Book Review – Benoît Mayer, International Law Obligations on Climate Change Mitigation *(Oxford, UK: Oxford University Press, 2022)*

Eva Linde*

Abstract: *This article reviews Benoît Mayer's recent book,* International Law Obligations on Climate Change Mitigation. *The book identifies different sources of international law relating to climate change mitigation and discusses the specific content of these obligations. According to the reviewer, the book provides a helpful guide for readers new to the subject while at the same time offering in-depth discussions of—and interesting, often controversial, viewpoints on—specific aspects of climate change law. The focus of the review is on Mayer's surprisingly sceptical assessment of human rights-based mitigation obligations, which the reviewer criticizes as overly restrictive.*

Résumé: *Cet article passe en revue le récent ouvrage de Benoît Mayer,* International Law Obligations on Climate Change Mitigation. *L'ouvrage identifie différentes sources de droit international relatives à l'atténuation du changement climatique et examine le contenu spécifique de ces obligations. Selon Mayer, l'ouvrage constitue un guide utile pour les lecteurs novices en la matière, tout en offrant des discussions approfondies (et des points de vue intéressants, souvent controversés) sur des aspects spécifiques du droit du changement climatique. Cette revue se concentre sur l'évaluation étonnamment sceptique de Mayer concernant les obligations d'atténuation fondées sur les droits de l'homme, que l'auteure critique comme étant trop restrictives.*

Titre en français : Recension de livre - Benoît Mayer, **International Law Obligations on Climate Change Mitigation** ***(Oxford, UK : Oxford University Press, 2022)***

* PhD student at the University of Victoria, Faculty of Law. The author thanks Esteban Vallejo Toledo as well as the anonymous peer reviewers and the editorial team at MJSDL for very helpful comments.

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1. INTRODUCTION

Those with an interest in international climate change law will have probably come across some work by Benoît Mayer, as numerous of his articles on the topic have been published by academic journals in recent years.[1] His most recent book, *International Law Obligations on Climate Change Mitigation,* draws together some of these earlier publications, providing a comprehensive account of the various sources of state obligations to mitigate greenhouse gas emissions under international law and the content of such obligations.[2] While the book is therefore particularly useful as a guide for readers new to the subject, it goes well beyond an introductory overview, providing in-depth discussions of—and interesting, often controversial, viewpoints on—specific aspects of climate change law.[3]

After an introduction in part 1, part 2 identifies different sources of international law that establish explicit or implied, and sometimes incidental, obligations to mitigate climate change. These include climate treaties, treaties addressing related subjects, and unilateral declarations (summarized by Mayer as "commitments"), customary international law, and human rights treaties. Part 3 discusses what specifically those general mitigation obligations entail, with particular attention to whether the sources identified in part 2 can be interpreted to create quantifiable emission reduction targets. Of course, the various sources of international law cannot be viewed in isolation but exercise mutual influence on each other. This is a recurring theme in the book, and Mayer is particularly concerned with how academics, litigants and courts often incorporate a complete set of obligations arising under one source of law when interpreting another source of law, thereby losing sight of the different purposes and objectives of the respective legal regimes.[4]

Mayer's stated intention in writing this book is to provide a doctrinal account of the international law on climate change mitigation that can serve as a guide for judges and national decision-makers.[5] He makes sure to emphasize that his "is an academic endeavour, not a work

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1 See Benoît Mayer, "The Relevance of the No-Harm Principle to Climate Change Law and Politics" (2016) 19 Asia Pac J Envtl L 79–104; Benoît Mayer; "Interpreting States' General Obligations on Climate Change Mitigation: A Methodological Review" (2019) 28 RECIEL 107 [Mayer, "Interpreting General Obligations"]; Benoît Mayer, "Climate Change Mitigation as an Obligation Under Human Rights Treaties?" (2021) 115:3 AJIL 409; Benoît Mayer, "Temperature Targets and State Obligations on the Mitigation of Climate Change" (2021) 33:3 J Envtl L 585; Benoît Mayer, "The Contribution of *Urgenda* to the Mitigation of Climate Change" (2023) 35:2 J Envtl L 167 [Mayer, "Contribution of *Urgenda*"]; Benoît Mayer, "Climate Change Mitigation as an Obligation under Customary International Law" (2023) 48:1 Yale J Intl L 105. See also Benoît Mayer, *The Concept of Climate Migration: Advocacy and its Prospects* (Cheltenham: Edward Elgar Publishing, 2016); Benoît Mayer, *The International Law on Climate Change* (Cambridge: Cambridge University Press, 2018) and Benoît Mayer, "Benoît Mayer", online: *Benoît Mayer* <benoitmayer.com>.

2 Benoît Mayer, *International Law Obligations on Climate Change Mitigation* (Oxford, UK: Oxford University Press, 2022) [Mayer].

3 An earlier comprehensive work on the sources of climate change law is provided by Daniel Bodansky, Jutta Brunnée & Lavanya Rajamani, *International Climate Change Law* (Oxford, United Kingdom: Oxford University Press, 2017).

4 See Mayer, *supra* note 2 at 135–36.

5 *Ibid* at 7–14.

of political advocacy" and that he does not aim "to promote any cause other than a better collective understanding of international law."[6] It follows that Mayer tries to adopt—as far as this is ever possible—an impartial and balanced, rather than aspirational, approach to interpreting the scope and content of legal obligations.[7] But even a doctrinal and impartial representation of such a complex area of law inevitably provides enough material to disagree on and thus invites critical discussion. After all, more and more courts in recent years have been called upon to litigate cases relating to climate change mitigation, and while a judge's approach should always strive to be doctrinal and impartial, courts around the globe have come up with completely different solutions to similar legal questions.

My review will thus point out parts of the book in which Mayer's interpretation of legal obligations appears overly restrictive and unambitious. In particular, Mayer believes that mitigation obligations for states can arise under international human rights law only under very narrow conditions. This view stands in contrast with most of the recent literature on climate change and human rights[8] and with some prominent court decisions of the past years, such as that of the Dutch Supreme Court in *Urgenda,* in which the court ordered the Dutch government to adopt stricter greenhouse gas reduction targets.[9] In section 2 below, I will briefly summarize Mayer's main arguments in chapters II and III relating to international treaties and customary international law. The majority of my review in section 3 is dedicated to a critical assessment of Mayer's surprisingly restrictive view of human rights-based mitigation obligations presented in chapter IV. Section 4 summarizes and comments on chapters V to VII of Mayer's book, relating to the content of mitigation obligations, followed by some concluding remarks in section 5.

2. OBLIGATIONS ARISING FROM TREATIES AND CUSTOMARY INTERNATIONAL LAW

This section will summarize Mayer's main arguments in chapters II and III, which give a comprehensive overview of mitigation obligations arising from international treaties and customary international law respectively. As this part of his book is relatively uncontroversial, I will make only brief comments before moving on to Mayer's analysis of mitigation obligations under human rights law, which, in my view, provides much more material for critical discussion.

Chapter II starts with a detailed overview of obligations arising under the United Nations (UN) Framework Convention on Climate Change, the Kyoto Protocol, and the Paris

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6 *Ibid* at 18.

7 *Ibid* at 32.

8 See John Knox, Report of the Special Rapporteur on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment, UNHRCOR, 31st Sess, UN Doc A/HRC/31/52 (2016); Roger H J Cox, "The Liability of European States for Climate Change" (2014) 30:78 Utrecht J of Intl and European L 125; Jacqueline Peel & Hari M Osofsky, "A Rights Turn in Climate Change Litigation?" (2018) 7:1 Transnational Environmental Law 37; Margaretha Wewerinke-Singh, "State Responsibility for Human Rights Violations Associated with Climate Change" in Sébastien Duyck, Sébastien Jodoin & Alyssa Johl, eds, *Routledge Handbook of Human Rights and Climate Governance* (London: Routledge, 2018)

9 See Supreme Court of the Netherlands, The Hague, 20 December 2019, S*tate of the Netherlands v Urgenda Foundation* (2020), 59 ILM 811, No 19/00135 (The Netherlands) [*Urgenda*].

Agreement.[10] Mayer then goes on to discuss obligations arising under unilateral declarations. These declarations are mostly made by states, but are also made by international organizations (for example, the World Bank's five-year climate change action plans) or sub-state units (such as the Global Covenant of Mayors for Climate and Energy). To complete the picture, Mayer reviews treaty regimes that incidentally protect the climate, relating to the protection of the ozone layer, international aviation, and shipping. Worth noting is that article 4(2) of the Paris Agreement, which is often viewed as the treaty's central provision, requires state parties to communicate their intended greenhouse gas emission reductions in the form of "nationally determined contributions" (NDCs).[11] The Paris Agreement does not, however, establish a binding obligation for states to actually achieve these goals.[12] Mayer makes the interesting observation that some state parties have used formulations in their NDCs which indicate the state's commitment to be bound by its expressed targets.[13] If those NDCs were to be interpreted as unilateral declarations under international law, they would constitute the missing link to creating mitigation obligations for the respective state.

Chapter III ventures somewhat beyond the well-known territory by looking in depth at customary law obligations relevant to climate change. Unlike treaties, customary law is not based on agreements state parties have explicitly consented to. Rather, customary law develops through consistent state practices, coupled with a subjective belief that those practices are to be followed as a matter of legal obligation, rather than merely political or practical considerations.[14] Mayer himself recognizes the difficulty of identifying and interpreting specific norms of customary law[15] and concedes that this chapter builds on weak foundations.[16] While his conclusions regarding climate mitigation obligations should thus be approached with some caution, Mayer does an excellent job of leading the reader through the competing methods used to identify customary international law, which is particularly helpful for those less familiar with the topic.

Mayer identifies two general principles of customary international law that are relevant to climate change mitigation: the duty to exercise due diligence to prevent activities contrary to the rights of other states, in particular in cases of transboundary environmental harm, and the duty for states to cooperate when necessary to address issues of international concern.[17]

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10 See *United Nations Framework Convention on Climate Change*, 9 May 1992, 1771 UNTS 107 (entered into force 21 March 1994) [*UNFCCC*]; *Kyoto Protocol to the United Nations Framework Convention on Climate Change*, 10 December 1997, 2303 UNTS 162 [*Kyoto Protocol*]; *Paris Agreement to the United Nations Framework Convention on Climate Change*, 12 December 2015, UNTS 3156 (entered into force 4 November 2016) [*Paris Agreement*].

11 See *Paris Agreement*, *supra* note 10 at art 4(2).

12 According to Mayer, art 4(2), second sentence, creates an obligation of conduct, that is, a commitment to strive towards the result without guaranteeing its achievement, see Mayer, *supra* note 2 at 59–60; *ibid*.

13 See Mayer, *supra* note 2 at 72. As examples, Mayer mentions the European Union's (EU's) first NDC which expresses that the EU is "committed to a binding target", as well as Argentina's second and Ghana's first NDC.

14 See e.g. John H Currie, *Public International Law*, 2nd ed (Toronto, Ontario: Irwin Law, 2008) at 185–86.

15 See Mayer, *supra* note 2 at 88.

16 *Ibid* at 90.

17 *Ibid* at 96 and further elaboration on 96–105.

However, when it comes to specifying mitigation obligations either of the global community or of individual states, customary international law is of limited help. While it might seem reasonable to interpret the Paris Agreement targets of limiting global warming to well below 2°C, and striving for 1.5°C, to indicate the state parties' agreement on what constitutes dangerous climate change, actual state practice points in a different direction. The pledges and commitments that have been made so far under the Paris Agreement, in aggregate, fall considerably short of what is needed to achieve either of the temperature targets.[18] This is mainly due to a lack of agreement on burden-sharing criteria to determine the emission reduction obligations of individual states. Nevertheless, Mayer proposes, we might be able to identify a somewhat less ambitious rule of customary international law. States routinely refer to the temperature targets when communicating their mitigation pledges, thus confirming their commitment to these targets. If the problem only lies in the lack of burden-sharing criteria, it follows, according to Mayer, that states at least have an obligation under customary international law to consistently act in accordance with their own reasonable interpretation of what the collective objective and the burden-sharing criteria require them to do.[19] While this is not a highly demanding obligation, Mayer asserts that over time, it might shrink states' room for manoeuvre.[20]

One issue worth mentioning is Mayer's repeated reference in chapter III to the *Urgenda* decision in which the Dutch Supreme Court famously upheld a court of appeal decision declaring the state's climate policy to be insufficient and ordering the state to reduce its greenhouse gas emissions by at least 25 per cent relative to 1990s levels by the end of 2020.[21] Mayer asserts that much of the court's reasoning is based on customary international law.[22] This is incorrect in my view. The claim before the Dutch court was based on human rights, namely articles 2 and 8 of the European Convention on Human Rights. Consequently, the task of the court was to determine what level of greenhouse gas mitigation, if any, was required by the Dutch government under those obligations. The court referred to various declarations by the community of states made at the 2010 UN Climate Change Conference in Cancún and repeated at later climate change conferences. These declarations expressed that Annex I countries as a group should reduce their greenhouse gas emissions by 25–40 percent by 2020, compared to 1990 levels. The *Urgenda* court took these declarations as demonstrating scientific rather than legal agreement that such mitigation levels were necessary to stop dangerous global warming.[23] From this follows, according to the court, an assumption that the Netherlands as an Annex I state must reduce its emissions accordingly to prevent human rights violations unless the state substantiates why a lower percentage should apply.[24] Rather than assuming the existence of a norm of customary law, which would be legally binding, the *Urgenda* court merely argues that, given the scientific agreement on what must be done, the burden of

18 *Ibid* at 124–25.

19 *Ibid* at 125–26.

20 *Ibid* at 126.

21 See *Urgenda*, *supra* note 9 at para 2.3.2.

22 See Mayer, *supra* note 2 at n 6, pp 122, 124.

23 See *Urgenda*, *supra* note 9 at paras 7.2.3 to 7.2.7.

24 *Ibid* at para 7.3.4.

demonstrating that a lower mitigation effort is in line with its obligations under international human rights law lies with the state.[25]

3. OBLIGATIONS UNDER INTERNATIONAL HUMAN RIGHTS LAW

In chapter IV, Mayer discusses whether mitigation obligations for states can arise under human rights treaties. The majority of my review is devoted to this Chapter for two reasons. First, many climate litigation cases filed with international quasi-judicial institutions and domestic courts are based on human rights. Second, and more importantly, Mayer adopts a surprisingly skeptical attitude towards deducing mitigation obligations from human rights instruments, quite in contrast to most authors writing in this emerging field, which warrants some critical scrutiny.

The major advantage of a human rights approach, in Mayer's view, is procedural. Obligations under these treaties can be enforced through more effective procedures and mechanisms than climate treaties or customary law.[26] On the merits, however, Mayer believes that human rights treaties can only create mitigation obligations under very limited circumstances.[27] His argument comes down to five main points that I will take up in subsections A–D. Mayer then proposes an alternative, much narrower view of states' human rights obligations, which I will discuss in subsection E. In the final portion of chapter IV, Mayer elaborates on the content of human rights obligations, which I will comment on below in subsection F.

3.1. No extraterritorial application of human rights obligations

I will start by analyzing the third of Mayer's five main points because it is crucial to a full understanding of his other arguments. Mayer asserts that human rights treaties do not create extraterritorial obligations, meaning that states are not obliged to protect persons outside their territory or beyond their jurisdiction from human rights violations. This is of high relevance to climate change because consequently, Mayer argues, each state only needs to adopt the measures that are necessary and adequate to protect its own population, but not people living in other countries, from climate change. A highly exaggerated fictional scenario shows the implications of such an approach. Imagine that state A was responsible for the vast majority of global greenhouse gas emissions that cause global warming and result in the violation of the right to life, health, food, safe drinking water, property, culture, etc. of a large number of people outside the borders of state A. Imagine furthermore that state A is able to significantly reduce its emissions at minimal costs, would Mayer still assume state A has no responsibility to those outside its territorial borders to make these reductions?

Mayer claims that "it is well understood that state's human rights obligations apply extraterritorially only in limited circumstances" such as belligerent occupation of a territory or physical control over a person.[28] This is somewhat surprising, considering the overwhelming number of international treaty bodies that have held otherwise in the past years. The International Covenant on Economic, Social and Cultural Rights (ICESCR), for one, does not

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25 *Ibid* at paras 7.4.6, 7.5.1.

26 See Mayer, *supra* note 2 at 130.

27 *Ibid* at 147–48.

28 *Ibid* at 151.

contain any language limiting states' obligations to persons within their territory or under their jurisdiction. The Committee on Economic, Social and Cultural Rights has long interpreted the ICESCR to impose extraterritorial obligations with respect to the right to, *inter alia,* food, water, health, and land, requiring state parties to refrain from actions that interfere with the enjoyment of those rights in other countries.[29] But even where treaties contain somewhat more restrictive wording, such as the International Covenant on Civil and Political Rights ("[e]ach State Party to the present Covenant undertakes to respect and to ensure to all individuals within its territory and subject to its jurisdiction the rights recognized in the present Covenant"), the European Convention on Human Rights ("to everyone within their jurisdiction") and the American Convention on Human Rights ("to all persons subject to their jurisdiction"), the competent treaty bodies have held states responsible when acting outside their territory and for rights violations occurring abroad as a consequence of domestic operations.[30]

Mayer himself mentions the Inter-American Court of Human Rights' Advisory Opinion on the Environment and Human Rights, which, albeit not in reference to climate change, asserts that the American Convention on Human Rights applies to a state where "there is a causal link between the act that originated in its territory and the infringement of the human rights of persons outside its territory."[31] However, Mayer denies this opinion's relevance to climate change, claiming that any single state's greenhouse gas emissions have too remote and diffuse an impact on the enjoyment of human rights by someone in another country. Besides this, Mayer argues, the fact that one state can only achieve marginal reductions in global greenhouse gas emissions makes it implausible that such impacts could ever fall within the effective control of a single state.[32] This misunderstands the concept of responsibility and

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29 See *General Comment 12: The right to adequate food*, UNESCOR, UNCESCR, 20th Sess, UN Doc E/C.12/1999/5 (1999) at paras 36, 37; *General Comment No 14: The right to the highest attainable standard of health*, UNESCOR, UNCESCR, 22nd Sess, UN Doc E/C.12/2000/4 (2000) 10 at paras 38, 42 [*General Comment No 14*]; *General Comment No 15: The right to water*, UNESCOR, UNCESCR, 29th sess, Un Doc E/C.12/2002/11 (2003) 10 at paras 30–36 [*General Comment No 15*]; *General Comment No 26: land and economic, social and cultural rights*, UNESCOR, UNCESCR, 72nd sess, UN Doc E/C.12/GC/26 (2022) 12 at paras 40–47 [*General Comment No 26*].

30 See e.g. *Legal Consequences of the Construction of a Wall in the Occupied Palestinian Territory*, Advisory Opinion, [2004] ICJ Rep 136 at paras 107–113; *Case concerning Armed Activities on the Territory of the Congo (Democratic Republic of Congo v Uganda)*, [2005] ICJ Rep 168 at para 216; *General Comment No 31: the Nature of the General Legal Obligation Imposed on States Parties to the Covenant*, UNHRC, 80th Sess, UN Doc HRI/GEN/1/Rev.7 (2004) at para 10; *Decision on Request for Precautionary Measures (Detainees at Guantanamo Bay, Cuba)* (2002), Inter-Am Comm HR, 41 ILM 532; *Meneses and others v Ecuador* (2011), Inter-Am Comm HR, No 153/11 at para 22. The European Court of Human Rights has been more reluctant to recognize extraterritorial obligations in situations of armed conflict, see e.g. *Banković and Others v Belgium and 16 Other States* (dec) [GC], 52207/99, [2001] ECHR 333 at paras 59–61. However, the Court has readily accepted such extraterritorial obligations in scenarios not involving armed conflict, see e.g. *Kovačić and Others v Slovenia*, Nos 44574/98, 45133/98, 48316/99, [2004] ECHR at s 5(c), IHRL 3434; *Liberty and others v UK*, No 58243/00, [2008] ECHR, 18 HRCD 1061 where the Court did not address the issue of extraterritoriality although two of the three applicants were Irish organisations; *Big Brother Watch and others v UK* [GC], No 58170/13, [2021] ECHR at para 272; *Rantsev v Cyprus and Russia*, 25965/04 [2010] ECHR at paras 206, 306–8.

31 See *Environment and Human Rights (Colombia)* (2017), Advisory Opinion OC-23/17, Inter-Am Ct HR (SerA) No 2 at para 101 [*Inter-Am Ct Advisory Opinion on Environment and Human Rights*].

32 See Mayer, *supra* note 2 at 152.

causality, which does not require one state to be the sole initiator of a violation. Rather, a state can be responsible if it contributes to a situation that results in human rights violations.[33] Nor is it a necessary requirement for the state to be able, on its own, to prevent the violations. Such considerations will influence the scope and content of the state's obligations under human rights law, and at that point, it is certainly necessary to balance competing legitimate national and global interests. However, pre-emptively dismissing the extraterritorial application of human rights norms in the scenario of climate change means throwing the baby out with the bathwater.

Contrary to Mayer's skepticism, the Inter-American Commission in fact confirmed the Inter-American Court's approach to the transboundary application of human rights and applied it to the scenario of climate change.[34] Furthermore, five UN treaty bodies, in a joint statement on human rights and climate change, expressed the opinion that states have extraterritorial obligations under human rights treaties. According to these treaty bodies, "[f]ailure to take measures to prevent foreseeable human rights harm caused by climate change, or to regulate activities contributing to such harm, could constitute a violation of States' human rights obligations."[35] The Committee on the Rights of the Child (CRC), in *Sacchi et al. v Argentina et al.,* was called upon to decide whether transboundary harm resulting from climate change violated the young plaintiffs' rights under the Convention on the Rights of the Child.[36] The CRC found that the state on whose territory greenhouse gas emissions originate is considered to have jurisdiction over those who suffer harm "if there is a causal link between the acts or omissions of the State in question and the negative impact [occurring] outside its territory."[37] The CRC also noted that "the collective nature of the causation of climate change does not absolve the State party of its individual responsibility".[38] Mayer briefly and unfavourably mentions this decision but does not elaborate on how it is in fact in line with the declarations of other international treaty bodies on climate change and human rights.[39] A recent request for an advisory opinion by the Inter-American Court of Human Rights, submitted by Colombia and Chile in January 2023, as well as a request for an advisory opinion by the International Court of Justice submitted by the UN General Assembly in April 2023,

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33 See *Report of the International Law Commission*, UNGAOR, 56th Sess, Supp No 10, UN Doc A/56/10 (2001) at art 47 (providing a codification of customary international law on state responsibility).

34 See OAS, Inter-American Commission on Human Rights, *Climate Emergency: Scope of Inter-American Human Rights Obligations*, Resolution No 3/2021 (2021) at 20–21.

35 See UNOHCHR, Press Release, "Five UN human rights treaty bodies issue a joint statement on human rights and climate change" (16 September 2019), online: United Nations Human Rights Media Center <ohchr.org/en/ohchr_homepage?NewsID=24998&LangID=E>

36 See *Convention on the Rights of the Child*, 20 November 1989, 1577 UNTS 3 (entered into force 2 September 1990).

37 See *Decision adopted by the Committee on the Rights of the Child under the Optional Protocol to the Convention on the Rights of the Child on a communications procedure in respect of Communication No 104/2019 (Sacchi and others v Argentina)*, UNCRC, UN Doc CRC/C/88/D/104/2019 (2021) at 10.7.

38 *Ibid* at 10.10.

39 See Mayer, *supra* note 2 at 152.

will provide an opportunity for the respective courts to further clarify the scope of states' extraterritorial obligations in relation to climate change.[40]

3.2. Balancing the Costs and Benefits of Mitigation Measures

I will now turn to Mayer's first argument in chapter IV. In a nutshell, Mayer asserts that taking measures to limit global warming will frequently cause more hardship for the local population than climate change itself, which is why human rights treaties cannot be understood to obligate states to take such measures. Below, I will discuss four reasons (and I believe there are likely more) why this claim is flawed.

Mayer's argument is based on what he calls the "ambivalent relationship between climate change and the enjoyment of human rights." He elaborates that "while climate change hinders the enjoyment of human rights, this is also true of action taken to mitigate climate change".[41] When deciding whether and how much to mitigate, a state must therefore balance the threat of global warming with the negative impacts of mitigation action on the rights of people within its territory. Any mitigation undertaken by one state alone will only have a vanishingly small influence on global warming, so that "such policy will achieve very little, if any, tangible human rights benefits for the state's population."[42] As an example, Mayer alleges that the *Urgenda* court ordered the Netherlands to achieve a nine percent reduction in its projected level of greenhouse gas emissions for 2020, which translates into approximately a 0.03 percent reduction globally for that year.[43] Even if a court had imposed the same reduction obligation on China, as the world's largest greenhouse gas emitter, it would have constituted no more than a two percent reduction in global emissions.[44] At the same time, mitigation action requires resources such as land and water. It may increase the price of energy and generally compete with other policy priorities.[45] The cost of climate mitigation measures, Mayer claims, tends to be more local and immediate than its benefits.[46] It is therefore likely that "the cost of any ambitious mitigation action will outweigh its benefits."[47] The inhabitants of the Netherlands, Mayer asserts, would surely be better off if additional public expenditure and higher energy prices had not been imposed on them as a result of the *Urgenda* decision.[48]

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40 See *Request for an advisory opinion on the Climate Emergency and Human Rights (Colombia and Chile)* (9 January 2023), online (pdf): *Corte Interamericano des derechos humanos* <https://www.corteidh.or.cr/docs/opiniones/soc_1_2023_en.pdf>; *Request for Advisory Opinion: Obligations of States in Respect of Climate Change (United Nations)*, (12 April 2023), ICJ Pleadings (No 187) 2, online (pdf): <icj-cij.org/sites/default/files/case-related/187/187-20230412-app-01-00-en.pdf>.

41 See Mayer, *supra* note 2 at 136.

42 *Ibid* at 140.

43 See Mayer, *supra* note 2 at 148 citing *Urgenda*, *supra* note 9.

44 See Mayer, *supra* note 2 at 148.

45 *Ibid* at 141.

46 *Ibid* at 136.

47 *Ibid* at 149. Mayer makes a different and, in my view, much more convincing, argument in a recent article that the actions taken by the Dutch government to comply with the *Urgenda* ruling did not in fact lead to a decrease in global greenhouse gas emissions: see Mayer, "Contribution of *Urgenda*", *supra* note 1.

48 See Mayer, *supra* note 2 at 149.

This argument, for one thing, hinges on Mayer's questionable proposition that state obligations under human rights treaties do not extend to foreigners outside the state's territory or jurisdiction, discussed above. There are, however, at least four other objections that Mayer either does not discuss at all or brushes over far too quickly.

First, Mayer seems to assume that the most severe impacts of climate change do not occur within those countries that are responsible for large amounts of greenhouse gas emissions and can thus have a measurable influence on reducing global warming, but rather in "other countries,"[49] whoever this group may include. While indeed many developing countries are particularly vulnerable to climate change, the number of heat-related deaths, illnesses, destruction, and loss of property caused by extreme weather events and the loss of traditional homelands and culture attributable at least in part to climate change is high and steadily rising even in the most developed countries.[50] The frequency of heat waves, droughts, and other extreme weather events will increase in almost every region of the world with progressive global warming.[51] At the same time, climate change impacts rights of high importance that need to be awarded considerable weight when balanced against rights and interests adversely affected by mitigation measures. Some differentiation among "the inhabitants of a state" whose human rights are impacted by global warming is also warranted, as certain individuals or groups are much more vulnerable than others due to pre-existing health conditions, age, location they live in, social and economic conditions, threats to traditional homelands and cultural practices, and so forth. Mayer's book lacks a thorough discussion of all these aspects that are essential to determining the severity of climate impacts.

Second, Mayer's claim that any one state's mitigation actions will only have such a negligible impact that, all things considered, the state should instead invest its resources in adaptation measures or in the creation of more immediate benefits for its population, does not hold.[52] It is not true of every state that, acting alone, it will only be able to influence global warming by a negligible margin. While Mayer only assesses national greenhouse gas emissions over a very short period,[53] fulfilling their obligations under human rights treaties would arguably require states to consistently decrease their emissions until reaching net zero. Granted, for the Netherlands, which in 2019 was responsible for 0.35 percent of global emissions, even reaching net zero would amount to only a negligible slowing of global warming. The situation

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49 *Ibid* at 150.

50 See e.g. Neal Fann et al, "Chapter 3: Air Quality Impacts" in *The Impacts of Climate Change on Human Health in the United States: A Scientific Assessment* (Washington, DC: U.S. Global Change Research Program, 2016); David Reidmiller et al, *Impacts, risks, and adaptation in the United States: Fourth national climate assessment*, vol II (Washington, DC: U.S. Global Change Research Program, 2018), DOI: <10.7930/NCA4.2018>.

51 See "Summary for Policymakers" (IPCC 2021) in Valérie Masson-Demotte et al, eds, *Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* (Cambridge, UK: Cambridge University Press, 2023) 3 at C.2, DOI: <10.1017/9781009157896.001> [*IPCC Report*].

52 See Mayer, *supra* note 2 at 149.

53 *Ibid* at 148 uses the example of the Netherlands being ordered to achieve a 9 percent reduction in its projected level of emissions for 2020, which represents about 0.03% reduction in global greenhouse gas emissions that year. If this same mitigation obligation was imposed on China, the largest greenhouse gas emitter, it would translate into only about a 2% reduction in global emissions.

is different for China, the world's largest emitter, which was responsible for 24.23 percent of global greenhouse gas emissions in 2019, or the United States, which was responsible for 11.60 percent in the same year.[54] Reducing those emissions to net zero, or even halving them, would certainly have a measurable influence on global climate change and its impacts on human rights. Besides, we must consider that stabilizing global warming at any level—whether that be 1.5°C, 2°C or even 5°C—requires reaching net zero emissions at some point in the future.[55] If smaller states were to lean back, arguing that their emissions did not make a difference, stopping global warming would not be possible. From a human rights perspective, states will be required at the very least to not counteract international efforts, but instead to do their part in preventing rights violations wherever possible. Reducing their emissions with the final aim of reaching net zero is a necessary, while of course insufficient, contribution. Free-riding on other states' efforts is simply not an adequate measure to ensure the protection of human rights.

My third objection to Mayer's claim on the high cost of mitigation measures is that Mayer fails to consider that a state's mitigation efforts may have broader overall effects than can be captured by the directly measurable reduction in greenhouse gas emissions. For one thing, they encourage industrial development towards more carbon-neutral solutions that may then be exported to other countries, enhancing global mitigation efforts. Especially small but highly industrialized countries can have a disproportionately high impact on the development of global alternatives to carbon-intensive products and practices. For another, a state's increased mitigation efforts may positively influence the conduct of other states as part of a global effort to combat climate change. Conversely, trying to free-ride would discourage others and jeopardize international cooperation. Mayer addresses this point at the end of chapter IV, which is why I will come back to it in more detail later.

As a fourth objection, Mayer surprisingly fails to award any attention to questions of intergenerational responsibility. I am not even talking of future generations, as it is debatable whether people not yet born can be holders of fundamental rights.[56] But even today's

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[54] See "Data Explorer" (last visited October 2023), online: *Climate Watch* <climatewatchdata.org/data-explorer/historical-emissions?historical-emissions-data-sources=climate-watch&historical-emissions-end_year=2020&historical-emissions-gases=all-ghg&historical-emissions-regions=All%20Selected&historical-emissions-sectors=total-including-lucf&historical-emissions-start_year=1990&page=1>.

[55] See *IPCC Report*, *supra* note 51 at D.1.1.

[56] Many national courts have rejected the notion that unborn persons can be holders of rights: see e.g. Bundesverfassungsgericht (Federal Constitutional Court), Karlsruhe, 24 March 2021, *Neubauer et al v Germany* [2021] BvR 2656/18 (Germany) at para 109 [*Neubauer*]; *Tremblay v Daigle*, [1989] 2 SCR 530 at 570f, 62 DLR (4th) 634; *Winnipeg Child and Family Services (Northwest Area) v G* (DF), [1997] 3 SCR 925 at para 15, 152 DLR (4th) 193. Similarly, the European Court of Human Rights ruled that the unborn is not a "person" to which the right to life under the European Convention of Human Rights applied: see *Vo v France* [GC], No 53924/00, [2004] VIII ECHR at para 80. The American Convention on Human Rights explicitly protects the right to life from the moment of conception: see *American Convention on Human Rights*, 22 November 1969, 1144 UNTS 144 at art 4(1) (18 July 1978) [American Convention on Human Rights]. The situation is less clear with regard to other international human rights instruments. Treaties such as the *International Covenant on Civil and Political Rights* stipulate that state parties ensure rights "to all individuals within its territory and subject to its jurisdiction": see *International Covenant on Civil and Political Rights*, 19 December 1966, 999 UNTS 171 at art 2(1) (entered into

young people will bear a much heavier burden within their lifetime than those of us who have contributed plentifully to global warming and enjoyed the benefits of unconstrained greenhouse gas-emitting behaviour for decades. The impact of climate change on their health, property, and other fundamental rights will be much more severe than we are experiencing today.[57] Mayer briefly considers this in one sentence, concluding (without reference to any supporting sources) that the costs of mitigation action would often exceed the long-term benefits for present and future generations within a given state's territory, while most of the benefits would be enjoyed by future populations living in other countries.[58]

Another aspect of intergenerational justice that is still underexplored, but which has been brought into focus by the German Constitutional Court in its *Neubauer* decision, is that delaying action on climate change today will require drastic emission cuts in the future, thus imposing a disproportionate burden on young generations.[59] It is clear that states must reduce their emissions and reach net zero at some point to prevent indefinite global warming.[60] As the German Constitutional Court points out, if the transition towards carbon-neutral technologies and forms of behaviour is not initiated today by imposing pressure on and providing a reliable planning horizon for affected industries, the necessary reductions will be much harder to achieve in later years.[61] This would inevitably involve imposing severe restrictions on young generations in the future, limiting their opportunities and important

force 23 March 1976, accession by Canada 19 May 1976). This has been interpreted to exclude those not yet born because they are neither within the territory nor the jurisdiction of a state, see e.g. Rhonda Copelon et al, "Human Rights Begin at Birth: International Law and the Claim of Fetal Rights" (2005) 13:26 Reproductive Health Matters 120. But see Bridget Lewis, "Human Rights Duties towards Future Generations and the Potential for Achieving Climate Justice" (2016) 34:3 Nethl QHR 206 at 217, DOI: <10.1177/016934411603400303>; also see the recently adopted Maastricht Principles which attempt to synthesize existing law and stipulate that "[h]uman rights extend to all members of the human family, including both present and future generations": see "Maastricht Principles on The Human Rights of Future Generations" (July 2023) at Preamble, Sec II, online (pdf): *Rights of Future Generations* <www.rightsoffuturegenerations.org/the-principles>.

57 This is because, for one, greenhouse gases persist and accumulate in the atmosphere over time and thus continue to increase global warming, and for another, the effects of climate change are seriously backloaded, meaning that we will not feel the effects of today's emissions until decades later. See e.g. Stephen M Gardiner, "A Perfect Moral Storm: Climate Change, Intergenerational Ethics, and the Problem of Moral Corruption" in Stephen M Gardiner et al, eds, *Climate Ethics: Essential Readings* (New York: Oxford University Press, 2010) 87 at 91. The IPCC summarizes impacts of climate change on today's children if states fail to take immediate action, which includes, inter alia, the following predictions: by the end of the century, children will experience a nearly four-fold increase in extreme weather events under 1.5°C of global warming, and a five-fold increase under 3°C warming; the percentage of the population exposed to deadly heat stress will rise from 30% to 48-76%; at 2°C warming, 800 million to 3 billion people will experience chronic water scarcity, and up to 4 billion at 4°C warming; hunger will become much more increased, as will severely impaired growth and development, particularly among children in sub-Saharan Africa: see "FAQ 3: How will climate change affect the lives of today's children tomorrow, if no immediate action is taken?" (16 June 2023), online: *IPCC Sixth Assessment Report: Impacts, Adaptation and Vulnerability* <ipcc.ch/report/ar6/wg2/about/frequently-asked-questions/keyfaq3/>.

58 See Mayer, *supra* note 2 at 150.

59 See *Neubauer*, *supra* note 56 at para 192.

60 See *IPCC Report*, *supra* note 51 at D.1.1.

61 See *Neubauer*, *supra* note 56 at paras 121, 186.

lifestyle choices and jeopardizing their fundamental rights and freedoms.[62] Put differently, the earlier such transitions are initiated, the milder the restrictions on freedoms will eventually be.[63] Mayer, by limiting his comparison to the burden of mitigation measures imposed on today's generation (such as higher energy prices) versus the associated benefits for the local population, misses the point of comparing the costs and benefits of mitigation measures taken today with those of mitigation measures postponed to the future.

3.3. Establishing Causality

Let us now turn to Mayer's next argument that due to the diffuse effects of climate change on the enjoyment of human rights, it may rarely be possible to consider someone a victim of climate change.[64] This comes somewhat as a surprise, considering that most of the academic literature regards such a position as outdated. Scientific developments today allow for a relatively precise attribution of both long-term slow-onset impacts and extreme weather events to global warming.[65] The most recent Sixth Assessment Report by the Intergovernmental Panel on Climate Change (IPCC) confirms that "[h]uman-induced climate change is already affecting many weather and climate extremes in every region across the globe" and that "[e]vidence of observed changes in extremes such as heatwaves, heavy precipitation, droughts, and tropical cyclones, and, in particular, their attribution to human influence, has strengthened since [the IPCC Fifth Assessment Report]."[66] As Otto et al. note, "[s]cientific uncertainty in the context of climate change generally and event attribution specifically is neither particularly high, nor is scientific uncertainty unbeknownst to courts."[67] Besides, while claims based on tort law require relatively strict evidence of causation, this is not the case for litigation based in human rights, as states have a precautionary duty to prevent threats that will likely lead to or exacerbate a rights violation.[68]

3.4. Human Rights Treaties Do Not Create Collective or Other-Regarding Obligations

Mayer's fourth and fifth argument are interrelated, so I will discuss them together. His main claim is that human rights treaties create no collective obligations that the international community must discharge as a whole. Rather, he argues, human rights treaties always address

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62 *Ibid* at paras 117, 121.

63 *Ibid* at paras 121, 186.

64 See Mayer, *supra* note 2 at 144–45.

65 See e.g. Friederike EL Otto et al, "Causality and the Fate of Climate Litigation: The Role of the Social Superstructure Narrative" (2022) 13 Global Policy 736, DOI: <10.1111/1758-5899.13113> at 741-743; Sophie Marjanac & Lindene Patton, "Extreme Weather Event Attribution Science and Climate Change Litigation: An Essential Step in the Causal Chain?" (2018) 36:3 J Energy Natural Resources L 265, DOI: <10.1080/02646811.2018.1451020> at 265–66.

66 See *IPCC Report*, *supra* note 51 at A.3.

67 See Otto et al., *supra* note 65 at 742 (citations omitted).

68 See e.g. *Tătar c Roumanie*, 67021/01, [2009] ECHR at paras 104–7, 112 [*Tătar*]; *Inter-Am Ct Advisory Opinion on Environment and Human Rights*, *supra* note 31 at 180; Dinah L Shelton, "Tatar c. Roumanie" (2010) 104:2 AJIL 247 at 252; Gemma Turton, "Causation and Risk in Negligence and Human Rights Law" (2020) 79:1 Cambridge LJ 148.

individual states. There is hence no legal basis for assuming that the international community must work together to stop global warming.[69]

Mayer then goes on to discuss a concept proposed by John Knox, former special rapporteur on human rights and the environment, which Mayer terms "other-regarding obligations of co-operation." Knox argues that climate change should not be understood as a set of individual states' human rights violations imposing obligations on each state, but rather as a truly global problem requiring a global response.[70] Under international law, particularly articles 55 and 56 of the UN Charter, states have a duty to cooperate to ensure "universal respect for, and observance of, human rights and fundamental freedoms for all."[71] According to Knox, "[t]he obligation [of individual states] to protect human rights against environmental harm … can inform the content of the duty of international cooperation."[72] While Mayer accepts that states indeed have an obligation to cooperate on climate change mitigation under general international law, he doubts that such an obligation arises under human rights treaties. His skepticism is mainly based on the fact that human rights treaties do not usually contain explicit cooperation clauses, and that article 55 of the UN Charter, while mentioning *"respect* for, and *observance* of, human rights" as one of the fields in which states must cooperate, does not expressly create a positive obligation to cooperate on the protection of human rights.[73] It remains quite unclear to me, however, why Mayer believes that mentioning human rights as one field within which states must cooperate is different from creating a duty to cooperate in that field, or how respect for, and observance of, human rights is essentially different from protecting human rights. It is furthermore worth noting that the ICESCR explicitly requires state parties "to take steps, individually and through international assistance and co-operation … with a view to achieving progressively the full realization of the rights recognized" in the treaty.[74]

While Mayer's dismissal of collective human rights obligations is thus unconvincing, I think that it is in any case only peripherally relevant to the question at issue here. As I will explain in more detail in subsection E, we can interpret a state's *individual* human rights obligations as giving rise to a duty of international cooperation. It is therefore unnecessary to resort to the concept of collective or other-regarding obligations.

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69 See Mayer, *supra* note 2 at 153.

70 See Knox, *supra* note 8 at paras 41, 42.

71 *Ibid* at para 43; for the quotation, see *Charter of the United Nations*, 26 June 1945, Can TS 1945 No 7 at art 55 [*UN Charter*].

72 *Ibid* at para 45.

73 See Mayer, *supra* note 2 at 156 (emphasis by Mayer); citing and quoting *UN Charter*, *supra* note 71 at art 55.

74 See *International Covenant on Economic, Social and Cultural Rights*, 16 December 1966, 993 UNTS 3 art 2(1) (entered into force 3 January 1976). The requirement of international cooperation is also emphasized in various general comments by the Committee on Economic, Social and Cultural Rights: see e.g. *General comment No 3: The nature of States parties' obligations*, UNESCOR, UNCESCR, 5th Sess, UN Doc E/1991/23 (1990) at para 14; *General Comment No 14*, *supra* note 29 at paras 38–40; *General Comment No 15*, *supra* note 29 at paras 30–36; General Comment No 26, *supra* note 29 at paras 46–47.

3.5. International Co-operation as a Duty Arising Under Human Rights Treaties

After expressing all these reservations, Mayer finally sets out to propose an "alternative solution" that entails a narrower set of duties arising under human rights treaties.[75] Recalling that, in Mayer's view, states only have obligations toward people within their territory or under their jurisdiction, and that states cannot be required to undertake mitigation action as this action would likely create more burdens than benefits for individuals,[76] Mayer asserts that

> "international cooperation could be an effective strategy—and therefore an 'appropriate measure', or even arguably a 'necessary step'—for a state to protect the human rights of individuals within its territory or under its jurisdiction. By engaging in international cooperation, or at least by 'try[ing] to influence the international community', a state can contribute to the realization of global mitigation outcomes which, over time, could bring in some real benefit for the enjoyment of human rights by individuals under its jurisdiction."[77]

I could not agree more with this statement. But I think that it has much broader applicability than Mayer himself believes. Mayer argues in favour of an "inward-looking" obligation of states to engage in international cooperation, which is narrower than the obligation of cooperation that arises from general international law. While the latter would oblige states to set their national interests aside in order to address climate change "in a spirit of global partnership,"[78] the former requires "a state to cooperate only if and inasmuch as international action contributes to the protection of the human rights of individuals within that state's territory or under its jurisdiction."[79] Assuming that a state could effectively protect its whole population through adaptation measures, an obligation for mitigation and international cooperation in this regard would consequently not arise.[80]

Aside from the fact that it is unlikely that any state, with continuing and exponential increase in global warming, would be able to protect its population solely through adaptation measures, it makes much more sense to apply Mayer's proposal to a scenario of global human rights obligations. Contrary to Mayer's assertion, there appears to be a growing recognition that human rights treaties create extraterritorial obligations with regard to environmental harm and particularly climate change (see subsection A above). While Mayer makes the valid point that any single state's efforts, viewed in isolation, will have at most a negligible impact on global warming, this does not mean that states have no obligations at all. Rather, if international cooperation appears to be the only possible strategy to address climate change and thereby prevent violations of human rights—whether those be the rights of persons within or outside their territory or jurisdiction, of younger or older generations—states have an obligation under human rights treaties to engage in good faith international negotiations.

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75 See Mayer, *supra* note 2 at 157–61.

76 *Ibid* at 157–58.

77 *Ibid* at 158.

78 *Ibid* at 159.

79 *Ibid* at 159–60.

80 *Ibid* at 160.

If we think this through, human rights treaties do not merely require states to conclude international agreements but also to ensure that these agreements are adequate and effective to limit global warming to a level where human rights violations can be prevented as much as possible. Ratifying the Paris Agreement is a first, but far from sufficient step to fulfill this obligation. Rather, states must submit ambitious NDCs that reflect a fair share of emission reduction responsibilities (recognizing, of course, that it remains to be discussed what constitutes a fair share) and comply with these NDCs not only to fulfill their own part in reducing global warming but also to encourage other states to do the same. A state that pursues insufficient reduction goals in an attempt to free ride on others' efforts not only fails to do its part to prevent human rights violations but also discourages other states from complying with their obligations, thereby jeopardizing the whole international enterprise.

3.6. The Scope of Human Rights Obligations

In the final part of chapter IV, Mayer turns his attention from the existence of mitigation obligations under human rights treaties to an exploration of the scope of such obligations. Mayer particularly questions whether, as a matter of human rights, states are obligated to implement the entirety of mitigation obligations arising under general international law, such as climate treaties.

According to the principle of systemic integration, a rule of international law must be interpreted by taking into account other relevant and applicable rules of international law.[81] This principle, Mayer asserts, is widely, but wrongly, understood to mean that in order to comply with their human rights obligations, states must fully implement their obligations under general international law ("incorporation theory"). Particularly in the context of climate change, litigators and courts rather blindly rely on this theory to argue that human rights norms require a state to fully comply with its mitigation obligations under the Paris Agreement and other general international law,[82] thereby losing sight of the objective of human rights treaties, which is essentially different from mitigating climate change.[83] "[T]hese [human rights] treaties," Mayer somewhat provocatively remarks, "are not interested in the broader benefits of climate change mitigation for human welfare, the interests of future generations, and the protection of nature per se."[84]

This last statement would benefit from a bit more nuance, as it ignores the recognition of a free-standing right to a healthy environment in several regional human rights instrumentsin

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81 *Ibid* at 161–62.

82 *Ibid* at 164–67.

83 *Ibid* at 167–68.

84 *Ibid* at 171.

the Americas,[85] Africa,[86] Southeast Asia[87] and the Arab world.[88] Some of these provisions have been interpreted as protecting the "components of the environment … as legal interests in themselves, even in the absence of … a risk to individuals,"[89] and as creating obligations vis-à-vis future generations.[90] It should further be noted that both the UN Human Rights Council and the UN General Assembly recently adopted path-breaking, although not legally binding, resolutions recognizing a human right to a healthy environment.[91] These resolutions affirm "that the promotion of the human right to a clean, healthy and sustainable environment requires the full implementation of the multilateral environmental agreements under the principles of international environmental law," and thus endorse the incorporation theory Mayer objects to.[92]

Nonetheless, Mayer raises a valid concern. Courts must be careful when defining the content of the respective human rights provisions they rely on and when working out why compliance with those *human* rights requires states to implement precisely the level of climate change mitigation they have agreed to in international negotiations, given that those negotiations may have been guided by non-anthropocentric considerations and are to a large extent the result of political tactics, bargaining, and compromise. By way of example, Mayer notes that the Dutch *Urgenda* decision, without any discussion, assumes that the level of mitigation required to protect the right to life is the same as that required to protect the right to private and family life, even though one should think that the standard of due diligence varies in accordance with the importance of the protected interest.[93] Other climate-related decisions are more attentive to this problem. For example, the German Constitutional Court in *Neubauer* notes that limiting global warming to 1.5°C might be advisable to preserve an

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85 See *Additional Protocol to the American Convention on Human Rights in the Area of Economic, Social and Cultural Rights: Protocol of San Salvador,* 17 November 1988, OAS/Ser.A/44 at art 11 (entered into force 16 November 1999); *American Convention on Human Rights*, *supra* note 56 at art 26; see also *Inter-Am Ct Advisory Opinion on Environment and Human Rights*, *supra* note 31 at 56–63.

86 See *African Charter on Human and Peoples' Rights*, 27 June 1981, 1520 UNTS 218 at art 24 (entered into force 28 December 1988).

87 See *ASEAN Human Rights Declaration*, Association of Southeast Asian Nations, 18 November 2012 at art 28(f).

88 See *Arab Charter on Human Rights*, 22 May 2004 (entered into force 15 March 2008) at art 38 as translated and printed in UNHCR, UN Doc [ST/HR/]CHR/NONE/2004/40/Rev.1.

89 See *Inter-Am Ct Advisory Opinion on Environment and Human Rights*, *supra* note 31 at 62.

90 *Ibid* at 59.

91 See *The human right to a clean, healthy and sustainable environment*, GA Res 48/13, UNHRCOR, 48th Sess, UN Doc A/HRC/RES/48/13 (2021) [*UN Human Rights Council resolution*]; *The human right to a clean, healthy and sustainable environment*, GA Res 76/300, UNGAOR, 76th Sess, Supp no 49, UN Doc A/76/L.75 (2022) [*UN General Assembly resolution*].

92 See *UN Human Rights Council resolution*, *supra* note 91 at operative para 3; *UN General Assembly resolution*, *supra* note 91 at operative para 3.

93 See Mayer, *supra* note 2 at 168–69. Mayer's point finds support in the European Court of Human Rights' decision in *Budayeva and others v Russia,* where the Court held that the fundamental importance of the right to life imposes more stringent positive obligations on states than other rights, such as that to the peaceful enjoyment of possession: *Budayeva and others v Russia*, No 15339/02, [2008] ECHR at para 175.

environmentally, human, and animal-friendly climate, but exceeding this threshold would not necessarily endanger human life, health, and property.[94]

3.7. Conclusion on Chapter IV

The interesting objections Mayer raises in chapter IV to inferring mitigation obligations from international human rights treaties do not hold, for the reasons outlined above—though Mayer is certainly correct in his observation that they are often brushed over too quickly and warrant more thorough scrutiny by scholars and courts. In this chapter, Mayer makes the very valuable proposal outlined in subsection E above, suggesting that states must engage in international co-operation as a strategy to effectively protect human rights. As detailed in subsection E, I think this idea has much broader implications than Mayer himself recognizes. If we accept, contrary to Mayer, that (i) states have obligations under human rights law to people beyond their jurisdiction and (ii) unmitigated global warming will cause greater harm than the burdens imposed on people by mitigation measures, it follows that states must take whichever effective measures they have at their disposal to limit global warming. If individual action is inadequate to tackle the problem, states must look for other, more promising strategies, such as international cooperation. A convincing argument can therefore be made that the duty to effectively protect human rights turns into an obligation for states to engage in international cooperation through entering into international agreements and fulfilling their obligations under such agreements in good faith. Moreover, given that the Paris Agreement does not mandate specific mitigation obligations but relies on states voluntarily submitting their respective NDCs, effective mitigation of global warming requires states to do their part to ensure the NDCs, taken together, translate into a sufficient reduction in greenhouse gases. Again, while no state on its own will be able to achieve this, an effective strategy to making international cooperation a success requires states to submit NDCs that are ambitious enough to compel others to do the same. Seen this way, Mayer's proposal has much greater potential then he appears to realize.

Finally, even if one were to assume the existence of human rights-based mitigation obligations, Mayer's critique of the incorporation theory, discussed in subsection G, must be taken seriously. Courts sometimes fail to properly engage with the question of whether, from a human rights point of view, states are required to implement the entirety of their obligations under international environmental law. As Mayer points out, environmental treaties may serve purely ecological purposes, and it is not clear whether compliance can be demanded as a matter of human rights.

4. THE CONTENT OF MITIGATION OBLIGATIONS

After having discussed the sources of mitigation obligations, the second part of the book examines the specific content of such obligations.

4.1. The Nature of Mitigation Obligations

Chapter V sets out to explain some systematic concepts that are helpful to understand what is required of states. The first is the distinction between an obligation to achieve a certain

[94] See *Neubauer*, *supra* note 56 at paras 163–64.

result and an obligation of conduct. Obligations of conduct require only that the debtor act in a certain way, and do not hold them responsible if that action fails to achieve an envisioned goal. An example is the duty of a medical doctor to "treat their patient to the best of their abilities," without liability for the result.[95] Applying this distinction to climate change law, Mayer notes that the Kyoto Protocol, by establishing quantified emission limitation and reduction commitments, created an obligation of result.[96] Under the Paris Agreement regime, general mitigation obligations are those of conduct. According to article 4(2), the parties must "pursue domestic mitigation measures, with the aim of achieving the objectives of [their successive nationally determined] contributions."[97] Obligations of conduct should not, Mayer cautions, be misunderstood as being non-binding or less effective than obligations of result.[98] A disadvantage of obligations of result, as foreseen by the Kyoto Protocol, is that a breach of such an obligation cannot be established until the end of the (rather long) commitment period. As a result, under the Kyoto Protocol, some countries, such as Canada, could not be held responsible for non-compliance despite years of inaction on appropriate measures to achieve the target.[99] Conversely, Mayer claims that a breach of obligations of conduct by the United States can easily be established due to its failure to undertake national mitigation measures after it had announced its withdrawal from the Paris Agreement in 2017, but before the withdrawal became effective in 2020.[100]

The real shortcoming of obligations of conduct, according to Mayer, lies in the difficulty of assessing compliance.[101] With this in mind, Mayer tries to establish a practical method to determine whether a state has taken the necessary steps congruent with its mitigation obligations.[102] This method consists of identifying corollary duties a state must comply with on its path to fulfilling its mitigation obligation,[103] such as assessing its contribution to global greenhouse gas emissions, developing a strategy on climate change mitigation, cooperating in good faith with other states, formulating and implementing programmes containing measures to mitigate climate change, communicating NDCs, and taking appropriate measures to achieve them.[104]

This categorization provides the foundation for Mayer's subsequent exploration, in chapters VI and VII, of two alternative ways to apply general mitigation obligations. It is helpful, even if somewhat simplified, to think of chapter VI as dealing with obligations to achieve a specific result. Mayer discusses, and ultimately negates, the possibility of quantifying a state's requisite level of mitigation action. Chapter VII focuses on obligations of conduct under the Paris Agreement. In order to test compliance, Mayer returns to the concept of

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95 See Mayer, *supra* note 2 at 186.

96 *Ibid* at 189, 192.

97 *Ibid* at 191, citing *Paris Agreement*, *supra* note 10 at art 4(2).

98 See Mayer, *supra* note 2 at 198–204.

99 *Ibid* at 201–02.

100 *Ibid* at 202–03.

101 *Ibid* at 204.

102 *Ibid* at 205.

103 *Ibid* at 213–14.

104 *Ibid* at 224–25.

corollary duties and seeks to identify those circumstances under which non-performance of these duties indicates a breach of a state's general mitigation obligations.

4.2. No Quantifiable Mitigation Obligations

Can a specific level of mitigation obligations, as expressed in a percentage of emission reductions a state must achieve by a set time, be inferred from the Paris Agreement's goal of limiting global warming to well below 2°C, and striving for 1.5°C? The *Urgenda* court did precisely this in holding that the Netherlands was under an obligation to reduce its greenhouse gases by 25 percent by the end of 2020. Mayer provides a very helpful critical assessment of the scientific evidence underlying the court's reasoning in this and similar climate litigation cases, concluding that litigants and courts often misunderstand or deliberately pick and choose among the findings of scientific reports such as those by the IPCC.[105] More generally, Mayer argues in chapter VI that the collective objectives in the Paris Agreement are ill-defined and do not allow an assessment of compliance for four reasons.[106] First, it is not clear how the two different temperature goals (2°C and 1.5°C) relate to each other.[107] Second, details such as the time horizon for achieving the temperature goal are lacking.[108] Third, there remains significant scientific uncertainty regarding both the current level of global warming and its future evolution.[109] Fourth, it is not clear how any remaining emission budget should be allocated over time.[110]

While these are all valid points that warrant discussion, I find Mayer's conclusion overly pessimistic and lacking in ambition. I will only briefly mention two possible objections. First, Mayer fails to account for the precautionary principle, which states that "[w]here there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation."[111] Accordingly, where climate science is still developing, states should err on the side of more, rather than less, stringent mitigation measures while adjusting their policies in line with evolving scientific discovery. Also, when determining the time horizon to achieve the Paris Agreement temperature targets, states must consider that any temporary overrun of these targets comes with increased risks. Reversing a temporary overshoot requires reliance on carbon removal techniques that do not yet exist on a large scale, and which may come with unknown side effects. Furthermore, while global warming as such may be reversible, many of its impacts, such

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105 *Ibid* at 239–42. On this issue see also Mayer, "Interpreting General Obligations", *supra* note 1; Benoît Mayer, "The Duty of Care of Fossil Fuel Producers for Climate Change Mitigation: *Milieudefensie v. Royal Dutch Shell*" (2022) 11:2 Transnational Environmental L 407.

106 See Mayer, *supra* note 2 at 231 and 235–37.

107 *Ibid* at 235–36.

108 *Ibid* at 236.

109 *Ibid* at 236–37.

110 *Ibid* at 237.

111 See *Rio Declaration on Environment and Development*, GA Res 1 (Annex 1), UNGAOR, 1992, UN Doc A/CONF.151/26, 3 at Principle 15. This principle was also codified in the *UNFCCC*, *supra* note 10 at art 3, para 3. The European Court of Human Rights has held that, on the European level, the precautionary principle has developed from a philosophical concept to a legal norm (my translation): see *Tătar*, *supra* note 68 at 27.

as the melting of glaciers and permafrost, sea level rise, and loss of biodiversity, are not.[112] The precautionary principle therefore clearly demands that the Paris Agreement targets are met as soon as possible.[113] Second, Mayer regards the allocation of remaining emissions over time as a purely political choice without discussing how a disproportionate postponement of efforts may impact the rights of young generations. The German Constitutional Court has convincingly argued that the intertemporal distribution of emission reduction burdens is in fact a question of fundamental rights and thus measurable according to the proportionality test.[114] While not establishing strict timelines for emission reductions, human rights law therefore at the very least requires states to justify any delay in mitigation action.

Mayer then goes on to argue that the Paris Agreement fails to stipulate a formula for sharing the mitigation burden among the state parties and that the innumerable ways of weighing different distribution criteria make it nearly impossible for a court to determine whether a state is in compliance with its mitigation obligations.[115] In any event, Mayer argues, the deduction of individual mitigation obligations from a collective obligation to limit global warming to well below 2°C and strive for 1.5°C assumes that states have created such a legally binding obligation in the first place. However, according to Mayer, this is not the case, as the temperature targets in the Paris Agreement constitute a mere objective rather than a binding obligation.[116]

Nevertheless, Mayer argues, various implications for state parties follow from these temperature targets, even when understood as mere objectives. For example, states shall take them into account when conducting regular reviews of their mitigation action and when deciding whether to authorize activities that will result in substantial amounts of greenhouse gas emissions. Mayer also claims that state parties must justify how their individual mitigation action contributes to the achievement of the temperature targets.[117]

Whether or not all of Mayer's critical assertions are justified, they constitute a helpful reminder that litigants, courts, and academics should not too readily assume specific obligations of state parties arising under climate law. This might leave some readers wondering if there is not at least some potential for approximation, such as quantifying a minimum level or a certain range within which a state's emission reductions must fall. Mayer addresses this question in the last part of chapter VI by calling on judges in climate litigation cases to apply principles

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112 See e.g. "Summary for Policymakers" in Hans-O Pörtner et al, eds, *Climate Change 2022: Impacts, Adaptation and Vulnerability: Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* (Cambridge, UK: Cambridge University Press, 2022) at para B.6, DOI: <10.1017/9781009325844.001>; Susanne Baur et al, "The Science of Temperature Overshoots" *Climate Analytics* (October 2021), online (pdf): <climateanalytics.org/media/temperature-overshoots_ar6.pdf>.

113 See e.g. Felix Ekardt, Jutta Wieding & Anika Zorn, "Paris Agreement, Precautionary Principle and Human Rights: Zero Emissions in Two Decades?" (2018) 10:8 Sustainability 2812, DOI <10.3390/su10082812>.

114 See *Neubauer*, *supra* note 56 at para 192.

115 See Mayer, *supra* note 2 at 243–50.

116 *Ibid* at 250–54. Mayer only very briefly mentions that the temperature targets are not relevant for determining the content of human rights obligations (at 256).

117 *Ibid* at 256–60.

of equity in assessing a state's requisite level of mitigation action. This means that, rather than seeking the "magic formula," courts should "make an overall assessment of all relevant norms in light of national circumstances"[118] to come up with an approximate mitigation target.[119] I think this proposal is in fact not far from what the *Urgenda* court did when it found that scientific consensus existed on the level of mitigation required of Annex I countries, and shifted the burden to the government to demonstrate that a lower mitigation effort is in line with its obligations under international human rights law.[120] While Mayer frequently criticizes the *Urgenda* decision, it may actually be understood to provide support for his position.

4.3. Identifying Corollary Duties

Recall that, according to Mayer, the Paris Agreement mainly establishes obligations of conduct for states, such as to "pursue domestic mitigation measures, with the aim of achieving the objectives of [their successive nationally determined] contributions".[121] It is, however, difficult to determine whether a state has done enough to fulfill such an obligation. In chapter VII Mayer proposes that a better way for courts to test a state's compliance is "by assessing whether the state is taking the sort of measures that it would be expected to be taking while exercising due diligence."[122] This builds on the concept of corollary duties as introduced in chapter V.[123] Individual breaches of contractual obligations (such as not submitting a report on time) would not automatically lead to an assumption of violation of its mitigation obligations. Rather, what courts should be looking for are systemic patterns of non-compliance with corollary duties.[124]

My concern with Mayer's proposal is that his criteria seem so weak it is unlikely a court will ever find a state in non-compliance with its mitigation obligations. Granted, states will need to somehow cooperate in international negotiations and assess their own contribution to global warming. But beyond that, each state can adopt whatever theory of burden-sharing requires the least effort on its part and then implement some steps that are consistent with this interpretation of its duties.[125] Mayer mentions some examples of what, in his understanding, would constitute a breach of mitigation obligations: a state approving the construction of many coal power plants without any consideration of their climate impact,[126] or a developing country that had long asserted the relevance of historical emissions as a burden-sharing criterion before abruptly changing its mind as its own industrial development leads to a higher share in historical emissions.[127] If this is all we can hold states liable for, there is not much chance to keep global warming anywhere near the 2°C mark, not to speak of 1.5°C. The one

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118 *Ibid* at 278.

119 *Ibid* at 279.

120 See *Urgenda*, *supra* note 9 at paras 7.4.6, 7.5.1.

121 See Mayer, *supra* note 2 at 191, citing *Paris Agreement*, *supra* note 10 at art 4(2).

122 See Mayer, *supra* note 2 at 281.

123 *Ibid* at 282.

124 *Ibid* at 283–84.

125 *Ibid* at 306–07.

126 *Ibid* at 306.

127 *Ibid* at 311.

aspect of Mayer's proposal that appears to me to carry the greatest potential is to hold states accountable for inconsistencies between their own medium or long-term mitigation strategies and the more concrete policies and measures adopted.[128] Some national courts have already held governments accountable for not doing enough to ensure the fulfillment of such medium or long-term strategies,[129] such as the Irish Supreme Court in *Friends of the Irish Environment,*[130] French administrative courts in *Grande-Synthe*[131] and *Notre Affaire à tous,*[132] as well as a Belgian tribunal of first instance in *Klimaatzaak.*[133] But even here, a state can easily avoid responsibility by adopting unambitious mitigation strategies in the first place.

5. CONCLUSION

Mayer's stated intention, in writing this book, was to provide a doctrinal account of the international law on climate change mitigation that can serve as a guide for judges and national decision-makers.[134] I think that Mayer remains true to his objective of providing an impartial and balanced approach to interpreting the relevant legal norms to varying degrees throughout the book. At times, he proposes quite innovative methods for inferring certain duties from international law, which in my view makes his book a more interesting read. At other times, especially concerning obligations arising under human rights treaties, Mayer's approach seems somewhat unambitious and lacking the interpretative creativity that he demonstrates, for example, in his elaboration on corollary duties. Mayer's treatment of certain topics is too one-sided, missing essential details, or wanting more thorough discussion. I particularly refer here to his discussion of the extraterritorial applicability of human rights treaties which ignores numerous decisions and declarations by international treaty bodies, and to his neglect in considering a free-standing right to a healthy environment, as well as his assertion that it will be difficult to establish causality in relation to global warming.

My critical comments are not intended to deflect from the overall thoroughness and quality of Mayer's work, which is well worth reading for at least three reasons. First, it provides a comprehensive and easily understandable overview of the relevant sources of climate mitigation obligations and can serve as a helpful structure for interpreting them. Second, Mayer's careful and somewhat skeptical approach to inferring mitigation obligations from human rights treaties and quantifiable mitigation obligations from the Paris Agreement provides a welcome antipode to the growing, sometimes overly enthusiastic literature on climate change law and

128 *Ibid* at 312–16.

129 *Ibid* at 314.

130 See *Friends of the Irish Environment CLG v Ireland (Government, AG)* (2020), 2020 IESC 49 at paras 6.46, 9.2, [2021] 3 IR 1 (Supreme Court, Ireland).

131 See *Grande-Synthe v France*, CE, 19 November 2021 [2021] Recueil Lebon, No 427301 at paras 15–16; *Grande-Synthe v France*, CE, 1 July 2021 [2021] Recueil Lebon, No 427301 at paras 5–7.

132 Trib admin Paris, 3 February 2021, *Association Oxfam France, Notre Affaire à tous fondation pour la nature et l'homme et Association Greenpeace France c France* [2021] Recueil Lebon at paras 30–31, nos 1904967, 1904968, 1904972 et autres; Trib admin Paris, 14 October 2021, *Association Oxfam France, Notre Affaire à tous fondation pour la nature et l'homme et Association Greenpeace France c France* [2021] Recueil Lebon, nos 1904967, 1904968, 1904972.

133 Tribunal de première instance francophone de Bruxelles, Section Civile, 4ème chambre, Brussels, 17 June 2021, *ASBL Klimaatzaak c L'Etat Belge* (2021), no 167 2015/4585/A at paras 72–73 (Belgium).

134 See Mayer, *supra* note 2 at 7.

litigation. Third, Mayer offers some innovative ideas on how to identify and substantiate states' mitigation obligations that can provide helpful additional arguments even to those academics, litigants, and courts who are primarily interested in establishing the existence of some form of qualifiable or quantifiable mitigation obligations.

Contrary to Mayer, I believe that human rights treaties create obligations to mitigate climate change. As I explained, Mayer's objections to this do not hold. While it may not be possible to precisely quantify these obligations, courts can assess whether states are pursuing targets that are internally consistent and based on a justifiable interpretation of their legal obligations. Mayer's book includes some very valuable proposals on how to measure states' compliance with their mitigation obligations. It will be a task for further research to combine these with other ideas that have been advanced in the climate change literature, as well by litigants and courts, to form a comprehensive theory of states' legal obligations to mitigate climate change.