

## Chapter 10

# Climate Change Governance in the Atlantic Basin: The Cases of the United States, the European Union, and Brazil

Joana Castro Pereira

Emerging from the scale and speed of human interferences on the Earth system, climate change is potentially the most pressing dimension of the global environmental crisis facing the planet. The magnitude of the threat—and recognition of humanity’s dominant role in destabilizing the global climate—poses profound questions about the current human development paradigm and widely accepted values and beliefs.<sup>1</sup>

Climate change is a “super wicked” problem, involving virtually all aspects of a country’s domestic policy—water, energy, food, land use, development, transportation, trade, investment, housing, security, etc. In addition, solving the climate crisis requires massive, unparalleled collective action and global cooperation by actors with highly heterogeneous circumstances, interests, and priorities,<sup>2</sup> where powerful actors resisting major changes to the conventional carbon-intensive development paradigm challenge the path towards deep decarbonization of the economy.<sup>3</sup>

The Atlantic Basin holds some of the world’s largest greenhouse gas (GHG) emitters, namely the US, the EU, Brazil, Canada, Mexico, and South Africa. Ambitious cooperation among these actors could trigger a low carbon revolution in the Atlantic<sup>4</sup> and encourage global climate action

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1. Pereira, Joana C. “Environmental Security in the Anthropocene.” In *Security at a Crossroad: New Tools for New Challenges*. New York: Nova Science Publishers, 2019, 35-54.
  2. Bodansky, Daniel. “The Paris Climate Change Agreement: A New Hope?” In *American Journal of International Law*. Vol. 110, No. 2, 2016, 288-239. DOI: 10.5305/amerjintelaw.110.2.0288.
  3. Viola, Eduardo; Franchini, Matías. *Brazil and Climate Change: Beyond the Amazon*. Abingdon and New York: Routledge, 2018.
  4. Hamilton, Daniel. *A New Atlantic Community: Generating Growth, Human Development and Security in the Atlantic Hemisphere*. Washington, DC: Center for Transatlantic Studies, 2014.; Pelegry, Eloy A.; Isbell, Paul (Eds.). *The Future of Energy in the Atlantic Basin*. Washington, DC: The German Marshall Fund of the United States, 2012.; Kotschwar, Barbara. *North-South Rebalancing. The Role of Innovation, Technology Transfer, and Sharing of Best Practices*. Washington, DC: The German Marshall Fund of the United States.

towards stabilization of the Earth's climate. Nevertheless, all these actors face challenges that hinder their capacity to implement truly ambitious climate policies and act as effective leaders in this domain.

This chapter sheds light on the political constraints hindering deep decarbonization and climate leadership in the US, the EU, and Brazil, the world's current second, third, and seventh largest emitters,<sup>5</sup> respectively, together accounting for approximately 25% of the global GHG emissions. The chapter is divided into two sections. The first offers a brief description and analysis of global efforts to mitigate climate change from the signing of the United Nations Framework Convention on Climate Change (UNFCCC) in 1992 to the adoption of the Paris Agreement in 2015. This review provides the necessary background for situating the US, the EU, and Brazil in the context of global climate negotiations. The second section presents and analyzes the domestic and foreign climate policies of the three Atlantic actors from 1992 to the present day.

## The Global Governance of Climate Change

Global efforts to fight the threat of climate change began in 1992, at the United Nations Conference on Environment and Development, held in Rio de Janeiro, Brazil, where 154 states signed the UNFCCC, committing to pursue efforts to stabilize GHG concentrations in the atmosphere at a level that would prevent dangerous climate change. The convention recognized the historical responsibility of the developed world in causing the problem as well as the needs and special circumstances of developing countries. Under the principle of “common but differentiated responsibilities and respective capabilities” (CBDRRC), parties to the UNFCCC were divided into annexes: Annex I comprising the developed states that were members of the Organization for Economic Co-operation and Development (OECD) in 1992, plus countries with economies in transition (Europe's post-communist states), whose responsibilities include a non-binding commitment to reduce emissions; Annex II consisting only of the OECD members of Annex I, parties required to provide financial and technological resources to enable and support mitigation actions in developing countries and economies in transition; and non-Annex I including mostly developing countries,

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5. China is the world's largest emitter; India is the fourth; Russia and Japan are the fifth and sixth.

parties with fewer commitments. Accordingly, the North was expected to assume leadership and responsibility, making room for the South to grow.<sup>6</sup>

In 1997, parties to the convention adopted the Kyoto Protocol, an international climate treaty binding Annex I country parties to a global emission reduction target of 5% below 1990 levels for the 2008-2012 period. Individual emissions targets were internationally negotiated. Parties were allowed to trade emissions and establish emissions-abatement projects in other countries to reach their targets. Under the protocol, developed states were also obliged to provide new and additional financial resources to assist developing countries in their mitigation efforts.<sup>7</sup> The protocol entered into force in 2005. After adoption of decisions agreed in previous meetings on implementing the protocol, discussions under the climate convention focused on the post-Kyoto era.

In 2007, parties initiated negotiations either to revise the Kyoto Protocol or secure a new climate treaty in the near future. The Bali Action Plan was adopted. It recognized that avoiding dangerous anthropogenic interference with the climate system would require deeper emissions cuts at the global level, and called for enhanced mitigation commitments by developed states as well as nationally appropriate mitigation actions by developing countries.<sup>8</sup> Developed states argued for a new agreement binding all major emitters, including fast-growing developing countries such as China, India, and Brazil, whose emissions were increasing at a rapid pace.<sup>9</sup> These, however, committed to avoid legally binding emissions reduction targets that could jeopardize their economic growth and development, strongly supported continuation of the Kyoto Protocol and its rigid interpretation of the CDBRRC principle, stressing the North's historical responsibility in creating the problem.<sup>10</sup>

In 2009, parties signed the Copenhagen Accord, adopting a long-term goal of limiting global warming to 2 °C and establishing a system of vol-

6. United Nations. *United Nations Framework Convention on Climate Change*. FCCC/INFORMAL/84, 1992.

7. United Nations. *Kyoto Protocol to the United Nations Framework Convention on Climate Change*. 11 December 1997.

8. UNFCCC. *Report of the Conference of the Parties on its Thirteenth Session*, held in Bali from 3 to 15 December 2007. FCCC/CP/2007/6/Add.1 of 14 March 2008.

9. Bodansky, Daniel. "The Copenhagen Climate Change Conference: A Postmortem." In *American Journal of International Law*. Vol. 104, No. 2, 2010, 230-240. DOI: 10.5305/amerjintlaw.104.2.0230.

10. Hochstetler, Kathryn; Milkoreit, Manjana. "Emerging Powers in the Climate Negotiations: Shifting Identity Conceptions." In *Political Research Quarterly*. Vol. 67, No. 1, 2014, 224-235. DOI: 10.1177/1065912913510609.

untary pledges to fight climate change<sup>11</sup> that would break the “top-down” model of targets and timetables of Kyoto. Although the accord fit the view and concerns of all major emitters, its formal adoption was blocked by a small group of states including Sudan, Venezuela, and Bolivia.

In 2011, parties agreed on a second commitment period (2013-2020) to the Kyoto Protocol—fulfilling the fast-growing developing states’ demand—as well as on a roadmap towards a new global climate treaty including all parties to be signed in 2015 and concluded by 2020—in line with the preferences of developed states, particularly the EU.<sup>12</sup>

In 2012, the Doha Amendment to the Kyoto Protocol was signed, establishing the treaty’s second commitment period.<sup>13</sup> In 2015, parties adopted the Paris Agreement, a new universal climate treaty binding its signatories to “holding the increase in global average temperature to well below 2 °C” and “pursuing efforts to limit the temperature increase to 1.5 °C above pre-industrial levels.”<sup>14</sup> The agreement cemented the system of voluntary pledges of the Copenhagen Accord. It entered into force in November 2016.

Despite almost three decades of global efforts to mitigate climate change, the concentration of GHGs in the atmosphere has increased significantly and at a rapid pace. In 2017, global GHG emissions were 55% higher than in 1990.<sup>15</sup> Extreme weather events (e.g., heatwaves, droughts, floods, hurricane activity) have intensified in all continents,<sup>16</sup> and global temperatures have risen beyond projections. The years between 2015 and 2018 were the warmest since 1880.<sup>17</sup> The Earth has already warmed by nearly 1.0 °C beyond pre-industrial levels. At current emissions rates, the global carbon

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11. UNFCCC. *Report of the Conference of the Parties on its Fifteenth Session*, held in Copenhagen from 7 to 19 December 2009. FCCC/CP/2009/11/Add.1 of 30 March 2010.

12. Backstränd, Karin; Elgström, Ole. “The EU’s Role in Climate Change Negotiations: From Leader to ‘Leadiator’.” In *Journal of European Public Policy*. Vol. 20, No. 10, 2013, 1369-1386. DOI: 10.1080/13501763.2013.781781.

13. UNFCCC. *Doha Amendment to the Kyoto Protocol*. 8 December 2012.

14. United Nations. *Paris Agreement*. 12 December 2015. (Art. 2.a).

15. Olivier, Jos G. J.; Peters, Jeroen A. H. W. *Trends in Global CO<sub>2</sub> and Total Greenhouse Gas Emissions: 2018 Report*. The Hague: PBL Netherlands Environmental Assessment Agency.

16. AMS. Explaining Extreme Events of 2017 from a Climate Perspective. In *Bulletin of the American Meteorological Society*. Vol. 99, No. 12, 2018.

17. WMO. “*The State of the Global Climate in 2018*.” 2018 [Consulted at: 19 February 2019]. Available at: <https://public.wmo.int/en/our-mandate/climate/wmo-statement-state-of-global-climate>.

budget to stand a reasonable chance (66%) of limiting warming to 1.5 °C and avoid dangerous climate change can be depleted by 2030.<sup>18</sup>

Several flaws in the design of the UNFCCC and the Kyoto Protocol hindered efforts to address climate change. First, decisions under the convention are taken by consensus. As a result, the outcomes of negotiations reflect the lowest-common-denominator.<sup>19</sup> Second, the UNFCCC did not set a timeframe for considering stronger commitments for non-Annex I parties, which collectively became the world's largest emitters.<sup>20</sup> Third, the convention's rigid annex division discouraged the formation of ambitious coalitions between developed and developing country parties sharing similar interests and concerns.<sup>21</sup> Fourth, the Kyoto Protocol hardened the UNFCCC's approach to differentiation and bound very few parties to mitigate climate change by exempting developing countries from cutting emissions. The protocol imposed obligations on wealthy states while not putting any constraints on their trade competitors.<sup>22</sup> Fifth, Kyoto's top-down imposition of absolute targets and timetables was politically unsustainable for the world's largest emitter at the time, the US—as shall be seen in the next section—and unacceptable for other major emitters such as China, India, and Brazil.<sup>23</sup> Sixth, by providing a very short time frame for action, the protocol did not encourage the design and implementation of ambitious climate change mitigation policies.<sup>24</sup>

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18. IPCC. *Global Warming of 1.5 °C: An IPCC Special Report on the impacts of global warming of 1.5 °C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty*. Geneva: WMO, 2018.
  19. Keohane, Robert. O; Oppenheimer, Michael. "Paris: Beyond the Climate Dead End Through Pledge and Review?" In *Politics and Governance*. Vol. 4, No. 3, 2016, 142-151. DOI: 10.17645/pag.v4i3.634.
  20. Gupta, Joyeeta. *The History of Global Climate Governance*. Cambridge and New York: Cambridge University Press, 2014.
  21. Depledge, Joanna; Yamin, Farhana. "The Global Climate-change Regime: A Defence." In *The Economics and Politics of Climate Change*. Oxford and New York: Oxford University Press, 2009, 433-453.
  22. Victor, David G. *Global Warming Gridlock: Creating More Effective Strategies for Protecting the Planet*. Cambridge and New York: Cambridge University Press, 2011.
  23. Bodansky, Daniel. "Targets and Timetables: Good Policy but Bad Politics?" In *Architectures for Agreement: Addressing Global Climate Change in the Post-Kyoto World*. Cambridge and New York: Cambridge University Press, 2007, 57-66.
  24. Rosen, Amanda M. "The Wrong Solution at the Right Time: The Failure of the Kyoto Protocol on Climate Change." In *Politics & Policy*. Vol. 43, No. 1, 2015, 30-58. DOI: 10.1111/polp.12105.

The Paris Agreement inaugurated a new era in global climate governance. The treaty does not allocate parties to annexes and is based on a new approach to differentiation, the modified principle of “common but differentiated responsibilities and respective capabilities in light of different national circumstances” (CBDRRC-NC). It recognizes the primacy of national politics. The parties’ nationally determined contributions (NDCs) to fight climate change, the core of the treaty, are voluntary. Parties are allowed to define their own mitigation efforts and timings. These will take stock of collective action every five years and submit new NDCs—which are expected to represent a progression beyond current pledges and reflect each party’s highest possible ambition—within two years of each global stocktaking.<sup>25</sup> The agreement’s pledge and review system provides a more solid foundation for incremental progress than the Kyoto Protocol did. However, incremental efforts can now hardly avoid dangerous climate change. Solving the climate crisis demands immediate, radical action. In addition, the Paris Agreement suffers from severe limitations to its effectiveness. First, it avoids the fundamental issues of the allocation of responsibilities for avoiding dangerous climate change and fairness of each party’s mitigation efforts.<sup>26</sup> Second, it fails to include legal obligations determining specific mitigation actions, means for coordinating individual contributions, and dates by which parties must achieve their emissions peaks.<sup>27</sup> Third, it lacks robust mechanisms for monitoring the implementation of the parties’ pledges and helping developing countries leapfrog into the renewable energy transition as well as tools to punish those that do not comply with its provisions. The agreement also fails to include any reference to the end of fossil fuel subsidies. Reaching the 1.5 °C and 2 °C targets of the Paris Agreement requires parties to raise their current level of ambition by five and three times, respectively,<sup>28</sup> and even full implementation of all unconditional pledges and targets made under the agreement would limit warming to nearly 3 °C by the end of the century,<sup>29</sup> placing the planet at

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25. United Nations. *Paris Agreement*. 12 December 2015.

26. Keohane, Robert. O; Oppenheimer, Michael. “Paris: Beyond the Climate Dead End Through Pledge and Review?” In *Politics and Governance*. Vol. 4, No. 3, 2016, 142-151. DOI: 10.17645/pag.v4i3.634.

27. Christoff, Peter. “The Promissory Note: COP 21 and the Paris Climate Agreement.” In *Environmental Politics*. Vol. 25, No. 5, 2016, 765-787. DOI: 10.1080/09644016.2016.1191818.

28. UNEP. *The Emissions Gap Report 2018*. Nairobi, 2018.

29. CAT. “*The CAT Thermometer*.” 2018 [Consulted at: 19 February 2019]. Available at: <https://climateactiontracker.org/global/cat-thermometer/>.

a potentially catastrophic level of climate change.<sup>30</sup> Two-thirds of major emitting parties are currently not even on track to meet their NDCs.<sup>31</sup> It is worth noting that successful pledge and review relies on peer and public pressure. Consequently, transparency is essential.<sup>32</sup> Nevertheless, the agreement's transparency framework is weak.<sup>33</sup> In light of all limitations, it seems highly unlikely that the Paris Agreement can provide an adequate response to the global climate crisis.

## Climate Change Politics and Policies in the Atlantic

The US, the EU, and Brazil are among the world's seven largest emitters, accounting for 13.1%, 9.0%, and 2.4%, respectively, of the global GHG emissions in 2017.<sup>34</sup> A high level of commitment to low carbon development by these Atlantic actors is a *sine qua non* condition for any successful response to the climate crisis. Nevertheless, the US and Brazil have predominantly been laggards in global climate governance, while the EU, although by far the most reformist climate power in negotiations, is under growing pressure to relinquish its long-standing commitment to sustainable development.

### *The US*

Climate change mitigation has long been a contentious issue in the US. As a result, the country has no comprehensive climate legislation at the

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30. Xu, Yangyang; Veerabhadran, Ramanathan. "Well Below 2 °C: Mitigation Strategies for Avoiding Dangerous to Catastrophic Climate Changes." In *Proceedings of the National Academy of Sciences*. Vol. 114, No. 39, 2017, 10315-10323. DOI: 10.1073/pnas.1618481114.
  31. Kuramochi, Takeshi [et al.]. *Greenhouse Gas Mitigation Scenarios for Major Emitting Countries. Analysis of Current Climate Policies and Mitigation Commitments: 2018 Update*. Cologne: New Climate Institute, 2018.
  32. Bodansky, Daniel. "The Paris Climate Change Agreement: A New Hope?" In *American Journal of International Law*. Vol. 110, No. 2, 2016, 288-239. DOI: 10.5305/amerjintelaw.110.2.0288.
  33. Keohane, Robert. O; Oppenheimer, Michael. "Paris: Beyond the Climate Dead End Through Pledge and Review?" In *Politics and Governance*. Vol. 4, No. 3, 2016, 142-151. DOI: 10.17645/pag.v4i3.634.
  34. Olivier, Jos G. J.; Peters, Jeroen A. H. W. *Trends in Global CO2 and Total Greenhouse Gas Emissions: 2018 Report*. The Hague: PBL Netherlands Environmental Assessment Agency.

federal level, “but rather a patchwork of different policies spread unevenly across states, sectors, and levels of governance.”<sup>35</sup>

In the 1990s, although the Bill Clinton-Al Gore administration was committed to make climate change mitigation a policy priority and has largely influenced the design of the Kyoto Protocol—in particular with regard to the flexibility mechanisms, an American demand for joining the protocol—strong domestic opposition led the president to sign the treaty but not send it to the Senate for ratification.<sup>36</sup> The oil, coal, gas, automotive, and manufacturing industries, powerful interest groups, feared the potentially harmful effects of climate change mitigation policies, and their concerns were supported by legislators. In July 1997, the American Senate passed the Byrd-Hagel resolution, refusing ratification of any climate treaty that did not contain emissions reduction obligations for fast-growing developing countries, or that could damage the US economy.<sup>37</sup> In March 2001, the new president, George W. Bush, whose intentions of increasing fossil fuel supply were inconsistent with the protocol’s provisions, withdrew the US from the Kyoto agreement, evoking the Byrd-Hagel resolution and the California energy crisis to support his decision.<sup>38</sup>

President Barack Obama, elected in 2008, although determined to break with the legacy of his predecessor and make the US a leader in global climate governance, was limited by the American domestic institutions and circumstances. During his first term, Obama had to face not only resistance by the hydrocarbon lobbies and the Senate, but also the financial crisis affecting the country, which exacerbated political neglect of climate issues and weakened public support for climate action. At the Copenhagen meetings of 2009, the new president was forced to continue the main lines of the Bush-era climate policy, i.e., opposition to any treaty imposing targets and timetables on the US and exempting major developing country emitters

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35. European Parliament. *U.S. Climate Change Policy*. IP/A/ENVI/2015-02, April 2015, p 15.

36. Depledge, Joanna. “Against the Grain: The United States and the Global Climate Change Regime.” In *Global Change, Peace & Security*. Vol. 17, No. 1, 2005, 11-27. DOI: 10.1080=0951274052000319337.

37. Hovi, Jon; Sprinz, Detlef F.; Bang, Guri. “Why the United States Did Not Become a Party to the Kyoto Protocol: German, Norwegian, and US Perspectives.” In *European Journal of International Relations*. Vol. 18, No. 1, 2010, 129-150. DOI: 10.1177/1354066110380964.

38. Lisowski, Michael. “Playing the Two-level Game: US President Bush’s Decision to Re-pudiate the Kyoto Protocol.” In *Environmental Politics*. Vol. 11, No. 4, 2002, 101-119. DOI: 10.1080/714000641.



from emissions cuts.<sup>39</sup> The system of voluntary pledges that emerged with the Copenhagen Accord was in part a reflection of the domestic constraints facing Obama. During his second term, climate change was knocked off the political agenda by more imminent issues like the federal budget, gun control, and immigration, and external challenges such as terrorism and North Korea's nuclear threat.<sup>40</sup>

However, the Obama administration was, despite all challenges, able to pursue a large set of climate initiatives. These included new investments in renewable energy and energy efficiency, regulations to cut air pollution and mitigate climate change, as well as stable flows of climate finance to support the mitigation and adaptation efforts of developing countries. To implement their climate agenda, Obama and his cabinet members shifted from "climate change" rhetoric to a clean energy and energy independence discourse,<sup>41</sup> made extensive use of executive power, partnered with climate-friendly state governments,<sup>42</sup> and took advantage of existing laws,<sup>43</sup> a strategy that proved key to initiate regulation of GHG emissions in the US.

"Behind the administration's silent front on climate change, the EPA [the country's Environmental Protection Agency] quietly developed a regulatory system."<sup>44</sup> In 2009, following a 2007 Supreme Court decision (*Massachusetts v. Environmental Protection Agency*) declaring that GHGs fit within the 1970 Clean Air Act definition of air pollutants, and that the EPA has the authority and obligation to determine whether GHGs represent a danger to public health and welfare as well as to proceed with regulation if it concludes that they do, the agency published an endangerment finding

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39. Christoff, Peter. "Cold Climate in Copenhagen: China and the United States at COP15." In *Environmental Politics*. Vol. 19, No. 4, 2010, 637-656. DOI: 10.1080/09644016.2010.489718.

40. European Parliament. *U.S. Climate Change Policy*. IP/A/ENVI/2015-02, April 2015.

41. Kincaid, Graciela; Roberts, J. Timmons. "No Talk, Some Walk: Obama Administration First-Term Rhetoric on Climate Change and US International Climate Budget Commitments." In *Global Environmental Politics*. Vol. 13, No. 4, 2013, 41-60. DOI: 10.1162/GLEP\_a\_00197.

42. Konisky, David M.; Woods, Neal D. "Environmental Policy, Federalism, and the Obama Presidency." In *Publius: The Journal of Federalism*. Vol. 46, No. 3, 2016, 366-391. DOI: 10.1093/publius/pjw004.

43. Farber, Daniel A. "U.S. Climate Policy. Obama, Trump, and Beyond." In *Revista de Estudos Constitucionais, Hermenêutica e Teoria do Direito*. Vol. 10, No. 2, 2018, 95-108. DOI: 10.4013/rechtd.2018.102.01.

44. Kincaid, Graciela; Roberts, J. Timmons. "No Talk, Some Walk: Obama Administration First-Term Rhetoric on Climate Change and US International Climate Budget Commitments." In *Global Environmental Politics*. Vol. 13, No. 4, 2013, 41-60. DOI: 10.1162/GLEP\_a\_00197, 47.

on GHGs.<sup>45</sup> EPA started by setting GHG standards in the transportation sector.<sup>46</sup> Using the Clean Air Act to regulate GHG emissions “was a relatively straightforward issue legally in terms of vehicle emissions.”<sup>47</sup> In 2015, the agency released the Clean Power Plan, a regulation aiming to limit carbon dioxide emissions from coal-fired power plants by 32% below 2005 levels by 2030.<sup>48</sup> Opponents have, nevertheless, worked to weaken the plan’s content and delay its implementation. The plan would be repealed by Obama’s successor.<sup>49</sup>

In the months preceding the Paris meetings, Obama worked to improve cooperation with Chinese president, Xi Jinping.<sup>50</sup> In November 2014, both presidents announced a bilateral climate accord. In Paris, the US assumed a leadership role. Obama personally lobbied the Chinese and Indian leaders, and partnered with the EU and its allies.<sup>51</sup> However, to avoid congressional gridlock, the American president was forced to shape the Paris Agreement in such a way that it would not require ratification at home, thus contributing to weaken the treaty’s final text.<sup>52</sup>

Under the Paris agreement, the US pledged to cut emissions by 26-28% below 2005 levels by 2025, including land use, land-use change, and forestry (LULUCF). However, in June 2017, Obama’s successor, Donald Trump, announced that the US would withdraw from the treaty, describing

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45. Duffy, Philip B. [et al.]. “Strengthened Scientific Support for the Endangerment Finding for Atmospheric Greenhouse Gases.” In *Science*. Vol. 363, No. 6427, 2019. DOI: 10.1126/science.aat5982.
  46. Freeman, Jody. “Climate and Energy Policy in the Obama Administration.” In *Pace Environmental Law Review*. Vol. 30, No. 1, 2012, 375-390.
  47. Farber, Daniel A. “U.S. Climate Policy. Obama, Trump, and Beyond.” In *Revista de Estudos Constitucionais, Hermenêutica e Teoria do Direito*. Vol. 10, No. 2, 2018, 95-108. DOI: 10.4013/rechtd.2018.102.01., 99.
  48. Konisky, David M.; Woods, Neal D. “Environmental Policy, Federalism, and the Obama Presidency.” In *Publius: The Journal of Federalism*. Vol. 46, No. 3, 2016, 366-391. DOI: 10.1093/publius/pjw004.
  49. Union of Concerned Scientists. “*The Clean Power Plan*.” 2018 [Consulted at: 1 March 2019]. Available at: <https://www.ucsusa.org/our-work/global-warming/reduce-emissions/what-is-the-clean-power-plan/bf-toc-3>.
  50. Parker, Charles F.; Karlsson, Christer. “The UN Climate Change Negotiations and the Role of the United States: Assessing American Leadership from Copenhagen to Paris.” In *Environmental Politics*. Vol. 27, No. 3, 2018, 519-540. DOI: 10.1080/09644016.2018.1442388.
  51. Dimitrov, Radoslav S. “The Paris Agreement on Climate Change: Behind Closed Doors.” In *Global Environmental Politics*. Vol. 16, No. 3, 2016, 1-11. DOI: 10.1162/GLEP\_a\_00361.
  52. Schreurs, Miranda A. “The Paris Climate Agreement and the Three Largest Emitters: China, the United States, and the European Union.” In *Politics and Governance*. Vol. 4, No. 3, 2016, 219-223. DOI: 10.17645/pag.v4i3.666.

it as “an agreement that disadvantages the United States to the exclusive benefit of other countries.”<sup>53</sup> The new administration has halted all implementation of the climate deal; dismantled national climate policies and institutions; adopted a pro-fossil fuel energy policy; cut the federal budget on climate change research; and reneged on a \$2 billion pledge to assist developing countries in their mitigation and adaptation efforts.<sup>54</sup> EPA has proposed to replace the Clean Power Plan with the Affordable Clean Energy rule, whose impact may be worse than having no climate plan at all.<sup>55</sup> The Obama administration’s NDC was inconsistent with holding warming to  $< 2\text{ }^{\circ}\text{C}$ —if all parties followed this level of ambition, the planet would potentially warm between  $2\text{ }^{\circ}\text{C}$  and  $3\text{ }^{\circ}\text{C}$  by the end of the century. US current policies, if taken as a benchmark by all parties, could lead to warming of  $> 4\text{ }^{\circ}\text{C}$  by 2100.<sup>56</sup>

If a new president committed to climate change mitigation takes office in 2021, the impact of Trump’s policies is probably manageable and may be partially reversed. Several state governments and cities as well as businesses and investors are taking climate action, and the courts have already slowed down the Trump administration’s efforts to undo climate regulations.<sup>57</sup> Moreover, the shale gas revolution that began in 2007 in the country is building a new energy economy. It lowered energy costs and is driving a shift from coal in the power sector.<sup>58</sup> In the low-carbon field, technological progress has been such that the economic case for green en-

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53. White House. “Statement by President Trump on the Paris Climate Accord.” 2017 [Consulted at: 1 March 2019]. Available at: <https://www.whitehouse.gov/briefings-statements/statement-president-trump-paris-climate-accord/>.

54. Hongyuan, Yu. “The U.S. Withdrawal from the Paris Agreement.” In *China Quarterly of International Strategic Studies*. Vol. 4, No. 2, 2018, 281-300. DOI: 10.1142/S2377740018500100.; Jotzo, Frank; Depledge, Joanna; Winkler, Harald. “US and International Climate Policy under President Trump.” In *Climate Policy*. Vol. 18, No. 7, 2018, 813-817. DOI: 10.1080/14693062.2018.1490051.; Curtin, Joseph. “Trump Has Officially Ruined Climate Change Diplomacy for Everyone.” In *Foreign Policy*. 2018 [Consulted at: 19 February 2019]. Available at: <https://foreignpolicy.com/2018/12/12/trump-has-officially-ruined-climate-change-diplomacy-for-everyone/>.

55. See Keyes, Amelia T. [et al.]. “The Affordable Clean Energy Rule and the Impact of Emissions Rebound on Carbon Dioxide and Criteria Air Pollutant Emissions.” In *Environmental Research Letters*. 2019. DOI: 10.1088/1748-9326/aafe25.

56. CAT. “Country Summary: USA.” 2018 [Consulted at: 19 February 2019]. Available at: <https://climateactiontracker.org/countries/usa/>.

57. Aldy, Joseph E. “Real World Headwinds for Trump Climate Change Policy.” In *Bulletin of the Atomic Scientists*. Vol. 73, No. 6, 2017, 376-381. DOI: 10.1080/00963402.2017.1388673.

58. Weiss, Barbara; Obi, Michiyo. *Environmental Risk Mitigation: Coaxing a Market in the Battery and Energy Supply and Storage Industry*. Cham: Palgrave Macmillan, 2016.

ergy is becoming ever stronger.<sup>59</sup> Within this context, projections suggest that the country's emissions will most likely remain flat in the near-term. Nevertheless, if the president is reelected in 2020, the consequences will be far more damaging.<sup>60</sup>

Trump's withdrawal from the Paris Agreement has triggered a global wave of criticism. Many world leaders have expressed their intention to continue their own climate commitments.<sup>61</sup> However, considering the urgency in decarbonizing the global economy, non-participation of a major emitter is problematic. It is also worth noting that US non-cooperation in raising climate finance may severely compromise multilateral efforts to address climate change,<sup>62</sup> and that reluctant parties may reduce their levels of ambition and compliance as a reaction to the country's withdrawal.<sup>63</sup>

### *The EU*

The EU has been the most active and committed actor in global climate governance, firmly advocating binding international agreements and establishing its own binding emissions reduction targets.<sup>64</sup> The bloc's climate activism is driven by: a) its belief in multilateralism and international law; b) early adoption of the precautionary principle<sup>65</sup> and commitment to sustainable development; c) conviction in the propositions of ecological modernization;<sup>66</sup> d) economic interest in obtaining a competitive advantage

59. Jotzo, Frank; Depledge, Joanna; Winkler, Harald. "US and International Climate Policy under President Trump." In *Climate Policy*. Vol. 18, No. 7, 2018, 813-817. DOI: 10.1080/14693062.2018.1490051.

60. Galik, Christopher S.; Decarolis, Joseph F.; Fell, Harrison. "Evaluating the US Mid-Century Strategy for Deep Decarbonization Amidst Early Century Uncertainty." In *Climate Policy*. Vol. 17, No. 8, 2017, 1046-1056. DOI: doi.org/10.1080/14693062.2017.1340257.

61. Betsill, Michele M. "Trump's Paris Withdrawal and the Reconfiguration of Global Climate Change Governance." In *Chinese Journal of Population Resources and Environment*. Vol. 15, No. 3, 2017, 189-191. DOI: 10.1080/10042857.2017.1343908.

62. Urpelainen, Johannes; Van De Graaf, Thijs. "United States Non-cooperation and the Paris Agreement." In *Climate Policy*. Vol. 18, No. 7, 2018, 839-851. DOI: 10.1080/14693062.2017.1406843.

63. Pickering, Jonathan [et al.]. "The Impact of the US Retreat from the Paris Agreement: Kyoto Revisited?" In *Climate Policy*. Vol. 18, No. 7, 2018, 818-827. DOI: 10.1080/14693062.2017.1412934.

64. Schreurs, Miranda A. "The Paris Climate Agreement and the Three Largest Emitters: China, the United States, and the European Union." In *Politics and Governance*. Vol. 4, No. 3, 2016, 219-223. DOI: 10.17645/pag.v4i3.666.

65. The precautionary principle enables decision makers to take preventive action against possible risk of severe and irreversible damage.

66. The ecological modernization theory suggests that economic and ecological concerns are complementary. The concept "implies that it is possible, through the development

on renewable energy technologies and becoming less dependent on fossil fuels, and need to improve energy security; e) concern with “threat multiplier” climate change;<sup>67</sup> and (f) citizens wide support for climate action.<sup>68</sup>

The early members of the bloc soon demonstrated their commitment to solving the problem. In 1989, at a high level meeting on the issue, most European countries agreed that climate change should be addressed by setting emissions reduction targets and timetables.<sup>69</sup> In 1990, the European Community announced its intention of pursuing efforts to stabilize carbon emissions by 2000 with respect to 1990 levels.<sup>70</sup> During negotiations of the Kyoto Protocol, the EU proposed emissions cuts of 15% below 1990 levels for Annex I parties, and opposed flexibility mechanisms, arguing, unsuccessfully, that emissions reductions should be achieved mostly through domestic action.<sup>71</sup> In the post-Kyoto years, it adopted an inflexible bargaining approach, refusing the unlimited use of flexibility mechanisms under the protocol—a demand by the Umbrella Group (a coalition including Australia, Canada, Japan, New Zealand, Norway, the Russian Federation, Ukraine, and the US).<sup>72</sup> In 2000, agreement on how to operationalize the Kyoto Protocol’s mechanisms failed mainly due to a severe rift between the US and the EU.<sup>73</sup>

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of new and integrated technologies, to reduce the consumption of raw materials, as well as the emissions of various pollutants, while at the same time creating innovative and competitive products.” See Andersen, Mikael S.; Massa, Ilmo. “Ecological Modernization. Origins, Dilemmas and Future Directions.” In *Journal of Environmental Policy & Planning*. Vol. 2, No. 4, 2000, 337-345. DOI: doi.org/10.1080/714852820, 337.

67. The effects of climate change exacerbate existing frailties and sources of conflict (e.g., poverty, food and water scarcity, political instability, and social tensions), and may induce mass migration, thus destabilizing entire regions of the world.
68. Van Schaik, Louise G.; Schunz, Simon. “Explaining EU Activism and Impact in Global Climate Politics: Is the Union a Norm- or Interest-Driven Actor?” In *JCMS: Journal of Common Market Studies*. Vol. 50, No. 1, 2012, 169-186. DOI: 10.1111/j.1468-5965.2011.02214.x.
69. Bodansky, Daniel. “The History of the Global Climate Change Regime.” In *International Relations and Global Climate Change*. London and Cambridge: The MIT Press, 2001, 23-40.
70. Gupta, Joyeeta. *The History of Global Climate Governance*. Cambridge and New York: Cambridge University Press, 2014.
71. Bodansky, Daniel. “The History of the Global Climate Change Regime.” In *International Relations and Global Climate Change*. London and Cambridge: The MIT Press, 2001, 23-40.
72. Afionis, Stavros. *The European Union in International Climate Change Negotiations*. London and New York: Routledge, 2017.
73. Grubb, Michael; Farhana, Yamin. “Climatic Collapse at The Hague: What Happened, Why, and Where Do We Go From Here?” In *International Affairs*. Vol. 77, No. 2, 2001, 261-276. DOI: doi.org/10.1111/1468-2346.00191.

After the US withdrawal from the protocol, the EU made substantial efforts outside the climate change regime to ensure that Kyoto would enter into force. To guarantee ratification by the remaining Annex I country parties, it had to make several concessions, including no limits on the use of flexible mechanisms and watered-down accounting rules. In 2004, the EU secured Russian ratification of the protocol by agreeing on supporting the country's entrance into the World Trade Organization.<sup>74</sup>

Under the protocol, the EU committed to reduce its emissions by 8%. A "burden sharing" agreement among its then-15 members was negotiated, allowing less developed members states to grow economically and increase their emissions, while the richer, more environmentally progressive members states made quite significant reductions. Nevertheless, the European leaders soon acknowledged that national efforts combined would be insufficient to achieve the emissions reduction targets required under Kyoto, and developed an internal emissions trading system (ETS),<sup>75</sup> which was adopted in 2003. Its first (pilot) phase began in 2005.<sup>76</sup>

When international negotiations for the post-Kyoto era started in 2007, the EU, based on the latest scientific findings on climate change and aiming to persuade parties to adopt emissions targets compatible with the goal of limiting global warming to 2 °C,<sup>77</sup> pressed for emissions reductions of 25-40% by 2020 for the developed world, and argued in favor of a new agreement including all countries in its mitigation effort, particularly fast-growing developing economies, namely China, India, Brazil, and South Africa.<sup>78</sup> The European leaders also set their climate and energy targets for 2020: a 20% cut in GHG emissions from 1990 levels, excluding LULUCF (a target that the block is very close to achieve); a 20% improve-

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74. Van Schaik, Louise G.; Schunz, Simon. "Explaining EU Activism and Impact in Global Climate Politics: Is the Union a Norm- or Interest-Driven Actor?" In *JCMS: Journal of Common Market Studies*. Vol. 50, No. 1, 2012, 169-186. DOI: 10.1111/j.1468-5965.2011.02214.x.

75. See [https://ec.europa.eu/clima/policies/ets\\_en](https://ec.europa.eu/clima/policies/ets_en).

76. Rayner, Tim; Jordan, Andrew. "Climate Change Policy in the European Union." In *Oxford Research Encyclopedia of Climate Science*. Oxford University Press. DOI: 10.1093/acrefore/9780190228620.013.47.

77. Gippner, Olivia. "The 2 °C Target: A European Norm Enters the International Stage. Following the Process to Adoption in China." In *International Environmental Agreements: Politics, Law and Economics*. Vol. 16, No. 1, 2016, 49-65. DOI: 10.1007/s10784-014-9246-5.

78. Walker, Hayley; Biedenkopf, Katja. "The Historical Evolution of EU Climate Leadership and Four Scenarios for its Future." In *EU Climate Diplomacy: Politics, Law and Negotiations*. Abingdon and New York: Routledge, 2018, 33-45.

ment in energy efficiency; and a 20% of total energy consumption coming from renewables. These would be enacted in legislation in 2009.<sup>79</sup>

At the Copenhagen meetings, the EU, pursuing a heavily normative agenda and urging for a single-top down binding global agreement containing highly ambitious emissions reduction targets and rigid timetables, would find itself isolated<sup>80</sup>—the Copenhagen Accord’s final text was discussed behind closed doors by the US, China, India, Brazil, and South Africa. After the meetings, the European diplomacy recognized its failure and improved its strategy, significantly moderating its climate policy objectives. The EU abandoned its argument for a new climate treaty modelled on Kyoto; engaged in dialogue with the US and China; partnered with developing country parties that also wished for a legally binding agreement including all major emitters; and accepted a second commitment period for the Kyoto Protocol in exchange for the adoption of a roadmap towards a new global climate treaty including all parties to be adopted in 2015.<sup>81</sup>

In 2014, the EU set a new goal of building an Energy Union<sup>82</sup> and approved the “2030 framework for climate change and energy policies”, putting forward a binding target of reducing GHG emissions by at least 40% below 1990 levels by 2030 (including LULUCF); a binding target of generating no less than 27% of energy from renewable resources; a non-binding target of improving energy efficiency by at least 27%; and an electricity connection target of 10% among member states.<sup>83</sup> The goals for renewables and energy efficiency were revised upwards in 2018 to 32%

79. [https://ec.europa.eu/clima/policies/strategies/2020\\_en](https://ec.europa.eu/clima/policies/strategies/2020_en).

80. Oberthür, Sebastian. “The European Union’s Performance in the International Climate Change Regime.” In *Journal of European Integration*. Vol. 33, No. 6, 2011, 667-682. DOI: 10.1080/07036337.2011.606690.

81. Backstränd, Karin; Elgström, Ole. “The EU’s Role in Climate Change Negotiations: From Leader to ‘Leadiator’.” In *Journal of European Public Policy*. Vol. 20, No. 10, 2013, 1369-1386. DOI: 10.1080/13501763.2013.781781.

82. See <https://ec.europa.eu/energy/en/topics/energy-strategy-and-energy-union/building-energy-union> and Delbeke, Jos; Klaaseen, Ger; Zapfel, Peter. “Climate-related Energy Policies.” In *EU Climate Policy Explained*. Abingdon and New York: Routledge. Many energy issues are still decided at the domestic level, in contrast to environmental policy. The Lisbon Treaty explicitly asserts that the EU’s energy policy shall not affect its member states’ right to define the conditions for exploiting their energy resources; choice between different energy sources; and the general structure of their energy supply.

83. Averchenkova, Alina [et al.]. *Climate Policy in China, the European Union and the United States: Main Drivers and Prospects for the Future*. Grantham Research Institute on Climate Change and the Environment, Centre for Climate Change Economics and Policy, and Bruegel, 2019.



and 32.5%, respectively.<sup>84</sup> The emissions reduction target became the basis for the EU's NDC under the Paris Agreement.

At the Paris climate meetings of 2015, the EU, having learned the lesson from Copenhagen, continued to pursue moderate policy objectives:

instead of insisting on emission reduction commitments by all countries in line with the 2 °C target, the EU moved to demand firm provisions on transparency and accountability as well as an 'ambitious mechanism'. (...) It also eventually gave up on agreeing detailed rules for transparency and accountability already in Paris.<sup>85</sup>

As the world's largest provider of official development assistance and climate finance to developing countries, and having downscaled its demands, the EU was able to encourage and lead an influential coalition (the "High Ambition Coalition") of small island states, developing countries, and like-minded parties,<sup>86</sup> which was critical in helping to ensure China and India's support for the new climate agreement.<sup>87</sup>

Continued EU leadership will be essential to raise the global level of climate change mitigation ambition. "Effective leadership demands credibility and the ability to convince prospective followers that one is acting on behalf of the common good."<sup>88</sup> More ambition by the European leaders is needed. The EU's pledge under the Paris Agreement is inconsistent with holding warming to < 2 °C—if all parties followed this level of ambition, the planet would potentially warm between 2 °C and 3 °C by the end of the century. In 2018, the European Parliament called for the adoption of a new emissions reduction target of 55% below 1990 levels by 2030. This would, however, still be insufficient to achieve the temperature goal of the

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84. [https://ec.europa.eu/clima/policies/strategies/2030\\_en](https://ec.europa.eu/clima/policies/strategies/2030_en)

85. Oberthür, Sebastian; Groen, Lisanne. "Explaining Goal Achievement in International Negotiations: The EU and the Paris Agreement on Climate Change." In *Journal of European Public Policy*. Vol. 25, No. 5, 2018, 708-727. DOI: 10.1080/13501763.2017.1291708, 719.

86. Rayner, Tim; Jordan, Andrew. "Climate Change Policy in the European Union." In *Oxford Research Encyclopedia of Climate Science*. Oxford University Press. DOI: 10.1093/acrefore/9780190228620.013.47.

87. Dimitrov, Radoslav S. "The Paris Agreement on Climate Change: Behind Closed Doors." In *Global Environmental Politics*. Vol. 16, No. 3, 2016, 1-11. DOI: 10.1162/GLEP\_a\_00361.

88. Parker, Charles F.; Karlsson, Christer. "EU Climate Leadership in Katowice Helped Deliver the Deal on the Paris Agreement Rulebook." 2018 [Consulted at: 19 February 2019]. Available at: <https://blogs.lse.ac.uk/europpblog/2018/12/20/eu-climate-leadership-in-katowice-helped-deliver-the-deal-on-the-paris-agreement-rulebook/>.



agreement.<sup>89</sup> In addition, it is uncertain whether the block is on track to meet its NDC.<sup>90</sup> The EU has been under growing pressure to abandon its commitment to low carbon development and leadership role in climate negotiations. Among the challenges to ambitious and assertive action by the EU in this domain are resistance by the coal-dependent Eastern EU members; the rise of populism as a result of public discontent with socio-economic inequalities, security fears, and sharp reactions against African and Middle Eastern immigrants; Germany's struggle to phase out coal; and the unsolved Brexit negotiations.<sup>91</sup> Nevertheless, despite all challenges the EU "remains the only actor that can realistically be expected to provide leadership on global environmental problems for the coming decade or two."<sup>92</sup>

### *Brazil*

Brazil is an "underachieving environmental power"—despite its vast natural capital (forests, biodiversity, water, and low carbon energy potential), as an environmental power the country remains underdeveloped due to its low socioeconomic capital, i.e., an economic and political system overly focused on narrow, short-term goals of vested interests that repeatedly collide with the needs of sustainability.<sup>93</sup>

In 1992, as host of the United Nations Conference on Environment and Development, and led by President Fernando Collor de Mello, who saw the event as an opportunity to project his government internationally and

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89. CAT. "Country Summary: EU." 2019 [Consulted 19 February 2019]. Available at: <https://climateactiontracker.org/countries/eu/>.

90. Kuramochi, Takeshi [et al.]. *Greenhouse Gas Mitigation Scenarios for Major Emitting Countries. Analysis of Current Climate Policies and Mitigation Commitments: 2018 Update*. Cologne: New Climate Institute, 2018.

91. Cléménçon, Raymond. "The Two Sides of the Paris Climate Agreement: Dismal Failure or Historic Breakthrough?" In *Journal of Environment & Development*. Vol. 25, No. 1, 2016, 3-24. DOI: 10.1177/1070496516631362.; Parker, Charles F.; Karlsson, Christer. "EU Climate Leadership in Katowice Helped Deliver the Deal on the Paris Agreement Rulebook." 2018 [Consulted at: 19 February 2019]. Available at: <https://blogs.lse.ac.uk/europpblog/2018/12/20/eu-climate-leadership-in-katowice-helped-deliver-the-deal-on-the-paris-agreement-rulebook/>; Schreurs, Miranda A. "The Paris Climate Agreement and the Three Largest Emitters: China, the United States, and the European Union." In *Politics and Governance*. Vol. 4, No. 3, 2016, 219-223. DOI: 10.17645/pag.v4i3.666.

92. Cléménçon, Raymond. "Sustainable Development, Climate Politics and EU-Leadership: A Historical-Comparative Analysis." In *European Journal of Sustainable Development*. Vol. 5, No. 1, 2016, 125-144. DOI: 10.14207/ejsd.2016.v5n1p125., 139.

93. Viola, Eduardo; Franchini, Matias. *Brazil and Climate Change: Beyond the Amazon*. Abingdon and New York: Routledge, 2018.

attract foreign funding and investment, Brazil facilitated agreements on the UNFCCC.<sup>94</sup>

During negotiations of the Kyoto Protocol, the Brazilian diplomacy, grounded on a radical interpretation of the CBDRRC principle, firmly rejected any possibility of non-Annex I parties assuming emissions reduction obligations, even if voluntary, and stressed the historical responsibility of the developed world in creating the problem; advocated the right to development; and strongly refused the inclusion of LULUCF, particularly avoided deforestation, in the protocol's flexibility mechanisms.<sup>95</sup> The country's standing in negotiations stemmed from its emissions and climate policy profiles: very high emissions growing on an average of almost 10% per year, a trend mostly driven by very high rates of deforestation in the Amazon, and setbacks in the hydroelectricity and ethanol sectors leading to increased reliance on thermoelectric power plants.<sup>96</sup>

In the second half of the 2000s, Brazil progressively moderated its rigid interpretation of the CBDRRC principle and began to shift away from its historical international positions regarding forests under the climate change regime.<sup>97</sup> Considerably reducing deforestation between 2005 and 2012, the country's overall emissions fell by more than 40%.<sup>98</sup> In fact, in the 2005-2009 period—mainly due to the vigorous action of the two ministers of the environment of the governments of President Lula da Silva, Marina Silva (2003-2008) and Carlos Minc (2008-2010), renowned Brazilian environmentalists—reducing deforestation in the Amazon was a political priority for the Brazilian government.<sup>99</sup> Between 2010 and 2012, the federal government's main goal was to avoid a new increase in deforestation rates.

94. Viola, Eduardo. "O Regime Internacional de Mudança Climática e o Brasil." In *Revista Brasileira de Ciências Sociais*. Vol. 17, No. 50, 2002, 25-46. DOI: 10.1590/S0102-69092002000300003.

95. Viola, Eduardo; Franchini, Matías. "Climate Policy in Brazil: Public Awareness, Social Transformation and Emission Reductions." In *Feeling the Heat: The Politics of Climate Policy in Rapidly Industrializing Countries*. Hampshire: Palgrave Macmillan, 2012, 175-201. DOI: 10.1057/9780230374973.

96. Viola, Eduardo; Franchini, Matías. *Brazil and Climate Change: Beyond the Amazon*. Abingdon and New York: Routledge, 2018.

97. Pereira, Joana C. "Reducing Catastrophic Climate Risk by Revolutionizing the Amazon: Novel Pathways for Brazilian Diplomacy." In *Global Development and Climate Change: Market, Global Players and Empirical Evidence*. Cham: Springer, 2019, 189-218. DOI: 10.1007/978-3-030-02662-2\_10.

98. Data from the Brazilian Greenhouse Gas Emissions Estimate System (SEEG), available at [http://plataforma.seeg.eco.br/total\\_emission](http://plataforma.seeg.eco.br/total_emission).

99. Viola, Eduardo. "Transformations in Brazilian Deforestation and Climate Policy Since 2005." In *Theoretical Inquiries in Law*. Vol. 14, No. 1, 2013, 109-124.

Indeed, the 2012 deforestation rate was nearly 84% lower than the 2004 peak.<sup>100</sup> This abrupt fall was the result of various factors: law enforcement and enhanced institutional capacity; substantial cooperation between the Amazon state governments and the national government; the creation of new and extensive national parks and conservation units; the emergence of coalitions among several stakeholders against the consumption of soy beans and beef produced in deforested areas; and greater influence by NGOs and the scientific community on the media.<sup>101</sup>

Encouraged by domestic success in deforestation control and pressured by the Ministry of Environment (MMA), environmental NGOs, and the business sector, Brazil began to assume a more active and committed role in climate change negotiations. In 2006, the Brazilian diplomacy proposed the creation of a global deforestation fund within the UNFCCC; over the following years, Brazil became a key supporter of the REDD+ mechanism.<sup>102</sup> The Amazon became an asset for attracting international climate financing. In 2008, the country released its National Climate Plan containing quantitative targets. At the Copenhagen climate meetings, Brazil submitted a relatively ambitious voluntary emissions reduction commitment (36-39% below the business-as-usual scenario for 2020, including LULUCF).<sup>103</sup> Nevertheless, the Brazilian diplomacy continued to stress the right to development and joined with countries such as China and India in opposing a legally binding climate treaty including emissions reduction obligations for Non-Annex I parties.<sup>104</sup>

In 2011, in a clear demonstration of the organizational robustness of the rural caucus representing the interests of the agribusiness sector, the Brazilian Congress approved a reform to the Forest Code, largely reducing environmental protections. The positive trend of deforestation reduction

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100.Data from the Brazilian State Institute for Space Research (INPE), available at <http://www.obt.inpe.br/prodes/dashboard/prodes-rates.html>.

101.Pereira, Joana C. "Reducing Catastrophic Climate Risk by Revolutionizing the Amazon: Novel Pathways for Brazilian Diplomacy." In *Global Development and Climate Change: Market, Global Players and Empirical Evidence*. Cham: Springer, 2019, 189-218. DOI: 10.1007/978-3-030-02662-2\_10.

102.Reducing emissions from deforestation and forest degradation and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries, a mechanism that emerged within the UNFCCC in 2005.

103.Viola, Eduardo; Franchini, Matías; Ribeiro, Thais Lemos. *Sistema Internacional de Hegermonia Conservadora: Governança Global e Democracia na Era da Crise Climática*. São Paulo: Annablume, 2013.

104.Viola, Eduardo; Franchini, Matías. "Brazilian Climate Politics 2005-2012: Ambivalence and Paradox." In *WIREs Climate Change*. Vol. 5, No. 5, 2014, 677-688. DOI: 10.1002/wcc.289.

would start to reverse in 2013.<sup>105</sup> The intensity of fossil fuel usage in the energy sector would also increase as a result of public investment in the oil sector, subsidies to gasoline and electricity prices, and tax exemptions conceded to the manufacturing sector.<sup>106</sup>

The political priority of the new president, Dilma Rousseff, was short-term GDP growth. Environmental conservation was overlooked by the new administration.<sup>107</sup> Environmental neglect was aggravated by economic and political turmoil: a profound economic recession and huge corruption scandals involving politicians, the country's oil and gas company, and several infrastructure firms have turned public and political attention away from sustainability matters, further reinforcing the capacity of the Agribusiness Parliamentary Force (APF) in the Congress to reverse environmental progress.<sup>108</sup>

Between 2016 and 2018, Rousseff's successor, Michel Temer, supported by a coalition of conservative/particularistic interests (among them, those of the agribusiness sector), took major measures against environmental protection in general and the Amazon in particular. The new president

signed provisional acts, decrees, and laws that reduced the size of protected areas in the [Amazon] forest, suspended the ratification of indigenous lands, enabled land grabbers to legalize their holdings in the [Amazonian] region, and forgave billions of dollars in environmental fines and debts that farmers and ranchers owed the government. (...) [He also] released vast sums in pork-barrel allocations ("emendas") to selected federal deputies (...) as well as other expensive concessions. (...) The cost of Temer's *emendas* exacerbated cutbacks in science and environmental spending in Brazil (...) [,] affecting a key basis of public policies for nature conservation and sustainable development,

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105.Pereira, Joana C. "Reducing Catastrophic Climate Risk by Revolutionizing the Amazon: Novel Pathways for Brazilian Diplomacy." In *Global Development and Climate Change: Market, Global Players and Empirical Evidence*. Cham: Springer, 2019, 189-218. DOI: 10.1007/978-3-030-02662-2\_10.

106.Viola, Eduardo; Basso, Larissa. "Low Carbon Green Economy: Brazilian Policies and Politics of Energy, 2003-2014." In *Handbook on Sustainability Transition and Sustainable Peace*. Zurich: Springer International Publishing, 2016, 811-830. DOI: 10.1007/978-3-319-43884-9\_38.

107.Viola, Eduardo; Franchini, Matias. *Brazil and Climate Change: Beyond the Amazon*. Abingdon and New York: Routledge, 2018.

108.Pereira, Joana C. "Reducing Catastrophic Climate Risk by Revolutionizing the Amazon: Novel Pathways for Brazilian Diplomacy." In *Global Development and Climate Change: Market, Global Players and Empirical Evidence*. Cham: Springer, 2019, 189-218. DOI: 10.1007/978-3-030-02662-2\_10.

that is, research on biodiversity (...) [and] critically weakening the (...) [MMA's] capacity to promote effective policies and to ensure the rule of law in the Amazonian region.<sup>109</sup>

Unsurprisingly, deforestation is increasing at an alarming pace—Amazonian deforestation rates in the 2016-2018 period were approximately 66% higher than the 2012 minimum of 4500 km<sup>2</sup>.<sup>110</sup>

In international climate negotiations, Brazilian diplomacy has returned to its historical standing, adding that “the country has already done its part in terms of mitigation because of the decreasing path of emissions that began in the mid-2000s.”<sup>111</sup>

Under the Paris Agreement, Brazil pledged to reduce its overall GHG emissions by 37% on 2005 levels by 2025, including LULUCF.<sup>112</sup> If taken as a benchmark by all parties, the country's NDC would potentially lead to warming between 2 °C and 3 °C by 2100.<sup>113</sup> Brazil is not even on track to meet its NDC.<sup>114</sup>

The future looks unpromising. Jair Bolsonaro, the country's new president in office since January 2019, has promise to open parts of the Amazon to mining and has already dismantled governmental divisions dedicated to climate change. The APF, which will continue to be very powerful during the 2019-2022 legislature, has already formalized its support to the president. Other reasons for concern include the fact that the MMA is now headed by Ricardo Salles, a lawyer with strong ties to the ruralists, and who was recently convicted for environmental fraud, as well as the fact that the

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109. Pereira, Joana C.; Viola, Eduardo. “Catastrophic Climate Risk and Brazilian Amazonian Politics and Policies: A New Research Agenda.” In *Global Environmental Politics*. Vol. 19, No. 2, 2019, 98-99. DOI: 10.1162/glep\_a\_00499.

110. Data from INPE, available at <http://www.obt.inpe.br/prodes/dashboard/prodes-rates.html>.

111. Viola, Eduardo; Franchini, Matias. *Brazil and Climate Change: Beyond the Amazon*. Abingdon and New York: Routledge, 2018, p. 156.

112. It is worth noting that “when assessing progress towards decarbonisation, the inclusion of LULUCF into an emissions reduction target has the potential to disguise increasing trends of energy and industrial emissions in the country concerned. For example, if LULUCF emissions have a strong decrease over a period of time, (...) the country's total net emissions may show decreasing trends even if its energy and industrial emissions are still increasing.” See <https://climateactiontracker.org/methodology/indc-ratings-and-lulucf/>. Brazil is a noteworthy example of this issue.

113. CAT. “*Country Summary: Brazil*.” 2018 [Consulted 19 February 2019]. Available at <https://climateactiontracker.org/countries/brazil/>.

114. Kuramochi, Takeshi [et al.]. *Greenhouse Gas Mitigation Scenarios for Major Emitting Countries*. Analysis of Current Climate Policies and Mitigation Commitments: 2018 Update. Cologne: New Climate Institute, 2018.

new Minister of Foreign Affairs is Ernesto Araújo, a climate change denier. Consequently, Brazil will most likely remain a laggard in global climate negotiations over the next few years.<sup>115</sup> However, if the anti-corruption and economic policies of Bolsonaro's government are successful, public attention to climate and forest issues might increase. If this is the case, it could be possible to retake the goals of the Brazilian NDC after 2022.

## Conclusion

Climate change skepticism and denial in the US and Brazil and political constraints to assertive climate action and leadership by the EU are a threat to all humanity. The US, as the world's largest economy and second largest emitter, is a de facto veto player to any effective solution to the problem. Brazil accounts for almost 70% of the Amazon rainforest, a global carbon stock and tipping point of the Earth's climate system whose dieback may trigger a global climate catastrophe. Current Amazonian politics and policies put the ecological resilience of the forest in jeopardy.<sup>116</sup> The EU, although struggling to maintain its commitment to sustainable development, will most likely continue to be the most active actor in global climate governance. However, more ambition is needed. Leadership of Northern Europe is critical for a successful decarbonization coalition capable of galvanizing global climate action to emerge. It remains to be seen whether the EU's environmentally progressive member states have the strength to overcome resistance by the most conservative ones.

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115. Pereira, Joana C.; Viola, Eduardo. "Catastrophic Climate Risk and Brazilian Amazonian Politics and Policies: A New Research Agenda." In *Global Environmental Politics*. Vol. 19, No. 2, 2019, 93-103. DOI: 10.1162/glep\_a\_00499.

116. See Pereira, Joana C. "Reducing Catastrophic Climate Risk by Revolutionizing the Amazon: Novel Pathways for Brazilian Diplomacy." In *Global Development and Climate Change: Market, Global Players and Empirical Evidence*. Cham: Springer, 2019, 189-218. DOI: 10.1007/978-3-030-02662-2\_10; Pereira, Joana C.; Viola, Eduardo. "Catastrophic Climate Risk and Brazilian Amazonian Politics and Policies: A New Research Agenda." In *Global Environmental Politics*. Vol. 19, No. 2, 2019, 93-103. DOI: 10.1162/glep\_a\_00499.

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