% more energy to heat their homes and 26% more energy to cool their homes than otherwise comparable households living in multifamily units.60 Furthermore, sprawling housing patterns reduce the benefits of constructing low-carbon public transport.61

Research generally finds that relaxing zoning restrictions leads, in the long run, to denser housing.62 This finding makes sense intuitively: the demand for housing exceeds supply in many areas,63 and the limiting factor appears to be buildable land,64 so permitting more construction should lead to more housing. Many studies look at the effects of zoning restrictions in specific localities; for example, a study of towns in the Boston area finds that as average minimum lot size increases by one-quarter of an acre, housing supply decreases by around 10%.65

Today, due in part to widespread sprawl,66 transportation accounts for 29% of America’s emissions, more than any other sector.67 One literature review finds that smart city design can reduce VMT by between

59 Tomer et al., supra note 8; see also Benjamin Goldstein et al., The Carbon Footprint of Household Energy Use in the United States, 117 PROC. NAT’L ACAD. SCI. U.S. 19,122, 19,124–25, 19,128 (2020).
61 Goldstein et al., supra note 59, at 19,128.
62 See, e.g., Hongwei Dong, Exploring the Impacts of Zoning and Upzoning on Housing Development: A Quasi-experimental Analysis at the Parcel Level, J. PLAN. EDUC. & RSCH., 2021, at 1, 11 (finding that upzoning leads to a higher likelihood of development and higher rates of density); Edward L. Glaeser & Bryce A. Ward, The Causes and Consequences of Land Use Regulation: Evidence from Greater Boston, 65 J. URB. ECON. 265, 273 (2009) (finding that as a town increases the minimum average lot size by one acre, the number of new housing permits decline by about 40%); Christina M. Locke et al., Zoning Effects on Housing Change Vary with Income, Based on a Four-Decade Panel Model After Propensity Score Matching, 64 LAND USE POL’Y 353, 356–57 (2017) (finding a small but significant effect of relaxing zoning restrictions on housing units built); Michael Manville et al., Zoning and Affordability: A Reply to Rodriguez-Pose and Storper, 59 URB. STUD. 36, 40–45 (2020) (critiquing a recent study that found that relaxing zoning regulations would not lead to more housing); Virginia McConnell et al., Zoning, TDRs and the Density of Development, 59 J. URB. ECON. 440, 451 (2006) (“[A] 10% increase in the number of permissible lots through zoning would tend to increase the actual number of lots by about 2.5%.”).
64 Joseph Gyourko & Raven Molloy, Regulation and Housing Supply, in 5 HANDBOOK OF REGIONAL AND URBAN ECONOMICS 1289, 1291–92 (Giles Duranton et al. eds., 2015).
67 Yudkin et al., supra note 6. According to one study, if the world is to limit global warming to 1.5°C, the United States must reduce VMT by 20% before the end of the decade. Id.
A different analysis finds that, compared to denser development, urban sprawl is associated with 20% to 60% more VMT. Similarly, relaxing zoning restrictions leads to lower home prices. This phenomenon, in which increasing the number of units built decreases the price of surrounding units, is known as the “supply effect.”

Two reviews of several papers investigating the price impact of new market-rate development find that increasing development tends to decrease the price of surrounding properties, albeit not by a large amount. Some of these studies likely underestimate the impact of density on overall housing affordability because they do not address the fact that by increasing the housing supply, new development may cause those in the middle and upper-middle classes to move, potentially opening up opportunities for lower-income buyers and renters outside the development’s immediate vicinity.

Studies produce mixed results on the impact of upzoning — altering a zoning code to allow more development — on housing density, affordability, and GHG emissions, but there is reason to believe that they generally understate the benefits of zoning reform. As Professor Alice Kaswan points out, these studies “generally isolate the impact of individual factors, like density or neighborhood design, without considering the multiple characteristics necessary for compact development to reduce VMT successfully.” Still, critics are almost certainly right that

68 TRANSP. RSCH. BD., DRIVING AND THE BUILT ENVIRONMENT 68 tbl. 3-1 (2009), https://www.nap.edu/read/12747/chapter/5 [https://perma.cc/HWU5-3GWG].


72 See David Schleicher, Exclusionary Zoning’s Confused Defenders, 2021 WIS. L. REV. 1315, 1328 n.77.


state-level zoning laws alone will not substantially increase housing density or affordability.\textsuperscript{75} For this reason, both housing affordability and climate policy advocates generally recommend state zoning laws as “one strategy among many,”\textsuperscript{76} policies that, while not “magic,” are still “crucial” to the sustainability transition.\textsuperscript{77} Section C briefly discusses further steps that state governments can take to increase density in addition to preemptive zoning reform.

**B. State Zoning Preemption as Intersectional Climate Policy**

Over the past few years, a growing number of states have passed, or at least considered, land use policies directed at increasing the availability and density of housing.\textsuperscript{78} Most of these policies preempt the ability of localities to limit housing density; examples include laws that forbid localities from enforcing single-family zoning and that cap localities’ ability to impose minimum parking requirements on new housing development. This section describes these measures and explains why they are an especially useful type of climate policy, one that represents the intersectional strategy that should characterize climate initiatives moving forward.

1. **State Preemption of Local Zoning Decisionmaking.** — Recent state zoning initiatives take several forms, but all preempt local zoning authority to some extent. Some of these laws have already been passed, many have died in committee, and others are currently being debated.

The most aggressive of these laws fully preempt municipalities from prohibiting multifamily housing in areas zoned for single-family housing. Oregon, California, Virginia, and Washington have all proposed or passed this variety of law. Weaker zoning preemption bills bar cities from prohibiting multifamily housing in certain locations, such as near transit stations, permit structures like accessory dwelling units\textsuperscript{79} (ADUs) as of right, or require municipalities to create development plans focused on increasing affordable housing. These proposals have cropped up in Connecticut, Nebraska, Maryland, Utah, and Washington.


\textsuperscript{76} Kaswan, supra note 74, at 266.

\textsuperscript{77} Baca & Lebovits, supra note 73.

\textsuperscript{78} One scholar describes this trend as a “not-so-quiet revolution in land use regulation.” John Infranca, *The New State Zoning: Land Use Preemption amid a Housing Crisis*, 60 B.C. L. REV. 823, 829 (2019). This name references the “quiet revolution” in land use regulation that occurred in the 1970s, when states mobilized to address the lack of affordable housing. Id. at 828, 836–44. As evidenced by the housing crisis we face today, none of these efforts were particularly successful.

Oregon has passed the most ambitious zoning preemption law to date. In 2019, the state became the first to preempt local zoning policy by passing House Bill 2001.80 The law defines “middle housing” — duplexes, triplexes, quadplexes, cottage clusters (detached housing units clustered around a common courtyard), and townhouses — and requires every city of at least 25,000 people and every city within a “metropolitan service district” to allow “[a]ll middle housing types in areas zoned for residential use that allow for the development of detached single-family dwellings” and “a duplex on each lot or parcel zoned for residential use that allows for the development of detached single-family dwellings.”81 The law also applies to a lesser extent to cities of between 10,000 and 25,000 people that do not fall within a metropolitan service district.82

California, a state with some of the most unaffordable housing, has tried several times to liberalize residential zoning over the past few years, and only recently succeeded. In 2020, for the third year in a row, the California State Senate rejected a bill that would have required cities to allow the development of mid-rise apartment buildings near transit stations and job centers, and quadplexes in most areas zoned for single-family use.83 The bill drew ire from advocates on both the left and right, with some feeling as if the law would unnecessarily impinge upon local control and others concerned that the law did not do enough to address affordability.84 However, activists and policymakers persisted, and in 2021, Governor Gavin Newsom belatedly signed into law a bill that eliminates single-family zoning throughout the state by allowing landowners to split their lands and/or convert their homes to duplexes through a prescribed process.85 In doing so, the law removes these types of actions from the ambit of the California Environmental...
Quality Act, a procedural law that opponents of residential development have co-opted to prevent the creation of affordable and transit-oriented housing.

Also in 2021, the Connecticut legislature introduced three bills that would each, to some extent, preempt local zoning authority. The most ambitious of the three would have required all municipalities to allow multifamily developments with at least four units in at least 50% of lot area served by water and sewer infrastructure and within half of a mile of transit. Neither that bill, nor a bill that would have required municipalities to develop their fair share of affordable housing, passed. The legislature did manage to pass the third bill, which requires municipalities to allow accessory apartments as of right on lots zoned for single-family housing, limits how many parking spaces municipalities can require per home, and obligates each municipality to adopt an affordable housing plan that “specif[ies] how the municipality intends to increase the number of affordable housing developments.”

Two traditionally red states, Nebraska and Utah, also managed to pass preemptive zoning policies. In 2020, the Nebraska legislature passed the Municipal Density and Missing Middle Housing Act. The Act requires any city with a population of at least 20,000 to issue biennial reports to the state “detailing its efforts to address the availability of and incentives for affordable housing through its zoning codes.” The law also requires every city to develop an affordable housing action plan that includes goals for the development of middle housing. If a city fails to develop a plan, it must then allow the development of middle housing on land zoned for single-family use. In a related law, the Middle Income Workforce Housing Investment Act, the legislature created a state fund to support the development of “workforce housing,” which the law defines as housing with an after-construction appraised

86 CAL. PUB. RES. CODE §§ 21,000–21,006.
91 Id. § 4(1).
92 Id. § 4(1).
93 Id. § 3(6).
94 Id. § 5(2).
95 Id. §§ 11–19.
value between $125,000 and $275,000.96 Both laws were preceded by a failed bill with stronger density provisions that would have required all cities to allow middle housing on land zoned for single-family use.97

The next year, the Utah legislature passed two laws designed to increase affordable zoning. The first creates a small fund to incentivize the development of low-income housing and requires municipalities to create a “long-range general plan . . . for moderate income housing growth.”98 The second bars municipalities and counties from prohibiting or overly regulating ADUs and establishes a pilot program that would guarantee loans taken out to finance the construction of ADUs designed for low-income people.99

Virginia, Washington, and Maryland have struggled to preempt local zoning decisionmaking. The Virginia General Assembly recently tabled a bill that would have required all localities to allow the development of “middle housing” — “two-family residential unit[s], including duplexes, townhouses, [and] cottages” — on land zoned for single-family use.100 Because the proposed law would have allowed middle housing on all land zoned for single-family use, not just in larger metropolitan areas, it was even more ambitious than what passed in Oregon. The Virginia bill was introduced alongside several housing measures designed to increase density,101 including one that would have required all localities to allow the development of one ADU per single-family dwelling.102

Washington has experienced a protracted battle to pass zoning reform. Over the past few years, the state legislature has considered several preemptive zoning measures, most of which have failed. The first, introduced in 2019,103 would have required almost all municipalities to allow ADUs on land zoned for single-family use;104 the proposal resembled what actually passed in Connecticut. The second, introduced two days later,105 would have required cities with populations greater than 10,000 to adopt some combination of zoning changes, which could have included authorizing duplexes, triplexes, courtyard apartments, and

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96 Id. § 13(10).
97 Leg. 794, 106th Leg., 2d Sess. (Neb. 2020).
98 S. 164, 64th Leg., Gen. Sess. § 2 (Utah 2021); see id. § 8.
104 S. 5812, 66th Leg., Reg. Sess. § 3 (Wash. 2019).
ADUs in areas zoned for single-family use, or authorizing development of at least fifty residential units per acre in areas located within half a mile of a transit station.\textsuperscript{106} The third, introduced in 2020,\textsuperscript{107} would have required all cities with a population of at least 15,000 to authorize the development of “[d]uplexes, triplexes, quadplexes, sixplexes, stacked flats, townhouses, and courtyard apartments” in areas zoned for single-family use.\textsuperscript{108} The fourth, which did pass in 2021, preempted city ordinances limiting the number of unrelated people who can live together; however, the law does not authorize additional housing construction, and as such, it is relatively weak.\textsuperscript{109}

Finally, in Maryland, the Planning for Modest Homes Act of 2020\textsuperscript{110} would have required cities to address the need for affordable housing, defined as workforce housing, low-income housing, and middle housing (itself defined as duplexes, triplexes, quadplexes, cottage clusters, and townhouses).\textsuperscript{111} An earlier version of the bill would have preempted certain local regulations that prevent the development of multifamily housing.\textsuperscript{112} This bill was part of a set of draft bills, the Homes for All package, which would have also created a fund for public housing and strengthened tenants’ rights.\textsuperscript{113}

2. Zoning Preemption as Climate Policy. — This Chapter is not the first analysis to recognize this trend in state land use law.\textsuperscript{114} However,
existing scholarship exploring the “New State Zoning” tends to focus primarily — or exclusively — on its implications for affordable housing. These academic accounts elide the importance of state land use policy in mitigating climate change. In this way, they mimic the political debates around state preemption laws, some of which similarly de-emphasize land use policy’s potential to mitigate the climate crisis. As this section explains, despite the relative lack of discussion about the connection between housing density and climate, these recent state zoning laws function as climate policy.

Coverage of zoning density initiatives frequently — although certainly not always — fails to identify those initiatives’ climate benefits. Take, for example, Oregon’s ban on single-family zoning; even news outlets that regularly report on climate change and related policy largely failed to discuss the law’s climate benefits. One of its sponsors, Representative Julie Fahey, circulated a two-page informational flyer in support of its passage that discussed the urgent need for more housing but failed to mention either climate or the environment. The same phenomenon occurred in Connecticut and Nebraska. The same is true in Connecticut, where one major advocate for zoning reform, Desegregate Connecticut, cites “climate justice” as one of its primary goals. About Us, DESEGREGATE CONN., https://www.desegregatect.org/about.

additional layers of review.” Id. at 875–76. Infranca’s piece focuses exclusively on the implications of land use policy for housing availability and affordability. In contrast, this Chapter identifies state-level land use policies as mechanisms to address the intersecting crises of climate change, housing affordability, and racial segregation.

115 See generally Infranca, supra note 78; Stahl, supra note 1.


State legislatures rarely mentioned climate change when these bills came up for discussion. When Nebraska’s bill was presented to the legislature’s Urban Affairs Committee, Senator Matt Hansen, the bill’s sponsor, discussed neither climate nor the environment, even though the Sierra Club and Green Omaha Coalition both supported the measure.\textsuperscript{122} When a supporter of the bill did raise the issue of transit — the primary means through which density reduces GHG emissions — the supporter simply stated that fewer cars and parking lots would make Omaha “a nice place to live.”\textsuperscript{123}

Regardless of how these recent laws and proposed laws are portrayed, they should undeniably be recognized as climate policy. As described in section A.2, housing density is intimately connected with the GHG emissions that result from transportation and building energy requirements. In fact, the development of state zoning preemption demonstrates the broader truth that if humans are to adequately decarbonize and adapt to the impacts of the worsening climate crisis, there can be no difference between climate-related and non-climate-related policy: every important policy must be enacted with climate in mind. Laws that reduce GHG emissions should also be designed to solve an array of societal problems, such as increasing affordable housing, desegregating neighborhoods, and improving public health.\textsuperscript{124}

Not only is this type of policymaking necessary to address the magnitude of the climate crisis, but it may also be more politically palatable. Climate change is a polarizing issue that does not appear first on many people’s list of priorities.\textsuperscript{125} Most Republicans might not find climate


\textsuperscript{123} Id. at 27 (statement of Patrick Leahy, Nebraska chapter of the American Institute of Architects).

\textsuperscript{124} This “zoning law as climate policy” is a welcome change from the prevailing paradigm of “zoning law as segregation.”

change mitigation a particularly motivating concern, but almost everyone agrees that housing is too expensive. Perhaps for this reason, red states like Utah and Nebraska, which rarely consider legislation designed to address climate change, both managed to pass laws advertised as affordable housing measures; the Utah measure was even sponsored by a Republican lawmaker. In blue states, preemptive measures designed to enhance housing density have similarly received bipartisan support.

Even blue states, where more people ostensibly view climate change as a pressing problem, could benefit from more intersectional — and therefore more widely appealing — climate policy. Democratic politicians claim to care deeply about climate change, but many of their policy choices, especially when it comes to housing, do not reflect that concern. After all, the relatively liberal states of Washington, Virginia, and Maryland each failed to liberalize their zoning laws. Despite Democrats’ assertions that climate change is a top priority, according to a 2017 study, only eight states spend more than 1.5% of their operating expenditures on climate mitigation and adaptation, a low percentage considering climate change’s economic and social magnitude. Several of the bluest states and cities possess the most restrictive zoning laws, and recent

126 Brian Kennedy & Courtney Johnson, More Americans See Climate Change as a Priority, But Democrats Are Much More Concerned than Republicans, PEW RSCH. CTR. (Feb. 28, 2020), https://www.pewresearch.org/fact-tank/2020/02/28/more-americans-see-climate-change-as-a-priority-but-democrats-are-much-more-concerned-than-republicans [https://perma.cc/H2XF-QCGM] (finding that while almost 80% of Democrats believe that climate change should be a top priority for the President and Congress, only 21% of Republicans agree).


129 See, e.g., Pulkkinen, supra note 108 (noting how the Virginia measure was supported by Republicans); Press Release, Off. of Governor Gavin Newsom, Governor Newsom Signs Historic Legislation to Boost California’s Housing Supply and Fight the Housing Crisis (Sept. 16, 2021), https://www.gov.ca.gov/2021/09/16/governor-newsom-signs-historic-legislation-to-boost-californias-housing-supply-and-fight-the-housing-crisis [https://perma.cc/C4C2-J5GK] (noting that California’s Senate Bill 9 was bipartisan).

130 Elisabeth A. Gilmore & Travis St. Clair, Budgeting for Climate Change: Obstacles and Opportunities at the US State Level, 18 CLIMATE POL’Y 729, 737 (2018).

131 See Randy Shaw, Will Progressives End Racist Zoning?, BEYOND CHRON (June 16, 2020), https://beyondchron.org/will-white-people-protesting-racial-injustice-also-end-racist-zoning [https://perma.cc/8V5M-NW2Q].
research finds that, across every demographic, including political identification, people prefer single-family housing. 132 By linking climate policy with other public priorities, advocates can appeal to voters who might otherwise be hesitant to use scarce resources on a contested policy problem, engaging in a type of “fusion politics” to achieve common goals.133

Progressive advocates have already come around to this realization. The Green New Deal, a federal resolution introduced by Representative Alexandria Ocasio-Cortez and Senator Edward Markey,134 recognizes that “the United States is currently experiencing several related crises” and calls for the federal government to decarbonize the economy in a manner that guarantees jobs with livable wages and provides for universal health care.135 The Sunrise Movement, which organizes around the Green New Deal, similarly emphasizes that climate policy must be intersectional and all-encompassing.136 Academics have also jumped on board.137 State legislatures should continue to exploit the synergies between climate change and the housing affordability crisis to enact laws that can win broad-based support.

C. Should States Preempt?

Several arguments against state preemption of local policymaking complicate this account. Municipalities usually implement zoning policy on their own. Many people take issue with state preemption of local policy, a phenomenon that has occurred frequently as of late. Taking away the power of cities to control zoning decisions does away with an...

136 See WINNING THE GREEN NEW DEAL (Varshini Prakash & Guido Girgenti eds., 2020); see also Jonas J. Monast, The Ends and Means of Decarbonization: The Green New Deal in Context, 50 ENV’T L. 21, 24, 26 (2020) (“Proponents of the most expansive iterations of a [Green New Deal] argue that it is not possible to separate justice and economic considerations from environmental policy, and that politics and equity require addressing the economic impacts of climate policy as part of a comprehensive decarbonization effort.” Id. at 24.).
important form of direct democracy that is particularly close to the people, and risks diluting the power of racial minorities and undermining local autonomy.\footnote{Richard Briffault, Essay, The Challenge of the New Preemption, 70 STAN. L. REV. 1995, 2009, 2018 (2018).} Preventing localities from developing their own housing policy may also stifle beneficial innovation.\footnote{Archer, supra note 41, at 181 (“[L]ocal governments have historically broken new ground in public health, education, sanitation, and infrastructure development.”).}

Furthermore, from a policy-preference perspective, advocates on the left may not want to set a precedent of state preemption: liberal cities must more frequently fight off the efforts of more conservative state governments to preempt their policies than the inverse.\footnote{See, e.g., Nestor M. Davidson, Essay, The Dilemma of Localism in an Era of Polarization, 128 YALE L.J. 954, 958–59, 964 (2019) (describing the “double-edged sword of localism,” id. at 958); Mary Bottari & Brendan Fischer, The ALEC-Backed War on Local Democracy, HUFFPOST (Dec. 6, 2017), https://www.huffpost.com/entry/the-alec-backed-war-on-lo_b_6651142 [https://perma.cc/G5DG-GTWG] (describing conservative efforts to preempt progressive municipal-level policy).} Structural arrangements account for this reality. Importantly, the success of Republican gerrymandering efforts has made it all but impossible for Democrats to secure majorities in certain state legislatures.\footnote{Sam Levine, Republicans Poised to Rig the Next Election by Gerrymandering Electoral Maps, THE GUARDIAN (July 27, 2021, 5:00 AM), https://www.theguardian.com/us-news/2021/jul/27/gerrymandering-republicans-electoral-maps-political-heist [https://perma.cc/NSC7-TXUG].} But as Professor Jonathan Rodden observes, partisan gerrymandering explains only part of the problem.\footnote{Jonathan Rodden, Why Cities Lose 166–67 (2019).} Americans’ personal geographic choices also matter for state legislature composition. While Republicans are usually dispersed relatively evenly through suburban and rural areas, Democrats tend to cluster in dense city centers.\footnote{Jowei Chen & Jonathan Rodden, Unintentional Gerrymandering: Political Geography and Electoral Bias in Legislatures, 8 Q.J. POL. SCI. 239, 241 (2013).} Thus, even were Democrats to somehow win back enough power to redistrict, state legislatures would still likely be more conservative than most city dwellers might prefer.

Indeed, there is good reason to worry about state preemption of local prerogatives. In an influential essay, Professor Richard Briffault identifies a “new and aggressive form of state preemption of local government action.”\footnote{Briffault, supra note 138, at 1997.} Recently, state governments have thwarted attempts by more liberal cities to enact progressive local policy. In the environmental sphere, states have preempted municipalities from regulating or banning fracking, the process by which natural gas or oil is extracted from the earth by pumping high-pressure fluid down a hole drilled in
the ground. Fracking has both health and environmental effects, including groundwater and drinking water contamination and air pollution; to combat these problems, many of which particularly burden local communities, a range of localities have regulated or banned the practice. Some states, including Pennsylvania, New York, West Virginia, Ohio, Texas, and Colorado, have each, to some extent, attempted to preempt the ability of municipalities to regulate or ban fracking. States have also blocked cities from imposing restrictions on the use of plastic bags or requiring homeowners and landlords to report on their energy usage.

Beyond environmental policy, states have recently preempted a host of progressive local ordinances. According to a survey by the National League of Cities, over half of all states prohibit cities from establishing their own minimum-wage standards. Granted, some of these states did not explicitly preempt cities from taking action on the minimum wage and simply never delegated this power to municipalities. But other states did actively thwart attempts by cities to raise the minimum wage. States have also preempted city action relating to paid leave, antidiscrimination protections, and municipal broadband.

More specifically applicable to this Chapter, Professors Christopher Serkin and Richard Schragger have warned against state preemption of local zoning power. Serkin explains that municipal zoning restrictions protect the expectations of residents by regulating the pace at which neighborhood change occurs; zoning restrictions also allocate the costs of new development to newcomers. Serkin takes a different tack, writing against state preemption because it has previously failed to make

147 Goho, supra note 146, at 5–8.
149 Grabar, supra note 148.
151 Id.
152 Id.
153 Id. at 4.
154 Serkin, supra note 111, at 752–53.
housing more affordable, it has a fundamentally free-market orientation, and it does not get at the core cause of housing segregation.\textsuperscript{155} As he points out, Houston proves problematic for those advocating for zoning deregulation;\textsuperscript{156} although the city employs little land use regulation, its extensive sprawl is characterized by single-family homes and a lot of driving.\textsuperscript{157} Why, Schragger asks, should we advocate for zoning-preemptive policies if the result will be a country full of Houstons?

These critiques merit attention. The idea that strong state preemption favors conservative policymaking is particularly worrisome for those concerned about climate change. The best response to this problem is likely that state preemption of municipal law should be used sparingly and only under certain conditions or for certain types of policy problems. Advocates may want to reserve preemption, as Professor Paul Diller proposes, for when it is “the product of a credibly majoritarian lawmaking process.”\textsuperscript{158} Or advocates might reserve preemption for problems with negative statewide effects,\textsuperscript{159} problems that, because of collective action dynamics, a municipality will not address on its own. In other words, statewide preemption may be desirable when individual municipalities make decisions that impose costs on other municipalities, costs that the acting municipalities have no reason to internalize and for which voluntary regional cooperation is therefore infeasible.

Zoning appears to satisfy these requirements. First, it possesses statewide spillover effects; even ignoring its impact on climate,\textsuperscript{160} the less housing one town offers, the more others will need to provide to satisfy the population’s housing needs. Motivated cities can — and

\textsuperscript{156} Id. at 159.
\textsuperscript{159} Professor Nestor Davidson justifies state preemption of local law by appealing to the normative provisions that appear in state constitutions, such as individual rights and general welfare. Davidson, supra note 140, at 986–93. He explains that a locality’s exercise of power delegated to it by the state must “reflect consequences that affect the state as a whole.” Id. at 991. When localities “offend” a state-held value, states are justified in stepping in to limit the “externalities that can be produced by local parochialism.” Id. at 992. Davidson notes that the New Jersey Supreme Court’s landmark decision in Southern Burlington County NAACP v. Township of Mount Laurel, 336 A.2d 713 (N.J. 1975), drew on the state constitutional constraint to legislate for the general welfare and the importance of housing to individual existence to require municipalities to take on their fair share of regional housing needs. Davidson, supra note 140, at 993–94.
\textsuperscript{160} Climate change, of course, is the ultimate collective action problem. Paul G. Harris, Collective Action on Climate Change: The Logic of Regime Failure, 47 NAT. RES. J. 195, 196 (2007).
do — pass ordinances designed to increase housing density. But big cities need surrounding suburbs to ease their housing burden. One of the reasons why cities like Boston are so expensive is because their suburbs do not take their fair share of the metropolitan population.

Second, it is unlikely that individual municipalities will be motivated to change the status quo. The zoning actions of one town are unlikely to produce enough additional housing to meaningfully lower either housing costs or GHG emissions. This collective action problem is worsened by the fact that the constituents who are lucky enough to own single-family housing are unlikely to vote against their own perceived interests to increase the supply of housing in their communities. These “homevoters,” who are overrepresented in local governments, tend to oppose any action that might endanger home values, such as the construction of multifamily housing. Zoning is therefore different from other policy areas in which a municipality’s voters feel at least some of the costs of their actions, such as when residents of a town that permits fracking experience noxious smells and water contamination.

When municipalities will not internalize the negative consequences of their decisions or face coordination problems, states can intervene. Municipalities can engage in zoning only because their state governments enable them to. If they abuse that privilege by preventing the construction of enough housing to accommodate the state’s population or by promoting sprawling land use that leads to GHG-emitting travel, states should assert their prerogative and responsibility to provide for the general welfare. This assertion comports with subsidiarity, the


162 See Glaeser et al., supra note 65, at 2.

163 See Briffault, supra note 49, at 1147–50 (explaining why individual municipalities are unlikely to see the benefits of giving up local control over land use regulations).

164 David Schleicher, Constitutional Law for NIMBYs: A Review of “Principles of Home Rule for the 21st Century” by the National League of Cities, 81 OHIO ST. L.J. 883, 911 (2020); see id. at 888. These voters are also “richer, whiter, and more likely to own homes than the general population.” Id. The unrepresentativeness of local government, combined with its problem of “shockingly low” voter turnout, id. at 911, poses problems for defenders of municipal autonomy who cite to the more low-to-the-ground, democratic nature of local lawmaking. See id. at 910–11.

165 Anika Singh Leman, The Role of States in Liberalizing Land Use Regulations, 97 N.C. L. REV. 293, 346 (2019). Homevoters try to obstruct zoning reform at the state level as well, but at least there, their presence is diluted by a more diverse constituency, and the policymaking process provides them with less access. Id. at 347–48.

166 See generally ELIZA GRISWOLD, AMITY AND PROSPERITY (2018). Relatedly, municipalities that allow fracking also experience the benefits of doing so, like increased employment and tax revenue. This is not a situation in which a municipality experiences only the costs of a decision and the state only the benefits, in which case we might be more hesitant to allow preemption.


168 See Davidson, supra note 140, at 961, 990–92.
“notion that action should be taken at the lowest level of government at which particular objectives can adequately be achieved.”

In response to the critiques articulated by Serkin and Schragger, Professor David Schleicher offers several convincing counterarguments. Yes, Serkin is right that zoning protects resident expectations, but there is a strong normative case to be made that protecting the expectations of upper- and upper-middle-class suburbanites should not dictate zoning policy, as it has for the past century. Schragger’s arguments are less normatively questionable, but they mostly take issue with state zoning preemption as insufficient to solve the problem of housing affordability — for example, we do not need more Houstons — instead of arguing against zoning reform’s underlying goals. That is fair; deregulatory zoning alone will not meaningfully reduce GHG emissions or increase housing affordability. But Schragger’s critique arguably makes the case for more, not less, state action on housing.

States possess a variety of tools, potentially more than any other level of government, which they can use to promote dense, affordable housing. They could subsidize affordable housing or institute rent controls. They could change how local schools are funded or impose high taxes on land. They could establish regional governments to coordinate local decisionmaking within certain metropolitan areas, giving populous cities a say in the zoning choices of surrounding towns and maybe even access to a portion of town revenues. They could enact minimum zoning mandates, refusing, for example, to allow new single-family development in certain areas close to transportation or business centers. They could establish damages remedies against municipalities with exclusionary policies. They could even pass state constitutional amendments that recognize affordable housing as a right, which could facilitate challenges to exclusionary zoning policies.

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170 See generally Schleicher, supra note 164.
171 See id. at 890.
172 Cf. SCHUETZ, supra note 29, at 4 (discussing federal housing subsidies).
173 See id. at 3 (describing how a land value tax, which charges a higher tax rate on land and a lower tax rate on structures, can encourage density).
176 See Ellickson, supra note 25, at 436–37.
177 See generally Note, Addressing Modern Challenges to Affordable Housing in Land Use Law: Recognizing Affordable Housing as a Right, 135 HARV. L. REV. 1104 (2022).
zoning alone will not accomplish much — but that is not what progressive advocates and scholars of zoning policy are asking for.\textsuperscript{178} On the other hand, liberalized zoning, plus a suite of other progressive housing measures, could make a difference. As such, states are perfectly within their rights to withdraw some of the zoning discretion that localities currently possess, discretion that, at the end of the day, ultimately derives from state authority.\textsuperscript{179}

**Conclusion**

State preemption of single-family zoning will not solve climate change or housing affordability — no one policy will. Still, interventions that make dense zoning possible are necessary to reduce the copious emissions that sprawl engenders. And increasingly, those interventions are coming not from municipalities, the traditional sources of zoning policy, but from state governments passing policies that preempt local density restrictions. While some doubt the desirability of preventing municipalities from making their own policy, zoning may be a special case that warrants an exception: exclusionary zoning imposes externalities on the rest of a state, and collective action problems make it likely that municipalities will not incentivize denser housing on their own initiative.

States should continue to prohibit municipalities from allowing single-family zoning, but they must go further in order to spur the development of dense, environmentally friendly housing. In addition to subsidizing the development of affordable housing, they should use tax incentives to encourage developers to build dense housing located close to transit and require housing to contain a certain minimum number of units. States could go even further, employing zoning policy not only to mitigate climate change, but also to make cities and towns more resilient to climate change’s inevitable impacts.\textsuperscript{180} Such adaptive policies should, for the same reasons already articulated, also be designed to address a range of societal problems. Only with a comprehensive effort, worthy of the problems that we face today, will states do what is necessary to address housing affordability, segregation, and climate change.

\textsuperscript{178} Katherine Levine Einstein, *The Privileged Few: How Exclusionary Zoning Amplifies the Advantaged and Blocks New Housing — And What We Can Do About It*, \textit{57 URB. AFFS. REV.} 252, 261 (2021) (describing how “[m]ost observers concerned about the deleterious effects of land-use regulations on the housing market” want “changes in land-use regulations — not necessarily their elimination”).


\textsuperscript{180} See Glicksman, *supra* note 51, at 1173 (describing how “restrict[ing] development in areas vulnerable to flooding or . . . preserv[ing] open space to provide connective corridors for migrating wildlife species” are two examples of how zoning can be used to adapt to climate change).
CHAPTER FOUR
MANDATE VERSUS MOVEMENT: STATE PUBLIC SERVICE COMMISSIONS AND THEIR EVOLVING POWER OVER OUR ENERGY SOURCES

The climate is changing and so must our energy sources. But how do we get there? Who decides when and where to build new power stations across the country? And critically, which resources should power those stations — coal, gas, or the sun? When it comes to the climate crisis, public service commissions (PSCs) are the most important state agencies many people have never heard of.

In 2020, U.S. grids were powered by eighty-eight percent nonrenewable energy and twelve percent renewable energy. In large part, these energy profiles are an amalgamation of the scattered decisions by 201 state public service commissioners across the country. Although the federal government has asserted authority over certain energy resources, such as nuclear power plants and hydroelectric dams, decisions about how we power the electric grid are primarily left to the states.

The climate crisis must be solved through thoughtful energy solutions. Unfortunately, although states’ energy decisions affect the climate, the climate does not always affect states’ energy decisions. PSCs are creatures of habit and have developed case law, administrative procedures, and staffing decisions for a century through an economic lens. This narrow focus is due to PSCs’ traditional economic mandate to hold in check the monopolistic market power of utility companies and serve as a proxy for real-world competition. Even when given authority to regulate environmental and climate issues, these agencies have neither a road map nor adequate resources to do so. While a few state PSCs

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5 Simply speaking, the energy grid can be broken down into three components: generation, long-range transmission, and local distribution. Courts have considered generation of electricity to be a “purely intrastate” process, such that the decisions of whether to build a power plant and what energy source fuels that power plant fall within the purview of a state PSC. Utah Power & Light Co. v. Pfost, 286 U.S. 165, 181–82 (1932) (upholding a state tax on the generation of energy as lawful and not barred by the dormant commerce clause).
have successfully embraced their role in the climate solution, they stand as the outliers. Most state PSCs remain entrenched in their traditional economic mandate, refusing to consider the impacts of their energy decisions on the climate and, at times, undermining the will of their electorate. This Chapter studies the conflict between the historical mandate of PSCs and the modern movement of climate policy and politics, explaining how PSCs continue to resist their role in solving climate change, despite explicit environmental mandates and increasing pressure to act on the climate.6 Section A introduces the problem, explaining what and who state PSCs are and why their traditional economic role conflicts with the present climate call to action. Section B studies recent PSC orders and highlights how many PSCs continue to resist any role as an environmental regulator. Finally, section C proposes solutions to this problem. In the short term, states should override the decisionmaking processes of their PSCs by instituting clean energy standards. Although blunt and imperfect policy tools, these standards are effective and necessary. In the long term, states must target the root of the resistance and modernize a century-old administrative bias by providing explicit climate-related directives, workable objectives, and external support from all three branches of government.

A. Understanding the Problem: The Mismatch Between the Historical Mandate of PSCs and the Modern Movement on Climate Change

1. What and Who Are PSCs? — To understand the role of state PSCs, it is helpful to consider the companies they regulate. Utility companies stand as outliers in a national economy fueled predominantly by free-market competition. These government-sanctioned monopolies provide modern-day requirements such as water, electricity, and telecommunications.7

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6 In the past decade, public support for government climate action has nearly doubled and become the majority view, see Cary Funk & Brian Kennedy, How Americans See Climate Change and the Environment in 7 Charts, PEW RSCH. CTR. (Apr. 21, 2020), https://www.pewresearch.org/fact-tank/2020/04/21/how-americans-see-climate-change-and-the-environment-in-7-charts [https://perma.cc/QKQB-ZXPF], as has public support for alternative sources of energy, see Alec Tyson & Brian Kennedy, Two-Thirds of Americans Think Government Should Do More on Climate, PEW RSCH. CTR. (June 23, 2020), https://www.pewresearch.org/science/2020/06/23/two-thirds-of-americans-think-government-should-do-more-on-climate [https://perma.cc/HTL3-33YR] (“79% of Americans say the priority for the country’s energy supply should be developing alternative sources of energy, such as wind and solar . . . .”). Despite the COVID-19 pandemic, this support has not faltered and climate change rivals the economy as a national priority. Id.; As Economic Concerns Recede, Environmental Protection Rises on the Public’s Policy Agenda, PEW RSCH. CTR. (Feb. 13, 2020), https://www.pewresearch.org/politics/2020/02/13/as-economic-concerns-recede-environmental-protection-rises-on-the-publics-policy-agenda [https://perma.cc/RG38-AY33].

7 See Richard A. Posner, Natural Monopoly and Its Regulation, 21 STAN. L. REV. 548, 548 (1969). Utility companies once provided other necessities of the day, such as grain storage and ice. See, e.g.,
Electric utility companies are considered “natural monopolies” because the high upfront cost of energy infrastructure makes competition challenging.8 Another explanation of why states grant utilities monopoly status is that the alternative is simply too messy and too unjust. If anyone could start their own electric utility company, a few problems would inevitably result. First, competing companies would string up their own sets of wires, leaving a tangled mess of poles and wires on every block. And second, a savvy utility owner would service only densely populated cities rather than expend miles of wires for a single rural customer. In the early days of electric utilities, both scenarios resulted.9 Thus, starting in the early twentieth century, states allowed a single utility company to own and operate power generation, transmission, and distribution within a region. As a result of this exclusive market power, states recognized the need to provide agency oversight to protect customers from discriminatory and monopolistic prices.10 Thus, PSCs accepted their new powerful role as energy regulators.

In a short amount of time, every state enabled its own PSC to oversee the energy regulatory process. These agencies act in a quasi-judicial manner, with three to seven commissioners holding hearings, reviewing evidence, and ruling on what costs proposed by the utility companies may be passed on to electric customers.11 Commissioners have the final say at the agency level, while staff members, administrative law judges, and other specialists typically aid decisionmaking.12 Currently, there are a total of 201 commissioner seats on state PSCs around the country.13 Thirty-nine states appoint their PSC commissioners (typically through the governor), while the remaining eleven states elect them.14

PSCs have varying rules and names (such as the Connecticut Public Utilities Regulatory Authority or the Illinois Commerce Commission),

Munn v. Illinois, 94 U.S. 113, 123, 129, 135–36 (1877) (landmark case upholding a state’s ability to regulate private industry, specifically a grain elevator operator); Our History and Timeline, HAWAIIAN ELEC., https://www.hawaiianelectric.com/about-us/our-history [https://perma.cc/54RR-V6L8] (providing ice services as a public utility from 1901 to 1948).


10 FLORES-ESPINO ET AL., supra note 8, at 8.

11 Public Service Commissioner (State Executive Office), supra note 2.

12 See, e.g., Divisions, CAL. PUB. UTILS. COMM’N, https://www.cpuc.ca.gov/about-cpuc/divisions [https://perma.cc/2A5S-8UCQ] (showing the many divisions aiding the California Public Utilities Commission (CPUC), and noting the “CPUC employs economists, engineers, administrative law judges, accountants, lawyers, and safety and transportation specialists”).

13 Public Service Commissioner (State Executive Office), supra note 2.

14 Id.
yet they share many similarities. For one, PSCs use a comparable calculation when setting customers’ rates. They link profits to capital investments, typically allowing between a nine to ten percent return on equity. And, importantly, state PSCs generally share the same mandate: ensure customers’ utility rates are “just and reasonable.”

This language is the core charge of PSCs and has guided their decisionmaking for nearly a century. This “just and reasonable” standard reflects why PSCs exist — to hold in check the monopolistic market power of utility companies and serve as a proxy for real-world competition.

In the infancy of utility regulation, courts disagreed about the meaning of the nebulous phrase “just and reasonable.” In 1944, the U.S. Supreme Court provided some guidance when it reviewed the Federal Power Commission’s rate order under a comparable “just and reasonable” standard. According to the Court, this standard required energy regulators to balance investors’ and consumers’ interests, ensuring the return on investment was “sufficient to assure confidence in the financial integrity of the enterprise, so as to maintain its credit and to attract capital.” Almost immediately, state courts adopted similar instructions for their state utility regulators. Since then, this economic balancing act between shareholders and ratepayers has justified construction of nuclear power plants, adoption of electric vehicle infrastructure, and everything in between.
PSC decisions dictate the country’s energy profile. State PSCs regulate infrastructure construction either directly or indirectly. For direct regulation, power utilities generally must obtain a certificate of public convenience and necessity from the PSC before constructing an electric generation station. PSCs may indirectly regulate the construction of power plants through approval of infrastructure spending costs incorporated into customers’ electricity rates. In addition, PSCs oversee and approve utility companies’ integrated resource plans — documents that lay out how, when, and what the utility company will build to ensure enough electric generation for its customers. These plans provide the road map for the country’s electric future, and thoughtful oversight by a state PSC can ensure affordable, reliable, and clean energy.

Today, utility companies can have significant revenue and political clout, influencing both sides of the climate change debate. On one side, many utilities have partnered with electric vehicle companies to drive national adoption of electric vehicles and related infrastructure. In contrast, other utilities have used their capital to undermine rooftop
solar initiatives, combat clean energy mandates, and build more fossil fuel–powered generation stations. While utility companies have been building and profiting off fossil fuels without internalizing the downstream consequences and costs for decades, their regulators — state agency leaders — have approved their actions at every step of the way. Thus, this Chapter is not about the utility companies; it is about the agencies that regulate them. It is about the relatively few people who sit on these commissions and make decisions affecting the global future, and it is about how these regulators resist environmental responsibility, exercising a chokehold on meaningful climate progress.

2. The Mismatch Between Mandate and Movement. — PSC decisions meaningfully affect our environment, but the environment does not meaningfully affect PSC decisions. For the entirety of their existence, PSCs have generally made energy-related decisions regardless of environmental impact, let alone climate impact. This disregard has significantly contributed to the modern-day climate crisis. Since 1970, the burning of fossil fuels has combined with industrial processes to contribute over three-fourths of greenhouse gas (GHG) emissions increases. In 2019, the burning of fossil fuels accounted for ninety-two percent of all U.S. anthropogenic CO\textsubscript{2} emissions. And even today,
state PSCs continue to approve hundreds of millions of ratepayers’ dollars to prolong the life of coal-powered generation, adding millions of tons of CO₂ to the atmosphere. The resistance of PSCs to considering environmental impacts is predictable. PSCs are century-old creatures of economics, prioritizing low rates and reliable service. Since their inception in the early twentieth century, these commissions have been staffed with economic and engineering experts, and they have case law, procedures, and internal planning processes fine-tuned to assess the financial benefit and reliability of their energy-planning decisions. The professional backgrounds of PSC commissioners are generally not prescribed, sometimes leading to various experiences in unrelated technologies and livelihoods. Admittedly, solving climate change is a task any agency would struggle with, but PSCs are particularly poorly positioned for the job.

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39 The three coal-fired power plants supported by the West Virginia PSC in the October 2021 Order, id., emitted, approximately, a combined 20.7 million tons of CO₂ in 2020 alone. See Air Markets Program Data, U.S. ENV’T PROT. AGENCY (Mar. 2021), https://ampd.epa.gov/ampd [access the “Query” tab; then select “All Programs” and “Emissions”; next select “Annual” and “2020”; next select “Facility Name,” and search and add: “John E Amos (3838),” “Mitchell (WV),” and “Mountaineer (1301);” next select “No Aggregation (Unit Level),” next select “CO₂ (short tons);” then download the dataset and sum the CO₂ emissions for 2020). It would take over 300 million trees planted and grown for ten years to sequester one year of CO₂ emissions from these plants. See Greenhouse Gas Equivalencies Calculator, U.S. ENV’T PROT. AGENCY, https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator [https://perma.cc/UD8X-RL64] (calculating 20.7 million CO₂ tons’ equivalency).

40 At the start of the twentieth century, some states required PSC commissioners to be lawyers or civil engineers or to possess some knowledge relevant to utility management. See William Dunton Kerr, Qualifications Needed for Public Utility Commissioners, 53 ANNALS AM. ACAD. POL. & SOC. SCI. 19, 20–21 (1914). The most common requirements were simply related to age, political affiliation, and state residency. Id. at 19–20.

41 See Scott, supra note 34, at 395, 400, 410.


The unwillingness of PSCs to abandon their traditional mandate has forced environmental advocates to make predominantly economic arguments. For example, in PSC dockets today one can find the Arkansas chapter of the Audubon Society — a “national conservation organization dedicated to protecting birds” — offering market principles in support of large, distributed solar projects and motivating their bird-watching members to lobby their local PSC. Luckily for environmentalists, the economic arguments for renewable energy are increasingly easy to make. In the past decade, public demand, environmental advocacy, federal and state legislative policy, and private investments have driven renewable energy development up and costs down, allowing renewable energy prices to be competitive with those of traditional fuel sources. But the incongruity of a bird-watching group making economic arguments before a public utility regulator signals that the administrative process is out of whack.

In response to this mismatch between mandate and movement, some scholars have proposed policy changes to bring PSCs on board the climate fight, or in other words, “teach an old dog new tricks.” In 2014, Professor Inara Scott considered a variation on this mismatch problem, assessing how and why PSCs dodged opportunities to modernize the energy grid. She too concluded that the shortsighted economic foundation of the current regulatory structure inhibited development of these grid modernization projects because their approval required considerations outside of short-term cost recovery. In addition, Professor Michael Dworkin argues that the authority of PSCs to consider environmental impacts already exists. In 2001 and 2006, Dworkin and his team reviewed every state’s PSC laws to combat the “misconception” that PSCs

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46 The Sierra Club’s Beyond Coal Campaign, to which many attribute the rapid decline in coal generation in the United States, was driven by lawyers making economic arguments before state PSCs. See Michael Grunwald, Inside the War on Coal, POLITICO (May 26, 2015, 11:45 PM), https://www.politico.com/agenda/story/2015/05/inside-war-on-coal-000002 [https://perma.cc/PZ9D-JKN7] (“Economics was the most powerful weapon in the Sierra Club’s arsenal.”).


48 E.g., Scott, supra note 34.

49 See id. at 376, 400.

50 Id. at 400.

are “solely economic regulators.” His research team identified existing laws in nearly every state permitting or requiring environmental considerations to some extent.

Today, more than ever, advocates and state leaders are pressuring these agencies to act on the climate crisis. And today, more than ever, state PSCs are holding firm to their traditional economic mandate, exacerbating the divide between mandate and movement.

B. The Continued Resistance of PSCs to Climate Considerations

PSC resistance to addressing climate change is less about a lack of power, but rather a lack of will. Disinclined PSCs with vague environmental mandates — such as in Maryland and Wisconsin — will often narrowly interpret their governing statutes to avoid consideration of climate impacts. Even PSCs with clear mandates to consider the climate — such as in Hawaii and Iowa — can bristle at their new environmental role, finding ways to evade meaningful review. In contrast, PSCs eager to address the climate have interpreted their existing authority broadly, such as in Michigan. There is a growing trend of states updating their PSCs’ governing laws to explicitly require consideration of climate change and GHGs. Although a step in the right direction, recent PSC responses suggest these mandates will fall short absent a fundamental shift in PSCs’ institutional cultures and approaches to climate change.

1. Denying Responsibility to Consider Climate Change. —

(a) Maryland PSC. — Maryland has been at the forefront of action on climate change. In 2007, Maryland was an early participant in the Regional Greenhouse Gas Initiative (RGGI, pronounced “Reggie”), the nation’s first cooperative, multistate cap-and-trade effort to reduce GHG emissions. That same year, the state established the Maryland Commission on Climate Change, which brought in experts and stakeholders to develop annual climate change action plans. In 2013, the Maryland legislature became one of the first to approve offshore wind energy and revised its renewable energy portfolio standard to source twenty-five percent of its electricity from renewable sources by 2020. And in 2018, Baltimore became the first east-coast city to file a lawsuit

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52 Dworkin 2006, supra note 51, at 1.
53 See id. at 1, 7; id. at 8–69 (appendix containing statutory provisions from Dworkin’s fifty-state survey).
against fossil fuel companies based on state common law claims, leading the way for twenty-seven cities, counties, and states to file similar lawsuits.57

Against this backdrop, in 2018, the Charles P. Crane Generating Station applied to the Maryland PSC for approval to shut down its coal-powered generation station and replace it with three combustion turbines fired primarily with gas.58 A public utility law judge issued a proposed approval of the project, and three environmental groups appealed the decision: Blue Water Baltimore, the Gunpowder Riverkeeper, and the Essex-Middle River Civic Council.59 The environmental appellants challenged the administrative law judge’s failure to consider climate change impacts as violating the statutory requirement to give “due consideration” to water and air pollution.60 The appellants warned that rising sea levels would affect the construction and longevity of the gas plant’s infrastructure and stressed that climate change is “the most pressing issue facing this state” and “must be front and center in all permitting decisions.”61

Upon consideration of the appeal, the Maryland PSC Staff denied any obligation to consider climate change. They asserted that no part of the governing statute “explicitly requires that a discussion of climate change be included as part of the approval” . . . and [that] the Commission has never required any consideration of climate change . . . .”62 The Maryland PSC agreed with this position. It concluded that “[t]he statute does not specifically or generally require considerations regarding climate change” because the governing statute only required the PSC to consider “when applicable, air and water pollution.”63 This decision to approve a fossil fuel–burning power plant was not appealed and came two months after Maryland had become the tenth state in the country to commit to a fifty percent or greater renewable energy standard by 2030.64 The Maryland PSC’s denial of a legal obligation conflicted with

58 Order Denying Intervenor’s Appeal at 1 n.1, Charles P. Crane Generating Station, No. 9482 (Md. Pub. Serv. Comm’n July 24, 2019) [hereinafter Maryland PSC Order Denying Appeal].
59 Id. at 1–2.
60 Memorandum of Intervenor’s Appeal at 2, 4, 6, Charles P. Crane Generating Station, No. 9482 (Md. Pub. Serv. Comm’n May 29, 2019)(quoting MD. CODE ANN., PUB. UTIL. § 7-207(e) (West 2010)).
61 Id. at 4, 5, 7.
62 Maryland PSC Order Denying Appeal, supra note 58, at 6–7 (quoting Reply Memorandum at 6, Charles P. Crane Generating Station, No. 9482 (Md. Pub. Serv. Comm’n June 5, 2019)).
63 Id. at 13–14; MD. CODE ANN., PUB. UTIL. § 7-207(e) (West 2010) (emphasis added).
64 Ovetta Wiggins, Half of Maryland’s Electricity to Come from Renewable Sources by 2030, WASH. POST (May 22, 2019), https://www.washingtonpost.com/local/md-politics/half-of-
the position of many scholars⁶⁵ and took members of the Maryland legislature by surprise.⁶⁶

(b) Other Examples. — The Maryland PSC is not alone in confining its existing mandate to exclude consideration of climate change. Farther west, Wisconsin has made it a stated “goal of the state that, to the extent that it is cost-effective and technically feasible, all new installed capacity for electric generation in the state be based on renewable energy resources,”⁷⁶ and directs its agencies to consider the impact of their actions on the environment.⁶⁸ In 2020, Wisconsin’s task force on climate change released a report calling for the PSC to track its progress to ensure a 100% net-zero carbon emission power sector by 2050.⁶⁹

Around the same time, the Wisconsin PSC received an application to construct a gas-fired combined-cycle electric generation facility. Although the statute prohibits the Wisconsin PSC from considering the “impact of air pollution” if the proposed facility would meet the state’s air quality standards,⁷⁰ the administrative law judge permitted evidence related to climate change in the hearing.⁷¹ On interlocutory appeal, the Wisconsin PSC overturned the administrative law judge’s decision, arguing that Wisconsin’s public utilities law drew “broad jurisdictional boundaries between the responsibilities of the Commission and [those of the Department of Natural Resources], and placed air pollution within the jurisdiction of the [Department] and outside the jurisdiction of the

marylands-electricity-to-come-from-renewable-sources-by-2030/2019/05/12/2072ef10-7eba-11e9-8ede-f4abf521ef17 [https://perma.cc/5KD9-5ZB5].

⁶⁵ In 2006, Dworkin argued that the law governing the Maryland PSC authorized environmental consideration, highlighting that the “Commission shall, in its role supervising and regulating public service companies, ‘consider . . . the conservation of natural resources, and the preservation of environmental quality.’” Dworkin 2006, supra note 51, at 2 (quoting MD. CODE ANN., PUB. UTIL. § 2–113 (West 2000)).

⁶⁶ See Video: Delegate Lorig Charkoudian Presenting Her Bill, HB 0298, Before the Economic Matters Committee, MD. GEN. ASSEMBLY, at 49:45–57:48 (Jan. 21, 2021), https://mgaleg.maryland.gov/mgawebsite/Committees/Media/false?cmte=ecm&ys=2021RS&clip=ECM_1_21_2021_meeting_1_url=https%3A%2F%2Fmgahouse.maryland.gov%2Fmgacatalog%2Fplay%2F93aj7175F-793e-4b2e-855d-d83e5556e9b-F%3Fcatalog%2F034e81c7-8a42-4438-8adn-93ff7bd4a4a%26 [https://perma.cc/YY4G-R24G] (Up until recently I would have thought that the preservation of environmental quality would have included climate, especially given the — the significance of the climate crisis we’re facing. But what we learned recently . . . in Order 89211, what we learned is that neither the [PSC] staff nor the Commission itself believes that the consideration of environmental quality includes climate change.” Id. at 53:23–54:03.).

⁶⁷ WIS. STAT. ANN. § 1.121(3)(b) (West 2021).

⁶⁸ Id. § 1.11 (Wisconsin’s equivalent of the National Environmental Policy Act (NEPA)). The federal National Environmental Policy Act, 42 U.S.C. §§ 4321–4347, requires the federal government to consider the environmental impact of its decisions.

⁶⁹ STATE OF WIS., GOVERNOR’S TASK FORCE ON CLIMATE CHANGE REPORT 40 (2020).

⁷⁰ WIS. STAT. ANN. § 196.491(3)(d)(s)–(4) (West 2021).

When the Commission’s final order came out approving a new gas-powered plant in 2020, there was not a single mention of the plant’s potential impact on the climate.\textsuperscript{73} Even farther west, in a state generally less keen on climate issues, citizens of Montana have been pressuring their leaders to plan for climate change.\textsuperscript{74} In the spring of 2020, pressure trickled up into the state’s PSC, where then–Commissioner Roger Koopman motioned the Commission to open a docket to investigate the impacts of climate change on Montana’s electricity grid.\textsuperscript{75} Commissioner Koopman, while advocating for the PSC to host a climate change forum, admitted that the members of the Commission “tend to be . . . skeptics” on climate change, and recognized the fear of some Commissioners that the forum would simply be “packed with a bunch of ‘greenies.’”\textsuperscript{76} In opposition to the climate change docket, Vice Chairman Bob Lake stressed his belief that the Commission lacked legal authority to consider climate change, given it is “basically an economic agency.”\textsuperscript{77} The motion failed 3–2. In all fairness, Montana’s legislature has yet to pass an explicit directive to its PSC to consider the environment, as the state’s PSC is exempt from the state’s requirements to account for environmental effects.\textsuperscript{78} But once again, the agency’s traditional mandate overpowered any opportunity and willingness to consider the climate.

2. Avoiding Their Role in Climate Change. — In response to this denial of authority, there is a growing trend of states enacting legislation explicitly requiring PSCs to consider the impacts of their decisions on climate change. For example, in response to the 2019 Maryland PSC

\textsuperscript{72} Order at 9, 14, South Shore Energy, LLC, No. 9698-CE-100 (Wis. Pub. Serv. Comm’n July 31, 2019).


\textsuperscript{74} Although two-thirds of Montanans report a belief in global warming (five percentage points less than the national average), seventy-six percent report support for funding research into renewable energy sources (one percentage point less than the national average). See Jennifer Marlon et al., \textit{Yale Climate Opinion Maps 2021}, YALE PROGRAM ON CLIMATE CHANGE COMM’N (Feb. 23, 2022), https://climatecommunication.yale.edu/visualizations-data/ycom-us [https://perma.cc/34U2-CAX8]; see also Letter from Mont. Climate Sols. Council to Greg Gianforte, Mont. Governor (Aug. 11, 2021), https://ewscripps.brightspotcdn.com/d/00f0664fc199j3a8baa53fc56a/climate-council-letter-gov-gianforte-aug112021.pdf [https://perma.cc/RA3Q-Z2Y5].


\textsuperscript{76} Id. at 1:06:00–1:06:33.

\textsuperscript{77} Id. at 1:10:50 (“The real problem with the Public Service Commission sponsoring a forum like this is that we are a regulating agency with that regulation and we are basically an economic agency . . . .”).

\textsuperscript{78} The state’s NEPA statute excludes the PSC. MONT. CODE ANN. § 75-1-201(3) (West 2021).
Order discussed above, the Maryland legislature passed legislation unambiguously instructing its PSC to consider GHGs “based on the best available scientific information recognized by the Intergovernmental Panel on Climate Change.”79 This is only the most recent example of such legislation. In the summer of 2021, Colorado80 and Maine81 also passed legislation mandating climate change considerations in PSC decisions. Their laws came after Massachusetts enacted similar legislation updating PSC authority the previous March.82 The State of Washington83 and Washington, D.C.,84 signed similar bills in 2019. Hawaii has had an explicit GHG mandate for its PSC since 2011.85 Oregon almost joined this list — after the state legislature theatrically failed to pass two climate bills due to Republican senator walkouts,86 the Oregon Governor issued an executive order directing the PSC to “exercise its broad statutory authority to reduce GHG emissions.”87

A clear legislative directive to a state’s PSC might appear like an obvious solution, especially when PSCs cite a lack of authority as the reason why they cannot (or will not) consider climate change impacts. Unfortunately, such a directive on its own is likely insufficient to counteract century-old administrative cultures and biases. A review of recent climate-related PSC orders illustrates how utility regulators can neglect even a clear mandate to consider the climate by conducting a superficial review of climate impacts.

(a) Hawaii Public Utilities Commission (PUC). — As an island state, Hawaii88 has perhaps the greatest reason to worry about sea level rise from the burning of fossil fuels. As early as 1977, the Hawaii State

79 MD. CODE ANN., PUB. UTIL. § 7-207(e)(4)(iii) (West 2021).
81 2021 Me. Laws ch. 279.
82 2021 Mass. Acts 7–38; see also id. 13 (“In discharging its responsibilities . . . the [PSC] shall . . . prioritize safety, security, reliability of service, affordability, equity and reductions in greenhouse gas emissions to meet statewide greenhouse gas emissions limits . . .”).
84 22 D.C. Reg. ch. 583 (Jan. 18, 2019).
85 2011 Haw. Sess. Laws 287; HAW. REV. STAT. § 269-6(b) (2021) (“The public utilities commission shall consider the need to reduce the State’s reliance on fossil fuels through energy efficiency and increased renewable energy generation in exercising its authority . . . . [T]he commission shall explicitly consider, quantitatively or qualitatively, the effect of the State’s reliance on fossil fuels on . . . greenhouse gas emissions.”).
88 Although the correct spelling of the state in the Hawaiian language requires the use of an okina (‘), an act of Congress is required to update the name of the state from “Hawaii” to “Hawai‘i.” See BOBBY CAMARA, U.S. DEP’T OF INTERIOR, APPENDIX F: GEOGRAPHIC NAMES (2004), https://irma.nps.gov/DataStore/DownloadFile/575333 [https://perma.cc/5TPU-Z3VL]. This Chapter uses the Hawaiian spelling when used by the respective state entity (e.g., Supreme Court of the State of Hawai‘i).
Legislature passed laws demonstrating a “manifest” intent to prioritize “renewable energy sources to reduce pollution in addition to securing the potential economic benefits and enhanced reliability of the State’s energy supply.”\(^89\) In 2007, the legislature updated its PUC’s mandate to permit consideration of an increased need for renewable energy in conjunction with its traditional economic mandate.\(^90\) And then in 2011, the legislature amended its laws to make air pollution considerations mandatory, requiring its PUC to consider “the effect of the State’s reliance on fossil fuels on . . . greenhouse gas emissions.”\(^91\)

Despite clear direction and a longstanding legislative intent to move away from fossil fuels, the Hawaii PUC continues to resist meaningful environmental consideration. In 2015, Maui Electric, an electric utility company, applied for approval from the PUC to purchase coal- and petroleum-powered energy.\(^92\) When an environmental group attempted to initiate a hearing on the environmental impacts of the energy purchase, the PUC denied their motion.\(^93\) And when the PUC ultimately approved Maui Electric’s application, it asserted that the purchase was “anticipated to help accomplish the State’s policy goals of reaching 100\% renewable energy by 2045.”\(^94\) In 2017, the Supreme Court of the State of Hawai‘i vacated the PUC’s decision to deny a hearing on the environmental impacts of Maui Electric’s application as a violation of the state’s constitutional due process,\(^95\) faulting the PUC’s hesitation to engage meaningfully in environmental consideration.

The court’s opinion had seemingly little impact. Two years later, the PUC was back before the Supreme Court of the State of Hawai‘i for failing to consider the reduction of GHG emissions in approving a power purchase agreement.\(^96\) Rather than make its own express findings, the PUC had simply restated the utility company’s assertion that the facility would contribute to the state’s renewable energy goals.\(^97\) Faulting the PUC for ignoring comments about increased GHG emissions,\(^98\) the court remanded the decision back to the agency with instruction to “give explicit consideration to the reduction of GHG emissions in determining whether to approve the Amended [Power Purchase Agreement].”\(^99\) Environmental advocates are left hoping that a second direct instruction from the state’s

\(^89\) In re Maui Elec. Co., 408 P.3d 1, 14 (Haw. 2017).

\(^90\) Id.

\(^91\) Id. (quoting 2011 Haw. Sess. Laws 287).

\(^92\) See id. at 5.

\(^93\) Id. at 6–7.

\(^94\) Id. at 8 (quoting Decision and Order at 32, Maui Elec. Co., No. 2015-0094 (Haw. P.U.C. Sept. 24, 2015)).

\(^95\) See id. at 23.


\(^97\) See id. at 696.

\(^98\) See id.

\(^99\) See id. at 697.
highest court to consider the climate will finally alter the calculus of Hawaii’s PUC.

(b) Iowa Utilities Board. — The Iowa Utilities Board’s (the Board) recent approval of the Dakota Access Pipeline demonstrates that an unwilling PSC can parse climate change impacts into nonexistence. The Dakota Access Pipeline carries oil from North Dakota to Illinois. It has received pushback all along its route, and some of those fights have played out before state PSCs. In January 2015, Dakota Access, LLC petitioned the Iowa Utilities Board for a permit to construct 346 miles of the pipeline through Iowa. Environmental groups intervened and argued that granting the pipeline’s permit would promote the exploitation of oil, increase GHG emissions, and delay transition to a carbon-neutral energy sector. In response, Dakota Access argued the Board lacked authority to consider climate change.

The Board did not outright reject authority to consider climate change impacts. Rather, it so severely narrowed its scope of review that it concluded its decision — to permit the Dakota Access Pipeline — had no significant impact on climate change. The Board acknowledged that “climate change in general is a very important issue,” but found “there is no evidence in this case that denial of the permit would affect climate change to any significant degree.” In just two paragraphs, the Board justified its decision by reasoning that denial of this pipeline permit would not reduce the demand for petroleum; oil delivery would “continue to take place regardless of whether this pipeline is built.” And so,

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102 See id. at 7–8, 22–23.

103 Id. at 22.

104 Id. at 24.

105 Id. at 23–24.

106 Id. at 23.

107 Id. at 23.
through circular logic, the Board declared that permitting the Dakota Access pipeline would have no impact on climate change.108

The Board’s justification was familiar to the docket’s participants. Less than one month prior to the Board’s final permitting decision, intervenors petitioned Board Member Nick Wagner to recuse himself from the proceeding, asserting “he was resistant to the recognition of Climate Change because of his fear that it would damage his ability to be successful in running for political office.”109 Pursuant to Iowa law, Board Member Wagner himself ruled on and denied the motion to recuse. He explained:

[ ]Regardless of whether I believe climate change is caused by using fossil fuels, I believe climate change is not entitled to great weight in our deliberations in this proceeding. Fossil fuels are consumed because there is demand in the marketplace and granting or denying a permit in this proceeding will not materially affect the demand for oil products. The evidence in the record shows continued production and consumption of oil despite the possible existence of this and other pipelines, showing that the market and use of fossil fuels is driven by demand. I would also like to clarify that I would never put my personal interests ahead of the public interest.110

The permitting of the Dakota Access pipeline in Iowa serves as a cautionary tale that an unwilling PSC can still avoid meaningful climate review even under the guise of considering the climate.

3. The Counterexample. — Not all state commissioners have agreed with Iowa Board Member Wagner’s resolution that permitting a pipeline would have no significant effect on the climate. A recent decision by the Michigan PSC — a regulatory agency without an explicit mandate to consider climate change — stands in stark contrast.

In April of 2020, Enbridge Energy applied to the Michigan PSC for approval to replace a four-mile segment of “Line 5,” a 645-mile interstate oil and gas pipeline that has run through Michigan from Wisconsin to Ontario, Canada, since 1953.111 Enbridge filed a motion in limine to exclude evidence demonstrating Line 5’s adverse impact on climate change, arguing it was beyond the scope of the proceeding.112 The administrative law judge agreed with Enbridge and concluded the Michigan PSC lacked jurisdiction to consider the GHG emissions.113 On appeal to the Commission, the Michigan PSC Staff also supported

108 Id. at 23–24; see also id. at 22 (“The opposition parties acknowledge that denying a permit in this docket will not, by itself, reduce demand for petroleum products or stop climate change.”).


112 Id. at 8, 33.

113 Id. at 27.
Enbridge and the administrative law judge, urging the Commission to reject authority.\textsuperscript{114} The Commission disagreed. In contrast to the arguments made by Enbridge, the administrative law judge, and the Commission’s own staff, the Commission reasoned that it could not “separate the construction of the Replacement Project from the reason for doing so.”\textsuperscript{115} Under the state’s equivalent to the National Environmental Policy Act, the Commission concluded that it had a mandate to assess “the alleged pollution, impairment, or destruction of the air, water, or other natural resources.”\textsuperscript{116} When faced with the question of whether such environmental review included downstream emissions, the Michigan PSC stated: “While some would narrowly constrain the review of pollution to the construction of the tunnel and pipeline, such an interpretation is untenable.”\textsuperscript{117} And so, unlike its counterparts in other states, the Michigan PSC refused to apply a myopic scope to its authority, considering downstream GHG emissions and their resulting climate impacts. Ultimately, the juxtaposition of the reasoning of Michigan’s PSC and Iowa’s Utility Board indicates a PSC’s consideration of climate change can be a matter of will more than authority.

C. In Search of Solutions

Although this Chapter attempts to summarize national trends in electric utility law, the story of each state’s PSC is admittedly unique. The agenda of a state PSC may not always match a state’s political goals. As already shown, a state looking to address climate change can be undermined by an inflexible PSC.\textsuperscript{118} In contrast, a state with a fossil-fuel driven economy keen to slow renewable energy development can likewise be thwarted by a PSC loyal to its traditional economic mandate.\textsuperscript{119} To be sure, some state PSCs have risen to meet the climate

\textsuperscript{114} Id. at 34.
\textsuperscript{115} Id. at 64.
\textsuperscript{116} Id. at 65 (quoting MICH. COMP. LAWS ANN. § 324.1705(2) (West 2021)).
\textsuperscript{117} Id. at 64.
\textsuperscript{118} For discussions on Maryland’s and Hawaii’s PSCs, see supra ch. IV, section B.1.a, pp. 1624–26; ch. IV, section B.2.a, pp. 1629–30.
\textsuperscript{119} When faced with the high costs of coal, the Wyoming PSC chief counsel defended coal plant closures before a concerned state legislature, explaining: “The commission evaluates proposals for whatever [utilities] are going to do under the framework of our overall mission, which is to make sure that there’s safe, adequate and reliable service at just and reasonable rates.” Andrew Graham, The Wyoming PSC’s Uncomfortable Moment in the Spotlight, WYOFILE (Nov. 19, 2019), https://wyofile.com/the-wyoming-pscs-uncomfortable-moment-in-the-spotlight [https://perma.cc/Z8PX-SACJ] (alteration in original). Not to be outmatched, the Wyoming legislature thereafter passed HB 200, mandating utilities to produce a certain percentage of their electricity with carbon-capture technology, refusing to allow utilities to recover costs of retired coal plants until they meet that specified percentage, and ensuring cost recovery from ratepayers for carbon-capture technology for utilities. See WYO. STAT. ANN. §§ 37-18-101 to 102 (West 2021). For a thoughtful piece on the
challenge, especially when doing so aligns with the political will of their state’s electorate and government,\textsuperscript{120} and vice versa.\textsuperscript{121} Understanding the challenge with state PSCs and climate change requires an awareness of the political backdrop of climate change in the United States. This Chapter, of course, does not attempt to resolve the politicization of the environment and climate change.\textsuperscript{122} Rather, it addresses those states looking to make impactful progress on climate change yet thwarted by their own institutional bureaucracy.

Some scholars have proposed policy solutions aimed at incorporating climate considerations into PSCs\textsuperscript{1} traditional planning processes. Scott suggests states could mandate long-term resource planning that includes environmental risk management and analyses — or “teach an old dog new tricks,” so to speak.\textsuperscript{123} And, as discussed, many states are instructing their PSCs to explicitly consider climate change.

As the adage cautions, the difficulty is often with the dog, not the tricks. Solutions that aim to incorporate climate consideration into the existing PSC processes overlook the fundamental issue — the ingrained resistance of an agency with a century-old economic bias. Directing the

\textsuperscript{120} As an example, in 2021, the Connecticut Public Utilities Regulatory Authority issued an order and called the present day an “all hands on deck moment,” refusing to shift climate change–induced storm-related costs onto its ratepayers. Decision, Investigation into Elec. Distr. Cos.’ Preparation for & Response to Tropical Storm Isaias at 1, No. 20-08-03 (Conn. Pub. Utils. Regul. Auth. Apr. 28, 2021).


\textsuperscript{122} Lest we forget, a little over a decade ago, “lifelong Republican” Newt Gingrich and “lifelong Democrat” Nancy Pelosi sat on a couch together and informed the American public that they “do agree our country must take action to address climate change.” WeCanSolveIt.org Ad — Gingrich & Pelosi, POLITICO (May 13, 2011, 2:03 PM), https://www.politico.com/video/2011/05/we cansolvesitorg-ad-gingrich-pelosi-o18436 [https://perma.cc/6DVG-VX8T].

\textsuperscript{123} Scott, supra note 34, at 401.
agency to consider climate impacts faces many of the same struggles observed at the federal level. As examples such as the Hawaii PUC and Iowa Utilities Board suggest, forcing a state PSC to consider the climate does not always result in a thoughtful analysis of the impacts — nor a change in outcomes.

To meaningfully evolve a state’s energy decisionmaking process to account for climate change in the long term, states must reshape a longstanding institutional culture. But of course, climate action is needed now. And so, in the short term, state leaders should counteract existing institutional bias by instituting clean energy mandates.

1. The Long-Term Solution: Unlearning a Century of Institutional Bias. — State PSCs are conservative creatures of economics by design. States created these agencies in the early twentieth century with the simple mandate to keep rates just and reasonable, long before concerns about climate change or GHGs entered the public vernacular. These “childhood” years of the agencies fundamentally impact their long-term culture and mission. For over a century, state PSCs have developed case law, perfected internal quasi-judicial procedures, reviewed technical financial reports and projections, and hired experts, all with an eye on keeping customers’ lights on and electricity rates down — precisely as they were instructed. The agencies’ conservative mandate has in turn attracted professionals supportive of the traditional mission, reinforcing the conservative economic bias.

To expect such agencies to solve the climate crisis suddenly, or even consider technical climate impacts when making decisions, is admittedly unfair. Indeed, PSCs across the board continue to be “wary” of the costs of grid-modernization proposals necessary to prepare for climate impacts, approving less than ten percent of the requested funding for such projects. But there is no other choice — the climate crisis cannot be

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124 This same mismatch between traditional mandate and new social movement exists at the federal level. See generally Jody Freeman, The Uncomfortable Convergence of Energy and Environmental Law, 41 HAW. ENV’T L. REV. 339 (2017). The Federal Energy Regulatory Commission, an economic agency with a comparable mission to state PSCs, id. at 347, has similarly resisted abandoning its traditional mandate to experiment with progressive grid design and regulation, id. at 385. Despite the clear connection between energy and the environment, id. at 358–59, the federal agency has refused to regulate with environmental protection as an end goal in itself, with no signs of change in the future, id. at 386.

125 See JAMES Q. WILSON, BUREAUCRACY 68 (1989).

126 Cf. id.

127 Herman K. Trabish, Duke, SCE, Other Grid Modernization Proposals Faced Big Cost Questions, More Regulator Scrutiny in 2021, UTIL. DIVE (Jan. 4, 2022), https://www.utilitydive.com/news/duke-sce-other-grid-mod-proposals-confronted-big-cost-questions-in-2021-a/619577/ [https://perma.cc/ZP9Y-V3X7] (“There were 498 grid modernization-related policy and deployment actions in 48 states in Q3 2021, but regulators approved only $904.4 million of the $14.7 billion in proposed utility investments.”). Of the unaccepted funds, “$12.7 billion was held for closer scrutiny, with $1.1 billion rejected.” Id.
solved without the modernization of the country’s energy grids, and as it stands, state PSCs hold the keys.

The unlearning of any agency’s institutional culture is challenging, but not impossible. This country has a history of agency recalcitrance in the face of new social mandates. But change has happened; agencies have evolved. Achieving an institutional culture shift requires explicit climate-related directives, workable objectives, and external support from the agencies’ allies in all three branches of government.

(a) Explicit Directives. — Despite the existing beliefs and attitudes of present-day commissioners, clear mandates coupled with effective enforcement and incentives can influence an agency’s internal direction. There is a growing trend of states updating their state PSCs’ governing laws to clearly require consideration of climate impacts. This is an important step in the right direction. At minimum, it provides a clear legislative intent and gives environmental advocates and PSCs a platform to stand on when promoting investment in renewable energy. But as this Chapter has exposed, explicit directives on their own are insufficient to change century-old habits. Without more, PSCs will continue to err on the side of economics over the environment.

(b) Workable Objectives. — Regardless of an agency’s willingness and authority to act on a particular goal, a new objective for an agency will only survive so long as it is achievable. To be workable, a goal must have identifiable targets. And critically, the agency must have the resources and expertise necessary to make technical and well-educated decisions about how to attain these targets.

Currently, many state PSCs do not have access to independent environmental or climate-specific expertise. Such a deficit forces PSCs to rely on utility companies and intervenors for information and proposed methods for understanding the impacts of energy decisions on the climate. This was evident in the Hawaiian PSC decision, which simply adopted the utility’s proffered modeling and analysis about GHG


\[129\] Id. at 924 (explaining how civil rights legislation overhauled a resistant federal agency’s mission and institutional structure by providing clear authority, injecting civil rights officials into the agency with tangible financial support to carry out their new social mandate). Cf. Wilson, supra note 125, at 72–74 (explaining how the governing statute and professional expertise in the Tennessee Valley Authority caused the energy regulator to go from being hailed by liberals as an exemplar of “grass-roots democracy” and the “crown jewel of the New Deal era” to being viewed as a ruthless and insensitive power company that in its single-minded devotion to generating electricity was de-spoiling the environment and that in its obsession with nuclear power was risking catastrophe,” id. at 73).

\[130\] Id. at 54.

\[131\] Id. at 56.
impacts. A similar phenomenon is playing out in PSCs’ calls for investigations to achieve states’ net-zero goals — the onus is on the utility to provide the information and the solutions.

PSCs should take greater advantage of states’ existing environmental resources. For example, every state has its own environmental expert agency, and states could require approval or joint decisionmaking between the two agencies. Reallocation of that expertise from environmental agencies to in-house PSCs could eliminate potential stakeholder and institutional bias. Some states, such as Connecticut, already involve multiple agencies in the process of approving a new power plant, aiming to incorporate a neutral decisionmaker.

Another option is for states to prioritize renewable energy backgrounds when appointing PSC commissioners. The professional backgrounds of agency leaders and staff influence an institution’s goals. Moreover, a single commissioner’s vote has the potential to sway the institutional direction of the agency because only a handful of commissioners comprise PSCs. Presently, many state laws provide little to no guidance about the selection process of a state’s PSC commissioner. Yet there is precedent for incorporating more substantive qualifications, and so a hypothetical law could require at least one PSC commissioner to be selected with regard to their qualifications and experience in climate science and/or renewable energy. Although not

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133 In response to Maryland’s new law mandating consideration of climate change, the Maryland PSC has notified its docket participants of the new statutory factors and requested participants address these factors in their application and testimony before the PSC. See Md. Pub. Serv. Comm’n, Notice of Consideration of New Statutory Factors (Oct. 6, 2021), https://www.psc.state.md.us/wp-content/uploads/Notice-of-Consideration-of-New-Statutory-Factors.pdf [https://perma.cc/39PR-BHSP].
134 See About Us, CONN. SITING COUNCIL, https://portal.ct.gov/CSC/Common-Elements/Common-Elements/Connecticut-Siting-Council---Description [https://perma.cc/K495-P5SU] (“The Council is responsible for . . . balancing the need for adequate and reliable public utility services at the lowest reasonable cost to consumers with the need to protect the environment and ecology of the state . . . ”).
135 See WILSON, supra note 125, at 63–65 (describing how the professional backgrounds of the people hired shaped the diverging missions of the U.S. Forest Service and the National Park Service).
136 For example, Wisconsin’s PSC voted 2–1 to open a docket to determine how it will achieve a 100% clean energy future, and Montana’s PSC voted 3–2 to deny a motion to consider a forum on climate change. Danielle Kaeding, State Regulators Seek a Roadmap Toward a Clean Energy Future, WIS. PUB. RADIO (Mar. 12, 2021, 6:05 AM), https://www.wpr.org/state-regulators-seek-roadmap-toward-clean-energy-future [https://perma.cc/RYE4-JSRW]; see supra p. 1627 (discussing Montana’s PSC).
137 For example, Georgia law qualifies any disinterested elector thirty years or older to become a commissioner, “without regard to his experience in law or in the utility or transportation business.” GA. CODE ANN. § 46-2-2 (West 2021).
138 For example, all three Rhode Island commissioners must be selected “with regard to their qualifications and experience in law and government, energy matters, economics and finance, engineering and accounting.” 39 R.I. GEN. LAWS ANN. § 39-1-4 (West 2021).
sufficient on its own, bringing in climate-related expertise will better enable PSCs to consider the long-term costs of climate change.

(c) Support from External Allies Within the Government. — Finally, to succeed in their new mandates, state PSCs will require the support and encouragement of all three branches of state government. External support is a key factor in the survivability of an agency’s new goals.\textsuperscript{139} The state’s executive and legislature should provide direction through executive orders and statutes, while the state’s judiciary plays backstop, reinforcing the agency’s climate-friendly decisions. Thus, litigation and advocacy will continue to play an important role to hold the agencies accountable to their new climate mandates.

2. The Short-Term Solution: Clean Energy Standards. — A century’s worth of unlearning is possible and necessary, but it is not going to happen overnight. Due to decades of decisionmaking without consideration of climate impacts, changes to electric infrastructure are long overdue. Clean energy standards provide a straightforward, workable, and enforceable short-term solution. These standards require state utilities to distribute or generate a percentage of their energy from renewable sources by a certain date. Although blunt policy tools, clean energy standards serve as a springboard for the modernization of the U.S. electricity grid as well as a shift in state PSC institutional norms.

Increasingly more states are implementing clean energy standards at increasingly higher percentages. Today, twenty states, D.C., and Puerto Rico have 100% clean electricity targets,\textsuperscript{140} with other states currently considering similar 100% legislation.\textsuperscript{141} These state clean energy standards range in type and target. The goal years range from 2030 through 2070, and the metrics vary between renewable energy and carbon free (which could include fossil fuels in combination with carbon sequestration).\textsuperscript{142} The standards can be mandatory or purely aspirational, with most being authorized either through legislation or executive order.\textsuperscript{143} Arizona presented a unique situation, where its own PSC initiated a rulemaking to impose a 100% carbon-free standard by 2070.\textsuperscript{144} After years of negotiation and work on the rule, the Arizona Corporation

\textsuperscript{139} See WILSON, supra note 125, at 56.

\textsuperscript{140} 100% Clean Energy Collaborative — Table of 100% Clean Energy States, CLEAN ENERGY STATES ALL., https://www.cesa.org/projects/100-clean-energy-collaborative/guide/table-of-100-clean-energy-states [https://perma.cc/5A5-JMM].


\textsuperscript{142} CLEAN ENERGY STATES ALL., supra note 140.

\textsuperscript{143} Id.

Commission ultimately voted against its final rule 3–2 along partisan lines, leaving the state without a 100% clean energy standard.\textsuperscript{145}

One of the greatest criticisms of state legislatures implementing clean energy standards is that they are blunt policy tools that fail to incorporate agency expertise and provide little flexibility to adapt to changing technologies and future circumstances.\textsuperscript{146} After all, it is not the most cost-effective carbon-reduction policy.\textsuperscript{147}

Although imperfect, a clean energy standard appears to be a politically palatable,\textsuperscript{148} effective,\textsuperscript{149} and impactful start. This past year, in direct response to the Governor’s Executive Order, the Wisconsin PSC initiated a docket to investigate how it will achieve 100% renewable energy.\textsuperscript{150} This is, of course, the same PSC that rejected authority to consider GHG emissions in its order in 2020,\textsuperscript{151} and voluntarily cut any mention of climate change from its PSC website in 2017.\textsuperscript{152} As a result of these renewable energy mandates, state PSCs and the utility companies they regulate across the country have been forced to put forward resource plans that prove to state legislators how they will achieve net-zero carbon energy by a set date, regardless of any traditional economic balancing.\textsuperscript{153}

\begin{footnotesize}
\begin{enumerate}
\item See Scott, supra note 34, at 377 (“This option also bypasses the wealth of experience, knowledge, and wisdom within the current agency system. The creativity and practical know-how of the country’s regulatory commissions could offer significant and important input on how change might be achieved at reasonable cost.”).
\item Erik Paul Johnson, The Cost of Carbon Dioxide Abatement from State Renewable Portfolio Standards, 36 RES. & ENERGY ECON. 321, 350 (2014) (estimating the cost of CO\textsubscript{2} abatement through renewable portfolio standards is “nearly four times more expensive than the maximum price of CO\textsubscript{2} under [a] regional cap-and-trade program”).
\item Id.
\item Galen Barbose et al., A Retrospective Analysis of Benefits and Impacts of U.S. Renewable Portfolio Standards, 96 ENERGY POL’Y 645, 648–49 (2016) (reporting renewable portfolio standards resulted in 59 million metric tons of CO\textsubscript{2} reductions and $5.2 billion in health and environmental benefits in 2013); see also Alex Hollingsworth & Ivan Rudik, External Impacts of Local Energy Policy: The Case of Renewable Portfolio Standards 25 (Iowa State Univ. Dep’t of Econ., Working Paper No. 16012, 2016) (estimating that a 1% increase in a single state’s renewable portfolio standard results in up to $100 million in avoided damages in the United States from reduced pollution).
\item See supra pp. 1626–27.
\item See, e.g., Nevada Power Company Integrated Resource Plan Vol. 4, No. 21-06 (Nev. P.U.C. June 1, 2021) (citing Nevada’s recent legislation increasing the state’s net-zero carbon goal to 100% by 2050 and providing a plan as to how the company will meet the state’s green energy policies); S.B. 2408, 102d Gen. Assemb. 249, 710–12 (Ill. 2021) (requiring large utility companies to submit a multiyear integrated grid plan to ensure coordination with the state’s environmental and climate goals, including its goal of 100% clean energy by 2050).
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Moreover, clean energy standards check all the boxes for kickstarting a shift in agency culture. The standards provide explicit directives, laying out a numerical target by a specific date. The standards also are feasible with the given tools — PSC commissioners do not require climate expertise or additional resources to simply make 100% renewable energy decisions. And finally, the standards are supported by other branches of government, namely, the ones enacting the standards.

In a sense, clean energy standards are legislative overrides on PSCs’ vetoes over the future of the energy grid. Although this could be cause for concern, tipping points in environmental regulatory history have produced equally blunt and idealistic mandates but resulted in periods of incredible technological innovation. Progress to date proves that renewable energy innovations are around the corner and within grasp. As the climate continues to warm and PSCs continue to ignore the problem, today is one of those tipping points.

Conclusion

The climate is changing and so must our energy regulators. For decades, state PSCs have made decisions about our electricity grid without consideration of the climate impacts. Today, we are suffering the consequences, yet state PSCs continue to deny regulatory responsibility for solving the problem they helped exacerbate. In the long run, policy reform must aim to shift state PSCs’ institutional cultures through explicit climate-related directives and workable objectives, with encouragement from all three branches of government. But in the short term, state legislatures and governors should institute clean energy standards to redirect the trajectory of century-old agencies towards modern-day climate goals.
CHAPTER FIVE

THE PROMISE AND PERILS OF CARBON TARIFFS

The defining image of the twenty-sixth Conference of the Parties to the United Nations Framework Convention on Climate Change (COP26) featured Simon Kofe, Tuvalu’s foreign minister, delivering his address while standing knee-deep in the waters of the South Pacific.1 His plea to the leaders gathered in Glasgow for the meeting was that urgent action be taken to limit carbon emissions and prevent the inundation of low-lying island states like Tuvalu.2 His desperation was justified: national commitments to reduce greenhouse gas (GHG) emissions have proven inadequate,3 and Glasgow was framed as the “last best hope” to slow the pace of climate change.4 The alternative, and increasingly likely, outcome: an implacable march past the 1.5°C threshold that marks a point of no return for the earth’s warming climate.5 Despite Kofe’s exhortations, however, multilateral efforts in Glasgow fell short. Though leaders pledged to reduce methane emissions,6 limit the use of coal,7 slow deforestation,8 and support developing nations in adapting

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2 See id.
5 See UNFCCC Synthesis Report, supra note 3, at 5–6; Myles Allen et al., Summary for Policymakers, in INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, GLOBAL WARMING OF 1.5°C, § A 3.2 (Valérie Masson-Delmotte et al. eds., 2018).
to climate change\(^9\) (after breaking an earlier pledge to the same effect\(^10\)), binding targets were few and far between.

One commitment stood out, however: in the lead-up to the summit, the United States and European Union announced a deal to work together to limit emissions in the steel and aluminum industries by levying tariffs against imports of those carbon-intensive goods.\(^11\)

The idea of carbon tariffs — trade measures that require importers to pay the same penalty as domestic producers for emitting carbon dioxide\(^12\) — did not emerge for the first time in Glasgow.\(^13\) A carbon border adjustment scheme formed the basis of recent draft EU regulations aimed at shoring up the common market’s carbon-pricing system,\(^14\) and similar proposals have appeared in draft legislative initiatives in Congress and are under consideration in Canada,\(^15\) Russia,\(^16\)


\(^10\) See ALINA AVERCHENKOVA ET AL., INDEP. EXPERT GRP. ON CLIMATE FIN., DELIVERING ON THE $100 BILLION CLIMATE FINANCE COMMITMENT AND TRANSFORMING CLIMATE FINANCE 6–7 (2020).


\(^12\) See Hayashi & Schlesinger, supra note 11. This styling of carbon tariffs is something of a misnomer; the models examined here do not (for the most part) seek to impose punitive trade sanctions but instead aim to equalize the cost paid for goods imported to the regulated market and those produced within it. See id.

\(^13\) Nor are carbon tariffs the only emerging intersection between trade law and climate change, though the others are beyond the scope of this Chapter. See, e.g., Matteo Ferruglia et al., “Investor-State Dispute Settlement” as a New Avenue for Climate Change Litigation, SABIN CTR. FOR CLIMATE CHANGE L. AT COLUM. L. SCH.: CLIMATE L. BLOG (June 2, 2021), http://blogs.law.columbia.edu/climatechange/2021/06/02/investor-state-dispute-settlement-as-a-new-avenue-for-climate-change-litigation [https://perma.cc/D6B5-KJTW] (detailing the rise of complaints in investor-state dispute settlement fora that chills national policies seeking to meet climate goals).


and Japan. As an alternative to multilateral treaty processes and a tool to reduce the political cost of climate action, carbon tariffs seem promising. Their global scope also makes carbon tariffs especially well suited to confront the challenge posed by growing emissions outside of the United States.

Despite this potential and increased attention from policymakers, the legal status of carbon tariffs remains unclear. Conflicting views as to the compatibility of carbon tariffs with the commitments at the heart of the World Trade Organization (WTO) system — and a deadlocked dispute settlement process — mean that their status under trade law will likely remain ambiguous. Core principles of international environmental law, meanwhile, do not offer clear evidence of a legal obligation on states to address climate change, and the doctrine of state responsibility seems ill suited to the challenge of defining and enforcing the action incumbent on states. But governments do not seem to be in a mood to wait — carbon tariffs are coming.

This Chapter examines the emergence of what may prove to be an important and effective alternative to moribund treaty processes like COP26 against a muddled legal landscape. While carbon tariffs may reduce the social cost of responding to climate change by equalizing terms of trade between regulating and nonregulating jurisdictions — and may help to catalyze international action by creating new incentives for nonregulating jurisdictions to take action — they also highlight the inadequacy of existing norms and structures of international law when it comes to grappling with climate change.

Section A of this Chapter unpacks the rationale for carbon tariffs and highlights several models under consideration. Section B situates carbon tariffs against the trade obligations embodied in the General Agreement on Tariffs and Trade19 (GATT) and points to conflicting precedent and literature — and the deadlocked dispute settlement system — to suggest that their legality is and will remain uncertain under the WTO regime. Section C turns to principles of international law and state responsibility to try and fill in the gaps but finds that highly contested norms and limited jurisprudence do no better in answering the question of whether or how carbon tariffs may be lawfully implemented. Section D considers the impact of the pending implementation of carbon tariffs in light of this uncertainty. It argues that carbon tariffs may

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prove to be a destabilizing force for the WTO system but may also help to concretize emerging norms of customary international law around responding to climate change, lending new legal weight to the notion that states have a legal responsibility to avert climate disaster.

A. Carbon Leakage and Carbon Tariff Models

Climate policy is dogged by a commons dilemma: domestic efforts to limit climate emissions benefit the entire planet, while the costs of implementing rigorous climate regulations are borne principally by the regulating jurisdiction.\(^\text{20}\) Exporters in countries with lax emissions standards gain an artificial competitive advantage as compared to those operating in more tightly regulated environments,\(^\text{21}\) which limits incentives for nations to implement serious climate policies. The resulting carbon leakage — the process by which “energy-intensive production . . . flee[s] to regions without controls”\(^\text{22}\) — raises the risk that emissions reductions within the regulating state will be offset (or exceeded) by emissions increases in other states.\(^\text{23}\) The attendant job displacement undermines political support for aggressive climate action in countries that are working to reduce their GHG emissions, further weakening incentives to act.\(^\text{24}\) These effects together make it more challenging for nations to take collective action: governments are less likely to make meaningful (let alone binding) commitments if they fear that their carbon reductions will simply be taken up by offshore production in less regulated jurisdictions.\(^\text{25}\)

Carbon tariffs can help to level the playing field between countries that price or otherwise regulate carbon emissions and those that do not, while incentivizing action in nonregulating jurisdictions. They do so by imposing a cost on imports originating from nonregulating

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\(^{20}\) See William Nordhaus, The Climate Club: How to Fix a Failing Global Effort, 99 FOREIGN AFFS. 10, 14 (2020) ("Suppose that when Country A spends $100 on abatement, global damages decline by $200 but Country A might get only $20 worth of the benefits: its national cost-benefit analysis would lead it not to undertake the abatement.").

\(^{21}\) The advantage is artificial because polluting nations continue to impose negative externalities, in the form of higher carbon emissions, on other nations. See Steven Nathaniel Zane, Note, Leveling the Playing Field: The International Legality of Carbon Tariffs in the EU, 34 B.C. INT’L & COMPAR. L. REV. 199, 203 (2011).


\(^{23}\) The risk is exacerbated by the downward pressure on global carbon-intensive energy prices that emissions regulations can have. See id.


\(^{25}\) See Nordhaus, supra note 20, at 12–14.
jurisdictions\textsuperscript{26} equal to the real or effective carbon price in the regulating jurisdiction.\textsuperscript{27} Export-exposed industries are protected, and nonregulating jurisdictions are incentivized to implement climate policies in order to gain an exemption for their goods. Though critics have questioned the economic efficiency of carbon tariffs\textsuperscript{28} and cast doubt on their likely impact on net global emissions,\textsuperscript{29} even skeptics concede that these tariffs could play a vital role in making domestic climate policies more palatable.\textsuperscript{30} Moreover, against the disappointing backdrop of multilateral climate negotiations, carbon tariffs bear serious consideration because they offer a credible means of impelling international action. A flurry of activity by regional and national governments suggests that policymakers are taking notice, though as this section suggests, key questions relating to design and implementation remain.

\textsuperscript{26} While this Chapter focuses on carbon tariffs that take aim at imports, an alternative way to address carbon leakage would be to do the inverse, by exempting exports from the carbon pricing or regulatory scheme at work in the domestic jurisdiction. See, e.g., Exploring Border Carbon Adjustments for Canada, DEP’T OF FIN. CAN. (Aug. 8, 2021), https://www.canada.ca/en/department-finance/programs/consultations/2021/border-carbon-adjustments/exploring-border-carbon-adjustments-canada.html [https://perma.cc/K5XQ-ZLQM] (noting that currently, in Canada, “carbon leakage risks are mitigated through the design of . . . domestic pricing systems. Industries most at risk (i.e., those that are emissions-intensive and trade-exposed . . . ) are subject to carbon pricing but generally do not face full pricing of emissions”). This form of adjustment, however, may be overinclusive by setting the threshold for trade exposure too low or conflating climate regulation with other competitiveness concerns. See ISABELLE TURCOTTE & TOM GREEN, PEMBINA INST. & DAVID SUZUKI FOUND., INCREASING CLIMATE AMBITION WITH OUTPUT-BASED PRICING 7–8 (2021). It also dilutes incentives for domestic producers to limit emissions and does not create incentives for nonregulating jurisdictions to adopt climate policies.

\textsuperscript{27} See, e.g., Joseph E. Stiglitz, A New Agenda for Global Warming, ECONOMISTS’ VOICE, July 2006, at 1, 2.

\textsuperscript{28} See Juscelino F. Colares & Ashwin Rode, The Opportunities and Limitations of Neutral Carbon Tariffs, 19 AM. L. & ECON. REV. 423, 427–28 (2017) (arguing that carbon tariffs “open[] the door for industries to lobby for and secure inefficiently high” tariff rates, id. at 427, and advocating for a multilaterally negotiated solution instead).


\textsuperscript{30} See Weil, supra note 29, at 944. Indeed, the environmental movement has united interest groups that see opportunities for cooperation in passing green legislation while also protecting domestic jobs, as in the case of union provisions attached to President Biden’s planned electric vehicle tax credit. See Press Release, Bluegreen All., More than 60 Labor Unions, Environmental Organizations, and Advocacy Groups Urge Inclusion of Union Provision in Build Back Better EV Tax Credit (Dec. 15, 2021), https://www.bluegreenalliance.org/resources/5722 [https://perma.cc/3A7E-JQTD]. The inclusion of the allegedly protectionist provisions in a draft of President Biden’s Build Back Better bill has already provoked warnings of countermeasures from trade partners. See, e.g., Brian Platt & Keith Laing, Canada Threatens to Retaliate Against U.S. over EV Tax Credit, BLOOMBERG (Dec. 10, 2021, 4:37 PM), https://www.bloomberg.com/news/articles/2021-12-10/canada-threatens-to-retaliate-against-us-over-ev-tax-credit-kxzwgxc8t [https://perma.cc/2VQ4-6zP8].
1. Models. — At COP26, Canadian Prime Minister Justin Trudeau offered a plea backed by a threat. As the leader of one of the few countries that have managed to put in place a national price on carbon, he called for the nations assembled in Glasgow to adopt a common global price. Failing that, his environment minister suggested, Canada would levy a tariff on imports from countries without sufficiently robust climate plans. The idea of carbon tariffs has found purchase in other quarters as well, including in the recently announced EU-U.S. steel and aluminum deal, in a set of draft regulations advanced by the European Council, in draft congressional initiatives, and within academia. Though they vary in scope and approach, each model aims to satisfy the dual imperatives generated by carbon leakage: protecting domestic jobs and incentivizing international action.

(a) EU-U.S. Steel and Aluminum Deal. — Though the deal grabbed headlines by putting an end to an acrimonious trade dispute between the United States and the European Union, the pact’s real significance may lie in the fact that it represents the most current (as of this writing) planning toward the implementation of a carbon tariff regime. In announcing the deal, Commerce Secretary Gina Raimondo pointed to the need to respond to lax environmental standards in China. To address carbon leakage in the steel and aluminum sectors, the United States and European Union will work to create a coordinated border adjustment mechanism that would tariff imports from jurisdictions with carbon-intensive production. If implemented, the framework would be a step toward combating carbon leakage in a sector that is “one of the largest emitters of carbon in the manufacturing sector, is on track to consume 50 percent of available carbon budgets by 2050, [and] is highly exposed to trade.” Nevertheless, its narrow scope would exclude a host of other heavily polluting and trade-exposed industries and would not necessarily capture emissions associated with steel or aluminum used as an input in other traded goods. And it is unclear at this stage whether the

33 Id.
35 Id.; see also U.S. DEP’T OF COM., supra note 11.
36 See U.S. DEP’T OF COM., supra note 11.
deal — unlike the other proposals examined below — would enable exporting nations with robust climate policies to gain an exemption from the tariff or how that exemption process would be administered.

(b) The EU Carbon Border Adjustment Mechanism (CBAM) Proposal. — The EU-U.S. deal was preceded by a proposal introduced by the European Council for a more comprehensive, but still sectorally limited, set of carbon tariffs. In order to address the risk of carbon leakage arising from “differing ambitions related to climate policies,” the proposal would require importers to track the direct emissions embedded in the goods they bring into the EU and surrender an equivalent number of CBAM certificates linked to the closing prices of carbon allowances auctioned under the EU Emissions Trading System (ETS). Importers would be able to claim a reduction in the number of CBAM certificates to be surrendered based on the carbon price paid in the country of origin. The CBAM proposal does not specifically address what kinds of carbon pricing initiatives would earn an exemption, however. And though it hints that the plan will be applied contextually, the EU has not clarified precisely how prevailing conditions in exporting markets will be weighed and does not propose to exempt Least Developed Countries (LDCs). Like the EU-U.S. deal, the CBAM proposal is not comprehensive in scope and has been criticized for omitting “much of the carbon embedded in total imports.”

(c) U.S. Proposals. — The idea of carbon tariffs has also caught the attention of U.S. lawmakers on both sides of the aisle and recently

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38 The proposal would cover cement, fertilizers, iron and steel, aluminum, and electricity. EU CBAM Proposal, supra note 14, annex I.
39 Id. at 1.
40 Id. arts. 6, 21.
41 See id. arts. 6(2)(c), 9. The current draft does not make any such provision for other forms of emissions policies, though a proposed amendment would allow for this to happen. See Draft Opinion of the Committee on International Trade for the Committee on Environment, Public Health and Food Safety on the Proposal for a Regulation of the European Parliament and of the Council Establishing a Carbon Border Adjustment Mechanism, at 21, PE699.250v02-00 (Nov. 22, 2021).
42 This omission could become especially problematic in light of carbon pricing schemes that are underambitious or ineffective. See, e.g., Bianca Nogrady, China Launches World’s Biggest Carbon Market, 595 NATURE 637, 637 (2021).
found a receptive audience in the White House. Most recently, Senator Chris Coons unveiled a carbon tariff measure that would, like the EU regulation, be targeted at certain carbon-intensive industries. Instead of a defined pricing mechanism like the EU’s ETS, however, federal authorities would be tasked with assessing a “domestic environmental cost” borne by U.S. industry in complying with federal, state, regional, and local climate laws. That measure would be used by federal authorities to calculate a carbon border adjustment. In addition to exempting certain LDCs, the proposal would exempt imports from countries that do not impose carbon tariff measures on U.S. exports and that the Secretary of the Treasury finds have climate policies “that are at least as ambitious” as U.S. measures, though the proposal has little to say about how that ambition will be measured. As with the EU proposal, Senator Coons’s model would not, if implemented, reach the full range of U.S. imports and would also fail to account for embedded emissions in imports.

(d) The Climate Club Proposal. — In contrast to those tailored approaches, Professor William Nordhaus, an economist who has written extensively about climate change, has suggested a model that would see willing nations form an association predicated on a minimum level of climate ambition; countries on the outside of this “climate club” would be subject to a flat tariff. Although the idea has not been formally championed by any state, it was seized on by Germany’s new Chancellor, then–Minister Olaf Scholz, as a way to avoid potential trade friction linked to carbon tariffs. The model also serves as a useful

48 See S. 2378 § 9901(15).
49 Id. § 9902.
50 Id. § 9904(a).
51 Id. § 9904(b).
52 See id. § 9905(d). Senator Coons’s proposal was not the first attempt by U.S. legislators to introduce a carbon tariff regime and was preceded by a bipartisan effort to tie carbon tariffs to a new cap-and-trade system that would have imposed carbon tariffs on countries that had not achieved progress on climate objectives “comparable” to that of the United States. See S. Amend. 4825 to S. 3036, 110th Cong. § 1306(e)(1)(B) (2008).
53 See Curriculum Vitae, William D. Nordhaus, Sterling Professor of Econ., Yale Univ. (May 2010), https://drive.google.com/file/d/1Jk0PHUgb8v-LBSPGa-rbS2gBaY3WolY
54 See Nordhaus, supra note 20, at 15–16.
55 Germany's Scholz Proposes "Climate Club" to Avoid Trade Friction, REUTERS (May 22, 2021, 12:00 PM), https://www.reuters.com/business/environment/germanys-scholz-proposes-climate-club-avoid-trade-friction-2021-05-22 [https://perma.cc/F3XC-EXL7]. Minister Scholz later presented the idea to the German Federal Cabinet; its status as of this writing, and now that Scholz has assumed the Chancellorship, is unknown. See Press Release, Fed. Ministry of Fin., The German Government Wants to Establish an International Climate Club (Aug. 25, 2021),
counterpoint to the unilateral approaches outlined above. Nordhaus argues that a flat penalty on imports from nonclub nations offers simplicity advantages over tariffs tailored to the carbon intensity of the import in question and would do a better job of capturing indirect emissions. The flat tariff may be “less targeted” than a carbon tariff but is “primarily designed to increase participation, not to reduce leakage or improve competitiveness,” by addressing “total emissions of greenhouse gases, not only . . . those embodied in traded goods.” That approach might prove to be a double-edged sword, however; it would obviate the need for complicated calculations regarding the carbon intensity of a given good or sector, but the undiscriminating nature of the tariffs could spark damaging retaliatory tariffs that would undercut the benefits that accrue to climate club members.

B. Trade Law

States whose exports are subject to the new carbon tariffs could challenge them at the WTO as violations of either the “most-favoured-nation” requirement that obliges states to provide equal treatment to exports from other parties or the national-treatment obligation that requires states to treat foreign producers the same as domestic producers. Though carbon tariffs could conceivably be justified on the basis that they are border adjustment taxes permitted under GATT rules or under the theory that they fall under extant GATT exceptions for health and natural resources, both arguments rely on expansive understandings of the GATT text. Indeed, conflicting scholarship and limited precedent suggest that opponents of carbon tariffs might succeed in pressing a WTO claim — though this analysis presupposes a functioning dispute settlement system at the WTO, which may be an unrealistic assumption.
in light of the current deadlock in the Appellate Body. Against this muddled backdrop, then, it is no surprise that the WTO has been framed as being “part of the problem,” rather than a potential solution, when it comes to addressing climate change.

1. Carbon Tariffs as Border Adjustment Taxes. — GATT Article II:2, which incorporates by reference Article III:2, permits border tax adjustments that impose charges equivalent to domestic taxes levied on “like domestic product[s]” or on “an article from which the imported product has been manufactured or produced in whole or in part.” WTO precedent suggests that indirect taxes — those that target products instead of producers — are permitted under Article II:2, but carbon tariffs may not fit neatly into this category because carbon content is not a final or intermediate product. The status of carbon tariffs is further complicated by the fact that carbon emissions are not physically incorporated into the final product, leaving scholars divided on whether similar goods with different carbon contents should be considered “like goods” for the purposes of the border tax adjustment provisions. The exemptions processes outlined in the EU and U.S. proposals could also cast doubt on whether carbon tariffs can be characterized as border adjustment taxes; each proposal suggests that the climate policies in the exporting market will be assessed on a discretionary basis to see if they...
are as ambitious as those in the importing jurisdiction. As a result, they could end up imposing different tariffs on “like” products — even those with similar carbon contents — based on the importing jurisdiction’s assessment of the climate policy framework in the exporting state.

2. Exceptions Under Article XX. — If carbon tariffs cannot be justified as border adjustment taxes, proponents might look to the exceptions enumerated in GATT Article XX, which enable parties to take nonconforming measures “necessary to protect human, animal or plant life or health” or “relating to the conservation of exhaustible natural resources.” Unfortunately, neither exception provides obvious cover. The natural-resource exception has been read to cover clean air, leading some scholars to frame it as an easy fit for carbon tariffs. In addition, the WTO has in some cases taken a contextual view of the meaning of “natural resource.” However, it is unclear under WTO precedent whether atmospheric carbon levels can truly be characterized as exhaustible . . . or even as resources. Despite the fact that the health exception has been extended to efforts to protect the environment, that clause is read even more narrowly due to the necessity requirement embodied in the text and has limited application with respect to regulations aimed at protecting health outside of the regulating jurisdiction.

68 See EU CBAM Proposal, supra note 14, art. 9; S. 2378, 117th Cong. § 9904(h) (2021).
69 GATT, supra note 19, art. XX(b).
70 Id. art. XX(g). The most relevant exceptions are likely those pertaining to health and natural resources, though other exceptions, including Article XXI’s national security exceptions, have also been advanced as possible routes toward GATT compatibility for carbon tariffs. See Arko, supra note 60, at 455–57. The security exceptions have received little interpretation at the WTO, but at least one panel report suggests that they will be interpreted narrowly to apply only to “the quintessential functions of the state.” Panel Report, Russia — Measures Concerning Traffic in Transits, ¶ 130, WTO Doc. WT/DS12/R (adopted Apr. 26, 2010).
74 Zane, supra note 21, at 222.
76 See Zane, supra note 21, at 214–15, 214 n.143 (collecting sources).
Even if one of the two exceptions were found to apply, carbon tariffs would still have to pass Article XX’s chapeau test, which requires that measures not be applied “in a manner which would constitute a means of arbitrary or unjustifiable discrimination” or constitute “a disguised restriction on international trade.”

Though WTO jurisprudence has moved away from categorical rejections of attempts to influence policies in exporting countries, the nondiscrimination principle might preclude discretionary exemptions for carbon pricing or regulatory schemes. In practice, then, a WTO panel might view the carbon tariff models summarized above skeptically to the extent that they are justified as a means of compelling climate action by other states. Different tariff-exemptions treatments for similar carbon pricing or regulatory schemes could also be problematic. Though the U.S. proposals purport to give credit for different forms of climate policies, the current EU draft does not, which could be challenged as a violation of the chapeau test’s nondiscrimination principle. And while the EU model seeks to account for differentiated conditions in exporting countries in applying the tariffs, it is still unclear how it could do so objectively. Moreover, the Article XX standard could require carbon tariff authorities to offer importers due process with respect to their exemptions requests and in setting the emissions baseline for the imports in question, and to show that less trade-restrictive alternatives were unworkable. These requirements that could prove administratively burdensome for the EU and U.S. proposals and impossible for a climate club model that imposes flat tariffs in an undiscriminating manner.

3. WTO Deadlock. — The foregoing ambiguity is exacerbated by the fact that the WTO is currently incapable of definitively settling disputes. Designed as the final body of review for appeals brought by WTO parties, the Appellate Body has been nonfunctional since late 2019, when

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[78] GATT, supra note 19, art. XX.


[80] Veel, supra note 64, at 784–87; see also Das, supra note 65, at 84.


[82] See Weil, supra note 29, at 954.

[83] EU CBAM Proposal, supra note 14, art. 7(6).

[84] See U.S. — Shrimp, supra note 73, ¶ 165 (holding that Article XX requires parties to “allow for an[] inquiry into the appropriateness of the regulatory program for the conditions prevailing” in the exporting country).

[85] See Veel, supra note 64, at 788–90.

[86] Kaufmann & Weber, supra note 66, at 515–16. The managing director of the International Monetary Fund, Kristalina Georgieva, has noted that a patchwork system of carbon border adjustment measures would be a “nightmare” for the WTO and has urged countries to work toward a multilaterally negotiated solution instead. See Tasker, supra note 32.
the number of sitting judges fell below the requisite quorum. 87 The United States began blocking appointments — which must receive the consent of all WTO member states — under the Obama Administration after expressing discontent about judicial activism 88 and decisions taking an expansive view of the obligations codified in the GATT, 89 and following a series of losses at the WTO connected to U.S. trade remedies. 90 The deadlock in appointments — and the effective defenestration of the Appellate Body — means that reports emerging from WTO dispute panels will be unenforceable for the foreseeable future 91 and that definitive answers to the ambiguities around the status of carbon tariffs under the GATT will not be forthcoming anytime soon. 92

C. Principles of International Law and State Responsibility

As the preceding foray into trade law makes clear, not much about the compatibility of carbon tariffs with the WTO regime is clear at all. International trade obligations do not exist in a vacuum, however, and a large and growing body of treaty and customary international law also purports to guide state action with respect to the environment. Even if carbon tariffs were found to violate the GATT or left to languish in the legal ambiguity created by a defunct WTO Appellate Body, proponents of carbon tariffs might point to that body of international environmental law to justify the measures as lawful breaches of trade obligations aimed at inducing compliance with international climate obligations. As such, this section examines whether international law imposes a requirement on states to combat climate change and how the doctrine of state responsibility could be applied to justify the imposition of carbon tariffs

91 See HART & MURRILL, supra note 88, at 2.
92 Although the WTO can still author panel reports to address disputes between parties, the reports cannot be adopted as final unless the disputing parties both agree, effectively giving the losing side a veto. See id.
as a lawful countermeasure against states falling short of that responsibility.\textsuperscript{93} However, in light of largely hortatory treaty commitments and underdeveloped norms of customary international law, international environmental law does not yet supply a binding obligation on states to respond to climate change. Moreover, the doctrine of state responsibility seems ill suited to addressing the wide-ranging temporal and geographic scope of the climate crisis. As such, this section concludes that background principles of international law do little better than trade law to clarify the permissibility of carbon tariffs.

1. International Obligations to Combat Climate Change. — Although still a relatively nascent area of legal doctrine, international environmental law now addresses a “broad range of issues.”\textsuperscript{94} Two primary sources of international legal obligations on states predominate: treaty law and customary international law.\textsuperscript{95} Although climate treaty law has developed considerably since the implementation of the 1992 United Nations Framework Convention on Climate Change\textsuperscript{96} (UNFCCC), and despite a growing body of literature arguing in favor of the existence of norms of customary international law on climate change, neither source of international law provides a clear basis for a binding international obligation on states to address climate change.

(a) Treaty Law. — Since the ratification of the UNFCCC, parties to the agreement have committed themselves “to anticipate, prevent or minimize the causes of climate change and mitigate its adverse effects,”\textsuperscript{97} a pledge that states are obliged to honor in good faith.\textsuperscript{98} The Paris Agreement\textsuperscript{99} reflects the latest iteration of those treaty obligations and commits its 183 state parties to “[h]olding the increase in the global
average temperature to well below 2°C above preindustrial levels and pursuing efforts to limit the temperature increase to 1.5°C.\textsuperscript{100} The Paris Agreement contains commitments that are binding under international law,\textsuperscript{101} seemingly making it a good candidate for a source of international legal obligation on states to combat climate change. State parties are called on to prepare “nationally determined contribution[s]” to global efforts to combat climate change, in the form of emissions reductions, that reflect their “highest possible ambition.”\textsuperscript{102} But on closer review, the deal looks less binding; that ambition — undefined in the agreement — is tempered by “differentiated responsibilities” and “different national circumstances.”\textsuperscript{103} Indeed, the substantive commitments under the Paris Agreement are almost entirely self-directed and self-policing in nature; nations are responsible for volunteering their own climate targets and for fulfilling the reporting requirements articulated in the agreement.\textsuperscript{104} Moreover, as an international instrument directed at sovereign states, the Paris Agreement is beholden to the principle of state sovereignty: parties are free to accede to and abandon the agreement as they see fit.\textsuperscript{105} The voluntary nature of the pact thus undercuts its potency.\textsuperscript{106} Even though many parties have offered commitments that are clearly insufficient to meet the overarching 1.5°C target,\textsuperscript{107} the Paris Agreement offers little in the way of binding commitments that can be enforced against these states.\textsuperscript{108}

\begin{footnotesize}
\begin{enumerate}
\item Id. art. 2, para. 1(a).
\item Paris Agreement, supra note 99, art. 4, para. 3. In addition, parties shall, inter alia, “account for their nationally determined contributions,” \textit{id.} para. 13, and “be responsible” for the emission-level targets that they set, \textit{id.} para. 17.
\item Id. para. 3.
\item See \textit{id.} para. 9.
\item And the Trump Administration did just that. \textit{See} Lisa Friedman, \textit{Trump Serves Notice to Quit Paris Agreement}, \textit{N.Y. Times} (Feb. 19, 2021), https://www.nytimes.com/2019/11/04/climate/trump-paris-agreement-climate.html [https://perma.cc/P4R3-YRV4]; \textit{cf.} Off. of the U.N. High Comm’r for Hum. Rts., Fact Sheet No. 15 (Rev. 1), Civil and Political Rights: The Human Rights Committee 10 (2005), https://www.ohchr.org/Documents/Publications/FactSheet15rev1en.pdf [https://perma.cc/DMZ3-35S7] (noting the view of the Human Rights Committee that “once a State has ratified [the International Covenant on Civil and Political Rights], it is not permitted to withdraw from its obligations by denouncing the treaty” owing to the “particular character of human rights treaties such as the Covenant” (emphasis added)).
\item It bears mentioning here that this bottom-up approach was a deliberate design choice after the failure of the Kyoto Accords, which imposed quantitative emissions-reductions targets on high-income countries like the United States, which did not ratify the agreement. \textit{See} Jane A. Leggett, \textit{Cong. Rsch. Serv., R46204, The United Nations Framework Convention on Climate Change, The Kyoto Protocol, and the Paris Agreement} 4–6 (2020); \textit{see also} supra Introduction, pp. 1528–29.
\item This is not to say, however, that the Paris Agreement is entirely without teeth with respect to national governments; domestic courts have used the agreement’s voluntary targets to force action
\end{enumerate}
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(b) Climate Change and Customary International Law. — Customary international law — encompassing the unwritten norms at the heart of the international legal framework — is established by recourse to a two-part test: “[i]t arises from a ‘general and consistent practice of states followed by them from a sense of legal obligation.’”109 This background body of international law, which can be especially impactful in areas — like international humanitarian law — where state practice and a sense of legal obligation are widespread,110 provides little clarity when it comes to climate change. Scholars have advanced several theories arguing for the existence of norms of customary international law that amount to a binding obligation on states to address climate change. Some characterize the environment and atmosphere as a “common concern of mankind,”111 while others point to the “no harm” principle of customary international law, which holds that no state may, in exploiting its territory, cause injury to the territory, property, or persons of another.112 And when confronted with the scientific uncertainty attending the link between discrete state action and global climatic phenomena, scholars of this camp point to a “precautionary principle” to suggest that all states have a responsibility to act to limit the pace of climate change, even where causality is unclear.113

Though each of these arguments has a strong normative appeal to audiences who favor international climate action, their grounding in the doctrine of customary international law is shaky at best. Norms of customary international law must be evidenced by a showing of widespread and consistent state practice, practice that must in turn arise out of a

109 Ryan M. Scoville, Finding Customary International Law, 101 IOWA L. REV. 1893, 1895 (2016) (quoting RESTATEMENT (THIRD) OF THE FOREIGN RELS. L. OF THE U.S. § 102 (AM. L. INST. 1987)); see also Roberts & Sivakumaran, supra note 95, at 92–93. The line between customary international law and treaty law is not clear cut, and treaties may be viewed as crystallizing emerging norms of customary international law, though state practice pursuant to a treaty may not be dispositive for the purposes of the test of customary international law. See id. at 95; North Sea Continental Shelf (W. Ger./Den. & Neth.), Judgment, 1969 I.C.J. 3, ¶¶ 75–76 (Feb. 20) (noting that state practice in conformity with the 1958 Geneva Convention on the Continental Shelf, Convention on the Territorial Sea and the Contiguous Zone, Apr. 29, 1958, 516 U.N.T.S. 295, was ambiguous for the purposes of establishing state practice because the states were “presumably . . . acting . . . in the application of the Convention”).
111 See Redgwell, supra note 94, at 695.
112 Id. at 684.
sense of legal obligation on the part of the acting states. Both prongs seem problematic in the context of climate change; state practice on climate change is wildly uneven, and evidence of a sense of legal obligation on the part of the states taking action is still hard to find. In addition, the fact that some states have consistently disclaimed any responsibility for responding to climate change could further undercut the status of climate obligations as customary international law, because such “persistent objectors” are generally deemed to be exempt from the reach of international law formulated by custom. The other norms advanced in the climate change context seem equally problematic: the no-harm principle has been interpreted principally to require due diligence on the part of the polluting state, while the precautionary principle suffers from a dearth of consistent state practice and legal justification.

(c) State Responsibility and Countermeasures. — Even if a binding international legal obligation to respond to climate change were to be established, carbon tariffs would need to be implemented in accordance with the principles of state responsibility and lawful countermeasures reflected in the Draft Articles on State Responsibility (ARSIWA), which codify customary international law on lawful remedies for internationally wrongful acts. Yet problems associated with temporality, causation, and attribution, along with confusion in terms of the remedy sought, may mean that state responsibility doctrine is presently “ill equipped” to take on the challenge of climate change.

(i) State Responsibility. — State responsibility emerges on a finding of an internationally wrongful act, which in turn rests on a finding of an act or omission that is (1) “attributable to the State” and (2) “a breach of an international obligation of the State.” Element two is, as

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114 See Roberts & Sivakumaran, supra note 95, at 92–93.
116 See Roberts & Sivakumaran, supra note 95, at 97.
117 See Redgwell, supra note 94, at 684.
122 ARSIWA, supra note 119, annex art. 2.
outlined above, complicated in the context of climate change.\textsuperscript{123} Attribution would be no simpler. Although a significant share of global emissions can be traced to state-owned enterprises, a large proportion comes from privately held companies.\textsuperscript{124} Still, ARSIWA provides that the conduct of private actors can be attributed to a state if the actors are “under the direction or control of” the state in carrying out the conduct.\textsuperscript{125} This element of the doctrine has received relatively little elucidation in international legal jurisprudence, and what case law exists provides conflicting standards for the degree of state control that is required.\textsuperscript{126} So, although private-sector polluters are arguably under some degree of state control,\textsuperscript{127} the extension of ARSIWA beyond “government organs or the conduct of persons empowered to exercise government authority” would be controversial, to say the least.\textsuperscript{128} Problems of causation would muddy the waters further; attributing climate-wrought damages to specific emissions or state action (or inaction) could be difficult or impossible,\textsuperscript{129} especially in light of the geographic and temporal remoteness and naturally occurring sources of emissions and climate change that come into play when assessing the impact of emissions from a given state.\textsuperscript{130}

Additionally, scholars are divided on the question of whether state responsibility must be predicated on a finding of injury,\textsuperscript{131} though

\textsuperscript{123} See supra sections C.1.a–b, pp. 1653–56.
\textsuperscript{124} See Paul Griffin, CDP, The Carbon Majors Database: CDP Carbon Majors Report 2017, at 8 (2017) (finding 100 large companies to be responsible for seventy-one percent of global industrial GHG emissions). But see Tsang, supra note 113, at 12 (arguing that the failure to develop and enforce climate policies may be a form of omission that encourages continued emissions).
\textsuperscript{125} ARSIWA, supra note 119, annex art. 8.
\textsuperscript{126} Compare Military and Paramilitary Activities in and Against Nicaragua (Nicar. v. U.S.), Judgment, 1986 I.C.J. 14, ¶ 115 (June 27) (requiring a finding (1) that the state party was in effective control of the actor in question and (2) that the control was exercised with respect to the specific acts giving rise to the breach), with Prosecutor v. Tadić, Case No. IT-94-1-A, Appeals Chamber Judgement, ¶¶ 120–31 (Int’l Crim. Trib. for the Former Yugoslavia July 15, 1999) (holding a more indirect nexus including coordination and general direction could suffice to establish responsibility).
\textsuperscript{127} See Tsang, supra note 113, at 2 (advocating for the imposition of state responsibility doctrine in the climate change context generally). Indeed, the basic premise of the Paris Agreement is that states are capable of taking steps to control private-sector emissions. See Paris Agreement, supra note 99, at 2.
\textsuperscript{128} Phillip Barton, State Responsibility and Climate Change: Could Canada Be Liable to Small Island States?, 11 Dalhousie J. Legal Stud. 65, 70 n.23 (2002).
\textsuperscript{129} Skeptics have noted that state responsibility doctrine generally attends to harms that have already occurred (rather than those that are anticipated), that climate obligations are largely non-reciprocal, and that this commons-like accountability gap may “render it difficult to meet the requirement of breach of an obligation owed to another State.” Redgwell, supra note 94, at 687.
\textsuperscript{131} See James Crawford & Simon Olleson, The Character and Forms of International Responsibility, in International Law, supra note 94, at 415, 435 & n.84. Establishing injury
ARSIWA does provide for state responsibility to be invoked by “[a]ny State other than an injured State” where “the obligation breached is owed to a group of States . . . and is established for the protection of a collective interest of the group.”132 This form of obligation is not widely accepted as customary international law, however.133 Moreover, assigning a temporal boundary to the obligation to address climate change could prove challenging; international jurisprudence has frowned on attempts to assign liability retroactively, and as such the precise timing of the emergence of the international obligation to address climate change would be hotly contested.134 Finally, so-called “circumstances precluding wrongfulness,” namely economic distress and necessity, might be invoked by less wealthy nations on the receiving end of carbon tariffs to justify their noncompliance with their climate obligations, further limiting the reach of state responsibility.135

(ii) Countermeasures. — Provided that hurdles related to establishing a binding international obligation could be cleared and that problems relating to attribution could be addressed, ARSIWA provides for countermeasures to be taken by a wronged state, so long as conditions limiting the scope and application of countermeasures are respected. Most saliently for the purposes of carbon tariffs, countermeasures must be taken to induce compliance with the breached obligation and must be proportionate.136 Difficult temporal line-drawing exercises seem sure to follow if this doctrine is used to justify carbon tariffs; because a disproportionate share of historical emissions can be traced back to developed nations,137 ARSIWA could theoretically justify an endless array of countermeasures by states claiming injury. Yet applying carbon tariffs as countermeasures only in a prospective fashion would raise the question of why the more developed states that are contemplating tariffs should get a free pass for their historical emissions while imposing countermeasures on other states, including LDCs that have historically contributed very little to global emissions.138 Proportionality is also may be difficult, but not impossible, in light of the increasingly sophisticated measures for quantifying the damage wrought by climate change. See generally, e.g., Maximilian Auffhammer, *Quantifying Economic Damages from Climate Change*, 32 J. ECON. PERSPS. 53 (2018).

132 ARSIWA, supra note 119, annex art. 48, ¶ 1.
133 Crawford & Olleson, supra note 131, at 445–46.
134 See id. at 435–36.
135 See id. at 438–39.
136 ARSIWA, supra note 119, annex art. 49, ¶¶ 1, 3; id. art. 51; see also Crawford & Olleson, supra note 131, at 439 n.100.
138 Some analysis has suggested that the increased costs of deferred action to tackling climate change are in the trillions of dollars because of the steeper emissions reductions now needed to
predicated on the nature of the remedy sought; ARSIWA authorizes countermeasures only to the extent that they seek to induce compliance with the breached international obligation. But establishing what sort of climate policy is proportionate to the obligation to limit climate change hinges on the existence of a still-elusive consensus on what policies are effective at combating climate change and how they must be applied. As outlined above, the relevant treaty law merely requires that states put forward self-defined goals within the broader 1.5°C global target, and even emerging norms of customary international law do not provide for quantitative targets, meaning that compliance with ARSIWA’s proportionality principle could be difficult, if not impossible, to measure in practice.

D. Advancing Amidst the Uncertainty

Despite the enduring uncertainty as to their status under international trade and environmental law, carbon tariffs are coming. This Chapter has suggested that carbon tariffs may have a vital role to play in catalyzing international action on climate change — indeed, that they may present the only viable way of doing so — notwithstanding their ambiguous status under international law. Though a full accounting of the legal ramifications of the arrival of carbon tariffs will be contingent on the final model or models implemented, this section offers some tentative conclusions about the ways that they may impact the international legal system. It is too early to assess whether the benefits will outweigh the destabilizing effects of carbon tariffs. But for better or for worse, they seem bound to reshape the WTO system and norms of international law related to climate change. If nothing else, then, this section suggests that policymakers and climate advocates should be clear eyed about the potential side effects of what may prove to be a crucial tool in the fight against climate change.

1. Implications in Trade Law. — As outlined in section B above, the case for authorizing carbon tariffs as border adjustment taxes or as permitted exceptions to GATT obligations is muddy at best. The former route would stretch existing understandings of what constitutes a “like product” and a border adjustment tax, while the latter would require parties to shift their accepted understandings of the reach of the GATT

\[\text{prevent warming beyond the 1.5°C target. Benjamin M. Sanderson & Brian C. O’Neill, Assessing the Costs of Historical Inaction on Climate Change, }10\text{ SCI. REPS. 1, 5 (2020).}\]

\[\text{139 Monetary compensation may also be pursued, however, and may be gaining acceptance as an objective for lawful countermeasures. See Crawford & Olleson, supra note 131, at 442.}\]

\[\text{140 This is not to say that the problem eludes quantification; some scholars have suggested a “social cost of carbon” as a way to identify “the economic cost . . . resulting from emitting one additional ton of carbon dioxide.” Kevin Rennert et al., The Social Cost of Carbon 1 (Res. for the Future, Working Paper No. 21-28, 2021), https://media.rff.org/documents/WP_21-28_V2.pdf [https://perma.cc/RA7P-WQF5].}\]

\[\text{141 See Zane, supra note 21, at 209.}\]
health and natural-resource exceptions and to accept “weak” analogies to existing WTO case law. Both routes would seem to be predicated on a willingness on the part of GATT parties to interpret text crafted in 1947 through the lens of contemporary understandings of the global nature of the climate challenge. The prospects for these tectonic shifts seem unclear, and the WTO’s rather dismal recent track record when it comes to forging consensus offers scant reason for optimism. The continuing deadlock on the Appellate Body seems set to endure; even if a new U.S. administration interested in defending the imposition of carbon tariffs were to yield on appointments, there is nothing to stop any other state party — one seeking to undermine the legitimacy of trade measures aimed at catalyzing climate action — from advancing judicial-activism arguments similar to those put forth by the United States in holding up new appointments. U.S. rhetoric castigating the WTO for “adding to or diminishing rights or obligations” could easily be turned against efforts to read authorizations for carbon tariffs into GATT articles dealing with border adjustment taxes or existing Article XX exceptions. And (if as seems likely) disputes about the legality of carbon tariffs remain unaddressed due to deadlock at the Appellate Body, the WTO’s longstanding legitimacy crisis could be exacerbated, threatening the stability of an already-fragile dispute settlement system and raising the specter of tit-for-tat trade wars that find no resolution at the one international institution designed to serve as a clearinghouse for global trade disputes. Expansive interpretations of the GATT’s national security exceptions by the Trump Administration sparked a flurry of still-unresolved claims at the WTO and reprisals by trading partners; it seems likely that a drawn-out dispute over the legality of carbon tariffs based on differing conceptions of the core commitments embodied in the GATT could further undermine the WTO system. Whether the WTO — already facing serious concerns about structural integrity — can bear the additional weight will remain an open question, for now.

142 Id. at 221–22.
144 HART & MURRILL, supra note 88, at 3 (quoting OFF. OF THE U.S. TRADE REPRESENTATIVE, EXEC. OFF. OF THE PRESIDENT, REPORT ON THE APPELLATE BODY OF THE WORLD TRADE ORGANIZATION 96, 104 (2020)).
2. Implications in International Law More Broadly. — If the implications of carbon tariffs for the WTO system seem dire, their significance for the evolution of customary international law and the doctrine of state responsibility may offer reasons for cautious optimism on the part of climate advocates. As carbon tariffs proliferate amidst enduring uncertainty at the WTO, background principles of international environmental law may take on new importance as a way to justify and analyze carbon tariffs under international law. This Chapter has suggested that, at present, treaty-based climate targets are largely nonbinding, customary international law around climate change is underdeveloped, and the utility of state responsibility doctrine in this domain is unclear. Carbon tariffs do not offer a panacea to any of these challenges. Nevertheless, their pending imposition may help to firm up the body of international law that bears on the climate crisis. As they are put into practice, carbon tariffs could lead to the development of a larger body of state practice arising from a sense of legal obligation, helping to crystallize emerging norms of customary international law around responding to climate change. By providing a framework to compare different climate policies and determine which of them meet a threshold level of ambition, these tariffs could also facilitate the application of state responsibility doctrine to the issue of climate change.

The combination of consistent practice by a handful of influential (and mostly Western) states, along with evidence that those states are acting in response to a sense of international legal obligation, has sufficed to establish newer norms of customary international law.147 If they work as designed, carbon tariffs may help to bolster state practice among these influential jurisdictions by lowering the social and political costs of implementing climate policies. The EU-U.S. steel and aluminum deal also hints at the sort of international cooperation and coordination that could accompany the introduction of carbon tariffs, suggesting that common standards, or at least commonly accepted threshold levels of ambition, could come into play. Carbon tariffs may also be justified in ways that indicate a sense of legal obligation to adopt climate policies consistent with the 1.5°C target embodied in the Paris Agreement, further solidifying the status of addressing climate change under customary international law.148

More significantly, perhaps, the impact on customary international law would not be limited to the states implementing the tariff regimes. Most of the models currently under consideration enable exporters to try to win a tariff exemption by pointing to emissions policies in place in their home jurisdictions that are comparable to those at work in the importing state. As access to large and valuable markets like the United

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147 See Roberts & Sivakumaran, supra note 95, at 104.
148 There is evidence that implementing states are already turning to Paris as a justification. See DEP’T OF FIN. CAN., supra note 26; EU CBAM Proposal, supra note 14, at 0.
States and the European Union becomes predicated on a showing that comparable climate policies are at work in the exporting state, more and more trade-dependent economies that might not otherwise adopt rigorous climate policies will be compelled to show that they too are complying with the Paris targets, further expanding the body of state practice. These effects may not produce a critical mass of state practice and legal obligation and may not overcome the inertial effects of persistent objectors, but they will almost certainly move the needle in the right direction.

Additionally, as carbon tariffs become more widespread, they could offer a more objective means to quantify the contours of the responsibility to respond to climate change. Though significant challenges related to causation and the scope of state responsibility would remain, carbon tariffs could be a large step toward easing the application of the doctrine of state responsibility in the climate context. Both the EU and U.S. models suggest that carbon tariff authorities will find a way to compare different climate regulatory structures.\textsuperscript{149} In so doing, they may develop a functional “carbon price equivalent” to enable regulators to compare different climate policies, ranging from those that price carbon directly to those that use other nonpricing regulatory measures to limit emissions.\textsuperscript{150} The emergence of a broader body of state practice related to the measurement and comparison of carbon price equivalents could thus help to solidify a consensus on the effective carbon price that is needed to respond to climate change.\textsuperscript{151}

The impact of carbon tariffs on climate-related norms of customary international law may also have inequitable impacts, however. At present, neither the EU CBAM proposal nor the climate club model make any provision for exemptions for LDCs. And while Senator Coons’s model does suggest that LDCs will gain an exemption, the contours of that exemption are unclear, and the viability of this approach is unknown when viewed against the historical skepticism of the United States toward efforts to limit GHG emissions that exempt developing countries.\textsuperscript{152} That rationale, which holds that emerging economies constitute too large a share of contemporary GHG emissions to be exempted from international climate targets, is in tension with the principle of “common but differentiated responsibilities” that sits at the heart of the

\textsuperscript{149} See S. 2378, 117th Cong. § 9905(d) (2021); EU CBAM Proposal, supra note 14, at 16–17.
\textsuperscript{151} And that consensus could creep upward as states with relatively stringent emissions standards, and greener economies as a result, begin to see a competitive advantage in imposing a higher carbon price equivalent on their trading partners.
\textsuperscript{152} See, e.g., S. Res. 98, 105th Cong. pmbl. (1997) (enacted) (“[e]xpressing the sense of the Senate” in the run-up to the Third Conference of the Parties to the UNFCCC in Kyoto that the United States should reject any deal that did not mandate new targets for developing countries as well).
same Paris Agreement that carbon tariff proponents point to as justification for the measures. A carbon tariff regime structured to overlook the development status and historical emissions of the states subject to sanction might disproportionately penalize poorer states that have contributed less to historical GHG emissions and that should arguably bear a relatively smaller share of the burden in mitigating climate change. Many of those states have advocated fiercely in favor of tailored climate obligations in light of this fact, though whether these arguments will find a receptive audience in the governments leading the charge on carbon tariffs is still unclear. If they do not, carbon tariffs might have the perverse effect of accelerating the development of norms and state practice aimed at responding to climate change, while disregarding along the way a core commitment to global equity embodied in the Paris Agreement.

Conclusion

This Chapter has suggested that perhaps the only definite legal conclusion to be drawn about the impending arrival of carbon tariffs is that they will have wide-ranging and unpredictable effects on the international legal system, in light of their ambiguous legal status. Though much will turn on their final form and implementation, the tariff models currently under consideration each come with their own set of drawbacks. Rather than complying with international legal norms and standards, these new climate-oriented trade measures may end up re-shaping them in ways that could be transformative and disruptive. They may further undermine the already-shaky WTO system but may also help to clarify the contours of state responsibility to respond to climate change. At bottom, however, the potential of these novel tools to mitigate the competitiveness and collective action challenges associated with reducing emissions means that carbon tariffs must be considered seriously in the arsenal of new tools being brought to bear in the fight against climate change. States and citizens facing a rising tide of climate threats can afford no less.

153 Paris Agreement, supra note 99, at 1.