

# THE BOTTOM-UP ALTERNATIVE: THE MITIGATION POTENTIAL OF PRIVATE CLIMATE GOVERNANCE AFTER THE PARIS AGREEMENT

*Maria L. Banda\**

## ABSTRACT

*The 2015 Paris Agreement on Climate Change has sought to inject renewed energy into the international climate regime. As a “bottom-up” treaty, however, it allows States to set their own emissions targets. Even before the U.S. withdrawal, States Parties’ commitments fell far short of what is required to achieve the treaty’s objectives. The low level of State ambition, coupled with the lack of an international enforcement mechanism, means that private initiatives—including through courts, investor actions, and voluntary business commitments—will be critical, especially in the U.S., if the climate regime is to deliver on its goals.*

*This Article seeks to contribute to both the theoretical and empirical literature on private climate governance and develop a richer understanding of bottom-up options for the implementation of the Paris Agreement where State leadership is weak or lacking. First, it develops an analytical framework to evaluate the effectiveness, or the mitigation potential, of private climate governance. Second, it provides a critical assessment of three promising forms of private climate governance: (a) disclosure of company emissions and climate risks; (b) voluntary commitments to reduce emissions; and (c) carbon labeling. The Article shows empirically that these private initiatives face a number of constraints that make them unlikely to generate significant mitigation action in the near term without regulatory backing. However, other bottom-up options, such as climate litigation, can play an important role in closing the ambition deficit by increasing government accountability and facilitating the de facto implementation of the Paris Agreement in the U.S. and elsewhere.*

## TABLE OF CONTENTS

<i>Introduction</i> . . . . .	326
<i>I. The Paris Formula: The Promises and Pitfalls of the “Bottom-Up” Treaty Model</i> . . . . .	330
<i>A. Key Provisions</i> . . . . .	331
<i>B. Ambition Deficit</i> . . . . .	336
<i>C. Non-Party Stakeholders</i> . . . . .	338
<i>II. Governance Beyond Government: The Rise of Private Climate Governance</i> . . . . .	340
<i>A. Private Environmental Governance in the Literature</i> . . . . .	341

---

\* Graham Fellow, University of Toronto Faculty of Law, and Visiting Attorney, Environmental Law Institute. I am grateful to Andrew Green, Matthew Hoffmann, Charles Roger, and Michael Vandenberg for their thoughtful comments, as well as the participants of the 2017 JELP Conference on the Paris Agreement, at which a very early draft was discussed. The empirical analysis has benefited from data access and insights from organizations discussed below. I would like to thank in particular Simon Fischweicher and Camilla Lyngsby at CDP and Rob Berridge, Jim Coburn, and Dan Mitler at Ceres. Any errors are my own.

B.	<i>Defining Private Climate Governance</i> .....	343
1.	<i>Private Climate Governance: What Is It and Why Does It Arise?</i> .....	343
2.	<i>The Two Logics of Voluntary Action</i> .....	344
3.	<i>The Role of the State</i> .....	346
III.	<i>Assessing the Mitigation Potential of Private Climate Governance: Analytical Framework</i> .....	348
A.	<i>The Challenge of Evaluating Effectiveness</i> .....	348
B.	<i>The Proposed Analytical Framework</i> .....	350
IV.	<i>Private Climate Governance in Practice: An Assessment</i> .....	355
A.	<i>Disclosure: Company Emissions and Climate Risk</i> .....	356
1.	<i>Voluntary Disclosure and Reporting of Climate-Related Information</i> .....	357
2.	<i>Shareholder Proposals on Climate Change</i> .....	362
B.	<i>Direct Action: Voluntary Emissions Reductions</i> .....	368
C.	<i>Carbon Labeling</i> .....	373
D.	<i>Summary</i> .....	377
V.	<i>Private Climate Litigation: Lengthening the Shadow of the State</i> ...	380
A.	<i>Litigation Against Private Entities</i> .....	381
B.	<i>Litigation Against Public Authorities</i> .....	384
	<i>Conclusion</i> .....	387

#### FIGURES & TABLES

<i>Figure 1. Governance Models: Top-Down, Bottom-Up, and Dynamic Governance</i> .....	347
<i>Figure 2. Response Rates to CDP Questionnaires for Global 500 and S&amp;P 500 Companies, 2003–2017</i> .....	359
<i>Figure 3. Climate-Related Shareholder Proposals, By Outcome, 2009–2017</i> .....	364
<i>Figure 4. Support for Climate-Related Shareholder Proposals, 2009–2017</i> .....	365
<i>Figure 5. Support for Climate-Related Shareholder Proposals that Went to a Vote, By Type, 2009–2017</i> .....	366
<i>Table 1. Short-Term Mitigation Potential of Private Climate Governance Schemes: Performance on Criteria</i> .....	377

#### INTRODUCTION

By signing on to the 2015 Paris Agreement on Climate Change, world leaders agreed to combat climate change and its effects, in particular by stabiliz-

ing and reducing their national greenhouse gas (“GHG”) emissions.<sup>1</sup> As a “bottom-up” treaty, however, the Paris Agreement gives States virtually unfettered discretion over the nature and ambition of their mitigation targets. While this design has facilitated the Agreement’s rapid uptake, the States’ combined commitments currently fall far short of what is required to achieve the treaty’s objectives. The low level of collective State ambition, coupled with the absence of an international enforcement mechanism, means that domestic initiatives—including through courts, investor actions, and voluntary business commitments—will be critical if the new international legal regime is to deliver on its mitigation goals.<sup>2</sup> In other words, “we need all hands on deck.”<sup>3</sup>

Numerous non-State actors have answered the call. The Paris Agreement was adopted on the back of a tsunami of voluntary actions.<sup>4</sup> In turn, its adoption energized unprecedented commitments by a wide range of non-State actors, including all levels of government—cities, provinces, and regions—as well as private citizens, companies, and civil society. The announcement in June 2017 that the U.S. would withdraw from the treaty<sup>5</sup> only seemed to increase the resolve of U.S. states, cities, and businesses to take climate action,<sup>6</sup> inspiring

- 
1. Paris Agreement (Dec. 12, 2015), U.N. Framework Convention on Climate Change (“UNFCCC”), Rep. of the Conf. of the Parties on its Twenty-First Session, Addendum, U.N. Doc. FCCC/CP/2015/10/Add.1 (Jan. 29, 2016), <https://perma.cc/KT8D-RUY6>. The Paris Agreement is annexed to Decision 1/CP.21 adopted in Paris. See Adoption of the Paris Agreement, UNFCCC, Rep. of the Conf. of the Parties on its Twenty-First Session, Addendum, U.N. Doc. FCCC/CP/2015/10/Add.1 (Jan. 29, 2016), <https://perma.cc/KT8D-RUY6>. Other UNFCCC documents are available at <https://perma.cc/8HFL-26KH>.
  2. The Paris Agreement also seeks to increase adaptation, or resilience to impacts of climate change—an area that is also a growing focus of private-led initiatives. That issue is addressed elsewhere. See Maria L. Banda, *Global Adaptation Law: Optimizing Legal Design for Multi-Level Public Goods after the Paris Agreement*, 51 VAND. J. TRANSNAT’L L. (forthcoming 2018).
  3. Ban Ki-moon, Secretary-General, Remarks to COP21 Presentation of Draft Outcome Document in Paris, France (Dec. 12, 2015), <https://perma.cc/3XDY-ZKB4>; see also *Climate Summit: “All Hands on Deck” Declares Ban, Calling for Leadership, Concrete Action*, U.N. NEWS CTR. (Sept. 23, 2014), <https://perma.cc/9BLM-MY9B>.
  4. Ban Ki-moon, Secretary-General, Remarks at High-Level Opening of COP21 in Paris, France (Dec. 7, 2015), <https://perma.cc/U7WY-CQ62>; Christiana Figueres, Executive Sec’y of UNFCCC, Closing Address in Paris, France (Dec. 12, 2015), <https://perma.cc/MB7J-REME>; see also ANGEL HSU ET AL., THE WIDER WORLD OF NONSTATE AND SUBNATIONAL CLIMATE ACTION (2015), <https://perma.cc/FR8R-RZFF>.
  5. Press Release, The White House, Office of the Press Secretary, Statement by President Trump on the Paris Climate Accord (June 1, 2017), <https://perma.cc/H5UA-V2X9>. The earliest that U.S. can formally leave the Paris Agreement is November 4, 2020. See Paris Agreement, *supra* note 1, art. 28.
  6. See, e.g., *Open Letter to the International Community and Parties to the Paris Agreement from U.S. State, Local, and Business Leaders*, WE ARE STILL IN (June 5, 2017), <https://perma.cc/J76J-J3UM>.

hope that these actors “will step up and do even more to lead the way.”<sup>7</sup> As one CEO stated, “[i]ndustry must now lead and not depend on government.”<sup>8</sup>

This is an unusual proposition. Traditionally, the duty to manage collective action problems such as climate change has fallen to governments, which raises the question of what private actors<sup>9</sup> can do to help implement the Paris Agreement’s mitigation goals without government support. Reportedly quite a bit: according to recent estimates, businesses alone could potentially reduce their emissions by 1–4 billion tons every year below current levels over the next decade without regulatory backing.<sup>10</sup> This Article explores whether, and to what extent, different private climate governance initiatives can generate the necessary pre-2020 and pre-2030 action to preserve our chance of staying within the 2 degrees Celsius (“°C”) and ideally the 1.5°C temperature target. The question is not whether private actors can solve this global public goods problem on their own (without government involvement)—they cannot—but whether they can realistically contribute to a solution on a short timetable, as time is of the essence.<sup>11</sup>

The next decade is particularly critical. Without a rapid increase in the collective ambition to tackle climate change, we will likely forfeit the chance of staying below the 1.5°C target.<sup>12</sup> Crossing that threshold could result in devastating consequences for the most vulnerable countries and ecosystems,<sup>13</sup> and

7. *Barack Obama’s Statement on Trump’s Paris Agreement Withdrawal*, INDEPENDENT (June 1, 2017), <https://perma.cc/QNA4-XBA6>.
8. *Paris Climate Deal: US Firms Criticise Trump Move*, BBC (June 2, 2017), <https://perma.cc/43NJ-EWDN>.
9. As understood in this Article, *private actors* can include the full spectrum of non-governmental actors: private individuals and households, businesses and industry groups, civil society organizations, trade unions, and transnational non-governmental networks.
10. See Michael P. Vandenbergh & Jonathan M. Gilligan, *Beyond Gridlock: The Private Governance Response to Climate Change*, 40 COLUM. J. ENVTL. L. 218, 226 (2015) (estimating potential emissions reductions of 1 Gt (1 billion tons) of CO<sub>2</sub> per year between 2016 and 2025); CDP & WE MEAN BUSINESS COALITION, *THE BUSINESS END OF CLIMATE CHANGE: HOW BOLD CORPORATE ACTION SUPPORTED BY SMART POLICY CAN KEEP TEMPERATURE RISE BELOW 2°C* 2–3 (2016) (estimating 3.2–4.2 Gt/year reductions by 2030). Total GHG emissions in 2016 were 51.9 Gt CO<sub>2</sub> equivalent (GtCO<sub>2</sub>e). U.N. ENV’T PROGRAMME, *THE EMISSIONS GAP REPORT 2017* 3 (2017) [hereinafter EMISSIONS GAP REPORT 2017].
11. See, e.g., Ban Ki-moon, Secretary-General, Remarks at Opening of the General Assembly High-Level Event on Climate Change (June 29, 2015), <https://perma.cc/3UU5-QRXD> (“As science is telling us loud and clear, we have only a few short years in which to do what is needed to have a reasonable chance of staying within the internationally agreed temperature rise threshold of 2 degrees.”); see also *infra* Part II.
12. See U.N. ENV’T PROGRAMME, *THE EMISSIONS GAP REPORT 2016* 3–9 (2016) [hereinafter EMISSIONS GAP REPORT 2016]. A failure to act quickly would also increase carbon-intensive technology lock-in and raise the cost of a global transition to low emissions. *Id.* at 9.
13. See generally WORLD BANK, *TURN DOWN THE HEAT: CONFRONTING THE NEW CLIMATE NORMAL* (2014) (assessing risks of warming beyond 1.5°C around the world); Carl-

time is rapidly running out. According to the Intergovernmental Panel on Climate Change (“IPCC”), global carbon dioxide equivalent (“CO<sub>2</sub>e”) emissions consistent with the 1.5°C scenarios must be reduced by 70–95% and 110–120% below 2010 levels in 2050 and 2100, respectively.<sup>14</sup>

The purpose of this Article is twofold. First, it seeks to develop an analytical framework to help evaluate the effectiveness, or what this Article terms the *mitigation potential*, of private climate governance schemes. This framework, which is based on six criteria, departs from existing approaches in the literature.<sup>15</sup> It seeks to facilitate future research into the effectiveness of private climate governance and aid in our understanding of the circumstances under which private schemes can fulfill their objectives by providing a more granular assessment of their levers and constraints. By identifying different types of obstacles to voluntary action, it also seeks to support the development of more targeted policy interventions and more sophisticated private governance design. Second, this Article assesses how likely the main private schemes are to attain the goals of the Paris Agreement in the near term where State leadership is weak or lacking. In particular, the Article examines empirically three forms of private climate governance: (a) company emissions and climate risk disclosure; (b) voluntary commitments to reduce emissions; and (c) carbon labeling. Based on available data, I show that these private initiatives, without more, are not likely to generate significant mitigation action in the near term in the U.S. or globally. However, other bottom-up actions, such as climate litigation, may play an important complementary role in closing the ambition deficit in this period by increasing government accountability and facilitating the *de facto* domestic implementation of the Paris Agreement in the U.S. and elsewhere.

This Article proceeds in six steps. Part I reviews the international legal context in which private climate governance operates. In particular, it explains why the challenges with the implementation of the Paris Agreement and the lack of State ambition make private climate governance an attractive alternative to government-led mitigation in general and in the U.S. in particular. Part II

---

Friedrich Schleussner et al., *Differential Climate Impacts for Policy-Relevant Limits to Global Warming: The Case of 1.5°C and 2°C*, 7 EARTH SYS. DYNAMICS 327 (2016); SCOTT F. HERON ET AL., U.N. EDUC., SCI. & CULTURAL ORG., IMPACTS OF CLIMATE CHANGE ON WORLD HERITAGE CORAL REEFS: A FIRST GLOBAL SCIENTIFIC ASSESSMENT 6–9 (2017) (only meeting the 1.5°C target “provides a chance” of saving coral reefs).

14. EMISSIONS GAP REPORT 2016, *supra* note 12, at 10 n.1. This is a major challenge that requires carbon-neutrality by 2050 and negative emissions by 2100. The 1.5°C scenarios are not well understood. IPCC’s upcoming 2018 Special Report on the impacts of global warming of 1.5°C above pre-industrial levels will provide a more comprehensive picture of climate risks and emissions trajectories. See Adoption of the Paris Agreement, *supra* note 1, ¶ 21. A leaked draft of the report suggests that we are “extremely unlikely” to meet the 1.5°C goal without drastic measures to cut emissions. Ruby Russell, *1.5C Degree Goal “Extremely Unlikely” – IPCC*, DEUTSCHE WELLE (Jan. 15, 2018), <https://perma.cc/CTC8-PTFZ>.
15. See, e.g., Vandenbergh & Gilligan, *supra* note 10; see also *infra* Section III.B.

reviews how existing literature in law, economics, and international relations has engaged with the rise of private climate governance. As it finds, a key difficulty has been evaluating the actual impacts of private initiatives. Part III develops a six-factor framework to help us evaluate whether, and under what conditions, private climate governance can be effective in achieving mitigation in the near term, i.e., pre-2020 and pre-2030. Part IV applies that framework to assess the mitigation potential of three promising examples of private climate governance. Part IV then identifies several constraints facing private governance and shows that its short-term mitigation potential will often turn either on the shadow of the State operating in the background or on the presence of its functional equivalents. In light of this finding, Part V turns to climate litigation to show how this “bottom-up” phenomenon can facilitate the implementation of the Paris Agreement by re-engaging the State and supporting private climate governance. The Article concludes by reflecting on the implications of this analysis for the theory of private climate governance, the conditions under which these schemes—along with climate litigation—can attain their full mitigation potential, and the policy implications of these findings.

## I. THE PARIS FORMULA: THE PROMISES AND PITFALLS OF THE “BOTTOM-UP” TREATY MODEL

Adopted by 195 countries on December 12, 2015, the Paris Agreement is the new bedrock of the international climate regime that has evolved from the 1992 United Nations Convention on Climate Change (“UNFCCC”).<sup>16</sup> Its rapid coming into force on November 4, 2016, was unexpected and unprecedented.<sup>17</sup> As of April 2018, 175 out of the now 197 signatories (representing

---

16. UNFCCC, May 9, 1992, S. Treaty Doc. No. 102-38, 1771 U.N.T.S. 107.

17. Pursuant to Article 20, the Paris Agreement opened for signature on April 22, 2016 (until April 21, 2017). Most States signed the Agreement at a formal signing ceremony on April 22, 2016. After signing, States formally express their consent to be bound and become “Parties” to the treaty through a formal process of ratification, acceptance, or approval, which is ongoing. For example, the U.S. (along with China) deposited its acceptance with the U.N. Secretary-General on September 3, 2016. *See* Depositary Notification, Secretary-General, U.S. of America: Acceptance of Paris Agreement, U.N. Doc. C.N.612.2016.TREATIES-XXVII.7.d (Sept. 3, 2016), <https://perma.cc/8YVW-KQ2D>. The Paris Agreement entered into force on November 4, 2016—i.e., “the thirtieth day after the date on which at least 55 Parties to the Convention accounting in total for at least an estimated 55 percent of the total global [GHG] emissions have deposited their instruments of ratification, acceptance, approval, or accession.” Paris Agreement, *supra* note 1, at art. 21(1).

Countries that missed the one-year signature window can become Parties by later acceding to the treaty. In Paris, only two countries (Nicaragua and Syria) did not join the Agreement; however, they subsequently acceded to the treaty, bringing the total number of Parties to 175. *See Paris Agreement Ratification Tracker*, CLIMATE ANALYTICS, <https://perma.cc/7AJ9-8WZZ>.

around 88% of global emissions) are Parties to the treaty.<sup>18</sup> The Agreement's universality, however, came at the cost of reduced legal bindingness. The treaty does not actually mandate States to undertake any particular emissions reductions; what is legally binding are its procedural obligations, such as the transparency framework. This structure magnifies the importance of private climate governance, as Part I explains. Section A describes the Agreement's structure, focusing on the distinction between binding and nonbinding treaty elements; Section B describes implementation challenges; and Section C describes the centrality of non-State actors.

### *A. Key Provisions*

In Paris, governments agreed to the long-term goal of maintaining the global average temperature increase “to well below 2°C above pre-industrial levels.”<sup>19</sup> At the insistence of vulnerable nations, civil society, and the scientific community, they also agreed to “pursu[e] efforts to limit the temperature increase to 1.5°C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change.”<sup>20</sup> In addition to climate mitigation, the Paris Agreement also adopted other goals that are outside the scope of this Article, such as a global goal on adaptation<sup>21</sup> and provisions on climate finance.<sup>22</sup>

On mitigation, the Parties recognized that “deep reductions in global emissions will be required” to reach the long-term temperature goal.<sup>23</sup> They thus agreed to “aim to reach global peaking of greenhouse gas emissions as soon as possible,” noting that peaking will take longer for developing countries.<sup>24</sup> They further agreed to

undertake rapid reductions [after the peaking] in accordance with best available science, so as to achieve a balance between anthropogenic emissions by sources and removals by sinks of greenhouse gases in the second half of this century, on the basis of equity, and in the context of sustainable development and efforts to eradicate poverty.<sup>25</sup>

This language—which effectively translates into a promise to aim for net-zero emissions between 2050 and 2100—was hard-fought among Parties that

---

18. *The Paris Agreement*, UNFCCC, <https://perma.cc/793X-XV2G>; *Paris Agreement Ratification Tracker*, *supra* note 17.

19. Paris Agreement, *supra* note 1, at art. 2(1)(a).

20. *Id.*

21. *Id.* at arts. 2(1)(b), 7(9)–(11), 13(8). On the global adaptation goal, see generally Banda, *supra* note 2.

22. Paris Agreement, *supra* note 1, at arts. 2(1)(c), 9.

23. Adoption of the Paris Agreement, *supra* note 1, at 2.

24. Paris Agreement, *supra* note 1, at art. 4(1).

25. *Id.*

wanted a robust, quantified carbon-neutrality target by 2050 (and a commitment to peak emissions before 2030), and those that wanted to postpone or remove such commitments altogether. The treaty as a whole is peppered with similar disclaimers, caveats, and diluted commitments that reveal the difficult compromises that had to be made in order to negotiate a universal agreement to succeed the Kyoto Protocol.<sup>26</sup>

The Kyoto Protocol, signed in 1997 and in force since 2005, was a standard “top-down” international treaty, which mandated legally-binding emission reduction targets. It bound only the developed-country Parties,<sup>27</sup> which were required to cut their emissions on average by 5.2% below 1990 levels by 2012.<sup>28</sup> The Kyoto Protocol thus formalized the UNFCCC’s distinction between developed and developing countries under the principle of “common but differentiated responsibility” (“CBDR”).<sup>29</sup> To make sure that developed countries delivered, the Protocol put in place reporting and verification procedures.<sup>30</sup>

The Kyoto Protocol was effectively obsolete from the outset. For one, the U.S., the world’s largest emitter at the time, refused to ratify it, in part because it imposed no limits on China and other rapidly growing economies. Indeed, China overtook the U.S. as the world’s largest emitter in 2006—just one year after the Kyoto Protocol entered into force.<sup>31</sup> Moreover, the entire global emissions landscape changed significantly, yet the climate regime failed to keep pace. In 1992, when the UNFCCC was negotiated, developed countries were responsible for most new emissions. By 1994, total GHG emissions from the developing world exceeded those of the industrialized nations.<sup>32</sup> This meant that over 50% of new global emissions were outside of the climate regime. In other words, any emissions cuts made by the small club of Kyoto Parties (which got even smaller after Canada’s exit from the regime in 2011) were dwarfed by

---

26. See, e.g., *id.* at arts. 4(3), 4(4), 4(19), 5(2), 6(1), 6(8), 8, 9(3).

27. See Kyoto Protocol to the United Nations Framework Convention on Climate Change, art. 3 & Annex B, Dec. 10, 1997, 37 I.L.M. 22 [hereinafter Kyoto Protocol].

28. Press Release, UNFCCC, Industrialized Countries to Cut Greenhouse Gas Emissions by 5.2% (Dec. 11, 1997), <https://perma.cc/BCE6-LG5E>. This was a major departure from the UNFCCC, which had only encouraged them to do so. See UNFCCC, *supra* note 16.

29. See UNFCCC, *supra* note 16, at pmb1.

30. *Making Those First Steps Count: An Introduction to the Kyoto Protocol*, UNFCCC, <https://perma.cc/EN4F-UCTS>.

31. John Vidal & David Adam, *China Overtakes US as World’s Biggest CO<sub>2</sub> Emitter*, GUARDIAN (June 19, 2007), <https://perma.cc/ZPW9-PETQ>.

32. This includes emissions of all GHGs and emissions stemming from land-use change and forestry (e.g., deforestation and tree-clearing for agriculture); if we count only CO<sub>2</sub> emissions, the reversal moves to 2007. See Johannes Friedrich & Thomas Damassa, *The History of Carbon Dioxide Emissions*, WORLD RES. INST. (May 21, 2014), <https://perma.cc/2BNJ-FHUM>.



the soaring emissions from the non-Kyoto countries.<sup>33</sup> Meanwhile, emerging climate science showed that a greater global effort would be required to avoid catastrophic impacts.

Thus, when it came time to extend the Kyoto Protocol, or to negotiate its successor treaty, it was apparent that a new universal, legally-binding agreement would be needed to govern climate change post-2020.<sup>34</sup> The new treaty had to find a way to coax the top three emitters—China, the U.S., and India—into joining, none of which wanted to be bound by a Kyoto-style treaty, in addition to garnering support from all other developing countries.<sup>35</sup>

The Paris Agreement thus inverted the Kyoto model. Instead of imposing *top-down* emissions reduction targets, it asked countries to develop *bottom-up* mitigation approaches, in line with their own national circumstances. Specifically, under Article 4, “[e]ach Party shall prepare, communicate and maintain successive nationally determined contributions [“NDCs”] that it intends to achieve[ ]” and “pursue domestic mitigation measures, with the aim of achieving the objectives of such contributions.”<sup>36</sup> In other words, each Party is left to decide on its own by how much to reduce its emissions, on what timetable, and from what sectors.

This may attract signatures, but the incentive structure set up by the Paris Agreement also encourages free-riding. Without mandatory emissions targets, Parties can theoretically wait for their peers to take costly mitigation actions while delaying the date of their own peak emissions. Moreover, if a Party fails to deliver on its pledge, the Agreement does not provide for penalties, in part because developing country Parties insisted on a review process that is “facilita-

- 
33. Most of the increase in emissions since the 1990s occurred in nations that are not part of the Organisation for Economic Co-operation and Development (“OECD”). PBL NETHERLANDS ENVTL. ASSESSMENT AGENCY, TRENDS IN GLOBAL CO<sub>2</sub> EMISSIONS 4 (2015), <https://perma.cc/GV85-EVEA>. OECD countries contributed over 60% of the total emissions in 2014 (compared to 32% in 1990, the Kyoto Protocol’s baseline year). *Id.*
  34. The Protocol has two commitment periods: 2008–2012 and 2013–2020. *See* Press Release, *supra* note 28.
  35. The general view in the lead-up to Paris was that it was essential to obtain U.S. agreement on reducing U.S. (and global) emissions without requiring Congressional action. This ruled out any binding emissions targets.
  36. Paris Agreement, *supra* note 1, at art. 4(2). This is optional for the “least developed countries and small island developing States . . . .” *Id.* at art. 4(6); *cf. id.* at art. 13(3) (acknowledging “the special circumstances of the least developed countries and small island developing States”). Before the Paris Agreement, the parties were invited to submit their Intended Nationally Determined Contributions (“INDCs”). *See* Further Advancing the Durban Platform, UNFCCC, Rep. of the Conf. of the Parties on Its Nineteenth Session, ¶ 2(b), U.N. Doc. FCCC/CP/2013/10/Add.1 (Nov. 23, 2013), <https://perma.cc/D8RV-9QHJ>; Lima Call for Climate Action, UNFCCC, Rep. of the Conf. of the Parties on Its Twentieth Session, ¶¶ 9, 13, 14, U.N. Doc. FCCC/CP/2014/10/Add.1 (Dec. 14, 2014), <https://perma.cc/4YZP-469R>.

tive, non-intrusive, non-punitive . . . , respectful of national sovereignty,” and that “avoid[s] placing undue burden on Parties.”<sup>37</sup>

The Agreement seeks to counteract these structural incentives to free-ride by imposing a binding process for disclosure, reporting, and review, supported by an enhanced transparency framework:

- 1) The NDCs are mandatory: Parties must submit their commitments.<sup>38</sup>
- 2) There is a “ratcheting-up” mechanism: the NDCs must be updated at least every five years,<sup>39</sup> and each subsequent submission must represent a “progression” and “reflect [the Party’s] highest possible ambition.”<sup>40</sup>
- 3) The NDCs must be informed by the outcomes of the “global stocktake”—an assessment of the collective progress towards achieving the Agreement’s goals, which may reveal the need for greater action.<sup>41</sup>
- 4) They must be transparent<sup>42</sup> and “account” for the Parties’ emissions and removals.<sup>43</sup>

- 
37. Paris Agreement, *supra* note 1, at art. 13(3). Similarly, the compliance mechanism will consist of an expert-based, facilitative committee that shall “function in a manner that is transparent, non-adversarial and non-punitive” and “pay particular attention to the respective national capabilities and circumstances of Parties.” *Id.* at art. 15(2).
  38. Under Article 4(2), “[e]ach Party shall prepare, communicate and maintain successive nationally determined contributions that it intends to achieve. Parties shall pursue domestic mitigation measures, with the aim of achieving the objectives of such contributions.” *Id.* at art. 4(2). Under Article 4(19), Parties are further invited to communicate, by 2020, their mid-century, long-term low greenhouse gas emission development strategies. *See id.* at art. 4(19); *see also* Adoption of the Paris Agreement, *supra* note 1, § 3, ¶ 35. The U.S. was one of the first countries to submit its long-term climate strategy in November 2016. *See First Long-Term Climate Strategy Submitted to UN Under Paris Agreement*, UNFCCC (Mar. 29, 2018), <https://perma.cc/3S4C-84NW>.
  39. *See* Paris Agreement, *supra* note 1, at art. 4(9).
  40. *Id.* at art. 4(3); *cf. id.* at art. 4(11) (allowing Parties to revise their NDC “with a view to enhancing [their] level of ambition”).
  41. *Id.* at arts. 4(9), 14(1)–(3).
  42. *Id.* at art. 4(8) (“[Parties] shall provide the information necessary for clarity, transparency and understanding [of their commitments].”).
  43. *Id.* at art. 4(13). In particular, the Parties must regularly provide a variety of reports: national inventories of anthropogenic GHG emissions and sinks; progress reports on implementing and achieving the NDCs; and, although not mandatory for developing countries, climate impacts and adaptation plans. The Agreement also encourages developing country Parties to submit information on the type of support they need to achieve their mitigation and adaptation goals, and the support they have received. *Id.* at art. 13(7)–(8), 13(10).

- 5) Finally, Parties' progress on NDC implementation must be submitted for expert review under "an enhanced transparency framework for action and support."<sup>44</sup>

This is the legally binding heart of the Paris Agreement, which is essential for the treaty's success. The inclusion of these procedural provisions, as well as the substantive commitment to pursue a 1.5°C target, reflects in part the efforts of a "High Ambition Coalition" of States to secure a binding and more ambitious deal,<sup>45</sup> which the U.S. joined in Paris.<sup>46</sup>

The NDCs do not have the force of international law, but they represent policy commitments for which Parties can be held publicly accountable (even if they cannot be penalized for noncompliance). The force of the Paris Agreement thus relies on the assumption that the normative pull generated by its near-universal membership and peer pressure will lead countries to deliver on their voluntary pledges and increase their ambition over time, through persuasion and cooperation, potentially resulting in stronger implementation modalities post-Paris. In fact, President Donald Trump cited the risk of growing treaty obligations as one reason for withdrawing the U.S. from the Paris Agreement. As he stated, "[t]he risks grow as historically these agreements only tend to become more and more ambitious over time. In other words, the Paris framework is just a starting point—as bad as it is—not an end point."<sup>47</sup>

This statement captures the essence of norm-driven theories of International Relations ("IR"), where initially nonbinding (or "soft") international commitments can spur further domestic and international normative and legal change and transform a simple treaty into a powerful regime with a significant compliance pull.<sup>48</sup> In other words, certain international norms develop "sticki-

---

44. *Id.* at art. 13(1). The stated purpose of the transparency framework is to "provide a clear understanding of climate change action" in the light of the treaty objectives, including by tracking progress on Parties' individual NDCs. *Id.* at art. 13(5). Each Party must additionally participate in a "facilitative, multilateral consideration" of its NDC progress. *Id.* at art. 13(11).

45. The coalition had several objectives, including (1) a legally binding agreement; (2) long-term goals consistent with scientific guidance; (3) a target that would cap future warming at 1.5°C; (4) a mechanism for periodically reviewing countries' emissions commitments; and (5) a unified (undifferentiated) system for tracking progress. See Karl Mathiesen & Fiona Harvey, *Climate Coalition Breaks Cover in Paris to Push for Binding and Ambitious Deal*, *GUARDIAN* (Dec. 8, 2015), <https://perma.cc/P6HY-2M32>.

46. Matt McGrath, *COP21: US Joins "High Ambition Coalition" for Climate Deal*, *BBC* (Dec. 10, 2015), <https://perma.cc/S8ER-KHCN>.

47. Press Release, *supra* note 5.

48. See, e.g., Martha Finnemore & Kathryn Sikkink, *International Norm Dynamics and Political Change*, 52 *INT'L ORG.* 887 (1998); Harold Hongju Koh, *Transnational Legal Process*, 75 *NEB. L. REV.* 181, 205 (1996); Kathryn Sikkink, *Human Rights, Principled Issue-Networks, and Sovereignty in Latin America*, 47 *INT'L ORG.* 411 (1993).

ness.” In some cases, the process alone can sustain regime growth.<sup>49</sup> This has certainly been true of the growth of the international trade regime, which has often been described as the “bicycle theory” of cooperation: once the process of trade liberalization gets underway, it needs to maintain momentum through repeat interaction among players in subsequent talks, which leads to growing enmeshment in multilateral rules over time.<sup>50</sup>

However, as far as the Paris Agreement is concerned, this is an untested proposition. The trade regime relies on punitive measures for noncompliance, and Parties who choose to remain outside the trade regime can lose preferential market access. These are direct, quantifiable economic losses. There are no such consequences for noncompliance with the Paris Agreement (other than the opprobrium of other Parties), as the U.S. withdrawal in 2017 (or Canada’s abandonment of the Kyoto Protocol in 2011) shows.<sup>51</sup>

### B. *Ambition Deficit*

The strength of the Paris Agreement thus rests on the collective ambition of individual States to reduce their emissions, as reflected in their NDCs. To date, 169 countries, including the U.S., have submitted their NDCs,<sup>52</sup> but ambition has been lacking. In other words, Parties are either setting weak national targets or putting off major reductions for decades. The Parties’ current pledges add up to only one third of the emissions reductions necessary to meet the goal of staying well below 2°C.<sup>53</sup> What does this mean in practice? Even assuming that countries deliver fully on their pledges (which is not a given), the world is still heading for a temperature rise of 2.9°C to 3.4°C this century.<sup>54</sup> These estimates do not account for the U.S. withdrawal from the Paris Agreement and the effect that new federal policies may have on U.S. emissions. Global

- 
49. See, e.g., ROBERT O. KEOHANE, *AFTER HEGEMONY: COOPERATION AND DISCORD IN THE WORLD POLITICAL ECONOMY* (1984); Robert O. Keohane, *Compliance Within International Commitments: Politics Within a Framework of Law*, 86 AM. SOC. INT’L L. PROC. 176, 179 (1992) (discussing “institutional enmeshment”); Benedict Kingsbury, *The Concept of Compliance as a Function of Competing Conceptions of International Law*, 19 MICH. J. INT’L L. 345 (1998).
50. The flipside, according to the bicycle theory, is that unless the process of trade liberalization keeps going forward, the regime might collapse (i.e., pedal or fall off).
51. See *infra* Section II.B.2.
52. *Interim NDC Registry*, UNFCCC, <https://perma.cc/WKU5-77AG>.
53. EMISSIONS GAP REPORT 2017, *supra* note 10, at xiv (“The gap between the reductions needed and the national pledges made in Paris is alarmingly high.”).
54. EMISSIONS GAP REPORT 2016, *supra* note 12, at xviii. The emissions gap for 2030 is 12–14 GtCO<sub>2</sub>e compared with 2°C scenarios, and 15–17 GtCO<sub>2</sub>e for 1.5°C scenarios. EMISSIONS GAP REPORT 2017, *supra* note 10, at 16 (citing data from EMISSIONS GAP REPORT 2016, *supra* note 12).

emissions continued to grow in 2016.<sup>55</sup> Given the poor track record of their pre-Paris pledges,<sup>56</sup> it is not clear that States will be able, or willing, to ratchet up their ambition in the near term.

Moreover, the treaty's universal membership is not reflected in universal obligations. The Paris Agreement binds both developed and developing countries, but it does not bind them equally. There are still a number of references to differentiation,<sup>57</sup> and, since Paris, several developing country blocs have sought to introduce a multi-speed approach into the treaty, including on transparency, by rejecting common reporting standards and review procedures.<sup>58</sup> This is important because efforts to dilute the transparency framework, which undergirds the entire treaty, could undermine the Parties' confidence and the scale of global action. The U.S. defection from the treaty regime also raises the specter of noncompliance by other countries unwilling to meet their pledges (despite the non-regression principle embodied in the ratcheting-up mechanism).

In short, to increase the odds of meeting the Paris Agreement's goals, all major emitters need to significantly enhance their pre-2020 and pre-2030 mitigation actions.<sup>59</sup> Even "stronger short-term action and deeper cuts" and "accelerated efforts pre-2020" than previously identified are needed, as the remaining carbon budget is now "considerably lower."<sup>60</sup>

---

55. EMISSIONS GAP REPORT 2017, *supra* note 10, at 3.

56. *See, e.g.*, U.N. ENV'T PROGRAMME, THE EMISSIONS GAP REPORT: ARE THE COPENHAGEN ACCORD PLEDGES SUFFICIENT TO LIMIT GLOBAL WARMING TO 2°C OR 1.5°C?—A PRELIMINARY ASSESSMENT (2010); Joeri Rogelj et al., *Copenhagen Pledges Are Paltry*, 464 NATURE 1126 (2010).

57. The implications of these terms are yet to be worked out. *See, e.g.*, Paris Agreement, *supra* note 1, at art. 2(2); *id.* at art. 4(3) (stating that each Party's successive NDCs must reflect its highest possible ambition, while "reflecting its common but differentiated responsibilities and respective capabilities, in the light of different national circumstances"); *id.* at art. 4(4) (stating that developed countries "should continue taking the lead by undertaking economy-wide absolute emission reduction targets," while developing countries "should continue enhancing their mitigation efforts, and are encouraged to move over time towards economy-wide emission reduction or limitation targets in the light of different national circumstances").

58. *Cf.* Radoslav S. Dimitrov, *The Paris Agreement on Climate Change: Behind Closed Doors*, 16 GLOBAL ENVTL. POL. 1, 3–5 (2016).

59. EMISSIONS GAP REPORT 2017, *supra* note 10, at xiv; *cf.* EMISSIONS GAP REPORT 2016, *supra* note 12, at xiv–xv, 15–18.

60. EMISSIONS GAP REPORT 2016, *supra* note 12, at xiv–xv, 15–18 (emphasizing need for "enhanced pre-2020 and pre-2030 action" and "urgency of immediate and strong action"). Continuing on the emissions trajectory implied by the current NDCs would mean that the remaining "carbon budget" consistent with 1.5°C (with at least 50% probability) will be well exceeded by 2030, and the budget consistent with 2°C (with at least 66% probability) will be about 80% depleted. EMISSIONS GAP REPORT 2017, *supra* note 10, at xviii. Other assessments find that the remaining carbon budget consistent with a 66% chance of staying below 1.5°C will be depleted by 2021 at current rates. Robert McSweeney & Rosamund Pearce,

With limited avenues to exert pressure on States Parties at the international level, domestic measures are essential if the Paris Agreement is to succeed. In particular, translating the Agreement's aspirational elements into actionable commitments requires a reform of each nation's domestic laws and rapid decarbonization. The incentive to free-ride, however, is deeply entrenched in national policies and difficult to overcome. Thus, where States are unwilling or unable to implement the Paris Agreement's objectives, action by cities, companies, investors, and civil society is seen as crucial for redressing the ambition deficit.<sup>61</sup>

### C. *Non-Party Stakeholders*

The management of collective action problems has traditionally been the domain of government and public law, and the need to provide public goods or allocate common pool resources has often justified government intervention in the market. Solving *international* collective action problems in particular would have been unthinkable without inter-State cooperation. This functional imperative has produced not only the Paris Agreement but also a large number of bilateral and multilateral treaties for the management of transboundary environmental issues.

The Paris Agreement challenges the way we think about the enforcement and implementation of international treaties. States Parties are obviously expected to take the lead on implementing their responsibilities under the Agreement, but they are decidedly not alone in this process. In adopting the Agreement, the Parties recognized the need for a multi-stakeholder approach and agreed to “mobilize stronger and more ambitious climate action by all Parties and non-Party stakeholders, including civil society, the private sector, financial institutions, cities and other subnational authorities, local communities and indigenous peoples.”<sup>62</sup> The Agreement devotes a full section to non-Party stakeholders, inviting them to “scale up their efforts and support actions to reduce emissions” and to “demonstrate these efforts via the Non-State Actor Zone for Climate Action [“NAZCA”] platform.”<sup>63</sup>

These provisions are unusual since the treaty does not bind non-State actors: a private company is not required to do anything under the Paris Agree-

---

*Analysis: Just Four Years Left of the 1.5C Carbon Budget*, CARBON BRIEF (Apr. 5, 2017), <https://perma.cc/JDJ8-F72E>; see also discussion *supra* Introduction.

61. See, e.g., EMISSIONS GAP REPORT 2017, *supra* note 10, at xiv, xviii, 25–26; EMISSIONS GAP REPORT 2016, *supra* note 12, at 25–26.
62. Adoption of the Paris Agreement, *supra* note 1, at pmb1. (emphasis added).
63. *Id.* ¶¶ 133–36. These provisions formalize the groundswell of non-State actions that had been building up since 2014. See also Lima Call for Climate Action, *supra* note 36, ¶ 19(a)(iv); Lima-Paris Action Agenda, UNFCCC, <https://perma.cc/LGH7-CG6J> (recognizing centrality of non-State actors).

ment (in the absence of implementing domestic legislation). The drafters included these provisions because they recognized that the Agreement, if it is to succeed, requires a collective effort of truly global proportions.

Private mitigation efforts matter greatly because climate change, though conceptualized as a “global problem,” is, at bottom, the cumulative result of actions taken by billions of individuals, families, and private firms, as well as local, regional, and national governments.<sup>64</sup> To avoid catastrophic impacts, actors at all levels need to make costly decisions to reduce their emissions.<sup>65</sup>

Households and industry generate substantial direct and indirect emissions through their diets, use of energy, transport choices, buying preferences, and behavior more generally. U.S. households, for instance, are directly responsible for 30–40% of total U.S. emissions.<sup>66</sup> Private industry accounts for most of the remaining direct energy-related emissions.<sup>67</sup> Private actors also generate substantial *indirect* emissions through their consumption of domestic and imported goods, such as appliances, vehicles, and food.<sup>68</sup> Thus, even modest changes in individual household or firm behavior could significantly reduce national emis-

- 
64. See Elinor Ostrom, *Polycentric Systems for Coping with Collective Action and Global Environmental Change*, 20 GLOBAL ENVTL. CHANGE 550, 550–52 (2010) (“GHG emissions are the result of an extraordinarily large number of actions taken at multiple scales.”); see also Thomas Dietz et al., *Household Action Can Provide a Behavioral Wedge to Rapidly Reduce U.S. Carbon Emissions*, 106 PROC. NAT’L ACAD. SCI. 18452 (2009) (identifying 17 actions by households and businesses that can cumulatively have a major impact on emissions).
65. Ostrom, *supra* note 64, at 550–52.
66. Estimates for direct household emissions vary. The U.S. Department of Commerce reports that U.S. direct household emissions were “almost a third” of total domestic emissions in 2006 (with the use of heat and power in homes contributing two thirds of total household emissions and the use of energy for personal motor vehicles contributing one third). U.S. DEP’T OF COMMERCE, U.S. CARBON DIOXIDE EMISSIONS AND INTENSITIES OVER TIME: A DETAILED ACCOUNTING OF INDUSTRIES, GOVERNMENT AND HOUSEHOLDS 17–18 (2010), <https://perma.cc/RC2V-VUBU>; see also *id.* at 16–18 (concluding that some U.S. industries made efficiency gains between 1998 and 2006, but that household emissions levels and intensities both increased, though improvements were expected by 2010). Cf. Dietz et al., *supra* note 64, at 18452 (noting that direct household emissions represent approximately 38% of U.S. CO<sub>2</sub> emissions).
67. See U.S. DEP’T OF COMMERCE, *supra* note 66, at 7–9, 15. The public sector—including federal, state, and local governments—accounts for 5% of U.S. energy-related CO<sub>2</sub> emissions. *Id.* at 16.
68. Indirect emissions are difficult to estimate and vary considerably across sectors. For example, less than 50% of total emissions in the U.S. agriculture and construction sectors are direct. *Id.* at 21.

sions,<sup>69</sup> as well as contribute to global mitigation efforts (since a large share of emissions is transferred through international trade).<sup>70</sup>

Moreover, if businesses globally were to join some of the most ambitious voluntary climate initiatives and cut their emissions by 3.2–4.2 billion tons per year below current trends by 2030, they would help remove an estimated 7–9% of the world's 2010 emissions from the atmosphere.<sup>71</sup> This would go a long way towards closing the States' ambition deficit and making up for the impact of the U.S. withdrawal (especially if the latter triggers other defections or noncompliance with the climate regime). The U.S. withdrawal has already energized numerous private actors, as well as U.S. cities and states to step up.<sup>72</sup> However, the subnational government-led actions may still fall short of the already modest federal targets.<sup>73</sup> The question is how much private-led initiatives can do to close that gap.

## II. GOVERNANCE BEYOND GOVERNMENT: THE RISE OF PRIVATE CLIMATE GOVERNANCE

The participation of private actors in international governance that the Paris Agreement envisages is not unprecedented. Where public authorities have been unable, unwilling, or too slow to act, private actors have at times filled the regulatory gap by assuming the basic functions of government, for instance, through standard-setting, coordination, and dispute settlement. This has been true, for instance, of international forestry and fisheries standards.<sup>74</sup> In the climate context, the deadlock in international negotiations in the decade leading up to Paris, and especially following the failure of the 2009 Copenhagen talks,

- 
69. See generally Michael P. Vandenbergh et al., *Time to Try Carbon Labelling*, 1 NATURE CLIMATE CHANGE 4 (2011); Gerald T. Gardner & Paul C. Stern, *The Short List: The Most Effective Actions U.S. Households Can Take to Curb Climate Change*, 50 ENV'T 12 (2008); Dietz et al., *supra* note 64.
70. See discussion *infra* Sections II.A, IV.C. See generally Steven Davis & Ken Caldeira, *Consumption-Based Accounting of CO<sub>2</sub> Emissions*, 107 PROC. NAT'L ACAD. SCI. 5687 (2010).
71. CDP & WE MEAN BUSINESS COALITION, *supra* note 10, at 2–3, 5 (2016) (further estimating that businesses could reduce emissions by roughly 10 billion tons—"but only with the right government policies in place[ ]"); see also Vandenbergh & Gilligan, *supra* note 10, at 226.
72. This Article focuses on private actors while recognizing the importance of subnational public governance and transnational public networks (such as the C40 cities partnership).
73. See Warren Cornwall, *Can U.S. States and Cities Overcome Paris Exit?*, 356 SCI. 1000 (2017) (indicating that the best efforts of U.S. cities and states may fall short of U.S. federal commitment to cut emissions by 26–28% by 2025). Moreover, not all U.S. states are pursuing ambitious targets. See, e.g., *West Virginia v. EPA*, No. 15-1363 (D.C. Cir. filed Oct. 23, 2015) (challenging EPA Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units, 80 Fed. Reg. 64,662 (Oct. 23, 2015)).
74. See Kenneth W. Abbott, *Engaging the Public and the Private in Global Sustainability Governance*, 88 INT'L AFF. 543, 550 (2012).



gave rise to a multitude of parallel processes, often led by subnational governments and private actors. These decentralized, bottom-up, and at times competing initiatives have sought to make up for the failures of the UNFCCC regime by disseminating climate-related information, providing carbon accounting, certifying and monitoring emissions, and generating political pressure on climate. This Section provides a brief overview of the literature and clarifies the concept of private climate governance employed in this Article—what it is and why it arises.

### A. Private Environmental Governance in the Literature

The rise of non-State actors and transnational networks in global environmental politics since the 1990s is an empirical fact, and the literature focusing on these developments and their implications in international relations,<sup>75</sup> eco-

---

75. See, e.g., BENJAMIN CASHORE ET AL., GOVERNING THROUGH MARKETS: FOREST CERTIFICATION AND THE EMERGENCE OF NON-STATE AUTHORITY 4 (2004) (describing these emerging arrangements as “one of the most innovative and startling institutional designs of the past 50 years”); TRANSNATIONAL PRIVATE GOVERNANCE AND ITS LIMITS (Jean-Christophe Graz & Andreas Nölke eds., 2008); Tim Bartley, *Institutional Emergence in an Era of Globalization: The Rise of Transnational Private Regulation of Labor and Environmental Conditions*, 113 AM. J. SOC. 297 (2007); Tim Büthe, *Private Regulation in the Global Economy: A (P)Review*, 12 BUS. & POL. 1 (2010); Benjamin Cashore, *Legitimacy and the Privatization of Environmental Governance: How Non-State Market-Driven (NSMD) Governance Systems Gain Rule Making Authority*, 15 GOVERNANCE 503 (2002); Robert Falkner, *Private Environmental Governance and International Relations: Exploring the Links*, 3 GLOBAL ENVTL. POL. 72 (2003); Philipp Pattberg, *The Institutionalization of Private Governance: How Business and Nonprofit Organizations Agree on Transnational Rules*, 18 GOVERNANCE 589 (2005).

On climate-specific scholarship, see, for example, HARRIET BULKELEY ET AL., TRANSNATIONAL CLIMATE CHANGE GOVERNANCE (2014); MATTHEW J. HOFFMANN, CLIMATE GOVERNANCE AT THE CROSSROADS: EXPERIMENTING WITH A GLOBAL RESPONSE AFTER KYOTO (2011); Kal Raustiala, *Nonstate Actors in the Global Climate Regime*, in INTERNATIONAL RELATIONS AND GLOBAL CLIMATE CHANGE 95 (Urs Luterbacher & Detlef F. Sprinz eds., 2001); Kenneth Abbott & Duncan Snidal, *Strengthening International Regulation through Transnational New Governance: Overcoming the Orchestration Deficit*, 42 VAND. J. TRANSNAT'L L. 501 (2009); L. Andonova et al., *Transnational Climate Governance*, 9 GLOBAL ENVTL. POL. 52 (2009); Steven Bernstein et al., *A Tale of Two Copenhagens: Carbon Markets and Climate Governance*, 39 MILLENNIUM J. INT'L STUD. 161 (2010); Harriet Bulkeley et al., *Governing Climate Change Transnationally: Assessing the Evidence from a Database of Sixty Initiatives*, 30 ENV'T & PLAN. C: GOV'T & POL'Y 591 (2012) [hereinafter *Governing Climate Change Transnationally*]; Jessica F. Green, *Order out of Chaos: Public and Private Rules for Managing Carbon*, 13 GLOBAL ENVTL. POL. 1 (2013); Robert Keohane & David Victor, *The Regime Complex for Climate Change*, 9 PERSP. ON POL. 7 (2011); Philipp Pattberg & J. Stripple, *Beyond the Public and Private Divide: Remapping Transnational Climate Governance in the 21st Century*, 8 INT'L ENVTL. AGREEMENTS 367 (2008).

This literature builds on broader IR literature on the rise and role of non-State actors. See generally BRINGING TRANSNATIONAL RELATIONS BACK IN: NON-STATE ACTORS, DOMESTIC STRUCTURES AND INTERNATIONAL INSTITUTIONS (Thomas Risse-Kappen ed.,

nomics,<sup>76</sup> and, most recently, in law,<sup>77</sup> is extensive. Through normative and empirical work, scholars have sought to analyze the causes, structure, and potential contributions to global governance of these innovative processes unfolding below and above the State. The literature proposes different definitions and typologies<sup>78</sup> of non-State actors and their governance models, often inspired by research in polycentric<sup>79</sup> or multilevel governance.<sup>80</sup> On the whole, the literature has largely focused on the *transnational* dimension, such as the growing prominence of subnational government networks (cities and states),<sup>81</sup> the coordination or orchestration role played by international intergovernmental organizations, and their interaction with private actors.<sup>82</sup> This Article, however,

---

1995); MARGARET KECK & KATHRYN SIKKINK, *ACTIVISTS BEYOND BORDERS: ADVOCACY NETWORKS IN INTERNATIONAL POLITICS* (1998); THE POWER OF HUMAN RIGHTS: INTERNATIONAL NORMS AND DOMESTIC CHANGE (Thomas Risse et al. eds., 1999).

76. See, e.g., ELINOR OSTROM, *GOVERNING THE COMMONS: THE EVOLUTION OF INSTITUTIONS FOR COLLECTIVE ACTION* (1990); Ostrom, *supra* note 64.
77. See, e.g., ENVIRONMENTAL LAW FOR SUSTAINABILITY: A READER chs. 8, 11, 12 (Benjamin J. Richardson & Stepan Wood eds., 2006); Kenneth W. Abbott, *Strengthening the Transnational Regime Complex for Climate Change*, 3 *TRANSNAT'L ENVTL. L.* 57 (2013) [hereinafter *Strengthening the Transnational Regime*]; Kenneth W. Abbott, *The Transnational Regime Complex for Climate Change*, 30 *ENV'T & PLAN. C: GOV'T & POL'Y* 571 (2012); Eric Orts, *Climate Contracts*, 29 *VA. ENVTL. L.J.* 197 (2011); Hari Osofsky, *Multiscalar Governance and Climate Change: Reflections on the Role of States and Cities at Copenhagen*, 25 *MD. J. INT'L L.* 64 (2010); Richard B. Stewart et al., *Building a More Effective Global Climate Regime Through a Bottom-Up Approach*, 14 *THEORETICAL INQUIRIES L.* 273 (2013); Michael P. Vandenbergh, *Private Environmental Governance*, 99 *CORNELL L. REV.* 129 (2013).
78. See, e.g., Abbott, *supra* note 74 ("private sustainability governance"); Abbott & Snidal, *supra* note 75 ("Transnational New Governance"); Bartley, *supra* note 75 ("transnational private regulation"); Cashore, *supra* note 75 ("non-state market driven governance"); Falkner, *supra* note 75 ("private environmental governance"); *Governing Climate Change Transnationally*, *supra* note 75 ("transnational climate governance"); Pattberg & Stripple, *supra* note 75 ("transnational arena of climate governance"); Stewart et al., *supra* note 77 ("bottom-up strategy").
79. See, e.g., Ostrom, *supra* note 64, at 552 ("Polycentric systems are characterized by multiple governing authorities at differing scales rather than a monocentric unit" where each unit "exercises considerable independence to make norms and rules within a specific domain."); see also Daniel Cole, *From Global to Polycentric Climate Governance*, 2 *CLIMATE L.* 395 (2011).
80. See, e.g., Liesbet Hooghe & Gary Marks, *Unraveling the Central State, but How? Types of Multi-Level Governance*, 97 *AM. POL. SCI. REV.* 233 (2003).
81. See, e.g., Stewart et al., *supra* note 77.
82. These initiatives can be purely public, purely private, or hybrid (public-private); they can be either domestic or transnational in makeup and focus. Transnational governance scholarship is also related to literature in law analyzing similar phenomena in the domestic context. See, e.g., THE TOOLS OF GOVERNMENT: A GUIDE TO THE NEW GOVERNANCE (Lester M. Salamon ed., 2002) (discussing "New Governance" from a public administration perspective); David P. Baron, *Private Politics, Corporate Social Responsibility, and Integrated Strategy*,

is primarily interested in *private-led schemes*, regardless of whether they are nested in domestic or transnational networks, as a way of understanding their mitigation potential where public leadership (at any level) is wanting.

### B. *Defining Private Climate Governance*

A growing number of scholars now study private environmental governance—and private climate governance—as a distinct phenomenon.<sup>83</sup> As Michael Vandenberg has argued, private environmental governance “occurs when nongovernmental entities take actions that achieve traditionally governmental ends concerning environmental protection or natural resources,” such as managing the use of common pool resources, providing public goods, reducing negative externalities, and distributing environmental goods.<sup>84</sup> In practice, the private actors’ actions often end up approximating the roles traditionally played by public administration in domestic legal systems, such as agenda-setting, rulemaking, standard-setting, implementation, compliance monitoring, enforcement, adjudication, and imposition of sanctions.<sup>85</sup>

#### 1. *Private Climate Governance: What Is It and Why Does It Arise?*

Not every private-led action on climate change is an example of private climate governance. As defined in this Article, the notion of private climate governance presupposes the presence of four features. *First*, private climate governance is not government-orchestrated or -managed. The impulse to change behavior comes from private actors themselves rather than the government’s regulatory command even though in many cases public bodies initiate or actively support the emergence of such schemes (by providing legislative or regulatory direction, setting up voluntary programs, funding certification bodies, etc.). *Second*, private climate governance schemes not only seek to provide immediate private benefits,<sup>86</sup> but also to increase the supply of public goods or common pool resources by fulfilling different functional roles, such as providing climate-relevant information, creating learning platforms, investing in capacity-

---

10 J. ECON. & MGMT. STRATEGY 7 (2001); Jody Freeman, *Extending Public Law Norms Through Privatization*, 116 HARV. L. REV. 1285 (2003).

83. See Vandenberg, *supra* note 77; see also Michael P. Vandenberg, *The New Wal-Mart Effect: The Role of Private Contracting in Global Governance*, 54 UCLA L. REV. 913 (2007); Vandenberg & Gilligan, *supra* note 10, at 220.

84. Michael P. Vandenberg, *The Implications of Private Environmental Governance*, 99 CORNELL L. REV. ONLINE 117, 120 (2014).

85. See Abbott & Snidal, *supra* note 75, at 507; *Governing Climate Change Transnationally*, *supra* note 75, at 595; Vandenberg, *supra* note 77, at 133, 147.

86. Cf. Tim Büthe, *Global Private Politics: A Research Agenda*, 12 BUS. & POL. (2010) (“[T]he supply of private regulation virtually never occurs unless it also brings private political-economic benefits to the suppliers.”).

building, or setting emissions targets. While this need not be their only or primary motive, it cannot be a mere afterthought or incidental co-benefit of efficiency savings that firms would have engaged in anyway. It needs to be purposive.<sup>87</sup> At bottom, the purpose of private climate governance after the Paris Agreement is to change actor behavior in line with the Agreement's goals. *Third*, participation in private climate governance is voluntary: there is no public law requirement for private actors to engage in these schemes. However, this does not mean that there is no pressure to participate: private schemes are often backed by economic, political, or social incentives in the form of consumer preferences, civil society pressures, industry standards, or other forces that in practice make them hard to avoid.<sup>88</sup> In some cases, private actors also elect to be contractually bound to follow certain norms.<sup>89</sup> *Finally*, though often decentralized, private climate governance exhibits some degree of coordination among actors, i.e., it cannot be entirely unilateral, spontaneous, or ad hoc.<sup>90</sup> In sum, private climate governance can be defined as a *nongovernmental, voluntary framework* that aims to provide public goods in the climate change area.

The growth in private climate governance (and private environmental governance more generally) raises important questions for legal scholarship regarding the genesis, functioning, and, ultimately, impact of these schemes. If voluntary climate commitments are costly (which they often are), why do private actors sign up for them? Under what conditions do they comply? And how does the behavior of private actors relate to public authority?

## 2. *The Two Logics of Voluntary Action*

We still do not “know under which conditions actors ‘obey’ norms that are not defined by states,”<sup>91</sup> but the literature proposes a number of hypotheses as to why private actors choose to participate in costly voluntary schemes and why they continue to comply. This Article distinguishes between two basic motiva-

---

87. Cf. Stepan Wood, *Voluntary Environmental Codes and Sustainability*, in ENVIRONMENTAL LAW FOR SUSTAINABILITY, *supra* note 77, at 229 (defining “regulation” as “all calculated efforts at social control, whether undertaken by state agents or not”); Andonova et al., *supra* note 75, at 53, 55–56 (defining transnational governance as involving “authoritative steering” of constituents towards public goals).

88. See Abbott & Snidal, *supra* note 75, at 506 n.25; *Strengthening the Transnational Regime*, *supra* note 77, at 67–68.

89. See Vandenberg, *supra* note 77, at 136.

90. Some definitions, however, set the bar too high by requiring that actors “adjust their behavior out of recognition of the legitimacy of the governance system,” and not simply “based on a calculation of their interest.” See Falkner, *supra* note 75, at 73.

91. Graz & Nölke, *supra* note 75, at 2.

tions, following James G. March and Johan P. Olsen's seminal distinction between two logics driving actor behavior.<sup>92</sup>

One explanation is *self-interest* (or the "*logic of consequences*"), according to which self-interested and utility-maximizing actors are likely to participate in private regimes if doing so makes sense from a cost-benefit perspective or if they are left with no choice but to do so due to external constraints.<sup>93</sup> In other words, participation is based on an expectation of private gain. For commercial actors, private gain can include reputational benefits, premium prices, shareholder support, a continuing "social license to operate," efficiency savings, or avoided cost of boycotts or litigation.<sup>94</sup> Benefits can also be political: private governance can forestall or minimize the scope of regulation,<sup>95</sup> or it can respond to a failure of public governance.<sup>96</sup>

For other actors, *social norms* or *self-identity* (the "*logic of appropriateness*") may play a greater role. Here, actors participate because they believe that to be the right thing to do.<sup>97</sup> Faith-based investors, for example, might be more motivated by public interest (as they see it) than cost-benefit calculations, as might civil society groups acting as norm-entrepreneurs.

These concepts are not static, and whether actors are responding to the logic of appropriateness or the logic of consequences by choosing to participate in a given voluntary scheme can be difficult to disentangle. Actions that begin as simple calculations of self-interest may over time trigger normative change and become embedded in organizational practices. For example, the extractive sector's growing participation in climate governance, a significant shift in attitudes compared to the 1990s,<sup>98</sup> is likely to be a mix of both. Similarly, the Paris Agreement currently operates largely through the logic of appropriateness, as there are few costs to noncompliance.<sup>99</sup> However, this could change over time. As expectations of what constitutes internationally responsible behavior change, additional financial, reputational, and political costs could attach and reshape States' and private actors' calculations of self-interest.

92. See generally JAMES G. MARCH & JOHAN P. OLSEN, *REDISCOVERING INSTITUTIONS: THE ORGANIZATIONAL BASIS OF POLITICS* (1989); James G. March & Johan P. Olsen, *The Institutional Dynamics of International Political Orders*, 52 INT'L ORG. 943 (1998) [hereinafter March & Olsen, *The Institutional Dynamics of International Political Orders*].

93. See, e.g., March & Olsen, *The Institutional Dynamics of International Political Orders*, *supra* note 92, at 949–51.

94. See generally Tanja A. Börzel & Thomas Risse, *Governance Without a State: Can It Work?*, 4 REG. & GOVERNANCE 113, 124–25 (2010); Neil Gunningham et al., *Social License and Environmental Protection: Why Businesses Go Beyond Compliance*, 29 L. & SOC. INQUIRY 307 (2004); Abbott & Snidal, *supra* note 75, at 560–61.

95. See Büthe, *supra* note 75, at 19–20.

96. See *supra* Part II.

97. See *supra* note 92.

98. See HARRIET BULKELEY, *ACCOMPLISHING CLIMATE GOVERNANCE* 36–41 (2015).

99. See *supra* Section I.A.

### 3. *The Role of the State*

The fact that the State is not directly involved in private climate governance does not mean that it is irrelevant. Indeed, a basic question this Article seeks to elucidate is the extent to which private climate governance can succeed in the near term where State leadership is weak or lacking. A number of authors have argued that, to be successful, private environmental governance ultimately needs the State.<sup>100</sup> Empirical research in IR, for example, has established that the “shadow” of the State is a critical driver of transnational private governance.<sup>101</sup> In other words, private actors organize and self-regulate to preempt potentially costlier regulations, and they continue to cooperate and comply with the voluntary regime for the same reason. This is consistent with the conventional theory of collective action, which predicts that private actors will not generally choose to provide public goods (such as climate mitigation) without the threat of State action looming in the background.<sup>102</sup> The implication is that, without a strong legal framework for climate action, we should not expect that private actors will be able to close the emissions gap left by the States’ lack of ambition.<sup>103</sup>

However, there is also evidence that private governance has emerged in the absence of governmental authority. Examples are “areas of limited statehood,” where external pressures from non-State actors (e.g., international organizations or NGOs) or social norms have acted as a “functional equivalent” of State authority.<sup>104</sup> In such cases, social norms nudge non-State actors to contribute to governance out of reputational or other concerns.<sup>105</sup> Moreover, economic literature shows that private governance has emerged under specific conditions as a means of supplying public goods or managing common pool resources, casting doubt on conventional theories of collective action. Elinor Ostrom, 2009 Nobel Laureate in Economics, in particular has argued that while private actors “are boundedly rational and do seek benefits for self,” they also “vary in their other-

---

100. See, e.g., Abbott & Snidal, *supra* note 75, at 510, 523, 566 (“Whether Transnational New Governance can fulfill its potential . . . depends upon the willingness and ability of states and IGOs to provide the necessary orchestration and support . . . .”); Büthe, *supra* note 75, at 12 (“Private supply of regulation often occurs in the shadow of public regulation.”); *Strengthening the Transnational Regime*, *supra* note 77, at 74 (“[T]he ‘shadow of hierarchy’ is an essential driver of non-state action.”).

101. See Börzel & Risse, *supra* note 94, at 113–18.

102. See Ostrom, *supra* note 64, at 551.

103. Cf. Liliana B. Andonova et al., *National Policy and Transnational Governance of Climate Change: Substitutes or Complements?*, 61 INT’L STUD. Q. 253, 254, 262 (2017) (finding participation by subnational and non-state actors in transnational initiatives to be “highest in countries with strong national climate policies”).

104. Börzel & Risse, *supra* note 94, at 113–14 (concluding, but not establishing empirically, “that governance with(out) government can work”).

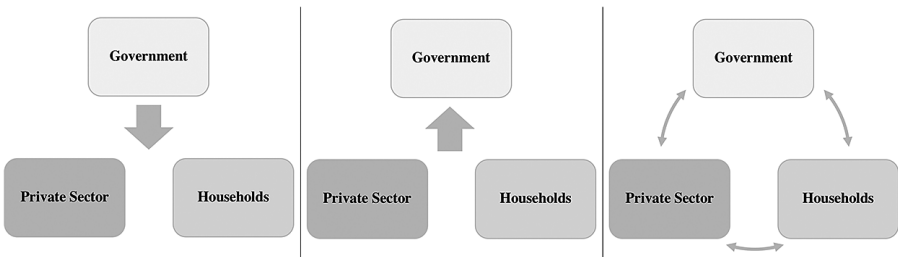
105. *Id.*

regarding preferences and norms about the appropriate actions they should take in particular settings.”<sup>106</sup> And, as noted above, we cannot discount the possibility that the logic of appropriateness can eventually supplant the logic of consequences: private governance, after all, can work by modifying either an actor’s cost-benefit calculations *or* its principled beliefs.

To summarize, there are two basic ways in which private climate governance can support mitigation by changing actor behavior. First, it can change the private actors’ cost-benefit analysis, which could be triggered by changes in the regulatory environment (e.g., preempting the imposition of a hard cap or a tax), in the marketplace (e.g., responding to the emergence of new technologies, competitors, or consumer demand), or external shocks (e.g., catastrophic climate events). Second, it can work by changing social norms and values, though norm-driven change is rarely a rapid process. At times, both logics will be at play.

Regardless of the underlying logic and the method used, the objective of private climate governance schemes is not limited to reducing other *private actors’* emissions: they can also seek to shape *State* behavior. They can do so indirectly, by drawing attention to a problem, or directly, by trying to induce the government to regulate emissions. This has been the principal approach used by climate litigants, as explained below. Climate mitigation governance is thus generated and shaped through a dynamic interaction between the interests and values of various private and public actors, as illustrated in Figure 1 below.

FIGURE 1. GOVERNANCE MODELS: TOP-DOWN, BOTTOM-UP, AND DYNAMIC GOVERNANCE



In theory, the dynamic model could create a space for effective bottom-up approaches to implement the Paris Agreement.

106. Ostrom, *supra* note 64, at 551.

### III. ASSESSING THE MITIGATION POTENTIAL OF PRIVATE CLIMATE GOVERNANCE: ANALYTICAL FRAMEWORK

Given the disappointing pace of domestic and international regulatory action, legal and IR scholars increasingly see climate change as a “promising” target for new private governance initiatives.<sup>107</sup> Potential emissions reductions by private households and industry in theory are substantial. Michael Vandenberg and Jonathan M. Gilligan, for instance, have estimated that private actors, by bypassing many of the barriers to government action, could potentially reduce enough emissions to “buy a decade” to resolve the political gridlock.<sup>108</sup> Private climate governance is especially attractive in the U.S. today, where bold federal action and new climate legislation are implausible before 2021 and where other ways of implementing the Paris Agreement’s objectives are needed. This Part looks at the effectiveness of private environmental governance in the literature before outlining a new analytical framework to assess whether, and under what conditions, “bottom-up” approaches can be effective in mitigating climate change in the short term (pre-2020 and pre-2030).

#### A. *The Challenge of Evaluating Effectiveness*

The literature on the *actual impact* of transnational or private governance initiatives is thin.<sup>109</sup> While private environmental governance initiatives have

---

107. See, e.g., Abbott & Snidal, *supra* note 75, at 545 (noting “real promise” of transnational governance for strengthening international regulation); Robert Falkner, *The Paris Agreement and the New Logic of International Climate Politics*, 92 INT’L AFF. 1107, 1125 (2016) (suggesting that climate leadership “could also be provided by non-state actors, most notably business organizations and NGOs that come together to establish transnational climate actions and voluntarily cooperate to pursue low-carbon strategies”); Vandenberg, *supra* note 84, at 136 (discussing several “promising targets for new private governance initiatives”); Vandenberg & Gilligan, *supra* note 10, at 226 (describing potential for “major new reductions”).

108. Vandenberg & Gilligan, *supra* note 10, at 224–26.

109. See, e.g., Katharina Michaelowa & Axel Michaelowa, *Transnational Climate Governance Initiatives: Designed for Effective Climate Change Mitigation?*, 43 INT’L INTERACTIONS 129, 132 (2017) (“An analysis of [the] expected or actual mitigation effectiveness [of transnational climate initiatives] is rare.”); *Governing Climate Change Transnationally*, *supra* note 75, at 610 (“[R]eliable data on the concrete impacts and effectiveness of transnational climate governance initiatives remain limited.”); Pattberg & Stripple, *supra* note 75, at 385 (stating that “the effectiveness of transnational climate mitigation instruments remains to be assessed[,]” since there is no overall accounting or trustworthy verification of private commitments); *Strengthening the Transnational Regime*, *supra* note 77, at 75–77 (“[C]oncrete effects are difficult to identify . . . [T]he practical impact of those reports is unclear.”); Vandenberg, *supra* note 84, at 132 (“[L]ittle or no research is available on the environmental quality effects” of private programs like CDP.); cf. Benjamin K. Sovacool, *An International Comparison of Four Polycentric Approaches to Climate and Energy Governance*, 39 ENERGY POL’Y 3832, 3832 (2011) (“Less explored . . . are the conditions that result specifically in the effective governance of climate and energy related issues.”).



reportedly had “substantial” positive impact on corporate behavior or practices at the global and local level, their impact on environmental outcomes or impacts is not well understood or empirically established.<sup>110</sup> This is particularly true of climate mitigation outcomes, where commitments are relatively recent and few studies are available. Generally, a number of private environmental governance schemes were designed to influence company practices (for example, how companies source palm oil), but without directly changing or measuring their sustainability impacts (for example, to determine whether there has been a reduction in deforestation rates).<sup>111</sup> Very little is also known about the durability of impacts—whether positive changes are maintained over time or whether they are easily lost.<sup>112</sup>

Private governance has certain structural features that could both undermine and further the goal of climate mitigation in practice. On the one hand, private initiatives are not subject to the same public accountability as government regulations, they might be open to industry capture, and they might amount to “greenwashing.” In some cases, they could also compete with public governance or displace rulemaking.<sup>113</sup> One driver of self-regulation, as noted above, is the desire to preempt the emergence of stronger mandatory rules, and it is further feared that the growth of private ordering could allow States to delegate basic governance functions to non-State actors and reduce public pressure for regulation.<sup>114</sup> On the other hand, the impact on public governance may well run in the opposite direction by helping States address seemingly intractable transnational problems<sup>115</sup> and by short-circuiting political polarization around climate change.<sup>116</sup> In this sense, “policy spillovers” from private initiatives could be either positive or negative.<sup>117</sup> Which type of spillover is present in a given case is an empirical question.

---

110. See Vandenberg, *supra* note 77, at 137. The first large review of private standards and certification was completed in 2012. STEERING COMM. OF STATE-OF-KNOWLEDGE ASSESSMENT OF STANDARDS & CERTIFICATION, TOWARD SUSTAINABILITY: THE ROLES AND LIMITATIONS OF CERTIFICATION (2012) [hereinafter TOWARD SUSTAINABILITY].

111. See TOWARD SUSTAINABILITY, *supra* note 110, at 71 (“[O]nly very modest evidence exists in the literature of significant impacts on the ground—that is, improvements in the ecological, economic, or social dimensions of sustainability.”).

112. *Id.*

113. See Vandenberg, *supra* note 77, at 147–56.

114. See, e.g., Abbott & Snidal, *supra* note 75, at 550.

115. See *id.*

116. See Vandenberg & Gilligan, *supra* note 10, at 224–25 (explaining appeal of private governance for people ideologically opposed to “big government”); see also PEW RESEARCH CTR., GLOBALLY, PEOPLE POINT TO ISIS AND CLIMATE CHANGE AS LEADING SECURITY THREATS 10–11 (2017), <https://perma.cc/Z2US-RPQS> (reporting that “86% of U.S. liberals see climate change as a major concern, versus 31% of conservatives”).

117. Cf. Vandenberg & Gilligan, *supra* note 10, at 298–99.

Beyond these structural features, climate change poses particular challenges for governance, public and private. Climate change is the quintessential collective action dilemma<sup>118</sup>—a problem that has traditionally required an overarching law and policy framework to coordinate different actors' behavior, reduce negative externalities, and equitably distribute the costs of action—which is compounded by its global scale.<sup>119</sup> It is widely accepted that climate mitigation generates positive externalities: any one actor's efforts to reduce emissions, no matter where or how small, will benefit everyone else.<sup>120</sup> We would thus expect mitigation to be in short supply.<sup>121</sup> As noted above, the conventional theory of collective action predicts that individual actors will not voluntarily change their behavior to reduce their carbon footprint and that an external authority will be needed to impose rules to change the underlying incentives.<sup>122</sup> However, there is also evidence that private actors do in some cases organize even in the absence of an external authority.<sup>123</sup> This suggests that the provision of climate mitigation (a public good) is not automatically foreclosed by the private nature of governance; it is an empirical question to be analyzed on a case-by-case basis.

### B. *The Proposed Analytical Framework*

But when, or under what conditions, is private climate governance effective? I suggest that we can begin to assess the *mitigation potential*, or *effective-*

---

118. The term “collective action” refers to situations where “decisions about costly actions are made independently but outcomes jointly affect everyone involved.” Ostrom, *supra* note 64, at 551.

119. See generally Richard J. Lazarus, *Super Wicked Problems and Climate Change: Restraining the Present to Liberate the Future*, 94 CORNELL L. REV. 1153 (2009).

120. IPCC, MITIGATION – CONTRIBUTION OF WORKING GROUP III TO THE THIRD ASSESSMENT REPORT OF THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE 607 (Bert Metz et al. eds., 2001); see also *Massachusetts v. EPA*, 549 U.S. 497, 525–26 (2007) (“Nor is it dispositive that developing countries are poised to increase [GHG] emissions substantially over the next century: A reduction in domestic emissions would slow the pace of global emissions increases, no matter what happens elsewhere.”); Urgenda Found. v. The Netherlands, C/09/456689/HA ZA 13-1396, Rechtbank Den Haag (The Hague Dist. Ct. June 24, 2015), at ¶ 4.79 (Neth.) (stating that States have a joint and individual responsibility for emissions reductions because “any anthropogenic [GHG] emission, no matter how minor, contributes to an increase of [CO<sub>2</sub>] levels in the atmosphere and therefore to hazardous climate change”).

121. The presence of positive externalities (where the benefits of mitigation do not accrue to the private actor alone but benefit the society at large) means that mitigation will tend to be underproduced, while emissions will tend to be overproduced since the costs of carbon pollution (negative externalities) are borne by the wider society. See generally Banda, *supra* note 2.

122. Ostrom, *supra* note 64, at 551.

123. See *supra* Section II.A.

ness,<sup>124</sup> of different private climate governance schemes using the following six criteria: *integrity*, *uptake*, *ambition*, *resilience*, *transparency*, and *materiality*:

1. *INTEGRITY*. To be effective, a private mitigation scheme must be designed to further the Paris Agreement's goals. This may seem obvious, but the integrity criterion is an important reminder that not all private schemes seek to serve the public interest. For example, a scheme that includes intentionally weak targets, that was set up merely to prevent the emergence of more robust regulation, or that seeks to confuse or mislead the public through "greenwashing" would not meet this criterion. Such schemes, which represent a deliberate strategy to avoid costly actions, can be said to be hypocritical.<sup>125</sup> How can we tell if a scheme has integrity? This criterion can be evidenced, *inter alia*, by the inclusion of ambitious, science-based, and quantified targets. In some cases, however, even a seemingly legitimate scheme could undermine mitigation efforts indirectly by weakening public governance or undercutting other private governance schemes. This is harder to measure, but these unintended negative consequences would be a form of a negative policy spillover.<sup>126</sup>
2. *UPTAKE*. However ambitiously designed, a scheme that does not include key players is not likely to succeed. Which actors are key (and whose uptake counts) will depend on the context, but will generally include a consideration of *leverage* (can a given group of actors influence behavioral change in others) and *weight* (can a given group, acting alone, make a significant change in the market). The concept of leverage encompasses both market power and normative power to affect the behavior of other actors and determines to what extent the "targets" of private measures will respond to the logic of consequences or be swayed by the logic of appropriateness.

---

124. A major issue is the lack of "a common understanding of how to measure success." TOWARD SUSTAINABILITY, *supra* note 110, at 71. IR scholars have recently started valuing the impact, or effectiveness, of voluntary climate commitments. For a review, see Hamish van der Ven et al., *Valuing the Contributions of Nonstate and Subnational Actors to Climate Governance*, 17 GLOBAL ENVTL. POL. 1 (2017) (listing approaches and urging caution "in assessing the potential of interventions solely by examining their performance against intended goals, reduction targets, or relevant outputs").

125. Similar concerns have been noted in relation to labor practices. See, e.g., Abbott & Snidal, *supra* note 75, at 504 n.9 (noting that "[s]ome firms have tried to avert mandatory regulation by instituting 'largely symbolic' codes of conduct, some of which have been exposed as 'shams'").

126. See Vandenbergh & Gilligan, *supra* note 117.

3. *AMBITION*. To be effective, private schemes also need to be sufficiently ambitious to modify actor behavior in a way that would translate into measurable impact. What is ambitious for a given actor is highly context-dependent. Ambition needs to be continuously redefined by reference to science-based targets necessary to achieve the Paris Agreement's goals, as well as a particular actor's level of emissions. As with the design of the Paris Agreement itself, there is a trade-off between imposing strict standards (for example, requiring significant emissions reductions) and securing broad uptake (especially in the high-emitting sectors). If the scheme is perceived to be too demanding, it may fail to attract sufficient adherents, but if it is too lax, it will have little impact on emissions. The ambition criterion may thus be in tension with the uptake criterion.<sup>127</sup>

Determining what is ambitious for a given actor is challenging: the Paris Agreement does not set any top-down targets, it does not allocate carbon budgets to States, and it certainly does not do that for private actors.<sup>128</sup> Instead, actors need to work backwards from the long-term temperature goals to determine what annual emissions reductions are required. This is a shifting target. As global emissions rise every year, the remaining carbon budget dwindles, which means that targets need to be increasingly stringent.<sup>129</sup> Translating this into specific emissions requirements at household or company level is difficult and is beyond the scope of this Article.<sup>130</sup> Instead, the analysis employed here examines broader industry trends based on available data. It considers whether major companies and sectors are participating in private

---

127. Cf. Green, *supra* note 75, at 11 (“[C]ompulsory verification [of reported emissions] might scare off the more reluctant participants.”). Self-regulated business standards are often less demanding than those set up by civil society or public authorities, see *Strengthening the Transnational Regime*, *supra* note 77, at 78, since they need to offer their adherents concrete private benefits. However, the reverse can also be true: private companies can adopt voluntary schemes to impose more stringent environmental or consumer protection on their competitors, resulting in a market-driven “race-to-the-top.” See Büthe, *supra* note 75, at 13–14.

128. See *supra* Section I.A.

129. See *supra* note 60.

130. It is possible to quantify both individual targets and resulting effectiveness of private mitigation efforts. Where data is available, we can measure the absolute emissions reductions obtained, compare them to a benchmark for that private actor, and assess whether those reductions are consistent with the Paris Agreement. The benchmarking exercise to determine whether individual actors are doing “enough,” however, would require a weighing of factors such as historical emissions, economic/market share, current and projected emissions, energy intensity, etc.—the same kind of issues of contribution, capacity, and equity that have bedeviled mitigation efforts at UNFCCC. That analysis is beyond the scope of this Article.

climate governance, what kinds of targets they are committing to, whether they are making real progress, and what outcomes their collective efforts are producing. The bottom line is that holding emissions constant or achieving modest reductions is inconsistent with the Paris Agreement: all private schemes need to result in significant net reductions.<sup>131</sup>

4. *RESILIENCE*. Further, to be effective, private schemes also need to be sufficiently resilient (durable or stable) to withstand changes in the regulatory environment, public demand, market competition, or other shocks, and to adjust to evolving climate science. Schemes that are created solely in anticipation of legislation, for example, may not survive a shift in government policy, as the demise of the Chicago Climate Exchange (“CCX”) suggests.<sup>132</sup> Similarly, schemes that depend on consumer or public demand can be less resilient if consumers lack information or interest in supporting them.<sup>133</sup> Private schemes that meet their goals and cease to exist would meet resilience criteria, but schemes that vanish before they could deliver (or where emissions rebound) would not.<sup>134</sup>
5. *TRANSPARENCY*. No scheme, however ambitious, is likely to succeed if it operates opaquely. What is true of the Paris Agree-

---

131. See Paris Agreement, *supra* note 1, art. 6(4)(d) (specifying that a mechanism for internationally transferred mitigation outcomes should achieve “overall mitigation”—i.e., a net-mitigation impact as opposed to offsetting). Without net reductions or net-positive outcomes, there is a risk that private actors could commit to—and even achieve—their mitigation targets (e.g., to remove a defined quantity of metric tons of GHG emissions by a given year or reduce their intensity), while at the same time increasing their overall emissions. *Cf.* Cole, *supra* note 79, at 408 (reporting that, despite reduced emissions per ton of cement nodule, emissions from CSI participants increased by 35% in 1990–2006 because their output grew by 50%). *But see* Vandenberg, *supra* note 84, at 132–33 (discounting this possibility where an external civil society monitor is involved). In contrast, a science-based target would not allow for a net increase, nor would it aim for merely neutral outcomes (e.g., through offsets). Whether the net reduction should be 1.5% or 7.5% in a particular case is more difficult to determine, as some companies may be forced to do more to compensate for those that are doing less.

132. The CCX—the first private voluntary emissions trading scheme in the U.S. whose members agreed to legally binding annual reduction targets—was created in anticipation of federal legislation; it was shut down in 2010, after the Senate failed to pass a cap-and-trade bill. *See* Cole, *supra* note 79, at 408; *see also* Pattberg & Stripple, *supra* note 75, at 378 (describing CCX’s 1% per year targets as unambitious and attainable with “cosmetic changes” to operations).

133. Abbott & Snidal, *supra* note 75, at 562 (noting that consumer or public demand can be “uncertain and variable”).

134. *See* Vandenberg, *supra* note 77, at 147–56.

ment's design is also true of private climate governance. Effectiveness thus also depends on whether the private scheme is transparent about its objectives and performance, and whether it is accountable to the other participants and the public. Accountability means that "some actors have the right to hold other actors to a set of *standards*, to judge whether they have fulfilled their responsibilities in light of these standards, and to *impose sanctions* if they determine that these responsibilities have not been met."<sup>135</sup> Thus, standardization and monitoring can be evidence of a scheme's transparent functioning. A common set of clear standards aids the process of verification and comparison across private actors. Meanwhile, the monitoring function, often performed by independent third parties, can help ensure compliance by drawing attention to an actor's implementation.<sup>136</sup>

6. *MATERIALITY*. Finally, even if a private climate governance scheme meets all of the above criteria, it would still need to make a nontrivial (more than *de minimis*) contribution to climate mitigation. For example, a scheme that imposes exacting emissions reduction targets on its members but covers a low-carbon industry with a minuscule share of emissions would not be material.

This framework provides an alternative to existing approaches in the literature.<sup>137</sup> By drilling deeper into the criteria that make private governance effec-

135. Keohane & Victor, *supra* note 75, at 17 (emphasis added) (quoting Ruth W. Grant & Robert O. Keohane, *Accountability and Abuses of Power in World Politics*, 99 AM. POL. SCI. REV. 29, 29 (2005)).

136. *But see* Büthe, *supra* note 75, at 19 ("However, such third-party involvement differs considerably across issue areas, and we have little systematic knowledge about its effectiveness.").

137. For example, Vandenberg & Gilligan, *supra* note 10, propose a "model of private climate governance drivers" consisting of "technical potential" (what emissions reductions would result if "all possible behavior change occurred" among households and companies), "behavioral plasticity" (what level of "behavior change . . . can reasonably be expected from an intervention"), and "policy plasticity" (to what extent "an organization can implement the initiatives necessary to achieve . . . potential [emission] reductions). *Id.* at 221–24. In contrast, the analytical framework developed in this Article operates on a more granular level and seeks to enable more targeted policy interventions. For instance, "technical potential" (whereby an initiative "must either target behaviors or sources with large potential emissions reductions or must be amenable to scaling up to achieve large reductions," *id.* at 243–44) is treated here as a function of uptake, ambition, and resilience. Altering any of those variables could change the outcome. Similarly, behavioral plasticity is seen as a function of the two logics driving actor behavior. For example, whether an actor is responsive to the logic of consequences (and whether it will change its behavior) in a given case will be a function of leverage (market or normative power). Meanwhile, policy plasticity is treated here as the result of various variables, including calculations of self-interest or social pressures that can change over time. Where policy plasticity "requires that the initiative not depend upon gov-

tive, introducing concepts like leverage, and untangling the logics driving actor behavior, this Article hopes to facilitate a more critical and granular assessment of private governance and make it easier to improve the design of existing schemes. We can imagine other criteria that could evaluate other functions of private climate governance, such as their potential to build networks, increase actor capacity, or drive behavioral change—all instances of long-term pathways to decarbonization. This Article, however, is focused on the *short-term* mitigation potential of private climate governance, and this framework accordingly is designed to assess the prospects for short-term emissions reductions that would be consistent with the 1.5°C goal. The next Part applies this framework to three types of private climate governance schemes.

#### IV. PRIVATE CLIMATE GOVERNANCE IN PRACTICE: AN ASSESSMENT

This Section examines empirically three areas where private climate governance could, in principle, make a meaningful contribution to mitigation: (a) company emissions and climate risk disclosure; (b) voluntary commitments to reduce emissions; and (c) carbon labeling.<sup>138</sup> All of these schemes, consistent with the definition employed in this Article, represent forms of private climate governance—they are private-led, voluntary initiatives that aim in part to provide public goods. However, as shown below, they also serve distinct governance functions and face distinct challenges that could affect their mitigation potential. This Article assesses their effectiveness using the criteria developed above.<sup>139</sup>

---

ernment resources or changes in public laws or policies,” *id.* at 251, this aspect is captured by the concept of resilience.

Note that, in IR literature, Robert O. Keohane and David Victor treat effectiveness as one criterion for evaluating “climate regime complexes,” along with coherence, accountability, determinacy, sustainability, and epistemic quality. Keohane & Victor, *supra* note 75, at 17. Similarly, Katharina Michaelowa and Axel Michaelowa consider four “institutional design” factors in assessing the potential effectiveness of transnational climate governance: the existence of a defined mitigation target, financial incentives, a specified baseline, and monitoring, reporting, and verification. Michaelowa & Michaelowa, *supra* note 109, at 131, 134–35. These factors, while not particularized, appear to speak primarily to a scheme’s ambition and transparency. The framework developed in this Article, in contrast, seeks to look beyond an initiative’s institutional design by also addressing issues of integrity, uptake, resilience, and materiality.

138. Other private climate governance initiatives that could have direct or indirect impact on climate mitigation but are not examined here include (a) lending principles for banks (e.g., the Carbon Principles); (b) commodities roundtables (e.g., production standards for products driving deforestation, such as beef and palm oil); (c) green building standards or environmental management standards (e.g., efficiency or energy-use norms); and (d) private resource agreements (e.g., on deforestation).
139. While this Article focuses on legal or semi-legal pathways, political actions can also support mitigation by changing short-term cost-benefit calculations or affecting long-term social

*A. Disclosure: Company Emissions and Climate Risk*

One important function of private climate governance is to disseminate information about corporate emissions and climate risk. This information can support mitigation efforts indirectly by revealing carbon-intensive business operations and financial exposure to climate change. As the Financial Stability Board's ("FSB") Taskforce for Climate-related Financial Disclosure ("TCFD")<sup>140</sup> noted, climate change is "[o]ne of the most significant, and perhaps most misunderstood, risks that organizations face today."<sup>141</sup> Not surprisingly, businesses have come under increasing pressure from consumers, investors, and governments to increase the quantity, quality, and availability of their climate-related information.<sup>142</sup>

Since the late 1990s, a wide range of private disclosure schemes has emerged to track private sector emissions and climate risk exposure. Governments have also increasingly stepped in. The U.S. Securities and Exchange Commission ("SEC") was the first securities regulator to recognize that publicly-traded companies face "material" risks from climate change (including regulatory, physical, and indirect risks)—and that they are expected to report on them.<sup>143</sup> (Institutional investors had been advocating for this type of guidance since 2003.<sup>144</sup>) Other jurisdictions have taken a variety of policy routes to mandate corporate reporting, including through corporate law (e.g., the UK's Companies Act) and environmental law (e.g., the EPA's Greenhouse Gas Reporting

---

norms by targeting governments (through voting, petitions, mass protests, and lobbying) or private actors (e.g., through divestment campaigns).

140. The G20 Finance Ministers and Central Bank Governors asked FSB to review how the financial sector can take account of climate-related issues; the latter established an industry-led task force, TCFD, in 2015 to report on this issue.
141. FIN. STABILITY BD.'S TASK FORCE FOR CLIMATE-RELATED FIN. DISCLOSURE, FINAL REPORT: RECOMMENDATIONS OF THE TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES ii (2017), <https://perma.cc/CH4W-5BPJ>; *see also* U.N. ENV'T PROGRAMME, GEO-5 FOR BUSINESS: IMPACTS OF A CHANGING ENVIRONMENT ON THE CORPORATE SECTOR (2013), <https://perma.cc/Q8CA-QKE9>. Private actors can face numerous climate-related risks, including physical risks to infrastructure and personnel, operational risks from impacts on the supply-chain and consumer demand, regulatory risks from carbon pricing and other legislation, and litigation risks from affected communities or investors.
142. ORG. FOR ECON. CO-OPERATION & DEV. CLIMATE STANDARDS DISCLOSURE BD., CLIMATE CHANGE DISCLOSURE IN G20 COUNTRIES: STOCKTAKING OF CORPORATE REPORTING SCHEMES 10 (2015), <https://perma.cc/RN87-U7H2> [hereinafter OECD-CSDB, CLIMATE CHANGE DISCLOSURE].
143. Commission Guidance Regarding Disclosure Related to Climate Change, 75 Fed. Reg. 6290 (Feb. 8, 2010) (codified at 17 C.F.R. pts. 211, 231, 241).
144. JIM COBURN & JACKIE COOK, CERES, COOL RESPONSE: THE SEC & CORPORATE CLIMATE CHANGE REPORTING—SEC CLIMATE GUIDANCE & S&P 500 REPORTING: 2010 TO 2013 6 (2014), <https://perma.cc/LWH7-Z9MV>.



Rule<sup>145</sup>).<sup>146</sup> By 2015, three-quarters of G20 States had some kind of mandatory reporting requirements in place for the disclosure of climate-related company information.<sup>147</sup>

Private climate governance, however, still has an important role to play. Most of the mandatory initiatives are in their infancy. The calculation methods, verification standards, and the overall quality and content of reported information vary widely across jurisdictions.<sup>148</sup> Most governments, for example, do not require companies to report complete climate-related information, such as emissions and risks embedded in their supply-chain.<sup>149</sup> Only a minority require third-party verification, which raises reliability concerns.<sup>150</sup> Moreover, in the U.S., SEC enforcement has often been weak, resulting in limited disclosure.<sup>151</sup> Private schemes could thus theoretically fill an important gap by increasing and harmonizing transnational standards, raising awareness of corporate emissions and risks, and maintaining pressure on companies to reduce their emissions. This Section discusses two key examples below.

### 1. *Voluntary Disclosure and Reporting of Climate-Related Information*

In many jurisdictions, private schemes have been the primary vehicle for voluntary reporting of corporate climate information—with significant support (and pressure) from investors. Some of these initiatives, such as the Global Reporting Initiative (“GRI”), track company sustainability practices more broadly (including on climate change, human rights, and governance),<sup>152</sup> while others, like CDP (formerly the Carbon Disclosure Project), are primarily focused on climate change.<sup>153</sup>

---

145. Mandatory Reporting of Greenhouse Gases, 74 Fed. Reg. 56,260 (Oct. 30, 2009) (codified at 40 C.F.R. (various parts)).

146. OECD-CSDB, CLIMATE CHANGE DISCLOSURE, *supra* note 142, at 16.

147. LOIS GUTHRIE & LUKE BLOWER, ORG. FOR ECON. CO-OPERATION & DEV. CLIMATE STANDARDS DISCLOSURE BD., CORPORATE CLIMATE DISCLOSURE SCHEMES IN G20 COUNTRIES AFTER COP 21 3 (2017).

148. *See* OECD-CSDB, CLIMATE CHANGE DISCLOSURE, *supra* note 142, at 29–38.

149. *Id.* at 8. In contrast, some voluntary nongovernmental reporting schemes request the full range of climate-related information. *See, e.g., About Us*, CDP, <https://perma.cc/U7FH-4DLZ>.

150. *See About Us*, *supra* note 149, at 32.

151. COBURN & COOK, *supra* note 144, at 4–5 (arguing that SEC is not prioritizing its Interpretive Guidance and that 41% of S&P 500 companies made no climate-related disclosures in their 2013 10-K filings).

152. *See Sustainability Reporting*, GLOB. REPORTING INITIATIVE, <https://perma.cc/4HAL-374J>.

153. Institutions with assets under management can become either CDP investor signatories or members (for a higher fee). *See generally Become an Investor Member*, CDP, <https://perma.cc/TA6P-CQE4>. In some cases, financial sector companies participate as both investor signatories/members and disclosing companies.

CDP, a nonprofit organization, is one example of these emerging forms of private climate governance focused on information. Launched in 2000, CDP collects emissions and other climate-related data from companies on behalf of the financial investor community. In 2003, CDP's global environmental disclosure platform was supported by 45 investment firms, with \$4 trillion in assets. By 2018, it counted 650 institutional investor signatories with a combined \$87 trillion in assets.<sup>154</sup> This rapid growth is reflective of growing investor concern about climate change.

Voluntary reporting has also expanded considerably. Initially, CDP requested the world's 500 largest firms ("Global 500") to disclose their emissions, risks, and emissions reduction strategies.<sup>155</sup> The group's response rate has increased over time—from 47% in 2003 to 81% in 2017.<sup>156</sup> It has also increased among the U.S. Standard and Poor's 500 companies ("S&P 500") from 47% in 2006 to 69% in 2017.<sup>157</sup> These trends can be seen in Figure 2 below:

---

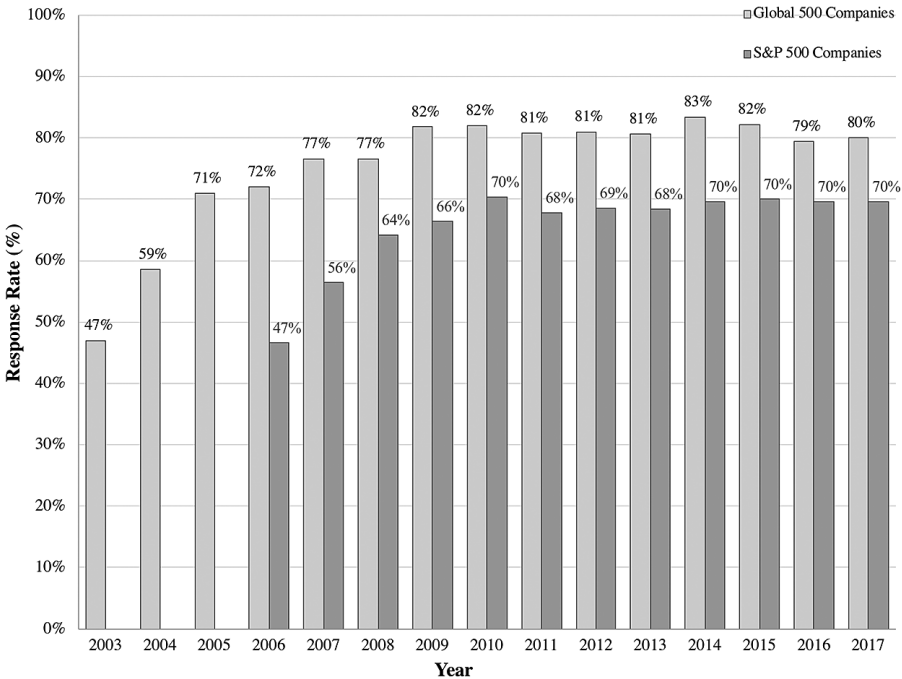
154. *See About Us*, *supra* note 149.

155. The Global 500 are the largest companies by market capitalization included in the FTSE Global Equity Index Series. In 2006, CDP began sending its questionnaire more widely—to 2,180 of the world's largest corporations. *See* CDP, GLOBAL FT500 REPORT 20 (2006). In 2011, it reached out to over 6,000 companies. First-time responders do not have to pay a fee to file a questionnaire with CDP; thereafter, an annual minimum contribution of \$975 is required to submit a response. *See Admin Fee FAQ*, CDP, <https://perma.cc/D9Q3-BAFP>.

156. CDP, GLOBAL FT500 REPORT 20 (2006); CDP, GLOBAL 500 CLIMATE CHANGE REPORT 6 (2013). *See infra* Figure 2.

157. CDP, S&P 500 REPORT 7 (2008); CDP, US S&P 500 REPORT 5 (2017).

FIGURE 2. RESPONSE RATES TO CDP QUESTIONNAIRES FOR GLOBAL 500 AND S&P 500 COMPANIES, 2003–2017



Source: Data based on available CDP Reports for the Global 500 (2003–2013), CDP reports for the S&P500 (2006–2017), and information from CDP for the Global 500 (2014–2017) (on file with author)<sup>158</sup>

How do these schemes map onto the assessment criteria? First, information-based private climate governance schemes are designed to perform well on the transparency criterion (this is their *raison d'être*). For example, both GRI and CDP seek to enable investors and analysts to integrate climate risks and opportunities into their decision-making process. However, different schemes display differing levels of transparency. Some, like GRI, provide a framework to make the reported company information publicly available.<sup>159</sup> Others, like CDP, score the companies' responses and provide a detailed database, but limit data access and public availability of reports while granting greater disclosure to

158. S&P 500 Reports are available from 2006 onwards. The Global 500 Reports were published from 2003 to 2013, at which point the global reporting sample was expanded. The questionnaires themselves and the scoring methodologies have also evolved over time to include, for example, external verification and science-based emissions reduction targets.

159. See SUSTAINABILITY DISCLOSURE DATABASE, GRI, <https://perma.cc/BL74-E8RV> (making available reporting companies' sustainability reports).

its participating members and paying subscribers.<sup>160</sup> This practice diminishes the extent of public accountability but provides a basis for internal assessment and review by investors and the business community, for which the initiative is specifically targeted. The scoring methodology, on the other hand, is publicly available, and there are attempts to align reporting metrics on climate change and energy so as to improve the consistency and comparability of data across the disclosure platforms.<sup>161</sup>

Second, information-based schemes are resilient to the extent they continue to provide material information about company practices to investors, and long-term institutional investors' interest in disclosure will only grow as climate risks and impacts increase. Third, there is no evidence that the disclosure platforms are a sham or an avoidance strategy or that there are negative policy spillovers, thus satisfying the integrity criterion. Fourth, the potential contribution of these companies is far from trivial: the Global 500 respondents accounted for around 11% of direct global emissions in 2010,<sup>162</sup> while the S&P 500 respondents reported 1.6 gigatons of equivalent carbon dioxide ("GtCO<sub>2</sub>e") in 2013, representing up to 30% of U.S. emissions and 5% of global emissions.<sup>163</sup>

However, uptake is a limiting factor for this scheme's mitigation potential (which is, in any event, indirect). First, although the number of respondents is increasing, they still represent only a fraction of global business, consisting of roughly 82,000 multinational enterprises and countless small and medium-size enterprises.<sup>164</sup> The emergence of reporting initiatives that seek to span the leading companies' supply-chains, however, may help mitigate this problem over time.<sup>165</sup> Second, there is considerable variation across regions, with EU companies generally outperforming their U.S. counterparts,<sup>166</sup> and companies from the emerging economies lagging behind.<sup>167</sup> Third, disclosure rates among the largest companies appear to have reached a plateau at around 70% for the S&P

---

160. In the questionnaire, companies can choose to submit either a public or a private response to CDP. Investor signatories and members have unlimited access to both public and private company responses, for multiple years. Responding companies and the public, in contrast, cannot view private responses; they can access 20 public responses per year at no cost (additional reports can be accessed for a fee). Responding companies are free to publish their reports on their own website. *See Become an Investor Member*, *supra* note 153.

161. *See* GRI & CDP, LINKING GRI AND CDP: HOW ARE THE GRI SUSTAINABILITY REPORTING STANDARDS AND CDP'S 2017 CLIMATE CHANGE QUESTIONS ALIGNED? 5 (2017).

162. CDP GLOBAL 500 REPORT 7 (2010).

163. CDP, S&P 500 CLIMATE CHANGE REPORT 13 (2013).

164. OECD, CORPORATE DISCLOSURE OF CLIMATE CHANGE-RELATED INFORMATION: CONVERGENCE, DIFFERENCES AND IMPACT 8 (2015).

165. *See infra* notes 227–229 and accompanying text.

166. *See, e.g.*, CDP, GLOBAL 500 REPORT 27 (2011).

167. *See* CDP, GLOBAL 500 REPORT 18 (2013).

500 in the U.S.<sup>168</sup> and 81% for the largest 500 companies globally.<sup>169</sup> These rates, moreover, conceal considerable sectoral variation. For example, almost all of the U.S. high-emitting companies addressed climate change in their SEC filings (albeit in a cursory fashion), but many failed to respond to CDP's questionnaire.<sup>170</sup>

The uptake challenge for the high-emitting sector is magnified if we look at the global picture. The fossil-fuel industry accounts for 91% of global industrial GHG emissions and 70% of all anthropogenic emissions since 1988.<sup>171</sup> The emissions are highly concentrated in a small number of companies,<sup>172</sup> and the majority (59%) can be traced to State-owned enterprises ("SOEs").<sup>173</sup> The growing dominance of State ownership (especially in China, India, Iran, Mexico, Russia, and Saudi Arabia)<sup>174</sup> reduces the mitigation potential of investor-led disclosure for this sector since SOEs are less likely to respond to the same kinds of incentives, brand concerns, or social values as publicly-owned actors.<sup>175</sup> This suggests that other bottom-up initiatives—such as supply-chain measures, climate litigation, or lending rules—may have greater mitigation potential.

That said, the share of emissions that comes from publicly-owned entities is non-negligible (20% in 2015) and is likely to be more responsive to investor pressure.<sup>176</sup> Moreover, producer-side accountability is not the only way to ad-

168. *See supra* Figure 1.

169. *Id.*

170. COBURN & COOK, *supra* note 144, at 17. However, the quality of information disclosed to CDP exceeded that to the SEC. *Id.* at 4, 15, 17; *see also* AIGCC ET AL., INVESTOR CLIMATE COMPASS: NAVIGATING CLIMATE RISK THROUGH ENGAGEMENT WITH THE OIL AND GAS SECTOR 9 (2017) (discussing non-responders); David Lubin et al., *Global 100 Greenhouse Gas Performance: New Pathways for Growth and Leadership* 2 (Thomson Reuters, Fin. & Risk White Paper, May 2017) (finding that less than 10% of the 100 largest publicly-owned emitters are currently demonstrating leadership on transparency and decarbonization). Companies choose not to respond for different reasons, including resource constraints, limited internal risk-assessment capacity, perceived lack of climate risks, absence of climate regulations, lack of investor or public pressure, weak social norms relating to the environment, as well as concern about inviting regulation or stigma in case of poor emissions performance.

171. CDP, CARBON MAJORS REPORT 7 (2017). If the post-1988 production trends continue over the next 28 years, the global average temperatures would be on course to rise around 4°C above preindustrial levels by the end of the century. *Id.* at 7.

172. Only 25 producers account for 51% of global industrial GHG emissions; the top 100 producers account for 71%. *Id.* at 8, 10.

173. Since 1988, 100 active producers—comprising 41 public investor-owned, 16 private investor-owned, 36 state-owned, and 7 state companies—emitted 635 Gt CO<sub>2</sub>e, of which 32% can be traced to public investor-owned companies, and 9% to private investor-owned companies. *Id.* at 5.

174. *Id.* at 8–10, 14–15.

175. *See* INT'L ENERGY AGENCY, ENERGY, CLIMATE CHANGE AND ENVIRONMENT: 2016 INSIGHTS 14–15 (2016), <https://perma.cc/YU35-EHYM>.

176. CDP, *supra* note 171, at 10.

dress emissions: there is also end-user accountability. “Scope 3” emissions—resulting from the downstream combustion of coal, oil, and gas for energy purposes—account for 90% of total company emissions.<sup>177</sup> This means that end-user companies in other sectors (consumer products, etc.) could exert substantial leverage through other private governance schemes, such as those focused on their supply chains.<sup>178</sup>

In sum, while information-based private climate governance schemes can contribute to climate mitigation efforts by providing investors and other stakeholders with data on companies’ performance and resilience (“what you can measure, you can mitigate”), their short-term mitigation potential is currently limited by uptake, especially among carbon-intensive sectors. Mandatory reporting could address the uptake issue, but governments also need to improve the quality of disclosure, including by harmonizing reporting requirements, expanding accounting through the value chain, and developing stronger verification methods.<sup>179</sup>

## 2. Shareholder Proposals on Climate Change

A related private disclosure-based framework are shareholder proposals (also known as resolutions). Investors have been using nonbinding shareholder proposals for nearly eighty years as a vehicle to put pressure on the management and, in more recent years, to obtain disclosure of corporate social and environmental information.<sup>180</sup> In 2016, shareholders filed approximately 1,000 propos-

---

177. *Id.* at 5. In addition to such downstream emissions (generated through the combustion of fossil fuels by end-users), Scope 3 emissions can also include upstream emissions by producers and suppliers in the company’s value chain. *See* WORLD RES. INST. & WORLD BUS. COUNCIL FOR SUSTAINABLE DEV., CORPORATE VALUE CHAIN (SCOPE 3) ACCOUNTING AND REPORTING STANDARD 5 (2011), <https://perma.cc/9TME-KK32>. The EPA also uses this guidance. *See Scope 3 Inventory Guidance*, EPA, <https://perma.cc/TZ97-8D75>; *see also infra* notes 227–28 and accompanying text.

178. *See infra* notes 224–28 and accompanying text. Households as end-users also have substantial impact on total energy demand. However, they face challenges of scale. Vandenberg & Gilligan, *supra* note 10, at 244.

179. *Cf.* OECD-CSDB, CLIMATE CHANGE DISCLOSURE, *supra* note 142, at 9; Guthrie & Blower, *supra* note 147, at 3.

180. In the U.S., this process is governed by the Securities Exchange Act Rule 14a-8. *See* 17 C.F.R. § 240.14a-8 (2017). The proposed Financial CHOICE Act, approved by the House of Representatives in June 2017 and currently undergoing consideration in the Senate, would restrict the pool of shareholders that are able to introduce a proposal. Financial CHOICE Act of 2017, H.R. 10, 115th Cong. (2017). The Act would limit eligibility to shareholders who own at least 1% of the company’s shares for at least three years (the current minimum is one year’s ownership of \$2,000 of stock).

als with U.S. companies, including more than 400 focused on environmental and social issues.<sup>181</sup>

The first *climate*-related proposal was filed in 1990 with Exxon, requesting that the company “develop a company-wide plan to reduce carbon dioxide emissions from the company’s energy production plants and facilities worldwide.”<sup>182</sup> It won only 6% of the votes. Since then, the number of proposals, and the support they receive, has increased exponentially.<sup>183</sup>

Spurred on by the Paris Agreement, 109 proposals relating to climate change were filed with U.S. companies in 2016 and 113 in 2017.<sup>184</sup> This can be seen in Figure 3 below.

---

181. CERES ET AL., THE BUSINESS CASE FOR THE CURRENT SEC SHAREHOLDER PROPOSAL PROCESS 3 (2017); see also Subodh Mishra, *An Overview of U.S. Shareholder Proposal Filings*, HARVARD LAW SCHOOL FORUM ON CORPORATE GOVERNANCE AND FINANCIAL REGULATION (Feb. 28, 2018), <https://perma.cc/WCW3-DZ38> (finding that social and environmental issues continue to dominate in 2018).

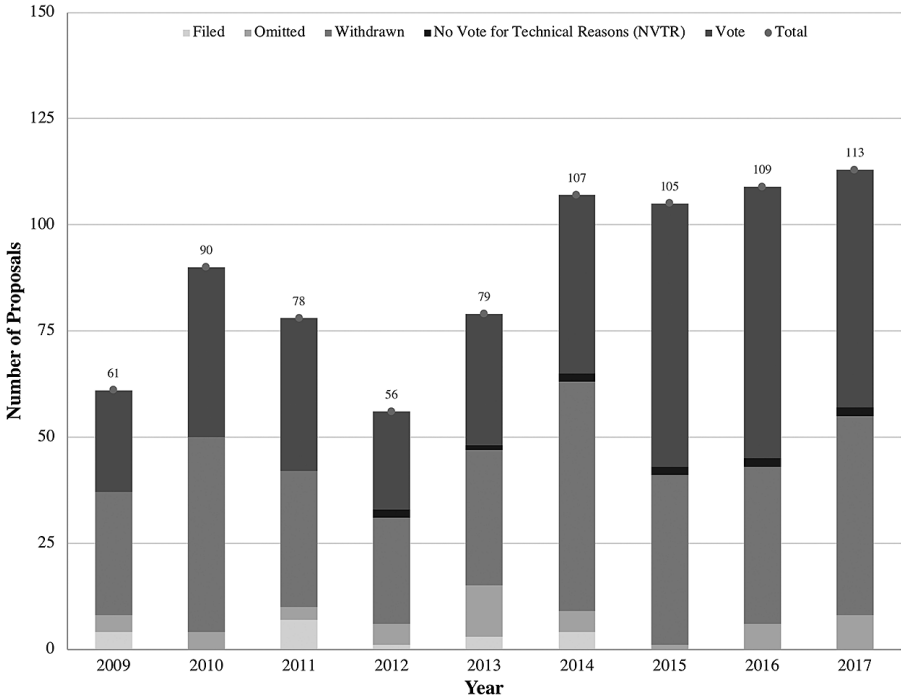
182. See Elizabeth Douglass, *Exxon’s 25 Years of “No”: Timeline of Resolutions on Climate Change*, INSIDE CLIMATE NEWS, <https://perma.cc/Q5B6-CQF7>.

183. See, e.g., Marianne Lavelle, *Exxon Shareholders Approve Climate Resolution: 62% Vote for Disclosure*, INSIDE CLIMATE NEWS (May 31, 2017), <https://perma.cc/JSC5-FHMT>.

184. The dataset of climate-related shareholder proposals was constructed primarily using Ceres’s online database of shareholder proposals. See *Shareholder Resolutions*, CERES, <https://perma.cc/5XQW-M7CG> (displaying data in a prior format); *Engagement Tracker*, CERES, <https://perma.cc/W7U8-RUZK> (displaying current data). This information, where relevant, was crosschecked against and supplemented with data provided by Ceres (on file with author), *Proxy Preview* reports (2009–2017), public company filings, and SEC data. The analysis omits proposals concerning non-U.S. companies, some of which attracted greater than 90% shareholder support. For other reviews, see, for example, Ed Crooks, *US Shareholder Votes on Climate Change Hit Record*, FIN. TIMES (May 31, 2017), <https://perma.cc/56J6-P9LR>.

A “climate-related” shareholder proposal for the purposes of this Article refers to any proposal that expressly seeks to address climate risks, increase climate resilience, or reduce emissions. This includes, *inter alia*, proposals relating to (a) carbon accounting, monitoring, and risk management disclosure; (b) stress-testing against the 2°C target; (c) renewable energy targets; (d) emissions reduction targets; (e) high-carbon asset divestment; (f) sustainability reports that specifically address GHG emissions; and (g) measures to reduce deforestation or food waste in the supply-chain that specifically address GHG emissions. Excluded are environmental proposals that may have considerable climate co-benefits (such as proposals concerning hydraulic fracturing, coal ash risks, mountaintop-removal mining, packaging, or food waste) but that do not specifically mention climate change. Similarly, proposals that may have indirect impacts on climate policies (e.g., corporate governance, board composition, proxy access, public policy, and lobbying) are excluded. The exception is proposals seeking to link executive pay directly to GHG emissions reductions.

FIGURE 3. CLIMATE-RELATED SHAREHOLDER PROPOSALS,  
BY OUTCOME, 2009–2017



Source: Data are based primarily on Ceres shareholder proposal database.<sup>185</sup>

During the 2017 proxy season, climate resolutions won majority votes at three oil and gas companies (PPL Corporation (56.8%), Exxon (62.3%), and Occidental Petroleum (67.3%)).<sup>186</sup> This represents a historic shift in U.S. shareholder attitudes and signals the growing salience of climate change in the mainstream investment community. Prior to 2017, no resolution had secured the necessary majority, though investors had successfully negotiated a number of withdrawals after the companies made specific commitments in response to the resolutions.<sup>187</sup> The withdraw-and-negotiate practice makes the impact of reso-

185. For further information, see *supra* note 184.

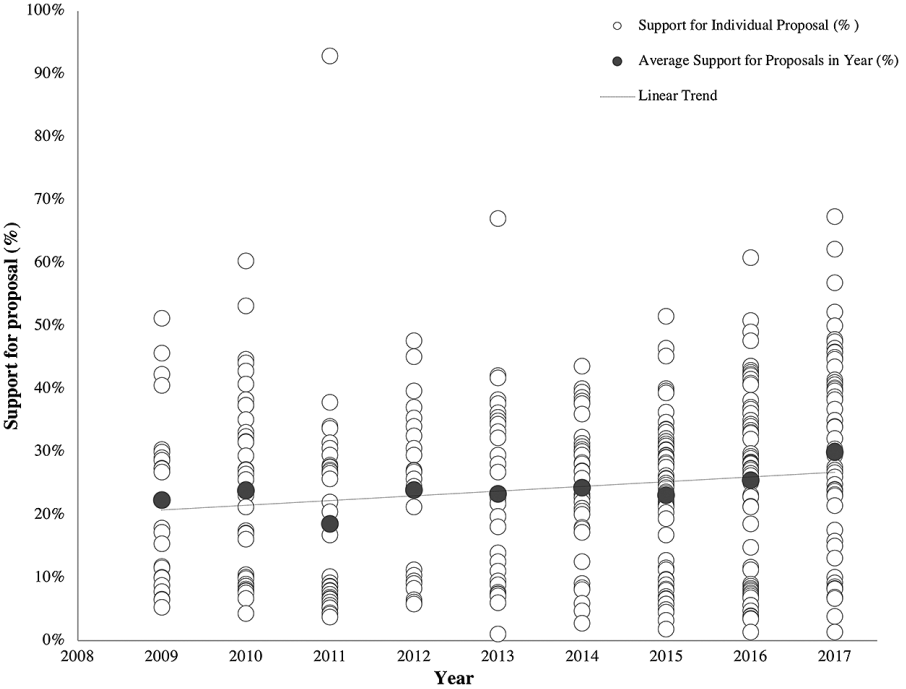
186. See *Investor Support of Portfolio Resilience Resolutions*, CERES, <https://perma.cc/6R3E-DVDB>. In 2016, by contrast, the Exxon climate risk resolution received only 38.1% support (and none of the other resolutions passed). *2016 Investor Support of Portfolio Resilience*, CERES, <https://perma.cc/245N-5MN3>. A fourth proposal (asking for a sustainability report, including GHG emissions tracking) won majority support at Pioneer Natural Resources Co. (52.1%).

187. In the UK, 98% of BP's shareholders voted in favor of a climate resolution in 2015 (prepared by a coalition of UK asset owners and mutual fund managers). OECD-CSDB, CLIMATE CHANGE DISCLOSURE, *supra* note 142, at 20. In Canada, Suncor management and board



lutions harder to measure.<sup>188</sup> However, there is an upward trend in support for the resolutions that did go to a vote, especially among mainstream investors, as shown in Figure 4 below.

FIGURE 4. SUPPORT FOR CLIMATE-RELATED SHAREHOLDER PROPOSALS, 2009–2017



Source: Data are based primarily on Ceres shareholder proposal database.<sup>189</sup>

From 2009 to 2017 (the years for which detailed data is available), the number of climate-related shareholder proposals that came to a vote increased considerably (from 39% in 2009 to 50% in 2017), as did shareholder support for individual proposals that were voted on (from an average of 22% to 30%). A growing share of proposals is also attracting larger shareholder support, as Figure 5 below shows. As a result, the number of proposals that came to a vote

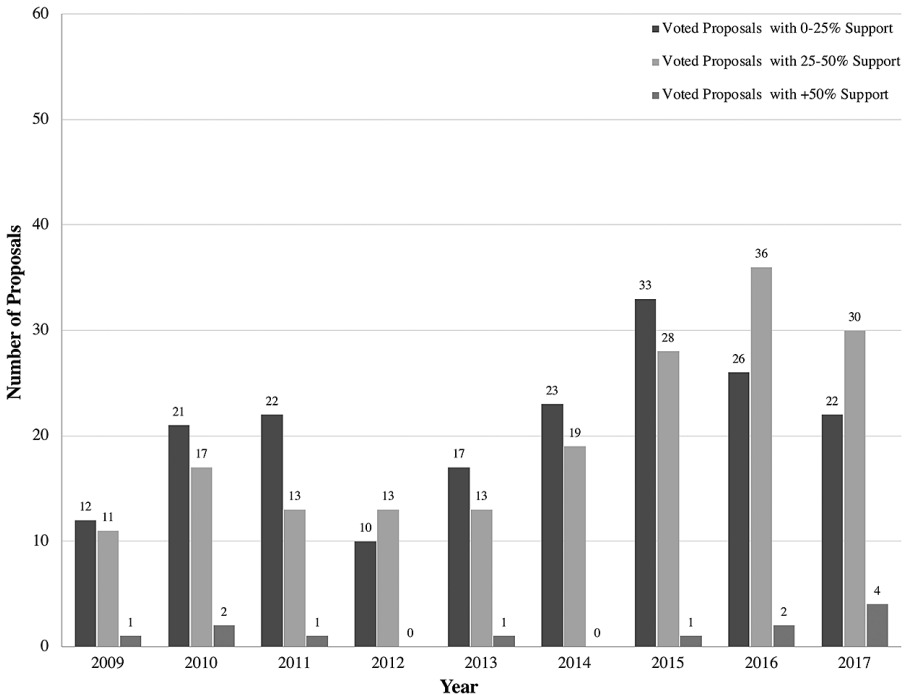
supported a 2016 shareholder resolution on low-carbon resiliency that received 98% support. AIGCC ET AL., *supra* note 170, at 25.

188. See Sarah C. Haan, *Shareholder Proposal Settlements and the Private Ordering of Public Elections*, 126 YALE L.J. 262, 277 (2016) (“The lack of transparency around proposal settlements creates significant challenges for their study.”). There is no public registry of settled proposals, and companies do not file withdrawn proposals with the SEC. *Id.*

189. For further information, see *supra* note 184.

and that garnered votes in the 25–50% range increased from 11 to 30 between 2009 and 2017. The number of proposals that won the support of a majority of shareholders nearly doubled in the same period (from 4% in 2009 (1 proposal) to 7% in 2017 (4 proposals)).

FIGURE 5. SUPPORT FOR CLIMATE-RELATED SHAREHOLDER PROPOSALS THAT WENT TO A VOTE, BY TYPE, 2009–2017



Source: Data are based primarily on Ceres shareholder proposal database.<sup>190</sup>

Though often filed separately, the resolutions are part of coordinated efforts by socially responsible investors, companies, and civil society to influence the behavior of publicly-traded companies. In the U.S., Ceres, a sustainability-focused nonprofit organization founded in 1989, has been spearheading the Investor Network on Climate Risk and Sustainability, which currently has 154 institutional investors with more than \$24 trillion in assets under management.<sup>191</sup> The network includes investors from asset management firms (e.g.,

190. For further information, see *supra* note 184.

191. *Ceres Investor Network on Climate Risk and Sustainability*, CERES, <https://perma.cc/9VFU-AXQJ>. Other institutional networks are also emerging. Institutional Investors Group on Climate Change plays a similar role in Europe—with 152 members representing over €21 trillion in assets (including 9 of the 10 largest pension funds and asset managers in Europe).

BlackRock and State Street), public pension funds in California, Florida, New York, and Quebec, labor and socially-responsible investment funds, and foundations.<sup>192</sup>

Investor activism around climate change reflects both the logics of appropriateness and consequences. Environmental performance can affect a company's bottom line, and financial institutions, insurance companies, and pension funds, among others, are acting in their long-term financial interest in scrutinizing their investments' (or their insured's) resilience. As noted above, climate change creates challenges for corporate operations and poses particular risks to utilities and carbon assets owned by fossil-fuel companies.<sup>193</sup> Over \$34 trillion in fossil fuel revenues could be at risk between now and 2040 under a 2°C scenario.<sup>194</sup> Consequently, a number of extractive companies have endorsed the 2 Degree Scenario Analysis ("2DS") to demonstrate the resilience of their portfolios in a transition to a low-carbon economy.<sup>195</sup> Some companies, however, have avoided climate disclosure even while acknowledging climate-related risks.<sup>196</sup> For many companies in the high-emitting sectors, mitigation is costly and potentially destructive in the absence of a regulatory framework that would reward early action.

These types of investor-led initiatives perform well on most of the effectiveness criteria: they are designed to increase compliance with the Paris Agreement (meeting the integrity criterion), they are transparent about their goals and performance and accountable to their participants, they increasingly include ambitious science-based disclosure targets, they rely on committed actors (ensuring their resilience), and they target large emitters (thus meeting the materi-

*See Members*, IIGCC, <https://perma.cc/WP2X-RL6W>. ClimateWise is a global network of insurance companies focusing on climate risks. *See* ClimateWise, UNIV. OF CAMBRIDGE, <https://perma.cc/FU5E-BDQ6>.

192. *Ceres Investor Network*, *supra* note 191.

193. According to International Energy Agency estimates, no more than one third of coal, oil, and gas reserves can be burned without causing dangerous global warming (of 2°C or more). If publicly-traded companies cannot exploit some two thirds of their fossil fuel reserves, this could create a major risk for the asset owners. Likewise, unless governments keep the global temperature increase to below 2°C, companies' assets and operations face major physical risks. *See generally* CARBON TRACKER INITIATIVE, UNBURNABLE CARBON: ARE THE WORLD'S FINANCIAL MARKETS CARRYING A CARBON BUBBLE? (2011), <https://perma.cc/422E-RVXG>.

194. *See Vestas, ABB Among Climate-Change Deal Winners*, REUTERS (Nov. 25, 2015), <https://perma.cc/FR8H-TUVF>.

195. *See also* FINANCIAL STABILITY BOARD'S TASK FORCE FOR CLIMATE-RELATED FINANCIAL DISCLOSURE, *supra* note 141, at 25–28 (endorsing 2DS as a risk management tool).

196. *See, e.g.*, EXXONMOBIL CORP., ANNUAL REPORT (FORM 10-K) 3 (2016), <https://perma.cc/87HK-CX4F> (noting that "a number of countries have adopted, or are considering adoption of, regulatory frameworks to reduce [GHG] emissions," and that such policies could make company's "products more expensive, lengthen project implementation timelines, and reduce demand for hydrocarbons").

ality criterion). These emerging initiatives could aid mitigation efforts by helping actors converge around a common set of criteria, shaping investor expectations around appropriate disclosure, and driving the development of social and corporate norms favoring greater transparency (even in the absence of direct government support). This process will likely be strengthened by the TCFD's recommendations.<sup>197</sup> Over time, a standardized set of market rules could acquire sufficient normative pull to help fill regulatory gaps and inform the national regulatory framework.

As with voluntary reporting schemes, however, uptake is a challenge. Disclosure does not translate directly into behavioral change, and management might not transform climate data into practical resilience measures. The mitigation potential of these schemes depends in large part on the extent to which investors can influence company practices, especially in the high-emitting or carbon-intensive end-user sectors. This, in turn, is a function of *leverage*—in particular the initiatives' ability to continue attracting mainstream institutional investors.<sup>198</sup>

### B. Direct Action: Voluntary Emissions Reductions

Apart from reporting and disclosure, private actors have also undertaken voluntary emissions reductions. This is a distinct form of private climate governance that goes beyond information-based functions by modifying actor behavior through direct action.

International mitigation efforts have long recognized the importance of private mitigation and encouraged private actors (and subnational authorities) to undertake voluntary, public commitments. The announcement of private pledges to reduce CO<sub>2</sub> emissions in 2012, for instance, was a positive outcome of an otherwise disappointing Rio+20 Conference on Sustainable Development.<sup>199</sup> This trend has accelerated since then, especially following the signing

---

197. See FINANCIAL STABILITY BOARD'S TASK FORCE FOR CLIMATE-RELATED FINANCIAL DISCLOSURE, *supra* note 141 (recommending that companies conduct 1.5–2°C scenario analysis, adopt carbon pricing in financial accounting, communicate transition plans and investment in low-carbon research and development, and engage with policymakers on environmental issues).

198. A 2017 survey by Asset Owners' Disclosure Project ("AODP") found that 60% of the top 500 asset owners globally (with \$40 trillion of assets under management), recognize climate risks and opportunities to varying degrees—up from 50% in 2016. See AODP, 2017 GLOBAL CLIMATE 500 INDEX 3–6 (2017); AODP, GLOBAL CLIMATE 500 INDEX 2016 4 (2016). Only 13% of asset owners calculate their portfolio carbon emissions (up from 10%), while only 6% assess the risk of stranded assets. AODP, 2017 GLOBAL CLIMATE 500 INDEX 3–6 (2017). In the U.S., 63% of asset owners (with \$4.5 trillion of investments) are ignoring climate change. *Id.* U.S. asset managers also lag behind. *Id.* at 8.

199. See Eur. Parl., *Much Ado About Nothing: The Rio + 20 Conference*, Doc. PE 491.432 (2012).

of the Paris Agreement.<sup>200</sup> According to the pledges deposited with the UNFCCC's NAZCA platform, over 2,000 companies—with aggregate revenues of \$32.5 trillion—were taking some form of climate action in 2018, as were 479 investors.<sup>201</sup> The pledged actions vary considerably, but generally involve some form of emissions reduction targets or renewable energy commitments. It is hoped that private actors, like the States Parties, will ratchet up their climate ambition over time, though they are not legally required to do so. Voluntary commitments within the U.N. framework have not always been successful,<sup>202</sup> and the question is whether, and under what conditions, these new initiatives can be effective in meeting the Paris Agreement's objectives.

Self-reported data shows that U.S. companies have been taking a range of mitigation actions.<sup>203</sup> In 2016, 48% of Fortune 500 companies had at least one climate or clean energy target (up from 43% in 2014).<sup>204</sup> The ambition was greatest among the Fortune 100, 64% of which had one or more such targets (up from 59% in 2012).<sup>205</sup> A number of companies also adopted science-based emissions reduction targets in line with the Paris Agreement's goal of limiting global temperature rise to below 2°C,<sup>206</sup> or even 1.5°C.<sup>207</sup> A few companies also adopted renewable energy targets.<sup>208</sup> Overall, the 190 companies reporting reli-

---

200. ANGEL HSU ET AL., TAKING STOCK OF GLOBAL CLIMATE ACTION 22 (2016).

201. *NAZCA: Tracking Climate Action*, UNFCCC, <https://perma.cc/BC2B-QE5D>.

202. Voluntary commitments at the 2002 World Summit on Sustainable Development and 2012 Rio+20 Summit were short-lived: the former had "lax" eligibility requirements and the latter had poor "criteria, supervision, support and coordination." See *Strengthening the Transnational Regime*, *supra* note 77, at 74.

203. See CDP ET AL., POWER FORWARD 3.0: HOW THE LARGEST U.S. COMPANIES ARE CAPTURING BUSINESS VALUE WHILE ADDRESSING CLIMATE CHANGE (2017) (reviewing commitments to reduce emissions, set renewable energy goals, and efficiency-based measures). The report is based on 2016 company disclosures to CDP (containing self-reported corporate environmental data) and other public sources. Many private mitigation projects began as voluntary programs by individual companies to reduce emissions. By 2005, for example, more than 100 U.S. companies had set or even achieved their voluntary targets—acting in anticipation of federal legislation or to achieve cost reductions through reduced energy use. See Pattberg & Stripple, *supra* note 75, at 377–78.

204. CDP ET AL., *supra* note 203, at 2.

205. *Id.*; see also CDP ET AL., POWER FORWARD: HOW THE LARGEST U.S. COMPANIES ARE CAPTURING BUSINESS VALUE WHILE ADDRESSING CLIMATE CHANGE 10 (2012).

206. In the U.S., 20 Fortune 500 companies had set science-based targets. CDP ET AL., *supra* note 203, at 22. As of April 2018, 380 companies globally had set targets—or committed to doing so—through the Science-Based Targets Initiative (founded in 2015 by CDP, World Resources Institute ("WRI"), World Wildlife Fund ("WWF"), and U.N. Global Compact). See *Companies Taking Action*, SCIENCE-BASED TARGETS INITIATIVE, <https://perma.cc/3GGX-A659>. This figure compares to 114 companies taking action in late 2015.

207. Myles McCarthy, *Why Has Tesco Become the First Corporate to Reveal a 1.5°C Climate Change Target?*, CARBON TRUST (May 17, 2017), <https://perma.cc/BY75-9U4B>.

208. About 10% (53) of Fortune 500 companies had renewable energy targets in 2016; of those, 23 had committed to power 100% of their operations with renewable energy. CDP ET AL.,

able data decreased their annual emissions by 155.7 million metric tons of CO<sub>2</sub>e.<sup>209</sup> This is equal to taking 45 coal-fired power plants offline for a year.<sup>210</sup> The emissions reductions also resulted in \$3.7 billion in savings for the companies.<sup>211</sup> Not all of these firm-led efforts amount to private climate “governance,” but many do, such as those that are part of business-to-business networks or civil society partnerships that are independently monitored.<sup>212</sup>

Today, these types of private actions by U.S. companies have gained in importance as a means of offsetting the Trump Administration’s decision to exit the Paris Agreement and its broader efforts to shrink public environmental governance. While they can play an important role, their mitigation potential faces several constraints.

First, there are uptake issues. Climate commitments are not distributed evenly across companies and sectors: the self-reported U.S. data shows declining ambition among Fortune 500 companies, with the largest companies taking the lead.<sup>213</sup> There is also a significant gap in target-setting across different economic sectors, with the energy sector lagging behind.<sup>214</sup>

Second, there are potential accountability and integrity concerns. Commitments are generally more credible when they are externally monitored and verified,<sup>215</sup> but these mitigation actions generally rely on voluntary, company-set

*supra* note 203, at 2–3. As of April 2018, 131 companies globally had made a commitment to 100% renewable electricity. See *Companies*, RE100, <https://perma.cc/L3QX-EC78>.

209. CDP ET AL., *supra* note 203, at 3.

210. *Id.*

211. See *id.* at 29 (assuming average savings of \$24 per million metric tons of CO<sub>2</sub> equivalent).

212. Examples include schemes like the Cement Sustainability Initiative, created in 2002 by ten large cement manufacturers, which developed a CO<sub>2</sub> protocol for member companies to use in setting voluntary emission-reduction targets, encouraging energy efficiency measures and attracting new membership with this guidance and oversight, see Cole, *supra* note 79, at 408, and Walmart’s partnership with Environmental Defense Fund, see discussion *infra*, note 227.

213. CDP, *supra* note 203, at 12, 16, 20, 27.

214. In 2016, the Consumer Staples (72%), Materials (66%), and Utilities (65%) sectors on the Fortune 500 list set clean-energy goals, but only 11% of the companies in the Energy sector did so, *id.* at 17–18, down from nearly 25% in the previous report, WORLD WILDLIFE FUND ET AL., POWER FORWARD 2.0: HOW AMERICAN COMPANIES ARE SETTING CLEAN ENERGY TARGETS AND CAPTURING GREATER BUSINESS VALUE 10 (2014); see also CDP, *supra* note 157, at 7, 12, 24 (reporting similar findings globally); cf. CDP ET AL., *supra* note 203, at 14–15.

215. A number of third-party audit or verification processes have emerged over the past two decades, largely in response to regulations mandating private actors to report and/or reduce emissions. For example, the California Air Resources Board implements and oversees a third-party verification program to support mandatory GHG reporting by major sources (e.g., electricity generators and industrial facilities) under the California Global Warming Solutions Act of 2006 (“AB 32”). See *Mandatory GHG Reporting*, CAL. AIR RES. BD., <https://perma.cc/5TPV-CL4M>. See generally C. Kauffmann et al., *Corporate Greenhouse Gas*

targets and self-reported performance. For example, companies reported an 81% success rate in achieving or exceeding their targets on time.<sup>216</sup>

Third, the targets are often unambitious and may be cosmetic.<sup>217</sup> In the U.S., for example, the average reported target was only 1.5% per year,<sup>218</sup> and many companies were not going to meet their own goals.<sup>219</sup> Globally, 1,089 companies that account for 12% of global GHG emissions have set climate targets, which, if met, would reduce CO<sub>2</sub> emissions by 1Gt by 2030.<sup>220</sup> However, even this large reduction would still represent only one fourth of the cuts this group would need to make to meet the 2°C goal.<sup>221</sup> Moreover, many companies are not actually on track to meet their targets,<sup>222</sup> and emissions from the top emitters actually increased during the reporting period.<sup>223</sup> This is not consistent with the Paris Agreement's objectives.

Fourth, the globalized nature of production represents an added uptake challenge. For most companies, supply-chain emissions (Scope 3 emissions) surpass their combined direct (Scope 1) emissions and indirect emissions (e.g., from purchased electricity) (Scope 2). According to estimates, 80–90% of a company's emissions can be embedded in its supply chain.<sup>224</sup> In such cases, to be material, voluntary commitments on emissions reductions would need to span the entire supply chain. Some companies have adopted targets for their global supply chain by asking suppliers to report emissions data directly to them

*Emission Reporting: A Stocktaking of Government Schemes*, 37–38 (OECD, Working Papers on Int'l Inv. No. 2012/01, 2012), <https://perma.cc/C9HB-7BDS>.

216. CDP, *supra* note 203, at 2, 20, 27.

217. *See infra* note 218.

218. CDP, *supra* note 163, at 17 (further finding that self-reported targets were particularly low among utilities); *see also* CDP, S&P 500 CLIMATE CHANGE REPORT 35 (2015) (finding increased emissions and decreased adoption of renewable energy). Global ambition is similar. *See* CDP, GLOBAL 500 CLIMATE CHANGE REPORT 11 (2012) (noting that average longer-term absolute target was around 1% per year—"well below the level of ambition needed to limit the temperature rise to 2°C"); CDP, *supra* note 164 at 23–24 (finding that sectors with highest direct emissions have proportionally more intensity targets).

219. CDP, *supra* note 163, at 17 (finding that 57% of respondents setting emissions reduction targets met them or were on track); *cf.* CDP, S&P 500 CLIMATE CHANGE REPORT 10 (2012) (finding that less than 50% of respondents met their annual targets in 2011 and 2012).

220. CDP, *supra* note 157, at 8.

221. *Id.* at 8, 30; *cf.* CDP, *supra* note 162, at 24 (concluding that "the overall level of corporate ambition does not yet appear commensurate with the goal of limiting the global temperature rise to [2°C]").

222. CDP, *supra* note 157, at 8–9.

223. CDP, GLOBAL 500 CLIMATE CHANGE REPORT 8 (2013).

224. *See, e.g.*, EPA, MANAGING SUPPLY CHAIN GREENHOUSE GAS EMISSIONS: LESSONS LEARNED FOR THE ROAD AHEAD 6 (2010); CDP, MISSING LINK: HARNESSING THE POWER OF PURCHASING FOR A SUSTAINABLE FUTURE 26–27 (2017); CDP, *supra* note 157, at 14–15.

or to third-party reporting programs.<sup>225</sup> The reporting ranges from voluntary initiatives to legally-enforceable supply-chain contracts.<sup>226</sup> A well-known example is the retail chain Walmart's decision to significantly reduce its supply-chain emissions.<sup>227</sup>

The power of contracting endows downstream actors with significant leverage to impose behavioral change through their supply chain. The resulting changes operate through the logic of consequences and are anything but voluntary. The effect on global emissions could be substantial since private initiatives could reach private actors in the emerging economies that are lagging behind on climate mitigation but are currently beyond the reach of international law.<sup>228</sup> In this sense, just as disruptions in one part of the supply chain can have a negative domino effect on downstream products, private governance initiatives stemming from downstream buyers could have a positive domino effect and reduce emissions up the chain. However, global supply-chain networks on the whole are still far from imposing, let alone achieving, the kind of major emissions reductions that would be necessary to meet the Paris Agreement's objectives since too few downstream (end-user) companies and too few upstream suppliers are participating or committing to ambitious targets.<sup>229</sup> The task for private and public governance is to incentivize those actors that have leverage to use it.

Finally, some private initiatives, however ambitious their goals, could face resilience challenges. Where an actor's ability to implement its commitments

225. See EPA, *supra* note 224, at 4.

226. See *id.* at 5; see also Vandenberg, *supra* note 83 (discussing private contracting).

227. In 2010, Walmart announced it would cut 20 million metric tons of GHG emissions from its supply chain by the end of 2015 (the equivalent of taking more than 3.8 million cars off the road for a year). *Walmart Announces Goal to Eliminate 20 Million Metric Tons of Greenhouse Gas Emissions from Global Supply Chain*, ENVTL. DEF. FUND (Feb. 25, 2010), <https://perma.cc/3YCP-HF4P>. The company exceeded that target in 2015. *Walmart Marks Fulfillment of Key Global Responsibility Commitments*, WALMART (Nov. 17, 2015), <https://perma.cc/WTJ6-AD3N>. In 2017, it announced a new goal—to remove 1 billion metric tons of emissions from its supply chain by 2030 (the equivalent of taking more than 211 million cars off the road for a year). Anya Khamamayzer, *Walmart's Plan to Lift a Gigaton of Carbon from Its Supply Chain*, GREENBIZ (Apr. 19, 2017), <https://perma.cc/P5MQ-U76B>.

228. Cf. Vandenberg & Gilligan, *supra* note 10, at 254–55, 269–75 (stating that private governance can extend a firm's "normative boundary . . . beyond the legal boundary").

229. A recent report found that voluntary "supplier efforts are still insufficient," with only 34% of suppliers reporting a year-on-year decrease in their operational emissions, a further 36% having insufficient data to track progress, and only 4% implementing supply-chain emissions targets. CDP, *supra* note 224, at 6–7, 21–22. This may be an overestimate since few respondents were from developing countries, where most supply chains are based. See *id.* at 12; see also CDP, *CLOSING THE GAP: SCALING UP SUSTAINABLE SUPPLY CHAINS 6* (2018) (stating that despite growing disclosure rates, "the data shows that the gap between leading companies and a large sub-section of their suppliers persists," as only 23% of responding suppliers report engaging their own suppliers on emissions reductions).



depends on external factors, sudden financial shocks or changes in the policy environment could undermine the resilience of private pledges. For example, the growth in the scale and ambition of renewable energy commitments is due in part to the sharp decline in the cost of renewable energy.<sup>230</sup> If those underlying costs change, company practices might too. Moreover, U.S. companies used to benefit from federal tax incentives for wind and solar power contracting, rebates, and government procurement standards<sup>231</sup>—some of which face regulatory uncertainty. Without a favorable policy environment, private initiatives may find it more difficult to generate the necessary emissions reductions before 2020 and 2030.

The growth in the scale and ambition of private schemes in recent years therefore must be seen in the context of public governance. The emergence of private climate governance is not always a response to a failure of public law or an effort to prevent mandatory rules, as discussed above: it can also be a *positive spillover* of public governance. Indeed, the shadow of the State is visible behind some of the most ambitious private plans, such as the UK retailer Tesco's commitment to 100% renewable energy and operational climate targets modelled on a 1.5°C degree trajectory.<sup>232</sup> This has implications for how we think about the relationship between public and private governance.<sup>233</sup>

### C. Carbon Labeling

Carbon labeling and certification is a third form of private climate governance whose key function, as with the initiatives analyzed in Section A, is improving access to climate-relevant information. However, its key audience, as explained below, also includes consumers.

The appeal of carbon labeling lies in its potential to modify actor behavior by addressing the problem of information failure—a type of market failure that exists when some or all of the market participants have imperfect or unreliable knowledge. It can do so in two ways. First, labels can help consumers make more informed buying choices based on a product's "carbon footprint." Second, the process of carbon accounting to generate labels can help companies them-

---

230. CDP, *supra* note 203, at 3.

231. *Id.* at 30; EPA, *supra* note 224, at 4.

232. The UK was the first State to introduce national climate change legislation (in 2008), which set a clear pathway for national emissions reduction, backed up by legally binding, five-year carbon budgets (through 2032). See McCarthy, *supra* note 207; see also CDP, *supra* note 162, at 18, 26 (concluding that "policy and regulation is a key driver for carbon performance"); CDP, *supra* note 218, at 28.

233. See discussion *infra* Section IV.D.

selves identify ways to reduce costs by finding efficiencies and choosing lower-emission production alternatives.<sup>234</sup>

No jurisdiction presently mandates carbon labeling, though several governments have backed voluntary initiatives. Private labeling schemes, however, have proliferated over the last decade in the U.S., as well as in Canada, France, Germany, Japan, South Korea, Sweden, Switzerland, Thailand, and the UK.<sup>235</sup> This process has been almost entirely company-driven, as many companies see economic value in determining the carbon footprint of their products.

Private labeling initiatives generally use consumption-based accounting to estimate the carbon footprint. The carbon footprint is a measure of how much CO<sub>2</sub> is emitted along the full production, consumption, and disposal chain of a product that ends up in a given State (regardless of where the CO<sub>2</sub> emissions actually occurred).<sup>236</sup> These extraterritorial emissions are also sometimes referred to as emissions “embodied” in the final consumer product or investment good.

Carbon labeling thus has a further potential benefit: it could indirectly help address the cross-border transfer (or leakage) of emissions through international trade—a problem that currently evades international law and governance. As noted above, much of the carbon is embedded in a product’s value chain, but extraterritorial emissions (generated by domestic demand for imports) are not part of national accounting.<sup>237</sup> Some of the recent emissions reductions in the U.S. and other Organisation for Economic Co-operation and Development (“OECD”) member countries, for example, were achieved by replacing domestic production with imports from countries that, like China, have a more carbon-intensive energy mix.<sup>238</sup> This means that, once the CO<sub>2</sub> embodied in imports is factored in, the reductions achieved by many developed countries are smaller than they appear. Private carbon labeling could thus theoretically play an important role in reducing global emissions by exposing

---

234. Cf. Vandenbergh et al., *supra* note 69 (stating that a global private carbon-labeling scheme for consumer products could fill the climate-policy gap by influencing consumer and corporate supply-chain behavior).

235. See, e.g., *Carbon Footprints: Following the Footprints*, ECONOMIST (June 2, 2011), <https://perma.cc/GK4S-CPDT>.

236. See, e.g., *Climate Change – Driving Forces*, EUROSTAT, <https://perma.cc/H425-S6KZ> (analyzing data available as of February 2017).

237. The share of CO<sub>2</sub> embodied in trade ranges from 22% for traded goods and services to 37% for fossil fuels. G.P. Peters et al., *A Synthesis of Carbon in International Trade*, 9 BIOGEOSCI. 3247, 3247 (2012).

238. In 2004, the U.S. was the world’s largest net importer of emissions, estimated at 10.8% of the U.S. total. Davis & Caldeira, *supra* note 70, at 5687. Domestic reductions in a number of OECD countries would be cancelled or partly offset by the emissions embodied in imports. *Id.*; cf. UK DEP’T FOR ENV’T, FOOD & RURAL AFF., *UK’S CARBON FOOTPRINT 1997–2014* (2017).

the extent of emissions hidden in the value chain and bypassing the limitations of the international legal regime.

However, the short-term mitigation potential of this form of private climate governance faces several constraints.

First, some of the current initiatives may fail the integrity criterion and raise accountability issues. Despite attempts at harmonization, there is no unified standard for carbon accounting, labeling, inspection, or monitoring in different countries.<sup>239</sup> This erodes the utility of labeling by making cross-product comparisons difficult, though attempts at standardization are emerging.<sup>240</sup> Moreover, to account for the full footprint, a label would need to capture the entire product lifecycle (i.e., production, transportation, use, and disposal), but not all standards do that.

Second, uptake among companies has been slow. A major difficulty with costly voluntary schemes such as carbon labeling is how to overcome the first-mover problem—where the early adopters incur all the costs and therefore risk being left at a competitive disadvantage. While labeling can help companies identify efficiencies, the process is complex and can cost \$30,000 for a single product.<sup>241</sup> This can discourage many companies from initiating or maintaining a labeling project. The case in point is Tesco's carbon labeling scheme, abandoned after five years due to cost concerns and lack of interest among competitors.<sup>242</sup> To be effective, this scheme would require broader uptake in the relevant market (e.g., competitors banding together).

Third, uptake has also lagged among consumers. Companies' interest in labeling is not driven entirely by consumer demand, as noted above. However, to the extent that consumer demand can drive labeling efforts, several building blocks need to be in place. Consumers need to understand the nature of a problem (CO<sub>2</sub> embedded in a product), they need to understand the proposed solution (the carbon label), and they need to prefer climate-friendlier products, even at higher prices.<sup>243</sup> Based on these metrics, labeling is unlikely to have a significant impact on household decisions in the short term: consumer uptake has

---

239. See WTO Comm. on Trade & Env't, *Summary Report of the Information Session on Product Carbon Footprint and Labelling Schemes*, WTO Doc. WT/CTE/M/49/Add.1 (May 28, 2010), <https://perma.cc/JST4-WLNY>.

240. The International Standardization Organization launched ISO 14067, a carbon-labeling standard for products, in 2013. See *ISO/TS 14067: 2013*, INT'L ORG. FOR STANDARDIZATION, <https://perma.cc/9YZ7-XJ2H>.

241. *Carbon Footprints*, *supra* note 235.

242. See Adam Vaughan, *Tesco Drops Carbon-Label Pledge*, *GUARDIAN* (Jan. 30, 2012), <https://perma.cc/WXB2-Q4TL>.

243. *Strengthening the Transnational Regime*, *supra* note 77, at 78. See generally Klaus Grunert et al., *Sustainability Labels on Food Products: Consumer Motivation, Understanding and Use*, 44 *FOOD POLY* 177 (2014).

been slow in some markets,<sup>244</sup> consumer willingness to pay more for products with lower-climate impact varies across markets,<sup>245</sup> and it may further depend on their awareness of or vulnerability to climate change.<sup>246</sup> As such, private schemes that depend on consumer demand also face particular resilience challenges.

These uptake and resilience concerns may diminish over time as labels become more established and give rise to broad public expectations of appropriate firm behavior.<sup>247</sup> There are other labels and certifications that could also have a positive—though difficult to quantify—impact on climate mitigation efforts via consumer demand.<sup>248</sup> Moreover, labeling does not rely solely on demand-side efforts: the supply side can also be an important driver.<sup>249</sup> Companies may find it in their interest to grow a public constituency in favor of labeling, effectively acting as norm-entrepreneurs (as with the popular “Non-

244. In 2010, for instance, just 20% of British shoppers recognized the carbon label (compared with 82% for Fairtrade and 54% for organic labeling). See *Carbon Footprints*, *supra* note 235.
245. See WTO, *supra* note 239, at ¶ 5 (noting OECD findings that environmental concerns ranked after quality and price in purchasing decisions); *Is It Time for a Reinvoigoration of Product Carbon Footprint Labelling in Europe?*, CARBON TRUST (Nov. 20, 2016), <https://perma.cc/T3UJ-NULN> (noting that over 50% of consumers admit that they do not think about a product's carbon footprint when making purchasing decisions, while 20% of consumers in the UK, France, and Germany do consider climate impacts); KLIMATMARKNINGEN, STATUS REPORT: CLIMATE CERTIFICATION FOR FOOD (2012), <https://perma.cc/VT3A-K7K4> (finding that every second Swedish consumer is willing to pay more for such a product).
246. See, e.g., H. Kim et al., *Consumer Perceptions of Climate Change and Willingness to Pay for Mandatory Implementation of Low Carbon Labels: The Case of South Korea*, 19 INT'L FOOD & AGRIBUS. MGMT. REV. 129 (2016) (finding a correlation between consumers' perceptions of climate impacts on their lives and willingness to pay extra for low-carbon emission labels and preference for mandatory labeling).
247. The first carbon labeling schemes appeared only in 2007 (organic labeling dates back to the 1970s and fair trade to the late 1980s), while the Energy Star label has been around for over 20 years. See EPA, *More than 45% of US Households Purchase ENERGY STAR Certified Products*, ENERGY STAR (Feb. 26, 2016), <https://perma.cc/AF5M-4BEU>; Brady Dennis, *Trump Budget Seeks 23 Percent Cut at EPA, Eliminating Dozens of Programs*, WASH. POST (Feb. 12, 2018), <https://perma.cc/Z6U3-PHGK>.
248. For example, sustainable agroforestry practices (e.g., certified by Forest Stewardship Council (“FSC”) or Rainforest Alliance-certified) would likely cause fewer emissions from deforestation and land degradation than conventional practices. The effect has not been quantified. It could be sizeable in some regions given that 14% of the temperate forests are regulated by private certification systems. See Vandenberg, *supra* note 84, at 136. However, only around 5% of the world's forests are covered by FSC certification, and tropical regions, the site of much deforestation, are not well represented (calculations based on FSC and World Bank data). See *Facts & Figures*, FSC (June 1, 2017), <https://perma.cc/J645-3LHG>; *Forest Area*, WORLD BANK (2015), <https://perma.cc/4TPE-8JKZ>.
249. See, e.g., *Carbon Footprints*, *supra* note 235; Vandenberg & Gilligan, *supra* note 10, at 268–69 (concluding that carbon labeling may work through firms reducing the carbon footprint of existing products and changing product selection in anticipation of product carbon footprint disclosure).

GMO Project” label).<sup>250</sup> However, harmonization and cost issues, as discussed above, pose significant obstacles to company-driven labeling in the near term.

This is not to say that carbon labeling cannot shape actor behavior in more indirect and unquantifiable ways over time (for instance, through cross-country diffusion), as Hamish van der Ven et al. point out.<sup>251</sup> However, it does mean that their short-term mitigation potential, whatever their long-term positive impacts may be, is limited—a point to which this Article returns in the Conclusion.

In sum, government support will likely be required for carbon labeling schemes to be established on a larger scale, to stick, and to be effective. Labeling can generate positive externalities (beyond giving the company insight into its own production processes) in the form of information for consumers, investors, and governments, which means that it will tend to be underproduced by the private market. Indeed, in the absence of dedicated public investment and support, it is unlikely that any of the private governance initiatives examined above will, without more, move the market towards an emissions pathway consistent with the Paris Agreement before 2020 or 2030.

#### D. Summary

The three types of private climate governance analyzed in this Section share a common purpose—supporting climate mitigation. However, they differ in several important respects, including their basic function (information vs. direct mitigation), their core audiences (investors vs. consumers), and their methods (disclosure platforms vs. targets, etc.). They also perform differently on the criteria for assessing their short-term mitigation potential, as summarized in Table 1 below:

TABLE 1. SHORT-TERM MITIGATION POTENTIAL OF PRIVATE CLIMATE GOVERNANCE SCHEMES: PERFORMANCE ON CRITERIA

	<b>Risk Disclosure and Emissions Reporting</b>	<b>Direct Emissions Reductions</b>	<b>Carbon Labeling</b>
<b>Integrity</b>	High	High	High
<b>Uptake</b>	Medium	Medium	Low
<b>Ambition</b>	Medium	Low	Low
<b>Resilience</b>	High	Low	Low
<b>Transparency</b>	Medium	Medium	Low
<b>Materiality</b>	High	High	High

250. See *History*, THE NON-GMO PROJECT, <https://perma.cc/EM9N-YG97>.

251. van der Ven et al., *supra* note 124, at 6–7, 13–15.

The private climate governance schemes analyzed in this Article generally do not raise integrity or materiality issues. However, they perform less well on some of the other criteria.

First, *resilience* could be a significant obstacle for two of the schemes. Regulatory retrenchment and uncertainty in the U.S. could challenge the ability of those private actors that used to rely on the federal regulatory framework to implement their voluntary emissions reductions. The need for regulatory certainty explains in part the support among significant portions of the U.S. private sector for federal climate legislation over the years, as well as the negative reaction to the decision to abandon the Paris Agreement.<sup>252</sup> For carbon labeling, on the other hand, information asymmetry<sup>253</sup> and lack of consumer interest or willingness to pay could undermine the labels' resilience.

The fact that building public support for carbon labeling affects this scheme's effectiveness also suggests the need for a broader understanding of the *uptake* criterion. Unlike the schemes analyzed in Sections A and B, here the relevant actors also include consumers—a diffuse group with diffuse interests and little internal coordination, which gives them less leverage over company practices. In contrast, institutional investors, an organized group with shared interests, have considerable leverage that can increase the mitigation potential of investor-led disclosure schemes in Section A. Downstream firms also have considerable leverage vis-à-vis their supply chains, as discussed in Section B.

As the foregoing suggests, *leverage*, or *power*, behind private climate governance is an under-analyzed factor warranting closer study. For example, the market power of the group demanding mitigation could increase the scheme's mitigation potential, as could civil society's normative power (the power to persuade). This means that more coordinated and harmonized forms of governance, which pool resources, could have greater leverage and exert a greater pull in the market (and also avoid leakage across different schemes).

*Uptake* and *ambition* are pervasive challenges in all three schemes analyzed here. This is not entirely surprising: for many companies, especially those in the high-emitting sectors, participation in voluntary schemes is costly, and the management's incentives (which are likely focused on short-term or quarterly profit maximization) are not necessarily aligned with the institutional investors' long-term interests (financial or otherwise).<sup>254</sup> Voluntary disclosure and direct action schemes thus tend to attract a self-selected group of early adopters and may not reach the broad uptake found in mandatory government schemes. This

---

252. See, e.g., Emily Flitter & Valerie Volcovici, *Trump Withdrawal from Climate Deal Gets Mixed Response from U.S. Companies*, REUTERS (June 1, 2017), <https://perma.cc/DV2T-Q2LG>.

253. See generally George A. Akerlof, *The Market for "Lemons": Quality Uncertainty and the Market Mechanism*, 84 QJ. ECON. 488, 489–92 (1970) (arguing that information asymmetry between producers and consumers depresses the quality and size of markets).

254. See Mark Carney, *Breaking the Tragedy of the Horizon—Climate Change and Financial Stability*, BANK OF ENG. (Sept. 29, 2015), <https://perma.cc/T4HP-ZDQR>.

may explain why we are seeing a plateau in the growth of voluntary disclosure rates over time,<sup>255</sup> and why the self-reported targets have generally been unambitious.<sup>256</sup>

This points to a fundamental challenge facing private climate governance. It is clear that more companies will need to join the effort to meet the Paris Agreement goals, and that they will need to do more. But while some private actors see direct value from their mitigation action—in the form of risk reduction, energy savings, or reputational benefits—and thus choose to act in their own economic self-interest,<sup>257</sup> others stand to lose financially from such schemes, at least in the short run. The interest of companies invested in the fossil fuel economy is not aligned with those in the high-tech or consumer staples sector—we can call this the “Apple vs. Exxon” dilemma. Moreover, even some energy companies that support climate targets believe that the initiative should come from the government, not individual firms.<sup>258</sup> Indeed, a number of U.S. utilities reporting climate targets do so because of regulatory requirements.<sup>259</sup> The incentive to participate and to take ambitious action, as with the Paris Agreement itself, is thus counteracted by the free-riding incentive.

The short-term mitigation potential of private climate governance could be boosted by regulatory intervention. Private actors recognize this and often use private climate governance to shape State behavior since climate mitigation, as noted above, emerges through dynamic interaction between the interests and values of private and public actors.<sup>260</sup> Specifically, governments could set the

255. See *supra* notes 168–169.

256. See *supra* notes 218–223.

257. See CDP, *supra* note 166, at 16 (companies often invest in actions with short payback periods); cf. Vandenberg & Gilligan, *supra* note 10, at 245 (noting that “behavioral plasticity can be high even without government intervention” where “self-interest aligns with energy efficiency or conservation”).

258. See CDP ET AL., *supra* note 203, at 18.

259. See *id.* at 9 (noting, *inter alia*, mandatory targets for utilities under California’s AB 32, Regional Greenhouse Gas Initiative in the northeastern U.S., and state Renewable Portfolio Standards).

260. See *supra* Section II.A. For example, investor and company coalitions have actively sought to influence domestic and international climate policy. See, e.g., *Letter from Global Investors to G20 Governments*, <https://perma.cc/UY7H-S5DW> (signed by 390 investors representing more than \$22 trillion in assets); *Ceres Policy Network (“BICEP”)*, CERES, <https://perma.cc/3YX2-9CZW>; *Commit to Responsible Corporate Engagement in Climate Policy*, WE MEAN BUSINESS, <https://perma.cc/5ELQ-CYT4>; WE ARE STILL IN, *supra* note 6. Private sector participation in climate policy, of course, is not new, see, for example, *supra* Section II.B.2, though its impact may be more difficult to establish.

There is also evidence of dynamic interaction between different private initiatives. For example, shareholder proposals analyzed in Section IV.A.2 frequently cite the lack of company disclosure (e.g., to GRI or CDP) as evidence of insufficient attention to climate risks. See also Erin M. Reid & Michael W. Toffel, *Responding to Public and Private Politics: Corporate Disclosure of Climate Change Strategies*, 30 STRATEGIC MGMT. J. 1157, 1158 (2009)

minimum emissions standards consistent with the Paris Agreement (and lift the overall private sector performance), level the playing field, and create economic incentives for the lagging sectors to transition to a low-carbon economy.<sup>261</sup> A federal carbon price would be the “first-best” policy option,<sup>262</sup> but there are also other (second-best) policies that could enable private investment to flow towards mitigation.<sup>263</sup> None of this is likely to happen at the federal level soon. However, as Part V discusses, there are other “bottom-up” ways to encourage private governance to reach its potential.

## V. PRIVATE CLIMATE LITIGATION: LENGTHENING THE SHADOW OF THE STATE

The fact that the short-term mitigation potential of *private* climate governance depends in part on the robustness of *public* governance does not mean that private climate governance is doomed where State leadership is weak or missing. Climate mitigation is the product of dynamic interaction between the interests and values of private and public actors, and, under certain circumstances, private initiatives can shift the balance in favor of greater ambition.<sup>264</sup> This Section considers to what extent climate litigation can provide a “bottom-up” alternative to State-led implementation of the Paris Agreement.

Climate litigation has exploded in the U.S. and worldwide since the U.S. Supreme Court’s pivotal ruling in *Massachusetts v. EPA*.<sup>265</sup> Today the emerging field of global “climate law” comprises a wide range of legal disputes at all

(finding that firms or industries targeted by shareholder actions on environmental issues are more likely to publicly disclose information to the CDP).

261. Governments have a large number of regulatory tools at their disposal to do so, from performance-based standards and distortion-removing market mechanisms to carbon accounting and disclosure requirements. *See, e.g.*, OECD-CSDB, CLIMATE CHANGE DISCLOSURE, *supra* note 142, at 23 (noting that government regulation influences supply-chain reporting, particularly where strong, consistent governmental guidance and leadership on climate measurement and reporting exist).
262. *See* Vandenbergh & Gilligan, *supra* note 10, at 224.
263. *Cf.* Abbott & Snidal, *supra* note 74, at 531 (“Even soft norms are nested in a formal legal system.”); Andonova et al., *supra* note 103 (emphasizing importance of strong national climate policies).
264. *See supra* Section II.B.3.
265. *Massachusetts v. EPA*, 549 U.S. 497 (2007). In 2007, the Supreme Court held that EPA was authorized and obliged under the Clean Air Act (“CAA”) to regulate GHG emissions if EPA determined that such emissions endanger public health or welfare. *See id.* The decision followed a lawsuit by several U.S. states, cities, and environmental organizations to force EPA to consider regulating CO<sub>2</sub> as a pollutant under the CAA. In 2009, EPA made the requisite determination, setting the stage for regulation of GHGs under the CAA. Endangerment and Cause or Contribute Findings for Greenhouse Gases Under § 202(a) of the Clean Air Act, 74 Fed. Reg. 66,496, 66,501 (Dec. 15, 2009) (codified at 40 C.F.R. §§ 1.1–1.61).



levels. That case law is examined in more detail elsewhere.<sup>266</sup> What is relevant for purposes of this Article is that the orders issued in the last several years may signal a paradigm shift in the judiciary's re-engagement with climate change, with a number of courts increasingly "recogniz[ing] the role of the third branch of government in protecting the earth's resources that it holds in trust."<sup>267</sup>

Climate litigation harnesses the initiative of private actors—civil society, individuals, and companies—to effect societal change. Unlike the bottom-up schemes analyzed above, climate litigation is not a form of true private climate governance since it relies on government machinery and public law remedies and sanctions. Broadly speaking, climate litigation falls in two categories: (a) civil litigation against private entities and (b) lawsuits against public authorities.<sup>268</sup> The basic question here is whether climate litigation can modify the behavior of other private actors and strengthen the mitigation potential of private climate governance.

### *A. Litigation Against Private Entities*

As noted above, direct emissions are concentrated in a few sectors,<sup>269</sup> and some of the earliest civil lawsuits were brought against large high-emitting entities in the U.S. on the theory of public nuisance under federal tort law.<sup>270</sup> Using the approach employed in tobacco and asbestos litigation, claimants asserted a range of climate-related harms they had allegedly suffered as a result of the companies' emissions. None of these attempts to impose climate liability succeeded, or even reached the merits. Citing the political question doctrine, courts reasoned that the allocation of fault, and cost, of global warming was

---

266. See, e.g., Maria L. Banda & Scott Fulton, *Litigating Climate Change in National Courts: Recent Trends and Developments in Global Climate Law*, 47 ENVTL. L. REP. 10,121 (2017). As of March 2017, climate-related cases had been filed in 24 countries: 654 cases in the U.S. and over 230 cases in the rest of the world. U.N. ENV'T PROGRAMME & SABIN CTR. FOR CLIMATE CHANGE LAW, THE STATUS OF CLIMATE CHANGE LITIGATION: A GLOBAL REVIEW 10 (May 2017), <https://perma.cc/2EVA-KVBF>.

267. Order Denying Motion for Order of Contempt and Granting Sua Sponte Leave to File Amended Pleading at 4, *Foster et al. v. Wash. Dep't of Ecology*, No. 14-2-25295-1 SEA (Wash. Super. Ct. Dec. 19, 2016).

268. Most of the lawsuits have targeted climate mitigation—the focus of this Article—but adaptation is also a growing concern. While the majority of lawsuits have sought to pressure governments to enact stronger mitigation measures, a number of actions have also been filed by U.S. states and companies adversely affected by climate-related regulations. See generally Banda & Fulton, *supra* note 266, at 10,122.

269. See *supra* Section IV.A.1.

270. See, e.g., *Connecticut v. Am. Elec. Power Co. (AEP)*, 406 F. Supp. 2d 265 (S.D.N.Y. 2005); *Comer v. Murphy Oil USA*, No. 05-cv-436, 2007 WL 6942285 (S.D. Miss. Aug. 30, 2007); *Native Vill. of Kivalina v. ExxonMobil Corp.*, 663 F. Supp. 2d 863 (N.D. Cal. 2009).

best left to the political branches.<sup>271</sup> They further found that the plaintiffs could not satisfy the standing test because of the difficulty of connecting their alleged injuries to the defendants' actions.<sup>272</sup>

Following the failure of these early suits, U.S. plaintiffs turned their attention to government litigation.<sup>273</sup> However, emerging climate science has recently triggered a revival in lawsuits against private companies in Germany,<sup>274</sup> the Philippines,<sup>275</sup> and now also in the U.S.,<sup>276</sup> raising the question of whether these second-generation suits will be decided differently.

On the one hand, courts have by now largely accepted scientific research attributing climate change to anthropogenic emissions. Attribution science is

271. See, e.g., *Native Vill. of Kivalina*, 663 F. Supp. 2d at 877 (finding that “the allocation of fault—and cost—of global warming” calls for “political judgment” that is best “left for determination by the executive or legislative branch in the first instance”); cf. *California v. Gen. Motors Corp.*, No. C06-05755 MJJ, 2007 WL 2726871 \*5–\*12 (N.D. Cal. Sept. 17, 2007) (rejecting nuisance suit by California against six car manufacturers for their alleged contributions to climate impacts as a nonjusticiable political question).
272. See, e.g., *Native Vill. of Kivalina*, 663 F. Supp. 2d at 877–81 (“[I]t is not plausible to state which emissions—emitted by whom and at what time in the last several centuries and at what place in the world—‘caused’ Plaintiffs’ alleged global warming related injuries.”); cf. *Wash. Env’tl. Council v. Bellon*, 732 F.3d 1131, 1143 (9th Cir. 2013) (discussing the difficulty of establishing a causal nexus “between Plaintiffs’ localized injuries” and climate change since “there is limited scientific capability in assessing, detecting, or measuring the relationship between a certain GHG emission source and localized climate impacts in a given region”); *Barnes v. U.S. Dep’t of Transp.*, 655 F.3d 1124, 1140 (9th Cir. 2011) (stating that local aviation activities accounting for 0.03% of U.S.-based GHG emissions do “not translate into locally-quantifiable environmental impacts given the global nature of climate change”).
273. See *infra* Section V.B.
274. See, e.g., *The Huaraz Case*, GERMANWATCH, <https://perma.cc/C6ER-6N2X> (chronicling a civil action by a Peruvian plaintiff against major German energy company seeking contribution for adaptation investments in proportion to company’s historic emissions).
275. See, e.g., *The Climate Change and Human Rights Petition*, GREENPEACE PHIL. (July 28, 2016), <https://perma.cc/E6V8-Y3TX> (petition by Philippine typhoon survivors and NGOs asking for investigation by Philippines Commission on Human Rights into 47 “carbon majors”).
276. Three recent cases brought by municipalities (not private actors) raise common-law tort claims against 37 high-emitting companies. See *San Mateo County v. Chevron Corp. et al.*, No. 17CIV03222 (Cal. Super. Ct. filed July 17, 2017); *Marin County v. Chevron Corp. et al.*, No. CIV1702586 (Cal. Super. Ct. filed July 17, 2017); *City of Imperial Beach v. Chevron Corp. et al.*, No. C17-01227 (Cal. Super. Ct. filed July 17, 2017). The Cities of Oakland and San Francisco sued five companies for contribution to climate adaptation funds. See *People v. BP P.L.C. (Oakland)*, No. RG17875889 (Cal. Super. Ct. filed Sept. 19, 2017); *People v. BP P.L.C. (San Francisco)*, No. CGC-17-561370 (Cal. Super. Ct. filed Sept. 19, 2017). The cases were removed to federal court. See *California v. BP P.L.C.*, No. C 17-06011 WHA, 2018 BL 68792 (N.D. Cal. Feb. 27, 2018) (denying motion to remand). *New York City sued five companies for climate-induced damages. City of New York v. BP P.L.C.*, No. 1:18CV00182 (S.D.N.Y. filed Jan. 9, 2018).

making it increasingly possible to link particular extreme weather events, such as floods and droughts, to climate change.<sup>277</sup> Moreover, a 2013 report established that just 90 companies have produced nearly two thirds of the emissions generated since the start of the Industrial Revolution.<sup>278</sup> By tying the companies' historic emissions to a concrete share of the global total, research of this kind may make it possible for litigants to identify individual defendants and arrive at a more precise apportionment of responsibility for climate damages. The pending cases will test the reach of this research, in particular with respect to causation and standing. If successful, they could help fill the gaps in private climate governance by reaching private and state-owned entities—something that the investor-based schemes analyzed above cannot.

One court has already accepted the legal premise that a corporation could be liable for climate-related harms in proportion to its share of global emissions and permitted the case to proceed to the evidentiary stage.<sup>279</sup> However, establishing liability for climate-related harms requires overcoming difficult evidentiary, procedural, and jurisdictional issues, especially in cases involving foreign companies,<sup>280</sup> and carries an uncertain prospect of success, particularly in U.S. courts.

Beyond seeking to change the behavior of high-emitting actors by imposing liability for climate-related harms, climate litigation can also reinforce accountability-focused private climate governance. The first-generation lawsuits, for instance, preserved the viability of claims under federal securities law, and a securities fraud class action was recently filed against a U.S. energy company relating to nondisclosure of climate-related risks.<sup>281</sup> More such claims are conceivable against companies whose physical assets, operations, or investments are at risk. These lawsuits could indirectly strengthen the investor-led governance schemes discussed above by highlighting the importance of climate disclosure and risk-management practices and by creating reputational and liability risks.

---

277. Chelsea Harvey, *Researchers Can Now Blame Warming for Individual Disasters*, CLIMATEWIRE (Jan. 2, 2018), <https://perma.cc/6ATK-3A3G>.

278. See Richard Heede, *Tracing Anthropogenic Carbon Dioxide and Methane Emissions to Fossil Fuel and Cement Producers, 1854–2010*, 122 CLIMATIC CHANGE 229, 229–31, 234 (2013). For updated analysis, see CDP, *supra* note 171.

279. See *The Huaraz Case*, *supra* note 274.

280. See, e.g., Banda & Fulton, *supra* note 266, at 10,123.

281. *Ramirez v. Exxon Mobil Corp. et al.*, No. 3:16-cv-03111 (N.D. Tex. filed Nov. 7, 2016). A complaint was also filed under Canadian securities laws. See *Re Amended and Restated Preliminary Prospectus of Kinder Morgan Canada Ltd.'s Initial Public Offering* (Alta. Sec. Comm'n filed May 16, 2017) (complaint alleging company misled potential investors in IPO prospectus regarding oil demand and regulatory and environmental risks related to climate change); *Re Climate Risk Disclosure in Kinder Morgan Canada Ltd.'s Annual Report* (Alta. Sec. Comm'n filed Mar. 27, 2018) (complaint alleging incomplete disclosure of climate-related legal risks and failure to conduct 2DS assessment in line with TCFD recommendations).

This could increase the uptake among high-emitting companies and institutional investors through the logic of consequences. In this sense, climate litigation could spur and indirectly increase the mitigation potential of private governance.

### B. Litigation Against Public Authorities

Climate litigation can also influence State behavior, and, unsurprisingly, the vast majority of mitigation lawsuits have been filed against public authorities. State action, such as the ratcheting up of national commitments under the Paris Agreement, offers the best hope of staying within the 2°C (or the 1.5°C) target. After all, governments have the tools to reform the domestic regulatory framework in a manner consistent with a low-emissions pathway, to influence the behavior of private actors (including households, business, and investors), and to distribute equitably the costs and burdens of mitigation, which is why public governance is generally seen as the “first-best.”<sup>282</sup>

Private actors have sought to compel governments to enact new climate legislation and more ambitious emissions reductions targets.<sup>283</sup> They have also worked more incrementally, for example, by seeking to impose carbon accounting on new energy projects, to implement more comprehensive environmental impact assessments, and to include climate considerations in endangered species protection.<sup>284</sup> These kinds of actions, even if not always directly aimed at mitigation, can place public and private governance on a sounder, science-based footing and embed relevant information into decision-making processes.

Initially reluctant to fill the gaps left by legislative or regulatory inaction,<sup>285</sup> courts in a number of jurisdictions, including the U.S., have instructed their governments to take concrete steps to avert climate change in accordance with their domestic or international commitments and obligations.<sup>286</sup> They have

---

282. See Vandenberg & Gilligan, *supra* note 10, at 224, 233–34.

283. See, e.g., Summary of Letter from Ethersuter Rechtsanwäite [law firm] on behalf of Verein Klima Seniorinnen Schweiz [Senior Women for Climate Protection Switzerland] et al. to the Bundesrat [Swiss Federal Council] et al. (Oct. 25, 2016), <https://perma.cc/XPD8-WRDA>.

284. See, e.g., *WildEarth Guardians v. Jewell*, No. 1:16-CV-01724 (D.D.C. filed Aug. 25, 2016); *Defenders of Wildlife v. Jewell*, No. 14-247-M-DLC, 2016 WL 1363865, at \*29 (D. Mont. Apr. 4, 2016); *Kain v. Dep’t of Env’tl. Prot.*, 49 N.E.3d 1124 (Mass. 2016).

285. Courts have frequently cited separation-of-powers concerns and jurisdictional or evidentiary issues posed by climate change. See, e.g., *Friends of the Earth v. Canada* (Governor in Council), [2008] F.C. 1183 (Can.) (declining to review Canada’s compliance with the Kyoto Protocol as a matter of “an inherently political nature”).

286. For recent U.S. cases, see, for example, *Foster v. Dep’t of Ecology*, 362 P.3d 959 (Wash. 2015); *Robinson Twp. v. Commonwealth*, 147 A.3d 536 (Pa. 2016); *Kain v. Dep’t of Env’tl. Prot.*, 49 N.E.3d 112 (Mass. 2016). For foreign litigation, see, for example, *Urgenda Found. v. The Netherlands*, C/09/456689/HA ZA 13-1396, *Rechtbank Den Haag* (The Hague

done so on the basis of different legal instruments. Constitutionally-protected environmental rights, where available, have offered an attractive vehicle for climate litigation,<sup>287</sup> while plaintiffs in other jurisdictions have relied on broader constitutional protections, such as the right to life. In still other jurisdictions, courts have found support in environmental statutes and common-law doctrines to mandate agency rulemaking or more effective implementation of existing climate policies. Lawsuits might not even present climate change as the core issue, but may have an indirect impact on mitigation by regulating conventional pollutants in a manner that may have climate co-benefits.<sup>288</sup>

The fact that climate litigation employs the power of the State, embodied in the judiciary, also means that it could potentially result in far-reaching, and rapid, changes in national public policy and market practices. While litigation does not always move swiftly, where successful, it can have profound impacts on the domestic regulatory system and achieve short-term emissions reductions. *Massachusetts v. EPA*, for example, in one fell swoop reshaped U.S. climate policy for the next decade.<sup>289</sup>

It is not clear that U.S. federal courts today will be any more receptive to constitutional arguments in environmental litigation<sup>290</sup> than they have been historically.<sup>291</sup> There are also other longstanding limits to plaintiffs' access rights, such as standing,<sup>292</sup> and remedies. However, the growing body of federal and state jurisprudence can influence the broader regulatory regime in more *incre-*

Dist. Ct. June 24, 2015) (Neth.); *Leghari v. Fed'n of Pakistan* (2015), WP No. 25501/2015 (Lahore High Ct. Green Bench) (Pak.); Corte Constitucional [C.C.] [Constitutional Court], Sala Plena, febrero 8, 2016, Sentencia C-035/16 (Colom.); *Earthlife Africa Johannesburg v. Minister of Environ. Aff. & Others* 2017 (2) All SA 519 (High Ct. S. Afr.) (directing government to consider climate impacts before issuing environmental authorization for a new coal-fired power station).

287. See *Banda & Fulton*, *supra* note 266, at 10,121–26 (discussing pending constitutional claims in Norway, Philippines, Pakistan, Sweden, Switzerland, and the U.S.).

288. See *id.* at 10,126.

289. See *Massachusetts v. EPA*, 549 U.S. 497 (2007).

290. See, e.g., *Juliana v. United States*, 217 F. Supp. 3d 1224 (D. Or. 2016); *Juliana v. United States*, No. 17-71692 (9th Cir. July 25, 2017) (order temporarily staying proceedings); *Juliana v. United States*, No. 17-71692 (9th Cir. Mar. 7, 2018) (order denying mandamus relief and permitting petitioners to proceed to trial).

291. See, e.g., *Ely v. Velde*, 451 F.2d 1130, 1139 (4th Cir. 1971) (declining to judicially sanction the “newly-advanced constitutional doctrine” of environmental protection). Some U.S. state constitutions establish a right to a clean environment, but this is not necessarily enough to compel the state government to regulate emissions. See, e.g., *Funk v. Wolf*, 144 A.3d 228, 233 (Pa. Commw. Ct. 2016) (holding that the Environmental Rights Amendment to Pennsylvania’s Constitution does not provide petitioners with a clear right to regulation of emissions). *But see* *Robinson Twp. v. Commonwealth*, 147 A.3d 536 (Pa. 2016); *Robinson Twp. v. Commonwealth*, 83 A.3d 901 (Pa. 2013).

292. See, e.g., Maria L. Banda, Case Comment, *Summers v. Earth Island Institute*, 34 HARV. ENVTL. L. REV. 321 (2010).

mental ways by directing governments to measure, disclose, mitigate, and protect.<sup>293</sup> Recent advances in climate science and climate case law in other jurisdictions are also likely to continue opening up new avenues for litigation to implement the goals of the Paris Agreement in the U.S.

Globally, climate litigation represents considerable untapped potential for the implementation of the Paris Agreement. The Paris Agreement itself provides an important goal post. While the Agreement is not directly enforceable in domestic courts in most jurisdictions, it plays a “cohering role” and provides a “crucial legal predicate” for holding States to account.<sup>294</sup> It allows plaintiffs to ask their governments to implement their climate pledges, and to hold them to a higher standard where domestic legislation (such as NDCs, operating licenses, or habitat protection plans) is inconsistent with the emissions pathway required to meet the Paris Agreement’s targets. If the U.S. withdraws from the Paris regime, the Agreement as such will be less useful to U.S. plaintiffs as a legal predicate, but emerging climate science and accumulating decisions from other jurisdictions may indirectly help entrench the Agreement’s objectives in the domestic system.

One challenge in this respect is that the Paris Agreement does not set any particular emissions reduction targets, which makes it difficult for the courts to hold governments to a particular goal.<sup>295</sup> Courts are obviously not competent to set specific targets or promulgate a national mitigation policy. However, they can provide a check on government decisions, as they do in other areas of environmental, energy, and administrative law.<sup>296</sup> The Agreement also requires progressively greater ambition. This means that, at a minimum, stagnation or backpedaling on national emissions reductions would reasonably invite judicial intervention.<sup>297</sup> Indeed, though it is early days, courts have successfully engaged with complex climate issues in a number of recent cases in different jurisdictions.<sup>298</sup>

To be clear, climate litigation is not a panacea. As Ostrom wrote, “[t]here are no panaceas . . . for complex problems such as global warming.”<sup>299</sup> However,

---

293. See *supra* note 286; cf. Hari Osofsky & Jacqueline Peel, *Litigation’s Regulatory Pathways and the Administrative State: Lessons from U.S. and Australian Climate Change Governance*, 25 GEO. INT’L ENVTL. L. REV. 207 (2013) (tracing regulatory pathways through litigation).

294. U.N. ENV’T PROGRAMME & SABIN CTR., *supra* note 266, at 8–9, 40.

295. See *supra* Section III.B; cf. U.N. ENV’T PROGRAMME & SABIN CTR., *supra* note 266, at 9.

296. This assumes that courts are neither usurping political powers nor abdicating their duties of judicial and administrative review through excessive deference. Cf. Gutierrez-Brizuela v. Lynch, 834 F.3d 1142, 1149 (10th Cir. 2016) (Gorsuch C.J., concurring) (“[W]hatever the agency may be doing under *Chevron*, the problem remains that courts are not fulfilling their duty to interpret the law and declare invalid agency actions inconsistent with those interpretations in the cases and controversies that come before them.”).

297. See *supra* Section II.A.

298. See generally Banda & Fulton, *supra* note 266.

299. Ostrom, *supra* note 64, at 555.

litigation can play an important role in reshaping the regulatory equilibrium on climate change. By using the machinery of the State and its enforcement mechanisms, climate litigation could potentially substitute for the power of public governance where the State's will to lead is weak or lacking.<sup>300</sup> Climate plaintiffs effectively act as norm-entrepreneurs seeking to change the standards of appropriateness through the courts. In this sense, just as social norms have played this role in areas of limited statehood, climate litigation can act as a "functional equivalent" of State authority.<sup>301</sup> It can do so by either drawing the State back into the governance arena or incentivizing private climate governance through liability and accountability lawsuits.

### CONCLUSION

The Paris Agreement, for all its flaws, was the best, or the only, deal that seemed attainable in 2015. Recognizing the political impossibility of negotiating a universal legally-binding treaty that would impose mandatory emissions reductions on States, the negotiators opted for a bottom-up treaty design and expressly acknowledged the importance of bottom-up initiatives. However, this "bottom-up squared" approach to climate governance—where mitigation actions are led from below by non-State actors without clear international targets from above—presents considerable challenges, especially in the U.S. after its withdrawal.

On the one hand, there is significant and growing evidence of private actor engagement through various forms of private climate governance, which is a function of both rational calculations of self-interest and evolving social norms. Despite the U.S. withdrawal, the convergence around the Paris Agreement's goals may help private actors find common ground on emissions reductions, science-based standards, and critical procedural principles, such as transparency and the ratcheting up of ambition over time. Put differently, private climate governance could help embed rules of public international law in the domestic sphere and drive up State ambition over time even if the U.S. remains formally outside the regime.<sup>302</sup>

And yet, as this Article has shown empirically, the incentive to free-ride and divergent cost-benefit calculations are constraining the mitigation potential

---

300. See *supra* Section II.B; cf. Abbott & Snidal, *supra* note 75, at 578 ("[Transnational governance] techniques are effective only to the extent that the power of civil society, consumers, and other public audiences can substitute for that of the state.").

301. See *supra* Section II.B.

302. Cf. Green, *supra* note 75, at 2 (finding that 79% of emissions measurement standards created by private actors recognized rules created under the Kyoto Protocol); *Strengthening the Transnational Regime*, *supra* note 77, at 74 ("[Private standards] are 'force multipliers' for international regimes, extending their rules and policies into the private sector and enhancing national implementation.").

of private climate governance. In this sense, the ambition deficit at the State level is mirrored by private governance. Even some of the most promising bottom-up initiatives, which could in theory achieve major reductions, do not currently command sufficient uptake and ambition among key private actors, especially in the high-emitting sectors. This is the “Apple vs. Exxon” dilemma: mitigation is more costly for some sectors than others. Where private climate governance requires the participation of these actors, it is less likely to generate sufficient short-term emissions reductions to keep the Paris Agreement’s 2°C (let alone the 1.5°C) goal viable unless the logic of consequences or the logic of appropriateness can be activated.

This Article has attempted to provide an up-to-date empirical account of three promising examples of private climate governance and a critical assessment of their short-term mitigation potential. It has shown why private climate governance is important for the implementation of the Paris Agreement, especially in the U.S.; the circumstances under which it is more likely to be effective; and how it interacts with the backdrop of public governance and other bottom-up initiatives, like climate litigation. The examples analyzed in this Article suggest that different initiatives may face different barriers, respond to different logics, and have different mitigation potential, which calls for much more granular analysis of their design and implementation. The framework developed here hopes to facilitate that analysis.

This analysis seeks to contribute to both the theoretical and empirical literature on private climate governance and help develop a richer understanding of bottom-up options for the implementation of the Paris Agreement. It also hopes to stimulate further research into the conditions under which private actors join costly voluntary initiatives and deliver on their commitments. What factors drive compliance? Are there normative tipping points at which the logic of appropriateness takes over the logic of consequences? How can private governance generate greater uptake and have greater leverage? What kinds of targeted policy interventions can help transform voluntary pledges into actual emissions reductions?

Emissions reductions over the next decade are crucial if we are to avoid the worst impacts of climate change,<sup>303</sup> and this Article has specifically sought to develop a framework for assessing, and improving, the *short-term* mitigation potential of some of the more promising private schemes. The distinction between short- and long-term mitigation potential is important because different logics are at play. Emerging efforts to evaluate private climate governance need to take this into account. Private initiatives that appear to be of limited effectiveness in the near term, for example, could actually help drive a shift in social norms and values over a longer time horizon. This could have major climate benefits, as the development of an “environmental ethic” is often seen as a pre-

---

303. See *supra* Introduction.



condition for solving the climate problem.<sup>304</sup> Norm-entrepreneurs, as this Article shows, come in many stripes, from climate plaintiffs to investors and companies themselves. Under the right conditions, private actors can decide to undertake costly actions without waiting for an external authority to impose rules, monitor compliance, or assess penalties.<sup>305</sup> However, it would be imprudent to wait for this normative shift to materialize. To increase the short-term effectiveness of private climate governance and help private actors go beyond compliance, targeted policy interventions and design improvements are needed.

Ultimately, as this Article has argued, the shadow of the State is an important factor influencing the mitigation potential of private climate governance in the near term. This is not a defense of the old “command” model of regulation, nor is it a rejection of new modes of governance.<sup>306</sup> The emergence of private climate governance is a positive development that can play an important gap-filling role where public leadership is weak or nonexistent by altering private cost-benefit calculations and supporting normative change. However, as this Article has shown empirically, public law and governance matter, greatly, if States are to deliver on the Paris Agreement’s goals. Where public governance is absent, the challenge is to develop other bottom-up initiatives with sufficient leverage, through climate litigation or otherwise, to extend the shadow of the State and ensure that all hands are on deck. Otherwise, we may run out of time to buy.

---

304. See, e.g., Andrew Green, *You Can't Pay Them Enough: Subsidies, Environmental Law, and Social Norms*, 30 HARV. ENVTL. L. REV. 407 (2009).

305. Ostrom, *supra* note 64, at 555.

306. See generally Wood & Richardson, *supra* note 77, at 5.

