

---

---

## 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.<sup>1</sup> Wildfires raged across Greece, destroying over 120,000 acres of pine forests.<sup>2</sup> Unexpected monsoons and dry spells disrupted weather patterns in Madagascar, resulting in famine for hundreds of thousands of people.<sup>3</sup> And scarcity in freshwater sources in Asia exacerbated geopolitical tensions, as China's efforts to redirect rivers caused extraterritorial droughts and floods.<sup>4</sup>

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.”<sup>5</sup> The IPCC report detailed harsh realities. Human activity has increased global temperatures by around 1.1°C from preindustrial levels<sup>6</sup> 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.<sup>7</sup> 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.<sup>8</sup> The 1.5°C target aims to sustain critical ecological systems.<sup>9</sup> However, the latest IPCC report left open only a narrow window of hope for this goal. Only

---

<sup>1</sup> Nadja Popovich & Winston Choi-Schagrin, *Hidden Toll of the Northwest Heat Wave: Hundreds of Extra Deaths*, N.Y. TIMES (Aug. 11, 2021), <https://www.nytimes.com/interactive/2021/08/11/climate/deaths-pacific-northwest-heat-wave.html> [<https://perma.cc/DTW5-G6CR>].

<sup>2</sup> Jason Horowitz, *Greek Island Is New Epicenter of Europe's Summer of Calamity*, N.Y. TIMES (Aug. 11, 2021), <https://www.nytimes.com/2021/08/11/world/europe/greece-wildfires-evia-climate-change-europe.html> [<https://perma.cc/9WSX-CV9Z>].

<sup>3</sup> Aryn Baker, *Climate, Not Conflict. Madagascar's Famine Is the First in Modern History to Be Solely Caused by Global Warming*, TIME (July 20, 2021, 1:12 PM), <https://time.com/6081919/famine-climate-change-madagascar> [<https://perma.cc/58NC-52E8>].

<sup>4</sup> 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>].

<sup>5</sup> Henry Fountain, *5 Takeaways from the Major New U.N. Climate Report.*, N.Y. TIMES (Oct. 26, 2021), <https://www.nytimes.com/2021/08/09/climate/un-climate-report-takeaways.html> [<https://perma.cc/FU2E-5SUY>] (discussing INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, CLIMATE CHANGE 2021: THE PHYSICAL SCIENCE BASIS (Valérie Masson-Delmotte et al. eds., 2021)).

<sup>6</sup> INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, *supra* note 5, at SPM-6.

<sup>7</sup> *Id.* at SPM-17.

<sup>8</sup> U.N. Framework Convention on Climate Change Conference of the Parties, 21st Sess., *Adoption of the Paris Agreement*, art. 2, ¶ 1, U.N. Doc. FCCC/CP/2015/L.9/Rev.1 (Dec. 12, 2015).

<sup>9</sup> 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°C.<sup>10</sup>

Against this backdrop, some commentators referred to COP26 as “a last-ditch effort”<sup>11</sup> — 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.”<sup>12</sup> At COP26, participating nations made various pledges to reduce emissions.<sup>13</sup> 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°C target or even to constrain the temperature increase to 2.0°C.<sup>14</sup> Protests erupted around the globe.<sup>15</sup>

\* \* \*

While mainstream coverage of COP26 tended to focus on major nations,<sup>16</sup> 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,<sup>17</sup> broad coalitions of local governments,<sup>18</sup> and “a historic presence of Indigenous leaders.”<sup>19</sup>

<sup>10</sup> See INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, *supra* note 5, at SPM-18.

<sup>11</sup> Mark Fischetti, *There's Still Time to Fix Climate — About 11 Years*, SCI. AM. (Oct. 27, 2021), <https://www.scientificamerican.com/article/theres-still-time-to-fix-climate-about-11-years> [https://perma.cc/53W2-92L3].

<sup>12</sup> “Historic” Paris Climate Deal Adopted, CBC NEWS (Dec. 12, 2015, 5:52 AM), <https://www.cbc.ca/news/world/cop21-climate-change-talks-saturday-announced-1.3362354> [https://perma.cc/Z39J-S897] (statement of then-Secretary of State John Kerry).

<sup>13</sup> See ANNA ÅBERG ET AL., CHATHAM HOUSE, COP26: WHAT HAPPENED, WHAT DOES THIS MEAN, AND WHAT HAPPENS NEXT? 2–8 (2021), [https://www.chathamhouse.org/sites/default/files/2021-11/2021-11-15-COP26-what-happened-summary-Aberg-et-al\\_1.pdf](https://www.chathamhouse.org/sites/default/files/2021-11/2021-11-15-COP26-what-happened-summary-Aberg-et-al_1.pdf) [https://perma.cc/T7SD-LHCB].

<sup>14</sup> *E.g.*, *id.* at 1; CLIMATE ACTION TRACKER, WARMING PROJECTIONS GLOBAL UPDATE, at i (2021).

<sup>15</sup> See, *e.g.*, Stephen Castle & Megan Specia, *COP26 Protesters Back an Array of Causes, Connected by Climate Change*, N.Y. TIMES (Nov. 8, 2021), <https://www.nytimes.com/2021/11/06/world/europe/cop-climate-protests.html> [https://perma.cc/59U2-D86F].

<sup>16</sup> See, *e.g.*, Ruby Mellen, *Meet the Key Players of the COP26 Climate Summit*, WASH. POST (Nov. 1, 2021, 2:24 PM), <https://www.washingtonpost.com/world/2021/11/01/cop26-leaders-deal-makers-climate-summit> [https://perma.cc/KPL8-3RDN].

<sup>17</sup> Press Release, The Climate Registry & Climate Action Rsrvc., The Climate Registry and Climate Action Reserve to Bring Largest U.S. Subnational Delegation Ever to COP26 (Oct. 27, 2021), <https://www.theclimateregistry.org/wp-content/uploads/2021/10/TCR-and-CAR-Bringing-Largest-U.S.-Subnational-Delegation-Ever-to-COP26.pdf> [https://perma.cc/JBY8-WCYU].

<sup>18</sup> See, *e.g.*, *LGA at COP26*, LOCAL GOV'T ASS'N, <https://www.local.gov.uk/lga-cop26> [https://perma.cc/DYY6-LXX5].

<sup>19</sup> First Peoples Worldwide, *Indigenous Leaders at COP26: Support Indigenous-Led Solutions to the Climate Crisis*, UNIV. COLO. BOULDER (Nov. 22, 2021), <https://www.colorado.edu/program/fpw/2021/11/22/indigenous-leaders-cop26-support-indigenous-led-solutions-climate-crisis> [https://perma.cc/74QX-AWVD].

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.<sup>20</sup> 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.<sup>21</sup> 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.<sup>22</sup>

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.<sup>23</sup> 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

---

<sup>20</sup> See generally, e.g., Sharmila L. Murthy, *States and Cities as "Norm Sustainers": A Role for Subnational Actors in the Paris Agreement on Climate Change*, 37 VA. ENV'T L.J. 1 (2019); Elinor Ostrom, *A Polycentric Approach for Coping with Climate Change*, 15 ANNALS ECON. & FIN. 97 (2014).

<sup>21</sup> As Professor Wendy Jacobs explained, "collaboration is critical" in combating climate change. Colin Durrant, *Students Help Groups to Pursue Climate Action*, HARV. GAZETTE (Nov. 14, 2017), <https://news.harvard.edu/gazette/story/2017/11/harvard-living-lab-course-works-to-find-practical-alternatives-to-carbon> [<https://perma.cc/HC38-RU8L>].

<sup>22</sup> 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).

<sup>23</sup> The topic has generated a wealth of scholarship. See generally, e.g., BARRY G. RABE, STATEHOUSE AND GREENHOUSE: THE EMERGING POLITICS OF AMERICAN CLIMATE CHANGE POLICY (2004); LOCAL CLIMATE CHANGE LAW (Benjamin J. Richardson ed., 2012).

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.<sup>24</sup> For decades, ecologist Garrett Hardin's account in *The Tragedy of the Commons*<sup>25</sup> has pervaded environmental policy debates.<sup>26</sup> In Hardin's view, "[f]reedom in a commons brings ruin to all."<sup>27</sup> If individuals are free to act in their self-interests, they will exploit and derogate common resources to their mutual detriment.<sup>28</sup> To each individual, the behavior is rational, since the individualized benefits of preservation pale in comparison to those of exploitation.<sup>29</sup> 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<sup>30</sup> — in other words, "mutual coercion, mutually agreed upon."<sup>31</sup>

This framing in favor of top-down regulation has influenced multiple eras of environmental policymaking.<sup>32</sup> For instance, uncoordinated sub-national actors' struggles to manage pollution justified federal intervention in the 1970s through legislation such as the Clean Air Act.<sup>33</sup> In

<sup>24</sup> Various framings to explicate climate change as a collective action problem have emerged. See, e.g., Kelly Levin et al., *Overcoming the Tragedy of Super Wicked Problems: Constraining Our Future Selves to Ameliorate Global Climate Change*, 45 POL'Y SCIS. 123, 124 (2012); see also Richard J. Lazarus, *Super Wicked Problems and Climate Change: Restraining the Present to Liberate the Future*, 94 CORNELL L. REV. 1153, 1159–61 (2009).

<sup>25</sup> Garrett Hardin, *The Tragedy of the Commons*, 162 SCIENCE 1243 (1968).

<sup>26</sup> Holly Caggiano & Laura F. Landau, *A New Framework for Imagining the Climate Commons? The Case of a Green New Deal in the US*, PLAN. THEORY, 2021, at 1, 1.

<sup>27</sup> Hardin, *supra* note 25, at 1244.

<sup>28</sup> *Id.* at 1244–45.

<sup>29</sup> *Id.* at 1244.

<sup>30</sup> *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.").

<sup>31</sup> Hardin, *supra* note 25, at 1247.

<sup>32</sup> Caggiano & Landau, *supra* note 26, at 1; see, e.g., Stewart, *supra* note 30, at 1211.

<sup>33</sup> 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,”<sup>34</sup> in which “[t]he atmosphere is the ultimate example of a commons at risk of being destroyed by global society.”<sup>35</sup> 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.”<sup>36</sup>

To Hardin, then, the optimal way to combat climate change would be through top-down global rules,<sup>37</sup> and nations should coalesce if they can agree upon a “fair means of allocating the burden of solving the tragedy.”<sup>38</sup> But differing conceptions of fairness and self-interests have limited cooperation.<sup>39</sup> At the 1997 United Nations Climate Change Conference, many industrialized nations joined the Kyoto Protocol, a treaty that set binding targets for emissions reductions.<sup>40</sup> 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.<sup>41</sup>

At the time, the United States was the largest emitter of GHGs<sup>42</sup> 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.<sup>43</sup> As a result, the Clinton Administration opted not to submit the Kyoto Protocol

---

<sup>34</sup> Katherine A. Trisolini, *All Hands on Deck: Local Governments and the Potential for Bidirectional Climate Change Regulation*, 62 STAN. L. REV. 669, 681 (2010).

<sup>35</sup> Lisa Schenck, *Climate Change “Crisis” — Struggling for Worldwide Collective Action*, 19 COLO. J. INT’L ENV’T L. & POL’Y 319, 335 (2008).

<sup>36</sup> Trisolini, *supra* note 34, at 681–82.

<sup>37</sup> See Daniel C. Esty, *Toward Optimal Environmental Governance*, 74 N.Y.U. L. REV. 1495, 1555 (1999) (“[N]ational-scale intervention . . . invites free riding, holdouts, and inefficient spending of limited resources — and thus structural regulatory failure. At least from a theoretical viewpoint, inherently global problems demand concerted worldwide action.”); see also Richard B. Stewart & Jonathan B. Wiener, *The Comprehensive Approach to Global Climate Policy: Issues of Design and Practicality*, 9 ARIZ. J. INT’L & COMPAR. L. 83, 91 (1992) (“[T]he policy response to an environmental problem should be as broad as the sources of the problem.”).

<sup>38</sup> Barton H. Thompson, Jr., Essay, *Tragically Difficult: The Obstacles to Governing the Commons*, 30 ENV’T L. 241, 259 (2000).

<sup>39</sup> *Id.* at 259–60.

<sup>40</sup> Paul G. Harris, *Common but Differentiated Responsibility: The Kyoto Protocol and United States Policy*, 7 N.Y.U. ENV’T L.J. 27, 28 (1999); Vivian E. Thomson & Vicki Arroyo, *Upside-Down Cooperative Federalism: Climate Change Policymaking and the States*, 29 VA. ENV’T L.J. 1, 4–5 (2011).

<sup>41</sup> Harris, *supra* note 40, at 28; Thomson & Arroyo, *supra* note 40, at 4 n.2.

<sup>42</sup> Harris, *supra* note 40, at 31.

<sup>43</sup> *Id.* at 36–37; Thomson & Arroyo, *supra* note 40, at 5.

to the Senate for ratification.<sup>44</sup> The Bush Administration affirmed a posture against the treaty on the basis of economic interests, the exemption of developing countries, and likely opposition from the Senate.<sup>45</sup> The United States was not wholly an outlier, though. For instance, in 2011, Canada withdrew from the Kyoto Protocol, justifying the decision on the basis of national economic interests and the exemption of developing countries.<sup>46</sup> With international law lacking the “teeth” for top-down coercion, “[t]he sovereignty of nations look[ed] like Hardin’s fatal freedom.”<sup>47</sup>

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.<sup>48</sup> The Obama Administration played an instrumental role in designing the nonbinding features.<sup>49</sup> 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.<sup>50</sup> 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.<sup>51</sup> President Trump famously declared that he was

---

<sup>44</sup> Thomson & Arroyo, *supra* note 40, at 5–6. The implementation of an international treaty requires ratification by the Senate. U.S. CONST. art. II, § 2, cl. 2.

<sup>45</sup> Thomson & Arroyo, *supra* note 40, at 5–6; *see also* Cass R. Sunstein, *Of Montreal and Kyoto: A Tale of Two Protocols*, 31 HARV. ENV’T L. REV. 1, 34 (2007) (employing cost-benefit analysis and finding that, to the United States, the Kyoto Protocol posed expected benefits of \$12 billion compared to expected costs of \$325 billion).

<sup>46</sup> SILVIA MACIUNAS & GÉRAUD DE LASSUS SAINT-GENIÈS, CTR. FOR INT’L GOVERNANCE INNOVATION, *THE EVOLUTION OF CANADA’S INTERNATIONAL AND DOMESTIC CLIMATE POLICY: FROM DIVERGENCE TO CONSISTENCY?* 7 (2018) (citing *Kyoto and Out*, THE ECONOMIST (Dec. 17, 2011), <https://www.economist.com/node/21541849> [<https://perma.cc/5JLH-HJ2Q>]).

<sup>47</sup> Stephen Battersby, News Feature, *Can Humankind Escape the Tragedy of the Commons?*, 114 PROC. NAT’L ACAD. SCI. 7, 9 (2017) (“[T]here is no government to impose rules from above. The real problem is sovereignty. . . . [T]reaties are essentially voluntary.” (internal quotation marks omitted)).

<sup>48</sup> Jessica Durney, *Defining the Paris Agreement: A Study of Executive Power and Political Commitments*, 11 CARBON & CLIMATE L. REV. 234, 238–39 (2017); *see also* Caggiano & Landau, *supra* note 26, at 6; Murthy, *supra* note 20, at 9. The framework is accompanied by a process for nations to collectively review their progress every five years. Murthy, *supra* note 20, at 10.

<sup>49</sup> Manjana Milkoreit, *The Paris Agreement on Climate Change — Made in USA?*, 17 PERSPS. ON POL. 1019, 1026–28 (2019).

<sup>50</sup> *Id.*; *see also* Durney, *supra* note 48, at 242.

<sup>51</sup> *Statement by President Trump on the Paris Climate Accord*, 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>]; *see also* Durney, *supra* note 48, at 242 (“[W]hile President Obama could navigate around the Senate to sign the Agreement, so too could

“elected to represent the citizens of Pittsburgh, not Paris.”<sup>52</sup> 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.<sup>53</sup> Despite the Biden Administration’s reentry into the Paris Agreement,<sup>54</sup> over time, familiar dynamics have left a lasting impression: “Hardin’s legacy looms in climate policy.”<sup>55</sup>

### 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.<sup>56</sup> 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.<sup>57</sup> In an attempt to fill the void, hundreds of local governments adopted measures aspiring to meet the emissions targets of the Kyoto Protocol.<sup>58</sup> 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 government<sup>59</sup> — famously in *Massachusetts v. EPA*.<sup>60</sup> 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.”<sup>61</sup>

---

the Trump Administration use the non-binding character of the Agreement to unilaterally withdraw . . . .”); Eugene Kontorovich, *Exiting Paris: What the Climate Accord Teaches About the Features of Treaties and Executive Agreements*, 51 CASE W. RES. J. INT’L L. 103, 103–05 (2019).

<sup>52</sup> Statement by President Trump on the Paris Climate Accord, *supra* note 51.

<sup>53</sup> See, e.g., Grace Nosek, *Climate Change Litigation and Narrative: How to Use Litigation to Tell Compelling Climate Stories*, 42 WM. & MARY ENV’T L. & POL’Y REV. 733, 745–46 (2018).

<sup>54</sup> *Paris Climate Agreement*, WHITE HOUSE (Jan. 20, 2021), <https://www.whitehouse.gov/briefing-room/statements-releases/2021/01/20/paris-climate-agreement> [<https://perma.cc/ANQ6-74Y9>].

<sup>55</sup> Caggiano & Landau, *supra* note 26, at 3.

<sup>56</sup> Vicki Arroyo et al., *State Innovation on Climate Change: Reducing Emissions from Key Sectors While Preparing for a “New Normal,”* 10 HARV. L. & POL’Y REV. 385, 385 (2016).

<sup>57</sup> *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 (2019).

<sup>58</sup> Arroyo et al., *supra* note 56, at 386; Kirsten H. Engel & Barak Y. Orbach, Essay, *Micro-Motives and State and Local Climate Change Initiatives*, 2 HARV. L. & POL’Y REV. 119, 122 (2008); see also Cinnamon P. Carlarne, *U.S. Climate Change Law: A Decade of Flux and an Uncertain Future*, 69 AM. U. L. REV. 387, 454 (2019). These efforts are part of a long history of subnational environmental action. See generally, e.g., DORCETA E. TAYLOR, *THE ENVIRONMENT AND THE PEOPLE IN AMERICAN CITIES, 1600S–1900S* (2009); Robert V. Percival, *Environmental Federalism: Historical Roots and Contemporary Models*, 54 MD. L. REV. 1141 (1995).

<sup>59</sup> Engel & Orbach, *supra* note 58, at 123–26.

<sup>60</sup> 549 U.S. 497 (2007).

<sup>61</sup> Kevin L. Doran, *U.S. Sub-federal Climate Change Initiatives: An Irrational Means to a Rational End?*, 26 VA. ENV’T L.J. 189, 190 (2008).

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 to Hardin's framing of the tragedy of the commons.<sup>62</sup> 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."<sup>63</sup>

Regardless of the cause,<sup>64</sup> 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.<sup>65</sup> 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.<sup>66</sup> For instance, scholars suggested that the lack of coordination invites market inefficiencies like free riding,<sup>67</sup> imposes high transaction costs through regulatory complexities,<sup>68</sup> and creates regulatory "leakage" where the sources of emissions shift to unregulated spaces.<sup>69</sup> 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."<sup>70</sup>

Nonetheless, as the climate crisis grew, the involvement of subnational governments did as well. The trend advanced during the years of the Obama Administration.<sup>71</sup> Then, the Trump Administration's 2017 announcement of its intent to withdraw from the Paris Agreement

---

<sup>62</sup> 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 ("[W]hy 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.).

<sup>63</sup> Engel, *supra* note 62, at 1022 (citing Esty, *supra* note 37, at 1554).

<sup>64</sup> 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).

<sup>65</sup> See, e.g., Richard B. Stewart, *States and Cities as Actors in Global Climate Regulation: Unitary vs. Plural Architectures*, 50 ARIZ. L. REV. 681, 699–701 (2008).

<sup>66</sup> See, e.g., Jonathan B. Wiener, Commentary, *Think Globally, Act Globally: The Limits of Local Climate Policies*, 155 U. PA. L. REV. 1961, 1963–64 (2007) (addressing both pros and cons of subnational efforts).

<sup>67</sup> *Id.* at 1965.

<sup>68</sup> Stewart, *supra* note 65, at 701.

<sup>69</sup> Wiener, *supra* note 66, at 1967.

<sup>70</sup> Cary Coglianese & Jocelyn D'Ambrosio, Commentary, *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").

<sup>71</sup> Carlarne, *supra* note 58, at 455–56.

ignited a new wave of subnational efforts.<sup>72</sup> 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.<sup>73</sup> 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.<sup>74</sup> On the state level, recent initiatives have included adopting ambitious plans toward clean energy and adapting infrastructure for increasingly severe weather.<sup>75</sup> 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.<sup>76</sup> 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.<sup>77</sup>

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

---

<sup>72</sup> Vicki Arroyo, *State and Local Climate Leadership in the Trumpocene*, 11 CARBON & CLIMATE L. REV. 303, 305–06 (2017); Carlarne, *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.” *Id.* at 458.).

<sup>73</sup> Carlarne, *supra* note 58, at 424.

<sup>74</sup> *Id.* at 457–60.

<sup>75</sup> Arroyo, *supra* note 57, at 438–51.

<sup>76</sup> *Id.* at 451–53.

<sup>77</sup> Sarah Fox, *Localizing Environmental Federalism*, 54 U.C. DAVIS L. REV. 133, 171 (2020).

<sup>78</sup> HANNAH ARGENTO-MCCURDY ET AL., CTR. FOR AM. PROGRESS, FIGHTING CLIMATE CHANGE, FROM CAPITOL HILL TO CITY HALL (Jan. 26, 2022), <https://www.americanprogress.org/article/fighting-climate-change-from-capitol-hill-to-city-hall> [https://perma.cc/B2TT-7N58].

<sup>79</sup> See, e.g., Caggiano & Landau, *supra* note 26, at 6; Fox, *supra* note 77, 194; Murthy, *supra* note 20, at 32.

<sup>80</sup> Murthy, *supra* note 20, at 32.

<sup>81</sup> Fox, *supra* note 77, at 185.

<sup>82</sup> Arroyo et al., *supra* note 56, at 385.

<sup>83</sup> Fox, *supra* note 77, at 186–87; see also Ostrom, *supra* note 20, at 99.

<sup>84</sup> Wyman & Spiegel-Feld, *supra* note 33, at 329.

scholarship on subnational initiatives has shifted to accepting them while focusing on limiting their negative externalities.<sup>85</sup>

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.<sup>86</sup> However, recent decades have seen recognition of the incomplete nature of the tragedy of the commons across academic disciplines.<sup>87</sup> For instance, political scientist Elinor Ostrom demonstrated how communities with cooperative social norms can successfully self-organize to preserve resources within free markets.<sup>88</sup> 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.<sup>89</sup> 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.<sup>90</sup>

### 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

---

<sup>85</sup> See, e.g., Jim Rossi, "Maladaptive" Federalism: The Structural Barriers to Coordination of State Sustainability Initiatives, 64 CASE W. RESV. L. REV. 1759, 1777-78 (2014).

<sup>86</sup> Trisolini, *supra* note 34, at 681.

<sup>87</sup> See Brett M. Frischmann et al., Feature, *Retrospectives: Tragedy of the Commons After 50 Years*, 33 J. ECON. PERSPS., Fall 2019, at 211, 211-12.

<sup>88</sup> *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).

<sup>89</sup> Anthony Patt, *Beyond the Tragedy of the Commons: Reframing Effective Climate Change Governance*, 34 ENERGY RSCH. & SOC. SCI., Dec. 2017, at 1, 2.

<sup>90</sup> 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."<sup>91</sup> Thus, efforts by local actors complement the climate justice movement,<sup>92</sup> which addresses the links between climate change and sociological inequities, such as the disproportionate impacts of climate change on people of color.<sup>93</sup> 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.<sup>94</sup> 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.<sup>95</sup>

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.<sup>96</sup> In this spirit, Chapter II's discussion of treaty litigation has yet to be tested in a courtroom. Likewise, Chapter I recognizes that its

---

<sup>91</sup> *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.

<sup>92</sup> Caggiano & Landau, *supra* note 26, at 7; Sennan D. Mattar et al., *Climate Justice: Priorities for Equitable Recovery from the Pandemic*, 21 CLIMATE POL'Y 1307, 1309–10 (2021).

<sup>93</sup> Mattar et al., *supra* note 92, at 1309–10.

<sup>94</sup> *See* Sarah Fox, *Environmental Gentrification*, 90 U. COLO. L. REV. 803, 806–08 (2019).

<sup>95</sup> Fox, *supra* note 77, at 186–87; *see also* Ostrom, *supra* note 20, at 99.

<sup>96</sup> Fox, *supra* note 77, at 185.

proposals may “ask local prosecutors to take on tasks and assume priorities they may be largely unfamiliar with.”<sup>97</sup> 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.<sup>98</sup> 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.<sup>99</sup> For instance, installing modern clean energy sources can be in one’s economic interests.<sup>100</sup> Indeed, “reducing emissions is not just good for the environment — it can also boost bottom lines.”<sup>101</sup> Tellingly, even amid decades of congressional inaction on “climate change” legislation,<sup>102</sup> Congress passed significant climate-friendly legislation modernizing energy sources.<sup>103</sup> 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.”<sup>104</sup>

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

<sup>97</sup> *Infra* ch. I, p. 1567.

<sup>98</sup> Arroyo et al., *supra* note 56, at 385; Jonathan B. Wiener, *Radiative Forcing: Climate Policy to Break the Logjam in Environmental Law*, 17 N.Y.U. ENV’T L.J. 210, 253 (2008).

<sup>99</sup> Patt, *supra* note 89, at 1, 2.

<sup>100</sup> *Id.*

<sup>101</sup> Barack Obama, Policy Forum, *The Irreversible Momentum of Clean Energy*, 355 SCIENCE 126, 128 (2017).

<sup>102</sup> Anna Kronlund, *To Act or Not to Act. Debating the Climate Change Agenda in the United States Congress*, 41 PARLIAMENTS, ESTS. & REPRESENTATION 92, 93 (2021).

<sup>103</sup> See Rich Powell et al., *The Energy Act of 2020: A Monumental Climate and Clean Energy Bill*, CLEARPATH (Apr. 1, 2021), <https://clearpath.org/our-take/the-energy-act-of-2020-a-monumental-climate-and-clean-energy-bill> [<https://perma.cc/JY4T-E5U9>].

<sup>104</sup> *Infra* ch. III, p. 1608.

<sup>105</sup> Murthy, *supra* note 20, at 10 (quoting Daniel Bodaky, *The Paris Climate Change Agreement: A New Hope?*, 100 AM. J. INT’L L. 288, 301 (2016)).

<sup>106</sup> Caggiano & Landau, *supra* note 26, at 1; Murthy, *supra* note 20, at 9; Patt, *supra* 89, at 2.

the structure of the Paris Agreement has facilitated near-unanimous participation by the international community.<sup>107</sup> 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.<sup>108</sup> 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.<sup>109</sup> 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.<sup>110</sup> 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.”<sup>111</sup> 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.”<sup>112</sup> In effect, carbon tariffs seek to coerce collective action while avoiding the need for traditional top-down regulation.<sup>113</sup>

#### 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

---

<sup>107</sup> Murthy, *supra* note 20, at 11.

<sup>108</sup> *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.

<sup>109</sup> *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”).

<sup>110</sup> See Araral, *supra* note 88, at 15, 21–22; Madani, *supra* note 88, at 109–11.

<sup>111</sup> Caggiano & Landau, *supra* note 26, at 6.

<sup>112</sup> *Infra* ch. V, pp. 1643–44 (emphasis added).

<sup>113</sup> See Battersby, *supra* note 47, at 9; 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.<sup>114</sup> 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.<sup>115</sup> 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.<sup>116</sup> 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.<sup>117</sup>

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.<sup>118</sup> 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

---

<sup>114</sup> 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).

<sup>115</sup> *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)).

<sup>116</sup> *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))).

<sup>117</sup> *Infra* ch. I, p. 1552; see also Avandinar Singh & Sajid A. Khan, *A Public Defender Definition of Progressive Prosecution*, 16 STAN. J. C.R. & C.L. 475, 476 (2021).

<sup>118</sup> *Infra* ch. I, section B.1.a, pp. 1554–58.

actions at the state and federal levels as well as civil suits.<sup>119</sup> 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 policy-makers for climate-related decisions, though the Chapter suggests that such charges may be appropriate only in “extreme cases.”<sup>120</sup>

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,<sup>121</sup> 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.<sup>122</sup>

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*<sup>123</sup> litigation and recent Supreme Court treaty cases.<sup>124</sup> 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

<sup>119</sup> *Infra* ch. I, p. 1559.

<sup>120</sup> *Infra* ch. I, section B.2, pp. 1560–62.

<sup>121</sup> See Rachel Treisman, *How Loss of Historical Lands Makes Native Americans More Vulnerable to Climate Change*, NPR (Nov. 2, 2021, 7:00 AM), <https://www.npr.org/2021/11/02/1051146572/forced-relocation-native-american-tribes-vulnerable-climate-change-risk> [https://perma.cc/MMA8-253M].

<sup>122</sup> *Infra* ch. II, pp. 1570–71.

<sup>123</sup> 384 F. Supp. 312 (W.D. Wash. 1974), *aff'd*, 520 F.2d 676 (9th Cir. 1975).

<sup>124</sup> 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. 1686 (2019); and *McGirt v. Oklahoma*, 140 S. Ct. 2452 (2020).

targeted environmental destruction from fires<sup>125</sup> and the fossil fuel industry.<sup>126</sup> 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.<sup>127</sup> 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.<sup>128</sup>

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

---

<sup>125</sup> See, e.g., Orion Donovan-Smith, *Colville Tribes Sue U.S. Government, Seeking Damages for Failure to Manage Forests that Burned in Massive 2015 Wildfires*, THE SPOKESMAN-REV. (Aug. 4, 2021), <https://www.spokesman.com/stories/2021/aug/04/colville-tribes-sue-us-government-seeking-damages-> [https://perma.cc/XY2X-9BT8].

<sup>126</sup> See, e.g., Sebastien Malo, *Minnesota Hit with Novel “Natural Right” Tribal Lawsuit over Line 3*, REUTERS (Aug. 7, 2021, 12:05 AM), <https://www.reuters.com/legal/litigation/minnesota-hit-with-novel-natural-right-tribal-lawsuit-over-line-3-2021-08-06> [https://perma.cc/6DMK-3K4B].

<sup>127</sup> *Infra* ch. II, section D.1, pp. 1588–89.

<sup>128</sup> *Infra* ch. III, pp. 1598–99.

Oregon have passed the most robust measures, which fully preempt municipalities from prohibiting multifamily housing.<sup>129</sup> 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.<sup>130</sup> Support for these measures has been bipartisan.<sup>131</sup> 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”<sup>132</sup> and when local governments impose externalities on other state residents while facing collective action difficulties.<sup>133</sup> 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,<sup>134</sup> and in 2019, the

<sup>129</sup> See H.R. 2001, 80th Leg. Assemb., Reg. Sess. (Or. 2019); S. 9, 2020–2021 Leg., Reg. Sess. (Cal. 2021).

<sup>130</sup> See H.R. 6107, 2021 Gen. Assemb., Jan. Sess. (Conn. 2021); Leg. 866, 106th Leg., 2d Sess. §§ 1–6 (Neb. 2020); S. 164, 64th Leg., Gen. Sess. §§ 2, 8 (Utah 2021); H.R. 82, 64th Leg., Gen. Sess. §§ 4, 12 (Utah 2021).

<sup>131</sup> *Infra* ch. III, p. 1608 (noting that, while there is a partisan divide on climate policy, “almost everyone agrees that housing is too expensive”).

<sup>132</sup> *Infra* ch. III, p. 1612 (quoting Paul A. Diller, *The Political Process of Preemption*, 54 U. RICH. L. REV. 343, 346 (2020)).

<sup>133</sup> *Infra* ch. III, p. 1612 (citing Nestor M. Davidson, Essay, *The Dilemma of Localism in an Era of Polarization*, 128 YALE L.J. 954, 992 (2019)).

<sup>134</sup> *Global Greenhouse Gas Emissions Data*, U.S. ENV’T PROT. AGENCY, <https://www.epa.gov/ghgemissions/global-greenhouse-gas-emissions-data> [<https://perma.cc/29AY-2VG6>].

burning of fossil fuels accounted for seventy-four percent of all U.S. GHG emissions.<sup>135</sup> Most electric power is regulated by state agencies, PSCs.<sup>136</sup> Every state has its own energy-regulating agency, resulting in 201 commissioners across the country,<sup>137</sup> who decide when to build a power plant and which sources will power that plant.<sup>138</sup>

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.<sup>139</sup> For decades, the quasi-judicial state agencies have made case law, staffing decisions, and internal procedures aimed at achieving this economic goal.<sup>140</sup> 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.<sup>141</sup> Carbon leakage undercuts emissions-reductions policies while incentivizing jurisdictions to relax standards to gain a market

---

<sup>135</sup> *Energy and the Environment Explained*, U.S. ENERGY INFO. ADMIN., <https://www.eia.gov/energyexplained/energy-and-the-environment/where-greenhouse-gases-come-from.php> [https://perma.cc/MH9B-T93V].

<sup>136</sup> See Ari Peskoe, *Unjust, Unreasonable, and Unduly Discriminatory: Electric Utility Rates and the Campaign Against Rooftop Solar*, 11 TEX. J. OIL GAS & ENERGY L. 211, 213 & n.1 (2016).

<sup>137</sup> See *Public Service Commissioner (State Executive Office)*, BALLOTPEdia, [https://ballotpedia.org/Public\\_Service\\_Commissioner](https://ballotpedia.org/Public_Service_Commissioner) [https://perma.cc/72RH-32WD].

<sup>138</sup> See *infra* ch. IV, p. 1620.

<sup>139</sup> See Peskoe, *supra* note 136, at 224–25, 228.

<sup>140</sup> *Infra* ch. IV, p. 1622.

<sup>141</sup> Joshua Elliott et al., *Unilateral Carbon Taxes, Border Tax Adjustments and Carbon Leakage*, 14 THEORETICAL INQUIRIES L. 207, 208 (2013).

advantage.<sup>142</sup> 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.<sup>143</sup> The Chapter proceeds by surveying prominent models under consideration, including proposals being examined by the federal executive,<sup>144</sup> Congress,<sup>145</sup> and the European Union.<sup>146</sup>

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.<sup>147</sup> 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.

\* \* \*

---

<sup>142</sup> *Infra* ch. V, pp. 1643–44. Due to the dynamic, the fear of losing domestic jobs undermines political support for regulating emissions. *Infra* ch. V, p. 1643.

<sup>143</sup> *Infra* ch. V, p. 1644.

<sup>144</sup> See *Fact Sheet: U.S.-EU Arrangements on Global Steel and Aluminum Excess Capacity and Carbon Intensity*, U.S. DEP'T OF COM. (Oct. 31, 2021), <https://www.commerce.gov/news/fact-sheets/2021/10/fact-sheet-us-eu-arrangements-global-steel-and-aluminum-excess-capacity> [https://perma.cc/WR4X-9W6R].

<sup>145</sup> See S. 2378, 117th Cong. § 9901(15) (2021).

<sup>146</sup> See *Proposal for a Regulation of the European Parliament and of the Council Establishing a Carbon Border Adjustment Mechanism*, at 0–2, COM (2021) 564 final (Jul. 14, 2021).

<sup>147</sup> See BRANDON J. MURRILL, CONG. RSCH. SERV., LSB10385, THE WTO'S APPELLATE BODY LOSES ITS QUORUM: IS THIS THE BEGINNING OF THE END FOR THE "RULES-BASED TRADING SYSTEM"? 1–2 (2019).

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.”<sup>148</sup> 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.

---

<sup>148</sup> Hardin, *supra* note 25, at 1244.