

yet reveal rich new lessons for improving the responsiveness and adaptability of environmental laws.

In seeking to achieve so many diverse and ambitious goals, the editor faced a challenging task in drawing its chapters together into a cohesive collection. As such, the volume is an exceptional achievement. It showcases novel ideas, detailed analyses, and thoughtful reflections on a more hopeful future. It also emphasizes the importance of elevating the voices of ‘the lawyers of the Anthropocene’ (p. 2) – a striking future epithet for a generation of legal scholars and practitioners facing extraordinary intellectual, practical, and disciplinary upheaval. I recommend this book for the breadth of its coverage and the next step that it represents in the ongoing push to reform and reinvigorate environmental law, and to propel it into an uncertain future. We must not miss any opportunity to progress towards more desirable futures as we plough headlong into the upheaval of the Anthropocene.

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The Implementation of the Paris Agreement on Climate Change, edited by Vesselin Popovski
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The 2015 Paris Agreement¹ was hailed as a ‘monumental triumph’² of multilateral diplomacy towards global action on climate change. While the adoption of the Agreement was indeed an important accomplishment, its success will ultimately be measured based on its outcomes. *The Implementation of the Paris Agreement on Climate Change*, edited by Vesselin Popovski, provides a thorough and realistic analysis of the gaps in the Paris Agreement. It also delves into the potential challenges that member states will encounter as they seek to implement it. This work is a timely contribution by experts and practitioners with the aim of facilitating better implementation of the Paris Agreement at the domestic and international levels. The book acknowledges that climate change disproportionately affects vulnerable communities,³ and that the global north and global south face different climate impacts and have varying

¹ Paris (France), 13 Dec. 2015, in force 4 Nov. 2016, available at: http://unfccc.int/paris_agreement/items/9485.php.

² ‘COP21: UN Chief Hails New Climate Change Agreement as “Monumental Triumph”’, *UN News Centre*, 14 Dec. 2015, available at: <http://www.un.org/apps/news/story.asp?NewsID=52802#.Vrh45f96Uk>.

³ C. Bryne, ‘Climate Change and Human Migration’ (2018) 8(3) *UC Irvine Law Review*, pp. 761–90.

capacities⁴ to address the challenges. With that in mind, it seeks to advance various strategies, including improved technology transfer and financial assistance, to tackle these differentiated climate concerns. Indeed, concerns of ethics and equity in climate responses, which many of the chapter authors have previously promoted,⁵ permeate the book.

The book has 18 chapters, organized under three overarching themes. Chapters 1 to 5 discuss the Paris Agreement in the context of other multilateral environmental instruments. Chapters 6 to 12 explore specific aspects of the Agreement, including its global stocktake, technology transfer, and adaptation measures. Finally, Chapters 13 to 18 consider implementation challenges and opportunities facing different countries and regions of the world.

The first five chapters seek to situate the Paris Agreement within the existing context of multilateral environmental treaties. Chapters 1 and 2, authored by Vesselin Popovski, provide a background for the succeeding chapters by examining the evolution of international environmental law in the 20th century and by classifying laws as either ‘soft law’ or ‘hard law’⁶ in international environmental governance. Popovski situates the Paris Agreement and Kyoto Protocol⁷ within this ‘soft’/‘hard’ context and persuasively argues that the mix of soft and hard law instruments in the Paris Agreement could succeed where the Kyoto Protocol has failed.⁸ The third chapter, by Trudy Fraser, considers this argument through the lens of what the author calls ‘ratification fatigue’ (p. 42) to explain the unwillingness of parties to seek repeated legislative approvals for each successive climate treaty. After discussing the easily ratified, yet structurally flawed architecture of the United Nations Framework Convention on Climate Change (UNFCCC),⁹ Fraser provides a detailed account of the hybrid approach adopted by the Paris Agreement. She argues that by giving states a major role in developing their own mitigation strategies, through nationally determined contributions (NDCs), the Paris Agreement may succeed in meeting the internationally agreed target.

Chapters 4 and 5 then consider the Paris Agreement’s implementation mechanism in comparison with other international treaties. In Chapter 4, Natalia Esxobar-Pemberthy examines the implementation mechanisms of four other conventions¹⁰ to ‘identify best

⁴ S. Nazrul Islam & J. Winkel, ‘Climate Change and Social Inequality’, United Nations Department of Economic & Social Affairs, DESA Working Paper No. 152, Oct. 2017, available at: https://www.un.org/esa/desa/papers/2017/wp152_2017.pdf.

⁵ H. Breakey, V. Popovsky & R. Maguire (eds), *Ethical Values and the Global Carbon Integrity System* (Ashgate, 2015).

⁶ K.W. Abbott & D. Snidal, ‘Hard and Soft Law in International Governance’ (2000) 54(3) *International Organization*, pp. 421–56.

⁷ Kyoto (Japan), 11 Dec. 1997, in force 16 Feb. 2005, available at: <http://unfccc.int/resource/docs/convkp/kpeng.pdf>.

⁸ See A.M. Rosen, ‘The Wrong Solution at the Right Time: The Failure of the Kyoto Protocol on Climate Change’ (2015) 43(1) *Politics & Policy*, pp. 30–58.

⁹ New York, NY (United States (US)), 9 May 1992, in force 21 Mar. 1994, available at: <https://unfccc.int/resource/docs/convkp/conveng.pdf>.

¹⁰ They are the Convention on Wetlands of International Importance especially as Waterfowl Habitat (Ramsar Convention), Ramsar (Iran), 2 Feb. 1971, in force 21 Dec. 1975, available at:

practices that can be exchanged across countries and conventions and the factors that determine their success, as a way to guarantee their effectiveness towards the solution of global environmental problems' (p. 77). These best practices include efficiency, reporting, regular evaluation of progress made by parties to achieve the objectives of the conventions, and, where necessary, adjustment of treaty obligations. Chapter 5 focuses on lessons learned from the implementation of the Convention on Biological Diversity (CBD),¹¹ which has been criticized for not meeting its biodiversity protection goals. After reviewing the CBD in detail, Ana María Ulloa and Sylvia Karlsson-Vinkhuyzen assert that the UNFCCC, in comparison, has integrated more effective mechanisms, and that lessons learned from implementation of the UNFCCC have, in turn, influenced the evolution of the CBD. The first part of the book under review thus ends on a somewhat high note, by demonstrating how an adaptive approach can improve treaty implementation and governance.

The next seven chapters of the book shift focus to more detailed analysis of the Paris Agreement's mechanisms, examining equity in the global stocktake (Chapters 6 and 7), financing (Chapter 8), implementation of the principle of common but differentiated responsibilities (Chapter 9), technology transfer and development (Chapters 10 and 11), and lessons for the adaptation fund to be learned from carbon markets (Chapter 12). Several of these chapters stand out.

The global stocktake is an important tool under the Paris Agreement which links individual strategies to the collective goals and objectives of the Agreement.¹² As Hugh Breakey (Chapter 6) describes it, 'the stocktake will officially consider how well countries' climate commitments accord with the Convention's principles' (p. 104). The chapter explores how five important words incorporated in the Agreement – 'in the light of equity'¹³ – should influence the global stocktake's assessment of likely mitigation outcomes. Time will tell whether Breakey's proposal for a detailed planning and review process of the equity stocktake will come to fruition or ensure equitable implementation of climate actions in the coming years. In Chapter 7, Swapna Pathak further examines the issue of equity by arguing that the global stocktake should include member state performance on the issues of adaptation and finance, and should not be restricted solely to mitigation. This chapter provides an enlightening perspective on stakeholders' perception of how the climate regime has been segmented into mitigation *versus* adaptation and finance, and the global north *versus* the global south. Chapter 11 considers

<http://www.ramsar.org>; the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), Washington, DC (US), 3 Mar. 1973, in force 1 July 1975, available at: <http://www.cites.org/eng/disc/text.php>; the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, Basel (Switzerland), 22 Mar. 1989, in force 5 May 1992, available at: <http://www.basel.int>; and the Stockholm Convention on Persistent Organic Pollutants, Stockholm (Sweden), 22 May 2001, in force 17 May 2004, available at: <http://www.pops.int>.

¹¹ Convention on Biological Diversity (CBD), Rio de Janeiro (Brazil), 5 June 1992, in force 29 Dec. 1993, available at: <http://www.cbd.int/convention/text>.

¹² J. Friedrich, 'Global Stocktake (Article 14)', in D. Klein et al. (eds), *The Paris Agreement on Climate Change: Analysis and Commentary* (Oxford University Press, 2017), pp. 319–37, at 320.

¹³ Art. 14(1) Paris Agreement.

the technology transfer aspects of these equity arguments. Dong Qin assesses the need for compulsory licensing of green technologies at a time when developing countries have started to embrace new technologies to move away from fossil-based industries.¹⁴ This timely work proposes the development of an ‘international agreement on green compulsory licensing to promote the international transfer of green technologies for achieving the goals of the Paris Agreement’ (p. 191). While compelling, the author’s proposals might backfire, as firms may be hesitant to invest in developing countries if such investment threatens their patent rights.¹⁵

The first two parts of the book, while informative, have some common shortcomings. Notably, their focus on operationalizing the Paris Agreement is often accompanied by a lack of consideration for the drivers that propelled its creation in the first place and the importance of non-party stakeholders. Proposals for the development of additional multilateral agreements to address remaining challenges seem fanciful. In addition, the book would have benefited from a deeper exploration of the Paris Agreement’s core principles and concepts, such as ambition, differentiation, and the provisions that give legal form to the Agreement.

The final part of the book discusses how certain states and regions are addressing climate change – an important topic, in that governance systems at the national and local levels will affect the success of the NDCs.¹⁶ Chapters 13 to 18 explain how states and localities – including those in India (Chapters 13 and 14), the United States (US) (Chapters 15 and 16), the European Union (Chapter 17), and Latin America (Chapter 18) – will implement the Paris Agreement. These chapters offer particularly useful insights into the subject of state and local governance in India and the US. The chapters also illustrate the consequences and limitations of federal political and policy change in the US. Their discussion of the Trump administration’s planned withdrawal from the Paris Agreement, which stalled technology transfer and financial agreements involving India and Latin America, illustrates the risks of negotiating international treaties with a fickle party. At the same time, Chapter 16 shows that many US states have displaced national policy by establishing their own climate change laws and designing action plans to mitigate and address climate change, notwithstanding federal resistance to the Paris targets. Chapter 18 concludes with a case study of Latin America. Trishna Mohan Kripalani and Gargi Katikithala examine the potential political willingness to interlink state climate action plans and Indigenous community participation in order to foster collective action and meet the national and international climate change goals. Chapter 18 thus illustrates the potential and limitations of the Paris Agreement. An international treaty will not solve the climate crisis; each region and country bears responsibility for developing appropriate strategies to mitigate

¹⁴ See generally International Energy Agency (IEA), ‘India 2020: Energy Policy Review’, 2020, available at: https://niti.gov.in/sites/default/files/2020-01/IEA-India%202020-In-depth-EnergyPolicy_0.pdf.

¹⁵ R. Fair, ‘Does Climate Change Justify Compulsory Licensing of Green Technology?’ (2010) 6(1) *Brigham Young University International Law & Management Review*, pp. 21–41.

¹⁶ See generally M. Jänicke, ‘The Multi-level System of Global Climate Governance: The Model and its Current State’ (2017) 27(2) *Environmental Policy and Governance*, pp. 108–21.

and adapt to climate change. Whether they will accept the responsibility is, alas, yet to be seen.

Overall, this book offers a comprehensive and pragmatic understanding of the Paris Agreement. It ably shows how other multilateral environmental agreements could help to influence implementation of the Agreement and, perhaps, create new norms to address climate challenges. It also offers a detailed analysis of ways to align public policy at the international, national, and subnational levels to ensure a smooth economic and environmental transition of fossil fuels. The book includes data from interviews and field studies that not only add depth to the theoretical analyses but also support calls for further legal and policy developments. Above all, this book provides an important source of literature for future research.

However, the book has a few shortcomings. Most notably, it does not meaningfully address gender and climate justice concerns. In addition, the geographical scope is somewhat limited in that the book includes no inputs from Asia, Oceania, or Africa, and only a limited focus on Europe. For a book focused on implementing the Paris Agreement, the omission of many major emitters is curious.

Notwithstanding this criticism, *The Implementation of the Paris Agreement on Climate Change* is engaging and informative. It will be a useful resource for scholars working in the field of climate change and international environmental law.

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