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ARTICLE

Construing International Climate Change Law as a Compliance Regime

Benoit Mayer*

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Abstract
Under the no-harm principle, states must prevent activities within their jurisdiction from causing extraterritorial environmental harm. It has been argued elsewhere that excessive greenhouse gas emissions (GHG) from industrial states constitute a breach of this principle and instigate state responsibility. Yet, the relevance of general international law for climate change does not obviate a need for more specific international climate change agreements. This article argues that the climate regime is broadly compatible with general norms. It can, furthermore, address a gap in compliance with general international law – namely, the systematic failure of industrial states to cease excessive GHG emissions and to provide adequate reparations. As a compliance regime, the international climate change law regime defines global ambition and national commitments and initiates multiple processes to raise awareness, set political agendas, and progressively build momentum for states to comply with their obligations under general international law.

Keywords: Climate change, General international law, *Lex specialis*, Compliance, Fragmentation, Paris Agreement

1. INTRODUCTION

Abundant scientific evidence assessed by the Intergovernmental Panel on Climate Change (IPCC) clearly establishes that anthropogenic greenhouse gas (GHG) emissions are causing profound and irrevocable changes to the climate system.[1] The adverse impacts of climate change are already observed throughout the world: global warming, changes in precipitation patterns, melting of ice-sheets and glaciers,

* Chinese University of Hong Kong, Faculty of Law (Hong Kong).
Email: bnt.mayer@gmail.com.
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[1] See generally IPCC, *Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the IPCC* (Cambridge University Press, 2014).

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sea-level rise and ocean acidification. Climate change impacts could affect, among others, food production, human health, human settlement and migration patterns, conflicts, economic prosperity, and cultural practices.

We all suffer as a result of dangerous climate change, albeit in different ways. We also bear different responsibilities. On the one hand, the most recent report of the IPCC confirms that the risks associated with climate change are 'unevenly distributed and are generally greater for disadvantaged people and communities'.[2] On the other hand, the activities that cause GHG emissions benefit disproportionately the wealthiest fringes of the world's population. Most GHG emissions can be traced to just a few states: one quarter of the current GHG emissions originates from China alone (18% of the world's population); another quarter, from the United States (US) and the European Union (EU) (11% of the world's population).[3] Ten countries representing less than 10% of the world's population cause a quarter of current GHG emissions.[4] Inequalities are even greater regarding cumulative historical emissions, or where export-oriented GHG emissions are accounted for on the basis of consumption rather than production.[5]

States, followed by international courts and tribunals, have repeatedly interpreted the principle of equal sovereignty as implying a 'responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other states or of areas beyond the limits of national jurisdiction'.[6] As discussed in a previous article, the conduct of the states under whose jurisdiction most GHG emissions occur – whether by their own action or by their omission to prevent activities within their territory – constitutes a breach of their obligation under general international law because it inevitably induces significant environmental harm.[7] These instances of harm threaten the existence of several island states, and also the prosperity, development and viability of many other states, as well as human civilization as a whole.

However, there are formidable political obstacles to the enforcement of general international law principles that might undermine the immediate interests of

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2 Ibid., p. 13.

3 The share in total 2012 GHG emissions excluding land-use change and forestry: China (24.5%), the US (13.9%), the EU of 28 (9.8%), India (6.7%) and Russia (5.2%), computed by the author on the basis of data found in CAIT Climate Data Explorer of the World Resources Institute, available at: http://cait.wri.org.

4 Australia, Belgium, Canada, the Czech Republic, Kazakhstan, Korea, the Netherlands, Russia, Saudi Arabia, and the US, with 9.2% of the world's population, account for 26.5% of the global GHG emissions excluding land-use change and forestry, as computed by the author on the basis of data found in CAIT Climate Data Explorer of the World Resources Institute, ibid.

5 See, e.g., E.G. Hertwich & G.P. Peters, 'Carbon Footprint of Nations: A Global, Trade-Linked Analysis' (2009) 43(16) *Environmental Science and Technology*, pp. 6414–20.

6 Declaration of the United Nations Conference on the Human Environment (Stockholm Declaration), Stockholm (Sweden), 16 June 1972, Principle 21, available at: http://www.unep.org/Documents.Multilingual/Default.asp?documentid=97&articleid=1503; Rio Declaration on Environment and Development, Rio de Janeiro (Brazil), 14 June 1992, Principle 2, available at: http://www.unep.org/Documents.Multilingual/Default.asp?documentid=78&articleid=1163. See also, e.g., *Legality of the Threat or Use of Nuclear Weapons*, Advisory Opinion, 8 July 1996, *ICJ Reports* (1996) 226, at para. 29.

7 B. Mayer, 'State Responsibility and Climate Change Governance: A Light through the Storm' (2014) 13(3) *Chinese Journal of International Law*, pp. 539–75.

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industrialized nations. International dispute settlement is not only unlikely because of its consensual basis, but it is also ill-suited to a situation where the breach of an obligation affects common goods rather than directly any specific state,[8] and where non-compliance is widespread. Yet, the greatest obstacle to enforcement of general international law is arguably of a geopolitical nature: climate change results mostly from the conduct of rich, industrial and powerful states; the most vulnerable states are also the weakest geopolitical actors. This unfortunate discordance of legitimate claims and geopolitical power impedes the successful use of classical tools of enforcement, such as adjudication, measures of retorsion, counter-measures, and multilateral sanctions.[9]

Similarly, repeated manoeuvres have prevented an authoritative interpretation of the obligations of industrial states in relation to climate change under general international law.[10] International negotiations on climate change have been conducted since 1990, but only on the grounds favoured by powerful industrial states. Instead of a duty to *cease* excessive (that is, unjustifiable) GHG emissions and to *repair* harm caused by them, the UN Framework Convention on Climate Change (UNFCCC),[11] its Kyoto Protocol[12] and the Paris Agreement[13] rely on limited measures to encourage international action regarding mitigation, adaptation, and loss and damage. Yet, the actions of states may not even meet these narrow objectives. While the Paris Agreement mentions a collective ambition of '[h]olding the increase in global average temperature to well below 2°C [degrees Celsius] above pre-industrial levels' and 'efforts to limit the temperature increase to 1.5°C above pre-industrial levels',[14] intended nationally determined contributions (NDCs) suggest even more limited efforts,[15] and neither state participation nor actual implementation can be taken for granted.

More fundamentally, the relevance of general international law to climate change calls into question the need for and the function of specific international agreements on climate change, such as the UNFCCC, its Kyoto Protocol and the Paris Agreement, which together comprise the climate regime for the purposes of this article. Some authors have contended that this climate regime precludes the

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8 See, e.g., M. Bothe, 'Compliance', in *Max Planck Encyclopedia of Public International Law* (Oxford University Press, 2010), para. 45, available at: http://opil.ouplaw.com/view/10.1093/law:epil/9780199231690/law-9780199231690-e46?rskey=Ab6RWE&result=7&prd=EPIL.

9 See discussion in P. Sands, 'Climate Change and the Rule of Law: Adjudicating the Future in International Law' (2016) 28(1) *Journal of Environmental Law*, pp. 19–35.

10 See below, section 2.1.

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

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

13 Paris (France), 13 Dec. 2015, in force 4 Nov. 2016, UNFCCC Secretariat, Decision 1/CP.21, Adoption of the Paris Agreement, UN Doc. FCCC/CP/2015/10/Add.1, Annex, p. 21, available at: http://unfccc.int/resource/docs/2015/cop21/eng/10a01.pdf.

14 Ibid., Art. 2.1(a).

15 UNFCCC Secretariat, Synthesis Report on the Aggregate Effect of the Intended Nationally Determined Contributions (2015), UN Doc. FCCC/CP/2015/7, available at: https://unfccc.int/resource/docs/2015/cop21/eng/07.pdf.

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application of principles of general international law.[16] Yet, as will be argued below, the conditions to invoke the *lex specialis* principle are not met: there is no general conflict of norms between general international law and specific international agreements on climate change.

Rather than a specific regime precluding the application of general international law, this article contends that the climate regime is what could be called a 'compliance regime' – a legal regime the main purpose of which is to promote state conduct which conforms with pre-existing norms. A compliance regime seeks to initiate processes of international socialization that are intended to raise awareness, set political agendas, and build momentum for action. Compliance regimes are established in issue areas in which applicable pre-existing norms have frequently been disregarded by relevant actors and where systemic challenges to compliance exist. In the context of a compliance regime, a group of states agree that they should work together to fundamentally alter their individual conduct and adopt transitory rules that are less demanding, although often more specific, and the ambition of which can gradually be enhanced to reflect increasing engagement. A compliance regime is by nature a transitory regime: it is set to fix a widespread lack of compliance with general norms; its function ends when the crisis is resolved and compliance is (re)established.[17]

This argument has three main implications. Firstly, it contributes to a better general understanding of the climate regime, including its rationale and challenges. Construing the climate regime as a compliance regime could have concrete implications, for instance, by excluding restitution when a state has voluntarily over-performed under the regime in compliance with its obligations under general international law.[18] Secondly, this argument suggests a theoretical articulation of general international law consistent with the climate regime. Defining the climate regime in its relationship with general international law is a necessary step in attempting to define a state's climate-related rights and obligations, whether or not this state is party to specific climate change agreements. Thirdly, this argument could be useful for similar theoretical reflections in other fields of international law, most obviously in relation to other multilateral environmental regimes such as the series of agreements to phase out the production and

[16] See, in particular, A. Zahar, 'Mediated versus Cumulative Environmental Damage and the International Law Association's Legal Principles on Climate Change' (2014) 4(3–4) *Climate Law*, pp. 217–33; B. Mayer, 'The Applicability of the Principle of Prevention to Climate Change: A Response to Zahar' (2015) 5(1) *Climate Law*, pp. 1–24; A. Zahar, 'Methodological Issues in Climate Law' (2015) 5(1) *Climate Law*, pp. 25–34.

[17] The claim of this article is not that the climate law regime seeks *only* to promote compliance with pre-existing rules. The climate regime plays an important role in clarifying these rules in multiple ways, and these clarifications are likely to leave a durable trace in international law – for instance, by contributing to a better understanding of relevant rules of general international law.

[18] Thus, most of the states that are taking quantified emissions limitation or reduction commitments under the second commitment of the Kyoto Protocol (as per the Doha Amendment, below) renounced the purchase and sometimes the use of any surplus assigned units from the first commitment period. See declarations in Annex II of Decision 1/CMP.8, Amendment to the Kyoto Protocol pursuant to its Art. 3, para. 9 (the Doha Amendment), UN Doc. FCCC/KP/CMP/2012/13/Add.1, 8 Dec. 2012, available at: http://unfccc.int/resource/docs/2012/cmp8/eng/13a01.pdf.

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consumption of ozone-depleting substances.[19] It may also apply beyond environmental law to regimes such as international humanitarian law or human rights law.[20]

Overall, this article seeks to contribute to the development of a broader vision of the international law on climate change. The context of complex international negotiations has largely confined climate change scholars to the task of commenting on or analyzing the latest development, currently the Paris Agreement. Although such chronicles are useful, they do not provide a strong basis for a systematic understanding of the international law on climate change. Rather, they are likely to invite managerial considerations of international climate change law in isolation from other objectives pursued by, or values embodied in, international law. A critical inquiry into how international climate change agreements relate to general international law appears to be essential for laying the foundations of international law on climate change as an emerging sub-discipline of international law.

This article is articulated in three sections. The first section develops the theoretical argument that the climate regime ought to promote compliance with general international law, in particular the no-harm principle and the law of state responsibility. The following section retraces efforts that have been made to bridge two aspects of the compliance gap – namely a systematic lack of compliance with the no-harm principle (compliance gap on emissions) and a systematic lack of compliance with the remedial obligations of states responsible for a breach of their obligations under the no-harm principle (compliance gap on reparations). The third and final section explores some of the main techniques that the climate regime has implemented in order to promote compliance, in particular through raising awareness, setting political agendas, and building momentum for states to comply with general international law.

2. GENERAL INTERNATIONAL LAW AND THE CLIMATE REGIME

This section reflects on the relationship between general international law and the climate regime. General international law refers to norms applicable in the absence of more specific and prevailing rules. It includes, according to Christan Tomuschat, 'axiomatic premises of the international legal order', such as the principle of sovereign equality; 'systematic features of international law', which derive almost automatically from these premises, such as the law of state responsibility; and widely

19 See, in particular, the Montreal Protocol on Substances that Deplete the Ozone Layer, Montreal, QC (Canada), 16 Sept. 1987, in force 1 Jan. 1989, available at: http://ozone.unep.org/new_site/en/montreal_protocol.php; Protocol to the Vienna Convention for the Protection of the Ozone Layer, Vienna (Austria), 22 Mar. 1985, in force 22 Sept. 1988, available at: http://ozone.unep.org.

20 Support for such a view can be found in the award of the arbitral tribunal constituted under Annex VII of the UN Convention on the Law of the Sea (UNCLOS) (Montego Bay (Jamaica), 10 Dec. 1982, in force 16 Nov. 1994, available at: http://www.un.org/depts/los/convention_agreements/convention_overview_convention.htm), in *Australia and New Zealand* v. *Japan* (*Southern Bluefin Tuna Case*), 4 Aug. 2000, (2000) 23 RIAA 1, para. 52: 'In the practice of States, the conclusion of an implementing convention does not necessarily vacate the obligations imposed by the framework convention upon the parties to the implementing convention. The broad provisions for the promotion of universal respect for and observance of human rights, and the international obligation to co-operate for the achievement of those purposes, found in Articles 1, 55 and 56 of the Charter of the United Nations, have not been discharged for States Parties by their ratification of the Human Rights Covenants and other human rights treaties'.

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accepted values, such as certain human rights.[21] With the exception of peremptory norms of general international law,[22] norms of general international law can be overruled by special norms in the event of a conflict of norms under the principle *lex specialis derogat lege generali*.[23] I intend first to demonstrate that some norms of general international law – the no-harm principle and the law of state responsibility – are *a priori* applicable to climate change. I then submit that these norms are not overruled by the climate regime, which should rather be considered as a collective effort to gradually promote compliance with these general norms.

2.1. *General International Law*

The no-harm principle was characterized by Philippe Sands as the 'cornerstone of international environmental law'.[24] First identified by an arbitral award in the *Trail Smelter* arbitration in 1941,[25] this principle was endorsed by states in multiple resolutions and treaty preambles as a principle of general international law.[26] The principle is formulated in the Declaration on Environment and Development adopted in Rio de Janeiro in 1992, whereby states have 'the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other states or of areas beyond the limits of national jurisdiction'.[27] Although some scholars have questioned the consistency of state practice,[28] the International Court of Justice (ICJ) identified the no-harm principle as a norm of customary international law in its advisory opinion on the *Legality of the Threat or Use of Nuclear Weapons*.[29] It is indeed an indispensable corollary of the principle of equal sovereignty that a state must not allow activities that would cause great harm to other states, at least when such harm would cause great peril to the territory, environment or development of those states. It is generally understood that the no-harm principle involves not only an obligation for states not to cause harm by their own action, but also a due diligence obligation to prevent such harmful activities within their jurisdiction.[30]

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21 C. Tomuschat, *What is General International Law?*, Audiovisual Library of International Law, 2009, available at: http://legal.un.org/avl/ls/Tomuschat.html#.

22 Art. 53, Vienna Convention on the Law of Treaties (VCLT), Vienna (Austria), 23 May 1969, in force 27 Jan 1980, available at: https://treaties.un.org/doc/Publication/UNTS/Volume%201155/volume-1155-I-18232-English.pdf.

23 International Law Commission (ILC), 'Conclusions of the Work of the Study Group on the Fragmentation of International Law: Difficulties Arising from the Diversification and Expansion of International Law' (2006) 2(2) *Yearbook of the International Law Commission*, paras 5–10.

24 P. Sands & J. Peel, *Principles of International Environmental Law*, 3rd edn (Cambridge University Press, 2012), p. 191.

25 *United States* v. *Canada* (1941) 3 RIAA 1907.

26 See, in particular, references at n. 6 above; UNFCCC, n. 11 above, Recital 9.

27 N. 6 above, Principle 2.

28 J. Knox, 'The Myth and Reality of Transboundary Environmental Impact Assessment' (2002) 96(2) *The American Journal of International Law*, pp. 291–319, at 293.

29 N. 6 above, para. 29.

30 The latter is sometimes referred to separately as the 'preventive principle'.

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Massive GHG emissions in industrialized nations cause harm beyond the borders of these states by interfering with the global climate system. Even if taken in isolation, the GHG emissions originating from China or the US alone cause significant harm to the global environment. Some authors have suggested that the no-harm principle applies only in the case of direct transboundary damage, where activities in state A cause damage in state B, but not to indirect, global, or 'cumulative' damage.[31] While the distinction may be relevant in assessing the modalities of implementation of the no-harm principle, it appears immaterial to the application of the principle. As a corollary of the principle of equal sovereignty, the no-harm principle applies equally in circumstances where the causal link between activities in state A and the specific harm in state B is less direct, as long as it is established that activities in state A will inevitably result in significant harm for state B.[32] The rationale which justifies a prevention of activities that cause local transboundary damage applies *a fortiori* to circumstances where the stakes include the prosperity, viability or survival of other states and human civilization as a whole.

Yet, there remain large grey zones regarding the application of the no-harm principle to GHG emissions. Vexing questions arise with regard to the appropriate standard of due diligence, the scope of extraterritorial application (if any), the possibility of a *de minimis* threshold of harm, and the relevance of factors such as population or financial capacity in determining a state's obligations. Some GHG emissions are obviously justified – activities necessary for a state to fulfil the basic needs of its population[33] – but no clear threshold differentiates necessary from 'excessive' (hence unlawful) emissions. I have discussed these questions in previous publications.[34] Suffice it to note here that questions regarding implementation of the no-harm principle do not exclude the applicability of this principle, even though in practice they may hinder both compliance and assessment of its success.

A breach of an international obligation of a state, if attributable to that state under international law, constitutes an internationally wrongful act from which secondary obligations arise under the general law of state responsibility.[35] Accordingly, a breach of the no-harm principle by a state by encouraging, or failing to prevent excessive GHG emissions from activities within its jurisdiction will trigger secondary obligations under the law of state responsibility. Some excuses precluding wrongfulness could be relevant – in particular, the concept of necessity in relation to activities necessary to satisfy the basic needs of a population.[36] This raises difficult

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31 See Zahar (2014), n. 16 above; see also Mayer, n. 16 above; Zahar (2015), n. 16 above; International Law Association (ILA), Resolution 2/2014, Declaration of Legal Principles relating to Climate Change, 11 Apr. 2015, Art. 7A.

32 The application of the no-harm principle to damage to the global commons, which has 'the potential to destroy all civilization and the entire ecosystem of the planet', is suggested in *Legality of the Threat or Use of Nuclear Weapons*, Advisory Opinion, n. 6 above, para. 35.

33 H. Shue, 'Subsistence Emissions and Luxury Emissions' (1993) 15(1) *Law & Policy*, pp. 39–60.

34 These questions are further discussed in Mayer, n. 7 above; Mayer, n. 16 above.

35 ILC, Draft Articles on Responsibility of States for Internationally Wrongful Acts (Articles on State Responsibility), in Report of the ILC on the Work of its Fifty-Third session, *Official Records of the General Assembly*, Fifty-Sixth session, Supp. No. 10 (A/56/10), Ch. IV.E.2, Arts 1 and 2.

36 Ibid., Art. 25; see also Shue, n. 33 above.

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questions, discussed more thoroughly elsewhere, about the modalities of application of the law of state responsibility in relation to climate change.[37]

Legal consequences arise from the responsibility of states for excessive GHG emissions in breach of the no-harm principle. Firstly, the state responsible for the internationally wrongful act is under an obligation to 'cease that act, if it is continuing' and to 'offer appropriate assurances and guarantees of non-repetition, if circumstances so require'.[38] With regard to excessive GHG emissions that affect our climate, this suggests drastic steps: the objective should be the immediate cessation of whatever emissions are unjustifiable, although certain delays in implementation could reasonably be considered necessary.

Secondly, the state responsible for the internationally wrongful act is under an obligation to make amends. The study of the law of state responsibility by the International Law Commission (ILC) concluded that this obligation involved 'full reparation for the injury caused by the internationally wrongful act'[39] through 'restitution, compensation and satisfaction, either singly or in combination'.[40] This codified the common practice of most international jurisdictions,[41] with the notable exception of the World Trade Organization's Dispute Settlement Body.[42] However, state practice suggests tolerance of the less demanding standard of an 'adequate' reparation with regard to system-wide harm, such as wars, mass atrocities, nationalization programmes or industrial disasters.[43]

As for the no-harm principle and the circumstances precluding wrongfulness, there are great uncertainties regarding the modalities of application of remedial obligations. The determination of the injury is problematic in circumstances where the most direct harm caused by the wrongful act affects the atmospheric system rather than any state specifically. Similarly, full reparation arguably should be excluded if it is so onerous as to affect the ability of responsible states to protect the rights of their own populations. If so, what would constitute 'adequate' reparation? How is it appropriate to account for the wide temporal disconnect between the wrongful act and its consequences? Answering these questions would require new developments in international law. The indeterminacy of the modalities of implementing the law of state responsibility does not rule out its application to climate change as a matter of principle. In practice, however, the lack of clear normative guidance facilitates processes through which actors can disregard their legal obligations.[44]

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37 Mayer, n. 7 above; Mayer, n. 16 above; and B. Mayer, 'Climate Change Reparations and the Law and Practice of State Responsibility' (2016) 7(1) *Asian Journal of International Law*, pp. 185–216.

38 Articles on State Responsibility, n. 35 above, Art. 30.

39 Ibid., Art. 31.

40 Ibid., Art. 34.

41 J. Crawford, 'Third Report on State Responsibility, by Mr. James Crawford, Special Rapporteur' (2000) 2(1) *Yearbook of the International Law Commission*, pp. 3–112, para. 42.

42 States have strongly opposed any attempt at retrospective reparations in the trade regime: see World Trade Organization Dispute Settlement Body, Minutes of Meeting, 11 Feb. 2000, WT/DSB/M/75, p. 5.

43 Mayer, n. 37 above; see also B. Mayer, 'Less-Than-Full Reparation in International Law' (forthcoming 2017) *Indian Journal of International Law*.

44 S. Gardiner, *A Perfect Moral Storm: The Ethical Tragedy of Climate Change* (Oxford University Press, 2011), Ch. 9, pp. 301–38.

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Repeated attempts have been made to clarify the norms of general international law applicable to excessive GHG emissions, including the no-harm principle and the law of state responsibility, despite strong opposition by industrialized states.[45] For example, Palau, a small developing island state, initiated a campaign for the UN General Assembly to request an ICJ advisory opinion on these issues; this campaign was interrupted after threats from the US to suspend the provision of development aid to Palau.[46] Likewise, the representatives of the most powerful nations strongly protested against the inclusion of a study on the protection of the atmosphere in the programme of work of the ILC. Shortly after the failure of states to reach a substantive agreement at the 2010 Copenhagen summit, they argued that specific political negotiations had already been 'relatively effective'[47] and that the topic 'was already well-served by established legal arrangements'.[48] The ILC could proceed based only on a narrow compromise which excluded virtually any relevant topic, in particular any possible 'interference' with 'relevant political negotiations … on climate change' and any discussion of 'questions such as the liability of states and their nationals'.[49]

2.2. *The Climate Regime*

Specific rules to address climate change have been intensively negotiated since 1990. In 1992, the UNFCCC declared an 'ultimate objective' of achieving 'stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system'.[50] It also called on states to take 'measures to mitigate climate change by addressing anthropogenic emissions by sources and removals by sinks of all greenhouse gases',[51] with slightly more specific provisions applicable to developed country parties.[52] The 1997 Kyoto Protocol defined a 'quantified emission limitation or reduction commitment' applicable to developed state parties during an initial commitment period from 2008 to 2012.[53] The Doha Amendment to the Kyoto Protocol, which was adopted in 2012 and has yet to enter into force, established similar commitments for a second commitment period from 2013 to 2020.[54] For the same period, the 2009

45 See. e.g., ILA, n. 31 above.

46 S. Beck & E. Burleson, 'Inside the System, Outside the Box: Palau's Pursuit of Climate Justice and Security at the United Nations' (2014) 3(1) *Transnational Environmental Law*, pp. 17–29, at 26; 'Press Conference on Request for International Court of Justice Advisory Opinion on Climate Change', UN Meetings Coverage and Press Releases, 3 Feb. 2012, available at: http://www.un.org/press/en/2012/120203_ICJ.doc.htm.

47 Summary Record of the 20th Meeting of the Sixth Committee of the 66th General Assembly, UN Doc. A/C.6/66/SR.20, 26 Oct. 2011, para. 15 (Simonoff, US).

48 Summary Record of the 18th Meeting of the Sixth Committee of the 68th General Assembly, UN Doc. A/C.6/68/SR.18, 29 Oct. 2013, para. 21 (Macleod, United Kingdom).

49 First Report on the Protection of the Atmosphere, prepared by Mr Shinya Murase, Special Rapporteur, UN Doc. A/CN.4/667, 14 Feb. 2014, para. 5.

50 UNFCCC, n. 11 above, Art. 2.

51 Ibid., Art. 4.1(b).

52 Ibid., Art. 4.2.

53 Kyoto Protocol, n. 12 above, Art. 3 and Annex B.

54 Decision 1/CMP.8, n. 18 above, Annex I.

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Copenhagen Accord[55] and the 2010 Cancún Agreements take note of 'quantified economy-wide emission reduction targets' by developed states and 'nationally appropriate mitigation actions' by developing states.[56] The 2015 Paris Agreement requires every state to communicate and implement a 'nationally determined contribution [NDC] to the global response to climate change' from 2020 onwards.[57]

In addition to international action on mitigation of climate change, states have progressively considered the need for 'enhanced action on adaptation', including through international cooperation, and have looked for 'means to address loss and damage associated with climate change impacts in developing countries that are particularly vulnerable to the adverse effects of climate change'.[58] Thus, the UNFCCC recognized, among other things, a vague obligation for developed states to 'assist' some developing states 'in meeting costs of adaptation to those adverse effects'.[59] The Kyoto Protocol dedicated a fraction of the proceeds of the Clean Development Mechanism (CDM) to assist the most vulnerable developing states to meet the costs of adaptation.[60] An Adaptation Committee and the Warsaw International Mechanism on Loss and Damage were established in 2010 and 2013, respectively.[61] Lastly, the Paris Agreement endorsed the 'global goal on adaptation of enhancing adaptive capacity, strengthening resilience and reducing vulnerability to climate change'[62] and recognized 'the importance of averting, minimizing and addressing loss and damage associated with the adverse effects of climate change'.[63]

Although significant, these achievements stop short of fulfilling the obligations of states under general international law. Terms such as 'mitigation', 'enhanced action on adaptation' or 'approaches to address loss and damage associated with climate change impacts in developing countries' suggest less stringent duties than 'cessation' and 'reparation'. While the quantified emissions limitation or reduction commitments inserted in the Kyoto Protocol were adopted through international negotiations based on consensus, the Cancún Pledges and the Paris Agreement endorse commitments that each state self-determines. Efforts to limit or reduce GHG emissions in the last quarter of a century have been slow, even in those industrialized nations with the financial capacity to combat climate change without disproportionately affecting the conditions of subsistence of their populations. Similarly, support for adaptation is

55 Decision 2/CP.15, Copenhagen Accord, UN Doc. FCCC/CP/2009/11/Add.1, 18 Dec. 2009, available at: http://unfccc.int/resource/docs/2009/cop15/eng/11a01.pdf.

56 Decision 1/CP.16, The Cancún Agreements: Outcome of the Work of the Ad Hoc Working Group on Long-Term Cooperative Action under the Convention, UN Doc. FCCC/CP/2010/7/Add.1, 10–11 Dec. 2010, paras 36 and 49, available at: https://unfccc.int/resource/docs/2010/cop16/eng/07a01.pdf.

57 Paris Agreement, n. 13 above, Art. 3.

58 Decision 1/CP.13, Bali Action Plan, UN Doc. FCCC/CP/2007/6/Add.1, 14–15 Dec. 2007, paras 1(c) and 1(c)(iii), available at: http://unfccc.int/resource/docs/2007/cop13/eng/06a01.pdf#page=3.

59 UNFCCC, n. 11 above, Art. 4.4.

60 Kyoto Protocol, n. 12 above, Art. 12.8. This support is distributed through the Adaptation Fund.

61 Decision 1/CP.16, n. 56 above, para. 20; Decision 2/CP.19, Warsaw International Mechanism for Loss and Damage Associated with Climate Change Impacts, UN Doc. FCCC/CP/2013/10/Add.1. 23 Nov. 2013, available at: http://unfccc.int/resource/docs/2013/cop19/eng/10a01.pdf#page=6.

62 Paris Agreement, n. 13 above, Art. 7.1.

63 Ibid., Art. 8.1.

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currently piecemeal and much less than mitigation allocations within flows of climate finance.[64] To date, the states most severely affected by the impacts of climate change have been left to meet the costs of adaptation by themselves.

In particular, despite strong claims by developing nations, the most powerful states have resisted any express recognition of their obligations and responsibilities under general international law.[65] The Preamble to the UNFCCC 'recalled the pertinent provisions' of the Stockholm Declaration[66] and 'also' its provision defining the no-harm principle,[67] without clearly stating or assessing the relevance of this principle to climate change.[68] Instead, the UNFCCC referred to equity and the common but differentiated responsibilities and respective capabilities (CBDR) of states to call on developed states to 'take the lead in combating climate change and the adverse effects thereof'.[69] Whereas developing nations could view this language as an allusion to states' responsibilities, the US insisted that CBDR 'highlights the special leadership role of developed countries, based on their industrial development, experience with environmental protection policies and actions, and wealth, technical expertise and capabilities'.[70] It took two decades before a recital to the Cancún Agreements mentioned the historical responsibility of developed states as a ground for differentiation, albeit hinting at political rather than legal responsibilities.[71] In 2015, the decision of the Conference of the Parties (COP) adopting the Paris Agreement expressly provided that Article 8 of the Agreement, which promotes approaches to address loss and damage, did 'not involve or provide a basis for any liability or compensation'.[72]

Some scholars opine that the climate regime precludes the application of general international law.[73] The previous subsection established that certain norms of general international law – the no-harm principle and the law of state responsibility – apply *a priori* in the situation where a state either causes or fails to prevent excessive GHG emissions, which is also the subject matter addressed by the climate regime. Yet, the principle *lex specialis derogate lege generali* applies only in relation to a *conflict* between norms dealing with the same subject matter.[74] As the ILC stated in its

64 Funding in support of adaptation is estimated to represent US$25 billion (most of which is national) out of a total US$391 billion climate finance, according to B. Buchner et al., *Global Landscape of Climate Finance 2015* (Climate Policy Initiative, Nov. 2015), available at: http://climatepolicyinitiative.org/wp-content/uploads/2015/11/Global-Landscape-of-Climate-Finance-2015.pdf.

65 For a historical example, see Caracas Declaration of the Ministers of Foreign Affairs of the Group of 77 on the Occasion of the Twenty-Fifth Anniversary of the Group, Caracas (Venezuela), 21–23 June 1989, para. II–34. available at: http://www.g77.org/doc/A-44-361-E.pdf.

66 N. 6 above.

67 UNFCCC, n. 11 above, recitals 8 and 9.

68 I agree with Alexander Zahar on this: Zahar (2015), n. 16 above, p. 29.

69 UNFCCC, n. 11 above, Art. 3.1.

70 Statement of the US on Principle 7 of the Rio Declaration on Environment and Development, in Report of the UN Conference on Environment and Development, Vol. II: Proceedings of the Conference, UN Doc. A/CONF.151/26/Rev.1 (Vol. II) (1992), p. 17.

71 Decision 1/CP.16, n. 56 above, second recital above para. 36.

72 Decision 1/CP.21, n. 13 above, para. 52.

73 See n. 16 above.

74 This is, for instance, implied in ILC, n. 23 above, paras 2, 5 and 9.

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Commentary on the Articles on State Responsibility, '[f]or the *lex specialis* principle to apply it is not enough that the same subject matter is dealt with by two provisions; there must be some actual inconsistency between them, or else a discernible intention that one provision is to exclude the other'.[75] Likewise, the ILC study of the fragmentation of international law recognized the 'principle of harmonization' whereby 'when several norms bear on a single issue they should, to the extent possible, be interpreted so as to give rise to a single set of compatible obligations'.[76]

There appears to be no actual inconsistency between the climate regime and the no-harm principle or the law of state responsibility, and there is certainly no consensus to exclude the application of general international law to climate-related subject matter. Regarding inconsistencies, it should be observed that a rule compelling states to limit their GHG emissions below a particular amount does not necessarily imply any right of states to emit up to that particular amount;[77] and that an effort by a responsible state to mitigate the damages caused by its wrongful act does not exclude its obligation to make reparation for the actual injury. Alexander Zahar contends, to the contrary, that a recognition that 'economic and social development and poverty eradication are the first and overriding priorities of the developing country Parties' in the UNFCCC 'implicitly affirms the legal right of a sizable number of states to continue to pump out greenhouse gases in ever increasing quantities'.[78] Yet, a mere observation in the UNFCCC that some states have other and competing priorities is not necessarily inconsistent with the *application* of general international law principles. It should rather be interpreted as an acknowledgement of some challenges that may be faced during their *implementation*.

Similarly, the parties to the UNFCCC, the Kyoto Protocol and the Paris Agreement have reached no consensual agreement to exclude the application of general international law. For example, that Article 8 of the Paris Agreement does not 'provide a basis for any liability or compensation'[79] neither implies nor excludes a responsibility on the part of industrialized states to do so under general international law. Certainly, small island states have consistently declared over the last quarter of a century that nothing in successive climate change treaties could 'be interpreted as derogating from principles of general international law or any claims or rights concerning compensation due to the impacts of climate change'.[80]

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[75] Articles on State Responsibility, n. 35 above, Commentary under Art. 55, para. 4 (emphasis added).

[76] ILC, n. 23 above, para. 4. See also M. Koskenniemi et al., 'Fragmentation of International Law: Difficulties Arising from the Diversification and Expansion of International Law', Report of the Study Group of the International Law Commission, UN Doc. A/CN.4/L.682, 13 Apr. 2006, para. 88, noting that 'the lex specialis principle is assumed to apply if "harmonious interpretation" turns out to be impossible, that is, to overrule a general standard by a conflicting special one'.

[77] Decision 15/CP.7, Principles, Nature and Scope of the Mechanisms pursuant to Arts 6, 12 and 17 of the Kyoto Protocol, UN Doc. FCCC/CP/2001/13/Add.2, 10 Nov. 2001, available at: http://cdm.unfccc.int/EB/rules/modproced.html, recital 7 of which states: 'recognizing that the Kyoto Protocol has not created or bestowed any right, title or entitlement to emissions of any kind on Parties included in Annex I'.

[78] See UNFCCC, n. 11 above, Art. 4.7; Zahar (2015), n. 16 above, p. 32.

[79] Decision 1/CP.21, n. 13 above, para. 52.

[80] Declaration of the Government of Tuvalu upon Signature and Ratification of the Paris Agreement (22 Apr. 2016), available at: http://unfccc.int/paris_agreement/items/9444txt.php?utm=EchoboxAI&.

It is often assumed that when two norms apply to the same subject matter, the more specific norm is either an application of or derogation from the general norm.[81] The climate regime cannot convincingly be construed as a derogation from norms of general international law such as the no-harm principle and the law of state responsibility. It may be equally misleading – although closer to the truth – to consider the climate regime as purely and simply an *application* of these norms. Although the climate regime may eventually clarify some of the modalities of application of general international law, it remains for now confined to much less ambitious obligations. International cooperation on climate change mitigation, on the one hand, is certainly less ambitious than the obligation to cease excessive GHG emissions as a continuing wrongful act. Likewise, the meagre support for adaptation to date, and the tentative discussions on possible approaches to address loss and damage in developing countries, do little to mitigate the harm suffered as a consequence of the wrongful act, let alone constitute adequate reparation for it.

Rather than a full application of general international law or a full derogation from it, the climate regime should be construed as a set of steps to gradually overcome political obstacles to compliance with general international law in relation to climate change.

A compliance regime promotes efforts to comply with pre-existing norms. While the climate regime is certainly the clearest example of this, the concept could conceivably extend to other regimes in international environmental law, and beyond.[82] Instead of attempting to enforce all pre-existing norms at once, a compliance regime initiates diverse processes of international socialization to mobilize relevant actors and spur compliance with international norms. Identifying a given regime as a compliance regime without a detailed analysis is difficult and potentially controversial because the applicability of pre-existing norms may not be clearly established or may be strongly disputed by some states or commentators. However, the distinction is important from an analytical perspective in order to better grasp the function of the regime in question, and also from a doctrinal perspective in order to correctly assess the obligations of states within and beyond the given regime.

3. ADDRESSING PARTICULAR ASPECTS OF THE COMPLIANCE GAP

This section details the particular aspects of the compliance gap that the climate regime seeks to address. Two particular gaps in compliance are identified. The *compliance gap on emissions* is constituted by the failure of states to comply with their obligation to avoid and prevent activities within their jurisdiction from causing serious harm to the environment of other states. International action on climate change mitigation seeks to overcome this gap in compliance by fostering national

Similar declarations on the Paris Agreement were made by Nauru and the Marshall Islands, and by multiple states on the occasion of the signature or ratification of the UNFCCC and the Kyoto Protocol.

[81] See, e.g., Koskenniemi et al., n. 76 above, para. 102.

[82] See nn. 19 and 20 above.

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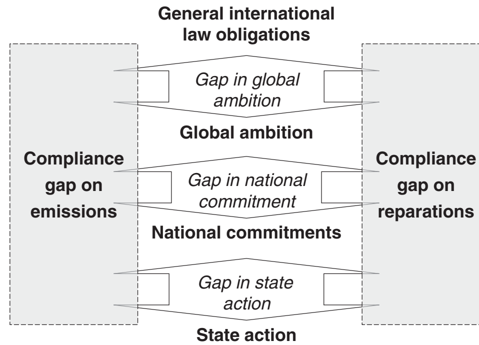

Figure 1 Breakdown of the Compliance Gap

commitments to gradually limit and reduce GHG emissions. The *compliance gap on reparations* is constituted by the failure of states to make adequate reparation for the harm caused by the internationally wrongful act of excessive GHG emissions. Calls to address this gap in compliance led to international cooperation on adaptation and, more recently, to discussions on possible approaches to address loss and damage. At present, however, much less has been achieved to overcome the compliance gap on reparations than that on emissions.

The compliance gap between general international law and state conduct can also be divided into three successive gaps (see Figure 1). Firstly, a *gap in global ambition* appears between general international law and the global ambition embodied in international climate change agreements – for instance, between states' obligations under the no-harm principle and the objective of holding the increase in global average temperature well below 2°C, and aspirationally to 1.5°C. Secondly, a *gap in national commitment* appears between global ambition and national commitments – for instance, between the mitigation objective of the Paris Agreement and the predicted aggregate outcome of NDCs. Thirdly, a *gap in state action* is likely to appear between national commitments and actual state conduct, which may result from non-participation (such as non-ratification of or withdrawal from a treaty) or from lack of implementation.

Overcoming the compliance gap requires that these three gaps are addressed in a coordinated manner. It would be futile and possibly counter-productive to increase global ambition in the climate regime in order to reduce the gap in global ambition if this were not matched by greater national commitments. Similarly, it would be pointless to impose greater national commitments if this were to reduce state willingness to participate in the agreement or to implement these commitments effectively. Successive international agreements have approached this dilemma in different ways and with varying degrees of success.

3.1. *The Compliance Gap on Emissions and International Cooperation on Mitigation*

The first, and still prevalent, focus of the climate regime is on addressing the gap between states' current GHG emissions and their due diligence obligation under the no-harm principle. It was clear from the outset that the vague provisions contained in

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the UNFCCC would not suffice to achieve its 'ultimate objective'.[83] Daniel Bodansky observed in 1993 that the Framework Convention was intended to produce 'positive feedback loops' whereby the international lawmaking process would take on 'a momentum of its own'.[84] Thus, the first decision adopted by the COP to the UNFCCC initiated the negotiation of what would become the Kyoto Protocol, an agreement on quantified emissions limitation and reduction commitments applicable to industrialized states for a first commitment period running from 2008 to 2012.[85] In turn, the first decision adopted by the COP to the UNFCCC, acting as a meeting of the Parties to the Kyoto Protocol, initiated consideration of commitments for subsequent periods.[86]

The 1997 Kyoto Protocol and its 2012 Doha Amendment outline a 'top-down' approach to address the compliance gap on emissions. These agreements focus on the greater historical and current responsibilities of developed states, as recognized in the UNFCCC.[87] Global ambition is defined as a percentage of reduction in the overall GHG emissions of developed states: 5% reduction below 1990 levels in the first commitment period defined by the Kyoto Protocol (2008–12),[88] 18% reduction below the same levels in the second commitment period added by the Doha Amendment (2013–20).[89] Annex B of the Kyoto Protocol lists the respective quantified emissions limitation and reduction commitments of developed states, adopted by consensus following difficult international negotiations. These commitments are unquestionably legally binding with regard to states parties to a treaty in force, under the principle *pacta sunt servanda*.[90]

The inclusion of national commitments for developed states within Annex B of the Kyoto Protocol avoided any possible gap in national commitment: the aggregate of national commitments listed in Annex B equates to the global mitigation objective of a quantified reduction in the GHG emissions of developed states. Yet, resolving the gap in national commitment came at the cost of exacerbating the two other components of the compliance gap. The Kyoto Protocol and its Amendment adopt unambitious global mitigation objectives. A limited *decrease* in the GHG emissions of developed states falls short of meeting their obligation to *cease* excessive GHG emissions within a reasonable period of time, and no such quantified commitment is imposed upon emerging economies, the shares of which in global GHG emissions are rapidly increasing. Moreover, the outcome of the Kyoto Protocol was limited by the

83 See UNFCCC, n. 11 above, Art. 2.

84 D. Bodansky, 'The United Nations Framework Convention on Climate Change: A Commentary' (1993) 18(2) *Yale Journal of International Law*, pp. 451–558, at 495.

85 Decision 1/CP.1, The Berlin Mandate: Review of the Adequacy of Article 4, Para. 2(a) and (b), of the Convention, Including Proposals related to a Protocol and Decisions on Follow-Up, UN Doc. FCCC/CP/1995/7/Add.1, 7 Apr. 1995, available at: http://unfccc.int/resource/docs/cop1/07a01.pdf#page=4.

86 Decision 1/CMP.1, Consideration of Commitments for Subsequent Periods for Parties included in Annex I to the Convention under Art. 3, para. 9, of the Kyoto Protocol, UN Doc. FCCC/KP/CMP/2005/8/Add.1, 30 Mar. 2006, available at: http://unfccc.int/resource/docs/2005/cmp1/eng/08a01.pdf#page=3.

87 UNFCCC, n. 11 above, recital 4, Art. 3.1.

88 Kyoto Protocol, n. 12 above, Art. 3.1.

89 Decision 1/CMP.8, n. 18 above, Annex 1, para. C.

90 VCLT, n. 22 above, Art. 26.

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decision of the US not to ratify it; the withdrawal of Canada during the first commitment period; and the decision of Japan, New Zealand and Russia not to participate in a second commitment period. The over-achievement of emissions limitation and reduction commitments by the parties to the Kyoto Protocol during the first commitment period had more to do with economic circumstances (such as the decrease in GHG emissions in former socialist countries, and the 2009 financial crisis) than with actual mitigation efforts undertaken by states to respect their commitment.[91]

By contrast, the 2009 Copenhagen Accord, the 2010 Cancún Agreements and the 2015 Paris Agreement promote a 'bottom-up' determination of national commitments. Instead of attempting to impose national commitments consistent with global ambition, these enactments call upon individual states to determine what they view as an appropriate contribution to the agreed global ambition. States are encouraged to gradually increase their respective commitments,[92] and the Paris Agreement endorses the principle that successive NDCs 'will represent a progression over time'.[93] To facilitate collective emulation, the bottom-up approach relies on mechanisms to promote transparency in national commitments and to take stock of collective progress towards fulfilling global mitigation objectives.[94] These national commitments also impose obligations on states, whether they are made on the basis of a decision of the Conference of the Parties (Cancún Agreements) or derive their legal force from a treaty (Paris Agreement).[95] Yet, instead of an obligation of result,[96] this approach inclines towards obligations of means. The Paris Agreement, in particular, requires states to 'undertake … ambitious efforts' and to 'pursue domestic mitigation measures, with the aim of achieving the objectives' defined in their NDCs.[97]

This bottom-up approach reduces the gap in global ambition and, possibly, the gap in state action. International agreements can include ambitious global mitigation objectives, even when intended national commitments do not meet these objectives, based on the assumption that national commitments could then be reviewed and

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91 I. Shishlov, R. Morel & V. Bellassen, 'Compliance of the Parties to the Kyoto Protocol in the First Commitment Period' (2016) 16(6) *Climate Policy*, pp. 768–82. Economic studies, however, suggest that the developed state parties to the Kyoto Protocol have, on average, emitted 7% or 8% less GHG than other states during that period: N. Grunewald & I. Martinez-Zarzoso, 'Did the Kyoto Protocol Fail? An Evaluation of the Effect of the Kyoto Protocol on CO_2 Emissions' (2015) 21(1) *Environment and Development Economics*, pp. 1–22; R. Aichele & G. Felbermayr, 'Kyoto and the Carbon Footprint of Nations' (2012) 63(3) *Journal of Environmental Economics and Management*, pp. 336–54.

92 See, e.g., Decision 1/CP.16, n. 56 above, para. 37; Decision 1/CP.19, Further Advancing the Durban Platform, UN Doc. FCCC/CP/2013/10/Add.1, 23 Nov. 2013, para. 4(c), available at: http://unfccc.int/resource/docs/2013/cop19/eng/10a01.pdf#page=3; Decision 1/CP.21, n. 13 above, para. 106(c).

93 Paris Agreement, n. 13 above, Art. 3; see also Art. 4.3.

94 Paris Agreement, n. 13 above, Arts. 13 and 14; Decision 1/CP.16, n. 56 above, paras 38–47.

95 On the legal force of unilateral declarations, see ILC, 'Guiding Principles Applicable to Unilateral Declarations of States Capable of Creating Legal Obligations' (2006) 2(2) *Yearbook of International Law Commission*, pp. 160–6.

96 Kyoto Protocol, n. 12 above, Art. 3.1 ('shall … ensure').

97 Paris Agreement, n. 13 above, Arts 3 and 4.2. The wording of the Cancún Agreement regarding developed states ('targets to be implemented', para. 36) is ambivalent, although the pledges of developing states ('actions to be implemented', para. 49) appear more clearly as an obligation of means.

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gradually increased. Thus, the Copenhagen Accord endorsed the objective of holding the increase in global average temperature below 2°C,[98] while the Cancún Agreements and the Paris Agreement also mention 1.5°C as a more aspirational target.[99] It could, furthermore, be anticipated that states, being able to define their respective mitigation commitments, would be more likely to participate in the decision (so as to ratify a treaty) and to actually comply with their commitment. Although Canada, Japan, New Zealand, Russia and the US took no quantified emissions limitation or reduction commitments during the second commitment period of the Kyoto Protocol defined by the Doha Amendment, they – along with most emerging economies – communicated quantified economy-wide emissions reduction targets under the Cancún Agreements, thus condoning a more ambitious objective, a broader participation, and greater flexibility for each party to define its own commitment.[100] Similarly, in advance of the adoption of the Paris Agreement, more than 160 states, including all major GHG emitters, communicated their intended NDCs.

While reducing the gaps in global ambition and, possibly, in state action, the bottom-up approach adopted in Cancún and in Paris exacerbates the gap in national commitment. Successive decisions of the COP to the UNFCCC have recognized the discrepancy between the Cancún Pledges and the objective of keeping the increase in global average temperature below 2°C (let alone 1.5°C).[101] Likewise, intended NDCs communicated in advance of the Paris Agreement would commit states to only a fraction of what is assumed to be the most likely least-cost way of realizing this ambition.[102] The bottom-up approach has been favoured in recent years based on the understanding that the quasi-universal acceptance of an instrument that formulates an ambitious global mitigation objective provides a good basis for promoting compliance with general international law, although further strenuous international haggling will be necessary to gradually increase national commitments. This suggests an increasing emphasis on the ability of the climate regime to leverage fruitful political processes to raise awareness, set agendas and build political momentum for each individual state to commit progressively to stringent mitigation efforts.

3.2. *The Compliance Gap on Reparations and International Cooperation on Adaptation*

Climate change is already having significant impacts, especially in developing countries.[103] Industrialized nations responsible for excessive GHG emissions have

98 Decision 2/CP.15, n. 55 above, para. 1.

99 Decision 1/CP.16, n. 56 above, para. 4; Paris Agreement, n. 13 above, Art. 2.1(a).

100 UNFCCC Secretariat, Compilation of Economy-Wide Emission Reduction Targets to be Implemented by Parties included in Annex I to the Convention, UN Doc. FCCC/SBSTA/2014/INF.6, 9 May 2014, available at: http://unfccc.int/resource/docs/2014/sbsta/eng/inf06.pdf.

101 See, e.g., Decision 1/CP.17, Establishment of an Ad Hoc Working Group on the Durban Platform for Enhanced Action, UN Doc. FCCC/CP/2011/9/Add.1, 11 Dec. 2011, recital 3, available at: http://unfccc.int/resource/docs/2011/cop17/eng/09a01.pdf#page=2; Paris Agreement, n. 13 above, recital 10.

102 Paris Agreement, n. 13 above, para. 17; see also UNFCCC Secretariat, n. 15 above.

103 See n. 1 above and accompanying text.

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remedial obligations towards the states that are most severely affected by climate-related impacts. Claims have long been made for efforts within the climate regime to address the gap between the conduct of the states responsible for most GHG emissions and their remedial obligations under the law of state responsibility. These claims met with less success than the attempt to address the compliance gap on emissions because of the lack of political leverage of the states most severely affected by the impacts of climate change and the reluctance of most industrialized nations to admit anything akin to a legal responsibility. Negotiations on these aspects of the climate regime have become more prominent since 2007, often in exchange for greater involvement on the part of developing states in international cooperation on mitigation. Provisions were progressively adopted to promote support for adaptation and 'approaches to address loss and damage'.

The UNFCCC does not define a global adaptation objective but merely a set of vague requirements, such as the obligation for developed states to 'assist the developing country Parties that are particularly vulnerable to the adverse effects of climate change in meeting costs of adaptation to those adverse effects'.[104] 'Meeting costs', in contrast to 'meeting *the* costs', does not suggest a comprehensive obligation to support developing states in meeting all the costs of adaptation. Such a provision falls short of fulfilling the obligation of a state responsible for an internationally wrongful act to make adequate reparation. To date, international support for adaptation has been over fifteen times less than international support for mitigation.[105]

The 2007 Bali Action Plan went further by defining an, admittedly elusive, objective of 'enhanc[ing]' action on adaptation.[106] As clarified in the Cancún Agreements, this global objective is limited to 'reducing vulnerability and building resilience in developing country Parties', in particular by addressing 'the urgent and immediate needs of those developing countries that are particularly vulnerable'.[107] While this surely falls far short of the obligation to provide adequate reparation, the main contribution of the Bali Action Plan was to define support for adaptation as a global objective requiring national commitments – a necessary first step towards addressing the compliance gap in reparations. Technical discussions were held on how to adapt and, more recently, on possible approaches to address loss and damage associated with climate change impacts.

Yet, international cooperation on adaptation has not always been in line with the nature of remedial obligations, and tends to provide technical guidance rather than compensation. From the viewpoint of developing states at least, the crux of the question remains the need for financial (and, to a lesser extent, technical) support from developed states. Financial support could provide something akin to compensation. However, global objectives of substantial financial support for

104 UNFCCC, n. 11 above, Art. 4.4.
105 Buchner et al., n. 64 above.
106 Decision 1/CP.13, n. 58 above, para. 1(c).
107 Decision 1/CP.16, n. 56 above, para. 11.

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adaptation have not been reflected consistently in the individual commitments made by developed states. Multilateral funds established under the UNFCCC or under the Kyoto Protocol have had limited success.[108]

Spurred by the process initiated by the Bali Action Plan, the Copenhagen Accord and the Cancún Agreements announced an increase in financial support 'with balanced allocation between adaptation and mitigation',[109] and the Green Climate Fund was established to channel some of the financial flow announced.[110] While the COP has repeatedly 'urg[ed] all developed country Parties to scale up climate finance' to meet this objective,[111] the determination of respective national contributions was left to individual developed states in a bottom-up approach. In 2013, developed states were thus requested to 'prepare biennial submissions on their updated strategies and approaches for scaling up climate finance'[112] for the period from 2014 to 2020. Submissions received before the COP-21 reported annual levels of climate finance commitments ranging from US$23 *million* (Portugal) to US$10.8 *billion* (Japan).[113]

The Paris Agreement endorsed a similar bottom-up-approach, firstly, by recognizing the importance of support for adaptation efforts[114] and, secondly, by refraining from defining individual obligations for developed states.[115] Developed states were requested to 'biennially communicate indicative quantitative and qualitative information' on their provision of financial support for mitigation and adaptation.[116] While developed states committed to jointly mobilize US$100 billion per year by 2020, the Green Climate Fund's initial resource mobilization gathered less than US$10 billion in its first 18 months.[117] The financial commitments of developed states have repeatedly fallen short of meeting global objectives and, while the COP has repeatedly called for a balanced distribution of climate finance between mitigation and adaptation, donor states strongly favour the former.

In addition to this quantitative shortcoming, there is also a qualitative gap between international cooperation on adaptation and general international law. Under general international law, the state responsible for an internationally wrongful act must, as the Permanent Court of International Justice stated in the case of the Chorzów

108 The Adaptation Fund created by the Kyoto Protocol, for instance, has committed less than US$400 million since its creation, according to information found on its website: https://www.adaptation-fund.org.

109 Decision 2/CP.15, n. 55 above, para. 8; Decision 1/CP.16, n. 56 above, paras 95 (2010–12) and 98 (2020).

110 Decision 1/CP.16, ibid., para. 102.

111 See, e.g., Decision 1/CP.17, n. 101 above, para. 66.

112 See, e.g., Decision 3/CP.19, Long-Term Climate Finance, UN Doc. FCCC/CP/2013/10/Add.1, 23 Nov. 2013, para. 10, available at: http://unfccc.int/resource/docs/2013/cop19/eng/10a01.pdf.

113 UNFCCC Secretariat, Compilation and Synthesis of Biennial Submissions from Developed Country Parties on their Strategies and Approaches for Scaling up Climate Finance from 2014 to 2020, UN Doc. FCCC/CP/2015/INF.1, 27 May 2015, para. 7, available at: http://unfccc.int/resource/docs/2015/cop21/eng/inf01.pdf.

114 Paris Agreement, n. 13 above, Art. 7.7.

115 Ibid., Art. 7.8.

116 Ibid., Art. 9.5.

117 Green Climate Fund, 'Status of Pledges and Contributions made to the Green Climate Fund', 27 May 2016, available at http://www.greenclimate.fund/documents/20182/24868/Status_of_Pledges.pdf/eef538d3-2987-4659-8c7c-5566ed6afd19.

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Factory, 'reestablish the situation which would, in all probability, have existed if that act had not been committed'.[118] By contrast, the very concepts of 'adaptation' and 'approaches to address loss and damage' suggest international guidance on a domestic process of transformation. Instead of compensation, industrialized nations are inclined to redefine their 'responsibility' as a ground for support and assistance, leading to influence and oversight in development policies of developing states. The emphasis of the workstream on loss and damage on migration and insurances may have more to do with the priorities of the donors than with the needs of the states and societies most affected by the adverse impacts of climate change.[119] Thus, despite long-lasting efforts over the last quarter of a century, much remains to be done for the climate regime to address the compliance gap on reparations.

3.3. *Means to Promote Compliance*

This last section explores the different techniques implemented in the climate regime in order to promote compliance with states' obligations under general international law, whether in relation to emissions or (less frequently) reparations. Although they may be useful, classical tools such as adjudication, measures of retorsion, counter-measures, and multilateral sanctions are assumed to be insufficient to ensure compliance with general international law.[120] Instead, the climate regime represents an attempt to foster compliance through international socialization, in particular through negotiating global ambition and national commitments. Classical enforcement institutions could nevertheless play a role on the basis of intermediary rules defined by the climate regime. The climate regime offers possible bases for dispute settlement, including through the submission of a dispute to the ICJ or to arbitration,[121] or through establishing a conciliation commission.[122] It is noteworthy, however, that the annexes on arbitration and on conciliation announced in the UNFCCC to define relevant procedural rules[123] have not yet been adopted. This may reflect the low confidence of states in international dispute settlement as a way to enforce climate law.

In addition to external dispute settlement mechanisms, institutions were also established within the climate regime to promote compliance, in particular with mitigation commitments. The compliance mechanism established in the Kyoto Protocol aims specifically 'to determine and to address cases of non-compliance with provisions' of the Protocol. However, the Kyoto Protocol provides no basis for the adoption of 'any procedures and mechanisms … entailing binding consequences'.[124]

118 *Factory at Chorzów*, Merits, 13 Sept. 1928, *PCIJ Series A No. 17* (1928), p. 47.

119 B. Mayer, *The Concept of Climate Migration: Advocacy and its Prospects* (Edward Elgar, 2016).

120 See n. 9 above and accompanying text.

121 UNFCCC, n. 11 above, Art. 14; Kyoto Protocol, n. 12 above, Art. 19; Paris Agreement, n. 13 above, Art. 24.

122 UNFCCC, ibid., Arts 14.1 and 14.6. Here also, the annex on conciliation announced in Art. 14.7 has never been adopted.

123 UNFCCC, ibid., Arts 14.2(b) and 14.7.

124 Kyoto Protocol, n. 12 above, Art. 18.

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Similarly, the 'mechanism to facilitate implementation of and promote compliance' with the provisions of the Paris Agreement will be of a 'non-adversarial and non-punitive' nature,[125] seeking to facilitate rather than to impose compliance. Most of the procedures initiated before the compliance mechanism of the Kyoto Protocol concerned technical issues relating to reports on GHG emissions or registry system managements rather than compliance with emissions limitation and reduction commitments.

Unable to force states into any particular conduct, the climate regime creates tools that promote compliance through more innovative means. These means seek to raise awareness, set agendas, and build momentum towards state compliance under general international law. Although largely orchestrated by the UNFCCC and related instruments, these processes often extend beyond the international climate regime proper as they create a public appetite for climate change policies within and across states. In particular, they aspire to tap into national political debates in order to spur national acceptance, support, and demand for climate change policies.

Firstly, through raising awareness and the promotion of further research, as well as the dissemination of knowledge, the climate regime fosters a common understanding of climate change and the legitimacy of costly responses, which is a necessary first step. Treaties and COP decisions make reference to scientific authorities – in particular, to the successive Assessment Reports of the IPCC – as a basis for the determination of global adaptation and mitigation objectives.[126] Through the UNFCCC and the Paris Agreement, states recognize unequivocally 'the need for an effective and progressive response to the urgent threat of climate change on the basis of the best available scientific knowledge'.[127] States are repeatedly called upon 'to enhance climate change education, training, public awareness, public participation and public access to information' on the ground of 'the importance of these steps with respect to enhancing actions'.[128] One way of raising awareness is to facilitate media coverage and civil society participation in the negotiation process. In addition to 17,000 state representatives, the COP-21 held in Paris in December 2015 gathered more than 8,200 representatives of 2,000 civil society and international organizations, as well as 2,700 journalists.[129] The 'Climate Generations' area adjacent to the conference centre welcomed about 90,000 visitors during the negotiations.[130] The rotation of the venue of successive COPs is an obvious way to stimulate awareness in different parts of the world.

Secondly, through efforts to set the political agenda of multiple influential actors, the climate regime promotes an active involvement of critical institutional and

125 Paris Agreement, n. 13 above, Art. 15(1) and (2).

126 See, e.g., Decision 2/CP.15, n. 55 above, para. 1; Decision 1/CP.21, n. 13 above, para. 100(b).

127 Paris Agreement, n. 13 above, recital 5; see also UNFCCC, n. 11 above, recitals 3 and 7.

128 Paris Agreement, n. 13 above, Art. 12; see also UNFCCC, n. 11 above, Art. 6.

129 Information collected from the UNFCCC Secretariat website page on observer organizations, available at: http://unfccc.int/parties_and_observers/observer_organizations/items/9545.php.

130 Information gathered from the website of the COP-21 host, available at: http://www.cop21.gouv.fr/en/les-espaces-generations-climat.

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individual actors. Processes through which states determine their own commitments for climate change mitigation, or to financially support adaptation, open up important political debates on the role and responsibilities of states with regard to climate change. The bottom-up approach adopted in Cancún and Paris could thus foster a greater sense of ownership of responses to climate change among domestic actors. Furthermore, agenda setting extends to a wide range of non-state actors, such as international organizations, national authorities with different responsibilities, local governments, and non-governmental organizations. Linking climate change with other political issues leverages the participation of more institutions – for instance, those with a focus on development, international security, disaster risk management, migration and human rights. It facilitates the mainstreaming of climate change considerations in multiple policy spheres. Efforts have been made to involve other stakeholders, such as civil society organizations, for-profit organizations and subnational authorities, not just through awareness raising, but also by encouraging voluntary commitments by non-state actors, including through investment and 'divestment' strategies, technology and innovation, mitigation and adaptation initiatives. In particular, the decision on the adoption of the Paris Agreement encouraged efforts by non-party stakeholders, including profit- and non-profit organizations as well as subnational authorities, and established a platform to document these efforts.[131]

Lastly, through building momentum and trust in the prospects of international cooperation, the climate regime pushes for a progressive upscaling of climate action and genuine steps towards states' compliance with their obligations under general international law. Climate change mitigation has often been construed as a collective action problem because, from a strictly economic perspective, 'even if a nation is better off with a treaty than without, it will be better off still if everyone else signs the treaty and it does not'.[132] This disincentive can be overcome only through confidence building and increasing transparency in respective national actions so that each state can ensure that others are not free-riding at its expense. Within the climate regime, efforts at monitoring and reporting GHG emissions have occupied an important place from the outset. The Paris Agreement further establishes an 'enhanced transparency framework for action and support' in order to 'build mutual trust and confidence and to promote effective implementation'.[133] Confidence and momentum building accounts in part for the push for international oversight, beyond states' actual GHG emissions limitation or reduction achievements, to the actual mitigation efforts that they are making. Under the Paris Agreement, for instance, states will report their 'progress towards achieving [their] individual nationally determined contributions'.[134] This mechanism will make it less economically risky for a state to comply with its mitigation commitments as it can verify that other states are also making adequate efforts.

[131] Decision 1/CP.21, n. 13 above, paras 118 and 134–7.

[132] E. Posner & D. Weisbach, *Climate Change Justice* (Princeton University Press, 2010), p. 181.

[133] Paris Agreement, n. 13 above, Art. 13.1.

[134] Ibid., Art. 13.5.

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No international institution can compel industrialized nations to comply with their obligations under general international law to reduce excessive GHG emissions and pay adequate reparation to developing states. Yet, negotiations conducted over a quarter of a century have progressively established a set of specific rules and institutions which put pressure on states to do so. Compliance with general international law thus becomes gradually viewed as a possible, preferable and – hopefully soon – obvious choice.

4. CONCLUSION

The climate regime is neither a derogation from nor a mere application of norms of general international law. It forms a compliance regime: a regime intended mainly to promote compliance with general norms of international law, in particular with states' obligations under the no-harm principle and the law of state responsibility. This interpretation is necessary to explain specific rules that do not exclude the application of pre-existing norms, yet apply them only in a partial and selective fashion. This interpretation is also consistent with mechanisms within the climate regime which seek to develop internal support for climate action by raising awareness, setting agendas, and building momentum.

This transitory regime could too easily conceal the existence of relevant norms of general international law, and political haggling could forfeit principles of justice. The project of international law as a promise for justice would suffer greatly if the international responses to a major global crisis such as climate change were viewed as nothing but the outcome of political negotiations dominated by the most powerful states, with no consideration for general international law. Beyond the analysis of the rules and processes established by international climate change agreements, it is therefore essential to have a comprehensive understanding of the 'general' international law on climate change, to recognize the achievements of international cooperation to date, as well as to acknowledge the many remaining challenges.

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