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Climate Change: Options and Duties under International Law

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CLIMATE CHANGE: OPTIONS AND DUTIES UNDER INTERNATIONAL LAW

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CONTENTS

THE HARD WORK OF REGIME INTERACTION: CLIMATE CHANGE AND HUMAN RIGHTS*

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TABLE OF CONTENTS

ABBREVIATIONS

ACCC	Aarhus Convention Compliance Committee
ACHPR	African Commission on Human and People's Rights
ASEAN	Association of Southeast Asian Nations
CESCR	United Nations Committee on Economic, Social and Cultural Rights
COP	Conference of the Parties
ECSR	European Committee on Social Rights
ECtHR	European Court of Human Rights
GEF	Global Environment Facility
GHGs	Greenhouse gases
HRC	Human Rights Council
IAComHR	Inter-American Commission on Human Rights
IACtHR	Inter-American Court of Human Rights
IPCC	International Panel on Climate Change
NGOs	Non-governmental organizations
OHCHR	Office of the United Nations High Commissioner for Human Rights
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change

1. INTRODUCTION

The 2015 Paris Agreement is the first climate change treaty that explicitly refers to human rights.[1] In its 11th paragraph, the Preamble of the Agreement provides as follows:

> Acknowledging that climate change is a common concern of humankind, Parties should, when taking action to address climate change, respect, promote and consider their respective obligations on human rights, the right to health, the rights of indigenous peoples, local communities, migrants, children, persons with disabilities and people in vulnerable situations and the right to development, as well as gender equality, empowerment of women and intergenerational equity.

In addition, other paragraphs of the Preamble refer to 'equitable access to sustainable development and the eradication of poverty', 'safeguarding food security and ending hunger' and 'the imperatives of a just transition of the workforce and the creation of decent work'.[2] It thereby indirectly referrers to a right to sustainable development, the right to food and labour rights. Importantly, Article 7 of the Paris Agreement, on adaptation, includes the concept of vulnerability and thus incorporates distributional effects of climate change for groups and communities into the climate change regime.

The inclusion of a human rights approach in the climate change regime is the result of the hard work of a coalition of non-governmental organizations (NGOs), international bodies and some states over the past few decades.[3] Regime interaction, then, requires time and perseverance. We suggest that the hard work of regime interaction will need to continue if climate change and human rights regimes are to develop an integrated narrative. With this in mind, we explore the role that international human rights courts and court-like bodies could play in this process.

This essay first addresses the conceptual framework that informs our analysis. Thereafter it briefly considers the distinct conceptual narratives that underpin the human rights regime and the climate change regime. The second section focuses on how the interaction between human rights and climate change regimes has transpired at the level of normative development. In order to contextualize this development, this section first addresses the interaction between human rights and environmental regimes more generally. Subsequently, it considers how the climate change regime has interacted with human rights *en route* to Paris. The essay then proceeds to address the role of international human rights courts and court-like bodies in the interaction between human rights and environmental regimes, including the climate change regime.

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1 The Paris Agreement entered into force on 4 November 2016 and is available at <https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement>.

2 Paras. 9 and 10 Paris Agreement, respectively.

3 Daniel Magraw, Anabella Rosemberg and Deepika Padmanabhan, 'Human Rights, Labour and the Paris Agreement on Climate Change', 46(5) *Environmental Policy and Law* (2016) pp. 313-318.

2. CONCEPTUAL FRAMEWORK

Regime interaction has been analysed from many different perspectives and defined through different taxonomies. Often, analyses have focused on what happens when international courts are confronted with competing norms originating in different regimes.[4] Alternatively, regime interaction has been characterized as involving politics and struggles for influence.[5] While both approaches provide valuable insights, with Jeffrey Dunoff, we suggest that more is on-going when regimes interact.[6] Dunoff suggests that regimes interact in various ways, including interactions before courts, which he refers to as transactional,[7] and three types of relational interactions. Dunoff argues that the latter are key if we are to understand regime interaction.

The three relational interactions concern regulatory and administrative interactions, operational interactions and conceptual interactions.[8] Regulatory and administrative interactions involve treaty bodies, international organizations, and state and non-state actors engaged in continuous and collaborative interactions with the purpose of developing formal and informal rules of general application, aimed at affecting the behaviour of a variety of actors.[9] An example relevant in international environmental law is the Global Environmental Facility (GEF) established by the World Bank, the United Nations Development Programme (UNDP) and the United Nations Environment Programme (UNEP). Within the GEF these organizations cooperate with other international organizations as well as state and non-state actors to develop and implement projects in support of international environmental law in developing states.[10] In so doing, general rules applicable to GEF-supported projects are developed on a continuous basis. In other words, the organizations involved in the GEF engage in normative development.[11] Operational interactions involve the same types of actors as those involved in regulatory and administrative interaction, but at an implementation level. Actors are engaged in cooperative decision-making on a continuous basis in order to implement projects,

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4 Jeffrey L. Dunoff, 'A New Approach to Regime Interaction', in Margaret A. Young (ed.), *Regime Interaction in International Law*, Cambridge: Cambridge University Press 2012, pp. 136-174, see text and references on pp. 139-141.

5 Martti Koskenniemi, 'Hegemonic Regimes', in Margaret A. Young (ed.), *Regime Interaction in International Law*, Cambridge: Cambridge University Press 2012, pp. 305-324.

6 Dunoff, *supra* n. 4, at pp. 166-173.

7 Ibid., at pp. 157-158.

8 Ibid., at p. 137.

9 Ibid., at pp. 158-163.

10 See <https://www.thegef.org/>; Empire Hechime Nyekwere, 'International Environment Financing: A Review of the Global Environment Facility', 5(2) *Groningen Journal of International Law* (2017) pp. 278-297.

11 See Ellen Hey, 'International Institutions', in Daniel Bodansky, Jutta Brunnée and Ellen Hey (eds.), *The Oxford Handbook of International Environmental Law*, Oxford: Oxford University Press 2007, pp. 749-769, at pp. 755-761.

such as GEF-supported ones.[12] Through this operational cooperation, decision-making consolidates rules of general application that are applied to a specific project. In other words, the organizations involved engage in decision-making in individual situations.[13] Finally, conceptual interactions involve different narratives or social understandings that come with distinct regimes, with law functioning 'as a filter through which humans understand and experience the world around them'.[14] These narratives typically focus on *who* and *what* matters and *how* they matter in a given regime and thus involve politics, even if not exclusively.[15] Conceptual regime interaction, then, may lead to the reconceptualization of a certain issue and the development of *new* narratives or social understandings about the *who*, *what* and *how*. The interaction between human rights and climate change regimes offers an example, as we shall see below.

In Dunoff's proposal for a new approach to studying regime interaction, the author makes two main points relevant for our analysis. Firstly, that the transactional regime interactions before courts are retrospective in nature, since they assess an event that occurred in the past, and 'revolve around efforts to harmonize legal regimes, or to privilege one set of international legal norms and subordinate others'.[16] Secondly, that the three types of relational interactions, described above, result in the development of new norms that aim to govern behaviour prospectively.[17]

Taking our cue from Dunoff, we propose the following. Firstly, we fully engage with his second point about the prospective nature of the three types of relational interactions, even if our focus in this essay is on conceptual interactions between the human rights and climate change regimes. Secondly, we amend his first point. We propose that regime interaction before international human rights courts and court-like bodies, besides being retrospective, can also be prospective and suggest that the interaction between human rights and environmental regimes before these bodies provides an example.

3. THE DISTINCT NARRATIVES OF THE HUMAN RIGHTS AND CLIMATE CHANGE REGIMES

The human rights regime and the climate change regime come with their own conceptual underpinnings and distinct narratives. The differences between these

12 Dunoff, *supra* n. 4, at pp. 163-166.
13 Hey, *supra* n. 11, at pp. 760-765.
14 Dunoff, *supra* n. 4, at p. 173.
15 Ibid., at p. 172 and Koskenniemi, *supra* n. 5.
16 Dunoff, *supra* n. 4, at p. 138.
17 Ibid.

two regimes[18] generate what has been referred to as the 'disciplinary disconnect'.[19] This section briefly discusses the nature of these distinct narratives of the human rights and climate change regimes.

Human rights are typically conceived as norms that protect interests vested in individuals.[20] They are defined in relational terms, in that they seek to protect an individual from someone else's wrongdoing, in particular from acts or omissions by public authorities in the exercise of their public powers.[21] These acts and omissions include the positive obligations held by public authorities to ensure that private actors respect the rights of others. Contrariwise, the effects of climate change are likely to have collective dimensions, which resound with economic, social and cultural rights, but which international human rights courts and court-like bodies generally have difficulties accommodating.[22]

Moreover, in the case of climate change, both the causal nexus and the attribution of responsibility are difficult to establish.[23] As to the causal nexus, this is the case because the violation of the right in question in most cases is a secondary consequence of the emitted greenhouse gases (GHGs), the intermediate consequences being rising temperatures followed by climatic conditions such as storms or droughts, which are the immediate cause of the ensuing harm.[24] This raises the sensitive issue whether the harm is to be linked to the emissions of GHGs elsewhere in the world or also to the possible omission of the state where the harm materializes to take adequate adaptation measures. Furthermore, responsibility is difficult to attribute because the harm cannot be clearly traced to a specific act or omission, but is instead grounded in multiple acts and omissions engaged in by a variety of actors at different locations and times on Earth.[25]

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18 On the relationship see e.g. Sumudu Attapattu, *Human Rights Approaches to Climate Change: Challenges and Opportunities*, Abingdon, Routledge 2015; Daniel Bodansky, Jutta Brunnée and Lavanya Rajamani, *International Climate Change Law*, Oxford, Oxford University Press 2017, at pp. 295-313; Ottavio Quirico and Mouloud Boumghar (eds.), *Climate Change and Human Rights: An International and Comparative Law Perspective*, Abingdon, Routledge 2016.

19 Stephen Humphreys, 'Competing Claims: Human Rights and Climate Harms', in Stephen Humphreys (ed.), *Human Rights and Climate Change*, Cambridge, Cambridge University Press 2010, pp. 37-68, at p. 38. See also Stephen Humphreys, 'Conceiving Justice: Articulating Common Causes in Distinct Regimes', in the same publication, pp. 299-319; Stephen Humphreys, 'Climate Change and Human Rights Law', in Rosemary Rayfuse and Shirley V. Scott (eds.), *International Law in the Era of Climate Change*, Cheltenham (UK) and Northampton (US), Edward Elgar 2012, pp. 29-57.

20 Francesco Francioni, 'International Human Rights in an Environmental Horizon', 21(1) *European Journal of International Law* (2010) pp. 41-55.

21 Amy Sinden, 'Climate Change and Human Rights', 27(2) *Journal of Land Resources and Environmental Law* (2007) pp. 255-271, at pp. 259-262.

22 Francioni, *supra* n. 20. The exception of course are those human rights treaties that provide justiciable collective rights, see text at n. 40, as well as the ECSR which can consider collective complaints, see text *infra* n. 86.

23 Ottavio Quirico, 'Systemic Integration between Climate Change and Human Rights in International Law?', 35(1) *Netherlands Quarterly of Human of Human Rights* (2017) pp. 31-50, at pp. 44-45.

24 Ibid.

25 Ibid.

In addition, once human rights are part of a treaty, in most cases, their implementation is supervised by an international court or court-like body, as well as national courts. As a result the human rights regime has a strong legal character that is focused on thresholds that states should meet.[26] The climate change regime conversely is more political in nature with its obligations reflecting considerable compromise and without international courts or court-like bodies to supervise implementation.[27] The manner in which the climate change regime conceptualizes climate change action might be characterized as a collective endeavour of the parties to the regime to prevent further climate change and its future effects. The parties to the climate change regime, then, commit to engage in mutual action through, what Daniel Bodansky refers to as reciprocal obligations owed to each other, as opposed to human rights obligations which parties to a regime also owe to each other, but more importantly to individuals.[28] Furthermore, market mechanisms characterize the regulatory measures adopted by parties to the climate change regime. These mechanisms tend not to address the distributive consequences for individuals and their communities.[29]

The climate change regime narrative, then, is both collective and market-based in nature. The collective orientation of the climate change regime makes it difficult to construct the effects of climate change in terms of the relational nature of human rights, while the market-oriented nature of the regime leaves the human rights dimension unaddressed.

Given the different narratives that characterize each of the two regimes, how might human rights and climate change interact? Below we suggest that regime interaction happening at the level of normative development provides a conceptual basis for international human rights courts and court-like bodies to further develop that interaction.[30]

4. NORMATIVE DEVELOPMENT AND INTERACTION BETWEEN HUMAN RIGHTS AND ENVIRONMENTAL INSTRUMENTS

The interaction between human rights and the climate change regime takes place against the backdrop of how international environmental law and human rights law have interacted over time. We therefore first explore these interactions and then

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26 Daniel Bodansky, 'Introduction: Climate Change and Human Rights: Unpacking the Issues', 38(3) *Georgia Journal of International and Comparative Law* (2010) pp. 511-524, at pp. 514-516. On thresholds and human rights, see Simon Caney, 'Climate Change, Human Rights and Moral Thresholds', in Stephen Humphreys (ed.), *Human Rights and Climate Change*, Cambridge, Cambridge University Press 2010, at pp. 69-90.

27 Bodansky, *supra* n. 26, at pp. 515-516.

28 Ibid., at p. 516.

29 Atieno Mboya, 'Human Rights and the Global Climate Change Regime', 58 *Natural Resources Journal* (2018) pp. 51-74.

30 National courts also play a crucial role in this process. See the contribution by Jaap Spier in this volume.

proceed to address the interaction between the climate change and human rights regimes in the negotiations leading up to the Paris Agreement.

4.1 Interaction between human rights and environmental instruments in general

A right to a clean or healthy environment has not been codified in general international law. Several United Nations human rights conventions, however, include environmental considerations in the formulation of the human rights that they seek to protect.[31] For example, the 1966 International Covenant on Economic, Social and Cultural Rights (ICESCR) provides that to achieve the right to the highest attainable standard of physical and mental health 'all aspects of environmental and industrial hygiene' shall be improved.[32] Similarly, the 1989 Convention on the Rights of the Child, requires that the 'risks of environmental pollution' be taken 'into consideration' in the implementation of 'the right of the child to the enjoyment of the highest attainable standard of health'.[33] Moreover, the 1989 ILO Convention on indigenous and tribal peoples recognizes the special cultural and spiritual relationship that indigenous peoples have with their lands and environment and requires that these be protected.[34] The relationship between indigenous peoples, their culture, their lands and the environment is also recognized in other human rights instruments and in environmental regimes. The 1992 Convention on Biological Diversity and its 2010 Nagoya Protocol, in particular, provide an example.[35] The Nagoya Protocol provides a legal framework for implementing the rights of indigenous and local populations in the context of access to and use of genetic resources by way of benefit sharing. The principle of benefit sharing provides the basis for the development of a new narrative in which human rights and environmental considerations can be integrated. Such integration takes place by way of regulatory and administrative interactions as well as operational interactions, involving benefit sharing projects that seek to implement the Nagoya Protocol.[36] United Nations Human Rights Treaty Bodies and Human Rights Rapporteurs also have addressed the relationship between human rights and the environment. Of particular relevance are the work of the Special Rapporteur on human rights and the environment, John

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31 For an overview see Lynda Collins, 'The United Nations, Human Rights and the Environment', in Anna Grear and Louis J. Kotzé (eds.), *Research Handbook on Human Rights and the Environment*, Cheltenham (UK) and Northampton (US), Edward Elgar 2015, pp. 219-244.

32 Art. 12.

33 Art. 24.

34 International Labour Organization, C169, Convention concerning Indigenous and Tribal Peoples in Independent Countries (1989), Part II.

35 Both the Convention and the Nagoya Protocol are available at <https://www.cbd.int/>.

36 Elisa Morgera, 'The Need for an International Legal Concept of Fair and Equitable Benefit Sharing', 27(2) *European Journal of International Law* (2016) pp. 353-383. See also The BeneLex Project, Benefit-sharing for an equitable transition to the green economy, at <https://www.strath.ac.uk/research/strathclydecentreenvironmentallawgovernance/benelex/>.

Knox,[37] and the General Comments adopted by the CESCR that address the relationship between human rights and the environment e.g. in the context of the right to food, health and housing.[38]

At the regional level, a right to a clean environment has been incorporated into the 1981 African Charter on Human and Peoples' Rights (Banjul Charter) and the 1988 Additional Protocol to the American Convention on Human Rights (Protocol of San Salvador).[39] The Banjul Charter formulates a collective right to a 'general satisfactory environment favourable to their development'[40] and the Protocol of San Salvador provides an individual right 'to live in a healthy environment'.[41] Other regional human rights instruments such as the 2004 Arab Charter of Human Rights and the 2012 Association of Southeast Asian Nations (ASEAN) Human Rights Declaration formulate a right to a healthy or clean environment as part of the right to an adequate standard of living.[42] In Europe, the Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (Aarhus Convention) in its Article 1 provides for 'the right of every person of present and future generations to live in an environment adequate to his or her health and well-being'.[43] While the provisions of the Banjul Charter are justiciable, the provision of the Protocol of San Salvador is not,[44] nor is the right formulated in Article 1 of the Aarhus Convention. The Aarhus Convention instead provides procedural environmental rights, i.e. access to information, participation in decision-making and access to justice, that are justiciable. Interestingly, the Inter-American Court of Human Rights (IACtHR) in a recent Advisory Opinion ruled that, based on Article 26 (progressive development), the American Convention on Human Rights encompasses an autonomous right to a healthy en-

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37 See <www.ohchr.org/EN/Issues/Environment/SREnvironment/Pages/SRenvironmentIndex.aspx>. John Knox, then Independent Expert on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment, in June 2014 issued a report entitled *Mapping Human Rights Obligations Relating to the Enjoyment of a Safe, Clean, Healthy and Sustainable Environment, Focus report on human rights and climate change*, available at <www.ohchr.org/EN/Issues/Environment/SREnvironment/Pages/ClimateChange.aspx>. For his most recent report on the topic see *Report of the Special Rapporteur on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment*, UN Doc. A/HRC/31/52, 1 February 2016, available at <www.ohchr.org/EN/Issues/Environment/SREnvironment/Pages/SRenvironmentIndex.aspx>.

38 See in particular CESCR, General Comments 4, 12, 14 and 15, available at <www.ohchr.org/EN/HRBodies/CESCR/pages/cescrindex.aspx>.

39 Available at <www.achpr.org/instruments/achpr/ and <www.oas.org/juridico/english/treaties/a-52.html> respectively>.

40 Art. 24.

41 Art. 11.

42 Art. 38 Arab Charter, available at <www.jus.uio.no/english/services/library/treaties/02/2-01/arab-human-rights-revised.xml> and Art. 28 ASEAN Declaration, available at <www.asean.org/storage/images/ASEAN_RTK_2014/6_AHRD_Booklet.pdf>.

43 Available at <https://www.unece.org/env/pp/treatytext.html>.

44 See Art. 19(6), Protocol of San Salvador.

vironment.[45] As a result, the right to a healthy environment presumably has become justiciable under the Inter-American system. In addition, the IACtHR extended the jurisdiction of the state where the harm originates beyond its own territory, to individuals in other states where the harmful effects materialize.[46]

Documents resulting from summits on the environment and development have also recognized the link between environmental protection and human rights. Yet, they often reiterate the importance of upholding human rights in developing activities to protect the environment but generally do not address *how* the protection of the environment might be ensured in view of human rights obligations. Paragraphs 8 and 9 of *The Future We Want*, the declaration adopted at the 2002 RIO+20 Conference on Sustainable Development, provide an example.[47]

> 8. We also reaffirm the importance of freedom, peace and security, respect for all human rights, including the right to development and the right to an adequate standard of living, including the right to food, the rule of law, gender equality, women's empowerment and the overall commitment to just and democratic societies for development.
>
> 9. We reaffirm the importance of the Universal Declaration of Human Rights, as well as other international instruments relating to human rights and international law. We emphasize the responsibilities of all States, in conformity with the Charter of the United Nations, to respect, protect and promote human rights and fundamental freedoms for all, without distinction of any kind as to race, colour, sex, language, religion, political or other opinion, national or social origin, property, birth, disability or other status.

Moreover, these documents also remain short of formulating a right to a clean or healthy environment. Principle 1 of the 1992 Rio Declaration on Environment and Development (Rio Declaration)[48] provides as follows:

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45 IACtHR, Advisory Opinion OC-23/17, 15 November 2017, Requested by the Republic of Columbia, paras. 62-63. The full text of the opinion in Spanish and an English summary is available at <www.corteidh.or.cr/CF/Jurisprudencia2/busqueda_opiniones_consultivas.cfm?lang=en>. See also Maria L. Banda, 'Inter-American Court of Human Rights' Advisory Opinion on the Environment and Human Rights', 22(6) *ASIL Insights*, 10 May 2018, available at <https://www.asil.org/insights/volume/22/issue/6/inter-american-court-human-rights-advisory-opinion-environment-and-human>; Antal Berkes, 'A New Extraterritorial Jurisdictional Link Recognised by the IACtHR', *EJIL: Talk!*, 28 March 2018, available at <https://www.ejiltalk.org/a-new-extraterritorial-jurisdictional-link-recognised-by-the-iacthr/comment-page-1/>, and Giovanny Vega-Barbosa and Lorraine Aboagye, 'Human Rights and the Protection of the Environment: The Advisory Opinion of the Inter-American Court of Human Rights', *EJIL: Talk!*, 26 February 2018, available at <https://www.ejiltalk.org/human-rights-and-the-protection-of-the-environment-the-advisory-opinion-of-the-inter-american-court-of-human-rights/>.

46 IACtHR, Advisory Opinion OC-23/17, para. 81.

47 Available at <https://sustainabledevelopment.un.org/futurewewant.html>.

48 Available at <www.unesco.org/education/pdf/RIO_E.PDF>.

> Human beings are at the centre of concerns for sustainable development. They are entitled to a healthy and productive life in harmony with nature.

Principle 1 has been criticized for downgrading the human rights dimension in international environmental law because it watered-down Principle 1 of the 1972 Stockholm Declaration on the Human Environment (Stockholm Declaration).[49] Principle 1 of the Stockholm Declaration states:

> Man has the fundamental right to freedom, equality and adequate conditions of life, in an environment of a quality that permits a life of dignity and well-being, and he bears a solemn responsibility to protect and improve the environment for present and future generations. In this respect, policies promoting or perpetuating apartheid, racial segregation, discrimination, colonial and other forms of oppression and foreign domination stand condemned and must be eliminated.

Also relevant in the context of the interactions between human rights and environmental law regimes is Principle 10 of the Rio Declaration. It formulates procedural environmental rights and reads as follows:

> Environmental issues are best handled with the participation of all concerned citizens, at the relevant level. At the national level, each individual shall have appropriate access to information concerning the environment that is held by public authorities, including information on hazardous materials and activities in their communities, and the opportunity to participate in decision-making processes. States shall facilitate and encourage public awareness and participation by making information widely available. Effective access to judicial and administrative proceedings, including redress and remedy, shall be provided.

Principle 10, among other developments, inspired the adoption of the aforementioned Aarhus Convention. The Aarhus Convention and the various bodies operating within its framework, including the Aarhus Convention Compliance Committee (ACCC), have given rise to a new narrative, based on procedural environmental rights,[50] which, as we illustrate below, has been integrated into human rights discourse by the decisions of courts and court-like bodies.[51]

Both instruments related to human rights law and instruments related to environmental law, then, address the relationship between these two bodies of law. Several elements characterize the ensuing narrative(s). Firstly, at the global level,

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49 Available at <https://sustainabledevelopment.un.org/milestones/humanenvironment>.

50 Ellen Hey, 'The interaction between Human Rights and the environment in the European "Aarhus space"', in Anna Grear and Louis J. Kotzé (eds.), *Research Handbook on Human Rights and the Environment*, Cheltenham (UK) and Northampton (US), Edward Elgar 2015, pp. 353-379.

51 See also John H. Knox, *Report of the Independent Expert on the Issue of Human Rights Obligations Relating to the Enjoyment of a Safe, Clean, Healthy and Sustainable Environment, Compilation of Good Practices* (A/HRC/28/61), 3 February 2015, available at <www.ohchr.org/EN/Issues/Environment/SREnvironment/Pages/GoodPractices.aspx>.

neither body of law codifies a right to a clean or healthy environment *per se*, meaning that a new integrated narrative based on a distinct human right has not emerged at that level. Secondly, while reiterating the importance of existing human rights, international environmental law seems reluctant to incorporate the implications of human rights law into its narrative, whereas the human rights regime seems more receptive towards assimilating environmental considerations. The Nagoya Protocol to the Convention on Biological Diversity is an exception to this general trend.

4.2 **En route *to Paris***

While prominently featuring in the academic literature and NGO-reports,[52] it took some time before the relationship between human rights and climate change was acknowledged in international policy making. Scholars often identify the 2005 Inuit petition to the Inter-American Commission on Human Rights (IAComHR) as the first episode triggering a policy debate about the interconnection between the two regimes.[53] It led to a series of initiatives advocating the inclusion of explicit rights-oriented language in climate change policies, both at an intergovernmental and NGO level.

In 2007, the International Panel on Climate Change (IPCC) published its Fourth Assessment Report, which emphasized the importance of linking climate change and sustainable development policies and made the point that

> [f]or a development path to be sustainable over a long period, wealth, resources, and opportunity must be shared so that all citizens have access to minimum standards of security, human rights, and social benefits, such as food, health, education, shelter, and opportunity for self-development.[54]

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52 See e.g. Alan E. Boyle and Michael H. Anderson (eds.), *Human Rights Approaches to Environmental Protection*, Oxford, Oxford University Press 1998; International Council on Human Rights Policy, *Climate Change and Human Rights: A Rough Guide* (2008), available at <www.ichrp.org/files/reports/45/136_report.pdf>; and Center for International Environmental Law and Friedrich-Ebert-Stiftung, *Human Rights and Climate Change: Practical Steps for Implementation* (2009), available at <www.ciel.org/Publications/CCandHRE_Feb09.pdf>.

53 The petition was filed against the United States by representatives of Inuit communities in Canada and the United States. It was dismissed on the grounds that 'the information provided does not enable us to determine whether the alleged facts would tend to characterize a violation of the rights protected by the American Declaration' (quoted in Jacqueline Peel and Hari M. Osofsky, 'A Rights Turn in Climate Change Litigation?', 7(1) *Transnational Environmental Law* (2018) pp. 37-67, at p. 47). The Inter-American Commission on Human Rights, however, did invite the petitioners to a hearing. For additional information, search <https://earthjustice.org/library>.

54 Bert Metz, Ogunlade Davidson, Peter Bosch, Rutu Dave and Leo Meyer (eds.), *Climate Change 2007 Mitigation, Contribution of Working Group III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*, Cambridge, Cambridge University Press 2007, at p. 696, available at <www.ipcc.ch/publications_and_data/publications_ipcc_fourth_assessment_report_wg3_report_mitigation_of_climate_change.htm>.

Around the same time, the Small Island Developing States Representatives adopted the 2007 Male' Declaration on the Human Dimension of Global Climate Change.[55] The Declaration points to the implications of climate change for the full enjoyment of human rights. It requests the Office of the United Nations High Commissioner for Human Rights (OHCHR) to conduct a detailed study on the topic and the United Nations Human Rights Council (HRC) to place the topic on its agenda.[56] Starting in 2008, the HRC adopted a series of resolutions on the topic.[57] The HCR highlighted that 'climate change poses an immediate and far-reaching threat to people and communities around the world and has implications for the full enjoyment of human rights'[58] and requested the OHCHR to conduct a study on the topic.[59] The 2009 OHCHR study further clarified the wide array of human rights potentially affected by climate-related disruptions.[60] It illustrates that climate change driven events might compromise, among other rights, the right to food, health, water, housing and self-determination.[61] Based on the concept of vulnerability, the study also shows how certain factors, such as age, poverty, gender and being part of an indigenous people, co-determine how the impacts of climate change will affect individuals or communities.[62] It thus highlights the distributional aspects of the impacts of climate change.[63] In the climate change regime, based on the principle of common but differentiated responsibilities, distributional aspects play an important role, but are addressed in inter-state terms.[64] The human rights narrative, based on the notion of vulnerability, thus, sought to expand the distributional dimension of the climate change regime beyond the inter-state level to the level of individuals and communities.

The climate change regime first acknowledged the relationship between human rights and climate change in the 2011 Cancun Agreements.[65] The relevant Confer-

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55 Available at <www.ciel.org/Publications/Male_Declaration_Nov07.pdf>.

56 Paras. 4 and 5 of the Male' Declaration respectively.

57 HRC Res. 7/23, 28 March 2008; 10/4, 25 March 2009; 18/22, 17 October 2011; 26/27, 15 July 2015; 29/15, 2 July 2015, available at <www.ohchr.org/EN/HRBodies/HRC/Pages/Documents.aspx>.

58 Para. 1, Preamble, HRC Res. 7/23.

59 Para. 1, HRC Res. 7/23.

60 OHCHR, *Report of the Office of the United Nations High Commissioner for Human Rights on the relationship between climate change and human rights* (A/HRC/10/61), 15 January 2009, available at <www.ohchr.org/EN/Issues/HRAndClimateChange/Pages/Study.aspx>.

61 Ibid., at pp. 20-41.

62 Ibid., at pp. 15-18.

63 On the distributional aspects of climate change and the notion of vulnerability, see e.g. Sam Adelman, 'Human Rights in the Paris Agreement: Too Little, Too Late?', 7(1) *Transnational Environmental Law* (2018) pp. 17-36; Edward Cameron, 'Human Rights and Climate Change: Moving from an Intrinsic to an Instrumental Approach', 38(3) *Georgia Journal of International and Comparative Law* (2010) pp. 673-716, at pp. 707-712, and Humphreys, 'Competing Claims', *supra* n. 19.

64 Jutta Brunnée and Charlotte Streck, 'The UNFCCC as a Negotiation Forum: Towards Common But More Differentiated Responsibilities', 13(5) *Climate Policy* (2013) pp. 589-607.

65 The Cancun Agreements are a set of decisions adopted at COP 16 of the United Nations Framework Convention on Climate Change (UNFCCC), which took place in Cancun in 2011

ence of the Parties (COP) decision in its preamble refers to the resolutions adopted by the HRC, including the concept of vulnerability, and its paragraph 8 emphasizes that all climate change actions should fully respect human rights. The Cancun Agreements also determined that mitigation and adaptation have the same priority, instead of prioritising mitigation, as was the case previously in the climate change regime.[66] Since adaptation relates directly to the impacts of climate change, together with the concept of vulnerability, it facilitates the foregrounding of the distributional aspects of climate change.[67]

Subsequently to the Cancun Agreements, proposals for the inclusion of the human rights perspective in the Paris Agreement were submitted to the negotiators.[68] Eventually, the explicit reference to protection of human rights was included in the 11th paragraph of the preamble, quoted above. Moreover, the Paris Agreement, besides focusing on mitigation, also prioritizes adaptation and importantly includes the concept of vulnerability in its Article 7. Article 7(5) provides as follows:

> Parties acknowledge that adaptation action should follow a country-driven, gender-responsive, participatory and fully transparent approach, taking into consideration vulnerable groups, communities and ecosystems, and should be based on and guided by the best available science and, as appropriate, traditional knowledge, knowledge of indigenous peoples and local knowledge systems, with a view to integrating adaptation into relevant socioeconomic and environmental policies and actions, where appropriate.

Furthermore, Article 7(9)(c) requires parties to engage in adaptation planning processes, which may include the following:

> The assessment of climate change impacts and vulnerability, with a view to formulating nationally determined prioritized actions, taking into account vulnerable people, places and ecosystems;

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and focused on long term cooperation within the climate change regime. See COP Decision 1/CP.16, *The Cancun 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, 15 March 2011, available at <https://unfccc.int/resource/docs/2010/cop16/eng/07a01.pdf>. See also Benoit Mayer, 'Human Rights in the Paris Agreement', 6(1-2) *Climate Law* (2016) pp. 109-117.

66 COP Decision 1/CP.16, para. 2(b).

67 See references at *supra* n. 63.

68 See e.g. *A New Climate Change Agreement Must include Human Rights Protection for All*, *An Open Letter from Special Procedures mandate-holders of the Human Rights Council to the State Parties to the UN Framework Convention on Climate Change on the occasion of the meeting of the Ad Hoc Working Group on the Durban Platform for Enhanced Action in Bonn*, 17 October 2014, available at <www.ohchr.org/EN/Issues/Environment/SREnvironment/Pages/ClimateChange.aspx>; Briefing Paper drafted for the purpose of informing the Climate Justice Dialogue on 7 February 2015, co-hosted by the OHCHR and the Mary Robinson Foundation in Geneva, 'Embedding human rights informed climate action into the Paris climate agreement and beyond', 7 February 2015, available at <https://www.mrfcj.org/media/pdf/2015/BriefingNoteforClimateJusticeDialogue7Feb2015.pdf>.

This approach is further reinforced through the incorporation of the notions of 'loss' and 'damage' in Article 8 of the Paris Agreement. The enhanced attention to adaptation, loss and damage refocuses climate change responses and links them to 'affectedness' and vulnerability, thus opening the door for human rights considerations. As a result, the Paris Agreement extends the distributional effects of climate change beyond the inter-state level to the level of groups and communities.[69]

In addition, the Paris Agreement also incorporates procedural environmental rights both in Article 7(5) by referring to 'a […] participatory and fully transparent approach' and in Article 12. The latter provides:

> Parties shall cooperate in taking measures, as appropriate, to enhance climate change education, training, public awareness, public participation and public access to information, recognizing the importance of these steps with respect to enhancing actions under this Agreement.

This provision in the climate change context, besides requiring the development of education and training programmes, refers to the duty resting on public authorities to collect environmentally relevant information and inform the public about the state of the environment (public awareness), to engage members of the public in decision-making procedures (public participation) and to make environmental information accessible upon request (public access to information). The Paris Agreement does not incorporate access to justice and as a result does not fully implement Principle 10 of the Rio Declaration.

The Paris Agreement, then, acknowledges that action to address climate change should respect human rights (paragraph 11, preamble) and that the effects of climate change impact human rights (Articles 7(5), 7(9)(c) and 8), and to an extent recognizes procedural human rights. Paragraph 11 of the preamble, as many of the other provisions of international environmental law referred to above, remains at the level of recognizing that human rights may be impacted, in this case by measures to address climate change, including both mitigation and adaptation actions. The provisions of Article 7, however, move beyond the mere recognition of human rights, by asserting that vulnerable groups and communities matter. Article 7 thereby expands *who* matters in the climate change regime beyond the inter-state level. Moreover, it also offers a basis for developing *how* these groups matter, namely based on their vulnerability and the distributional effects of climate change. In other words, the interaction between the human rights and the climate change regimes has introduced a new narrative into the latter. The procedural human rights included in Articles 7(5) and 12 of the Paris Agreement also offer a basis for public authorities to engage in a policy dialogue with those affected by climate change, thus opening up sites *where* interaction might happen and further developing the human rights and climate change narrative. In what follows, we suggest that the new narrative introduced by the Paris Agreement is likely to both provide a basis

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69 See also text *supra* n. 62-64.

and continue to develop, amongst other ways via procedures before international human rights courts and court-like bodies.

5. THE INTERACTION OF HUMAN RIGHTS AND ENVIRONMENTAL LAW BEFORE COURTS AND COURT-LIKE BODIES

Over the past decades international human rights courts and court-like bodies have integrated environmental considerations into their decisions by way of basically two approaches.[70] Firstly, they have ruled that specific human rights may be violated substantively as a result of acts or omissions that endanger human health or cause environmental degradation. Secondly, courts and court-like bodies have found that specific human rights may be violated procedurally.

Under the first approach, regional courts and court-like bodies, including the African Commission on Human and People's Rights (ACHPR), the European Court of Human Rights (ECtHR) and the IAComHR and IACtHR have ruled that human rights can be violated as a result of environmental degradation. Relevant rights include the right to life, the right to health, the right to property and the right to family and private life. Examples of relevant rulings include those of the ACHPR in the *Ogoniland* case;[71] the ECtHR in *López Ostra v. Spain*,[72] *Őneryildiz v. Turkey*,[73] *Taşkin and others v. Turkey*[74] and *Fadeyeva v. Russia*;[75] the IAComHR in *Maya*

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70 For further information see Werner Scholtz, 'Human Rights and the Environment in the African Union Context', in Anna Grear and Louis J. Kotzé (eds.), *Research Handbook on Human Rights and the Environment*, Cheltenham (UK) and Northampton (US), Edward Elgar 2015, pp. 401-420; Sophie Thériault, 'Environmental Justice and the Inter-American Court of Human Rights, in Anna Grear and Louis J. Kotzé (eds.), *Research Handbook on Human Rights and the Environment*, Cheltenham (UK) and Northampton (US), Edward Elgar 2015, pp. 309-329; Council of Europe, *Manual on Human Rights and the Environment*, Council of Europe, 2nd edn., 2012, available at <https://www.echr.coe.int/LibraryDocs/DH_DEV_Manual_Environment_Eng.pdf>.

71 ACHPR, 155/96: Social and Economic Rights Action Center (SERAC) and Center for Economic and Social Rights (CESR) / Nigeria (*Ogoniland* case) ACHPR, 7 October 2001, available at <www.achpr.org/communications/decision/155.96/>. The ACHPR found violations of the right to health and the right to a satisfactory environment (paras. 50-53), the right to freely dispose of natural resources (paras. 55-58), the right to adequate housing (paras. 59-63), the right to food (paras. 64-66) and the right to life (paras. 67-69).

72 ECtHR, Judgment 9 December 1994. The ECtHR found a violation of the right to private and family life (paras. 44-58). Decisions of the ECtHR are available through the HUDOC system at <https://www.echr.coe.int/Pages/home.aspx?p=home&c=>.

73 ECtHR, Judgment 30 November 2004 (Grand Chamber). The ECtHR found a violation of the right to life, among other violated rights (paras. 89-118).

74 ECtHR, Judgment 10 November 2004. The ECtHR found a substantive violation of the right to private and family life (paras. 116-117).

75 ECtHR, Judgment 9 June 2005. The ECtHR found a violation of the right to private and family life (paras. 116-134).

Indigenous Community of the Toledo District v. Belize;[76] and the IACtHR in *Saramaka People v. Suriname*[77] and in *Kichwa Indigenous People of Sarayaku v. Ecuador*.[78] Conversely, courts and tribunals have also ruled that, if properly balanced, environmental law, as part of the general interest, may provide a justification for limiting human rights. ECtHR's ruling in *Hatton v. UK* provides an example.[79]

The above-mentioned rulings illustrate that states have a duty to have in place proper legal and enforcement systems for realizing the human rights in question, including relevant environmental aspects. The rulings also show that states have the positive duty to ensure that private sector actors do not infringe these same human rights while engaging in their activities. Importantly, based on these rulings courts or court-like bodies can also order measures of redress, including compensation. Although redress is an import element of human rights law, it is also this aspect which points to a drawback of using human rights litigation to address environmental issues. Firstly, human rights litigation tends to be retrospective in that it deals with harm that has already occurred and assess whether the harm in question amounts to an infringement of a human right. Secondly, the harm considered usually is conceptualized in terms of harm to an individual instead of a community.[80] Exceptions to this second point of course are the ACHPR, which on the basis of Article 24 of the Banjul Charter is able to address collective aspects,[81] and the Inter-American institutions, which in considering the rights of tribal or indigenous peoples have recognized communal rights, e.g. to property.[82]

We suggest that the second approach adopted by human rights courts and court-like bodies goes some way towards addressing the retrospective and individualized nature of human rights decisions. Under this second approach, human rights courts and court-like bodies have found that specific human rights may be violated procedurally as a result of public authorities' failure to meet their duty of care to inform themselves of the state of the environment, to inform the public about the state of the environment, and to engage members of the public in decision-making procedures that affect them or to provide access to justice. Human rights courts and court-like bodies have read these procedural rights into the substantive human rights at stake. For example, in the *Ogoniland* case, *Taşkin* and *Kichwa Indigenous People of Sarayaku v. Ecuador* these procedural rights were read into (1) the rights

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76 IAComHR, Report Nº 40/04, Case 12.053, Merits. The IAComHR found violations of the right to property of an indigenous people who communally held that property (paras. 192-193). Available at <www.cidh.org/annualrep/2004eng/Belize.12053eng.htm>.

77 IACtHR, Judgment 28 November 2007. The IACtHR found a violation of the communal property rights of a tribal people (para. 154).

78 IACtHR, Judgment 27 June 2012. The IACtHR found 'serious jeopardizing of the rights to life and personal integrity in relation to the obligation to guarantee the right to communal property' (operative para. 4).

79 ECtHR, Judgment 8 July 2003.

80 See *supra* n. 20.

81 See text at and *supra* n. 40.

82 See cases referred to at *supra* n. 76-78.

to health and to a satisfactory environment,[83] (2) the right to private and family life[84] and (3) the property rights of an indigenous people.[85] Procedural rights thereby have become part of the human rights protected by the instruments in question.[86]

In terms of climate change litigation, international human rights courts and court-like bodies, to date, have only considered a limited number of cases, concerning specifically mitigation measures. These cases have involved both the need to take such measures and challenged the adoption thereof. In *Marangopoulos*, a claim related to emissions from lignite mines and lignite fuelled power plants, the European Committee on Social Rights (ECSR) extended the two-pronged approach to a climate change case, i.e. focusing on both substantive violations of particular rights as well as on procedural environmental rights.[87] Challenges to the adoption of mitigation measures have been brought particularly in relation to the placement of windmills. Cases have been brought mainly before the ACCC, which unsurprisingly has found that procedural environmental rights need to be respected also when taking action to mitigate climate change.[88] To the best of our knowledge, cases involving the need to adopt adaptation measures have not been brought before international human rights courts or court-like bodies. We note that several cases involving the need to adopt climate change mitigation measures are pending before or planned for submission to international human rights courts or court-like bodies.[89]

The activation of procedural environmental rights might bypass some of the difficulties highlighted above, and enhance both a prospective and a collective dimension in decisions of international human rights courts and court-like bodies. While remaining neutral with respect to 'which justice claim will win out, regardless of the substantive outcome',[90] procedural rights guarantee the involvement of the general public in policy and decision-making processes prospectively and collectively. Therefore, we suggest that, if implemented, the activation of procedural

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83 *Ogoniland*, *supra* n. 71, at para. 53.

84 *Taşkin*, *supra* n. 74, at paras. 118-125.

85 *Kichwa Indigenous People*, *supra* n. 78, operative para. 2.

86 Ulrich Beyerlin, 'Aligning International Environmental Governance with the "Aarhus Principles" and Participatory Human Rights', in Anna Grear and Louis J. Kotzé (eds.), *Research Handbook on Human Rights and the Environment*, Cheltenham (UK) and Northampton (US), Edward Elgar 2015, at pp. 333-352.

87 ECSR, *Marangopoulos Foundation for Human Rights (MFHR) v. Greece*, Complaint No. 30/2005, 7 June 2007, paras. 216-221, available at <http://hudoc.esc.coe.int/eng/#{'ESCDc Identifier':['cc-30-2005-dmerits-en']}>.

88 See e.g. ACCC/C/2010/54 (European Union), ACCC/C/2013/81 (Sweden), ACCC/C/2015/133 (The Netherlands, not yet decided). ACCC cases are available at <https://www.unece.org/env/pp/cc/com.html>.

89 See *Petition to the Inter-American Commission on Human Rights Seeking Relief from Violations of the Rights of Arctic Athabaskan Peoples Resulting from Rapid Arctic Warming and Melting Caused by Emissions of Black Carbon by Canada*, available at <http://climatecasechart.com/non-us-case/petition-inter-american-commission-human-rights-seeking-relief-violations-rights-arctic-athabaskan-peoples-resulting-rapid-arctic-warming-melting-caused-emissions/>, and reportedly Portuguese Children are preparing a case before the ECtHR against 47 countries, see <https://www.crowdjustice.com/case/climate-change-echr/>.

90 Humphreys, 'Competing Claims', *supra* n. 19, at p. 46.

rights fosters a prospective approach to both the protection of human rights and the environment. Public authorities, by collecting and making available environmental information as well as granting the public access to environmental information upon request and by facilitating public participation in decision-making as well as access to justice, promote a precautionary context in which the public is able to participate in the development of environmental policy. In such a context, the consequences of both climate change, i.e. the need for adaptation measures, and of action to prevent climate change, i.e. mitigation measures, can be addressed in a proactive participative manner, with access to justice as a last resort and access to an international court or court-like body as a safety net in case proper procedures are not engaged in at the national level.

As has been well documented, climate change litigation at the national level is also developing rapidly and is taking a rights-based approach.[91] For example, in the *Urgenda* case, the The Hague District Court found that the Government of the Netherlands violated its duty of care by failing to adopt appropriate and effective mitigation measures to avoid 'severe and life-threatening consequences for man and the environment'.[92] The Court determined the nature of this duty of care with reference to Articles 2 and 8 of the European Convention on Human Rights. Moreover, in *Leghari* the Lahore High Court Green Bench in Pakistan concluded that by not adopting appropriate adaptation policies, the Government violated, among other principles and standards of Pakistani law, the rights to life, to a healthy and clean environment, and to human dignity enshrined in Constitution of Pakistan.[93] Interestingly, the court ordered and later established the Climate Change Commission for the Punjab in which government representatives, experts, and NGOs are to participate,[94] thereby linking in to the right of NGOs to participate in decision-making. More generally, these cases illustrate that national courts can engage with climate change in a prospective manner, i.e. with a view to anticipating and avoiding future foreseeable harm, by basing their assessment on the substantive aspect of human rights.

These cases also show that national courts engage in conceptual interaction, by employing human rights to normatively determine both climate change threats and the positive obligations of states in the specific context of national adaptation and mitigation policies. As is often the case, national case law may well spur develop-

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91 See e.g. Peel and Osofsky, *supra* n. 53; Evert F. Stamhuis, 'A Case of Judicial Intervention in Climate Policy: The Dutch *Urgenda* Ruling', 22 *New Zealand Association of Comparative Law Yearbook* 2016 (2017) pp. 43-60, available at <https://www.victoria.ac.nz/law/research/publications/about-nzacl/publications/nzacl-yearbooks/yearbook-22,-2016>; and the contribution by Jaap Spier in this volume.

92 *Stichting Urgenda v. Government of the Netherlands*, The Hague District Court (C/09/456689 / HA ZA 13-1396), 24 June 2017 (Urgenda), paras. 4.35, 3.45-4.52, and 4.74, available at <https://uitspraken.rechtspraak.nl/inziendocument?id=ECLI:NL:RBDHA:2015:7196>.

93 *Ashgar Leghari v. Federation of Pakistan*, Lahore High Court Green Bench, Orders of 4 and 14 September 2015, available at <https://elaw.org/PK_AsgharLeghari_v_Pakistan_2015>, para. 7 (Order of 4 September 2015).

94 Ibid., para. 11 (Order of 14 September 2015).

ment at the international level, initiating transversally what has been referred to as a 'persuasion' process.[95] Therefore, international human rights courts and court-like bodies might sooner or later follow the example set by national courts. The recent IACtHR Advisory Opinion might be an example.[96] Notwithstanding its shortfalls,[97] this opinion reads the duty to prevent transboundary harm into the duty to respect and guarantee the rights to life and personal integrity, clearly stating that this duty is similar to positive human rights obligations and not limited to inter-state relations.[98] Interestingly, as in *Urgenda*, the IACtHR also relies on a due diligence obligation, albeit to construct an expanded extraterritorial application of the American Convention. In other words, all victims of environmental harm caused by activities within the country of origin are considered to be 'within the jurisdiction'[99] of that state, including those victims in the territory of other states. The state of origin, then, could be held to account under the Convention, if a causal nexus is established between the facts and the harm. The extension of positive human rights obligations beyond the territory of the state of origin of environmental harm potentially opens the door for climate change litigation – if a sufficient causal nexus between GHG emission and an impairment of affected individuals' or communities' rights is found.

International human rights and courts and court-like bodies have thus approached the link between human rights and environmental rights in a two-pronged manner. On the one hand, they have addressed the violation of specific rights contained in relevant instruments involving a retrospective approach. On the other hand, they have included a prospective approach by requiring that states implement procedural environmental rights. The latter, we suggest, enables the further development of an integrated narrative between human rights and environmental regimes. Importantly, national courts also are facilitating the interaction between rights, either human rights or constitutional rights, and climate change. Most importantly, they are doing so in a prospective manner and in relation to substantive human rights, that is to say, not only by way of procedural human rights.

6. CONCLUSIONS

The interaction between the human rights and environmental regimes, including the climate change regime, at the level of normative development illustrates con-

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95 See on this Luca Pasquet, '*Jurisdiction* ed elemento territoriale. Riflessioni su un mondo multilivello, interconnesso e specializzato', in Adriana Di Stefano (ed.), *A Lackland Law? Territory, Effectiveness and Jurisdiction in International and EU Law*, Turin, Giappichelli 2015, pp. 143-164.

96 See *supra* n. 45.

97 See Banda *supra* n. 45.

98 IACtHR, Advisory Opinion OC-23/17, *supra* n. 45, at para. 133. See also *supra* n. 45 and 46.

99 The Court uses the term 'jurisdiction' throughout the Opinion. It is the authors' impression, however, that in some sections, by relying on the causal nexus, the Court appears to conflate jurisdiction with responsibility.

siderable friction between the two regimes. In particular, it shows considerable reluctance on the part of international environmental regimes, including the climate change regime, to fully engage with the human rights regime. The Paris Agreement is a step in that process. It provides a basis for further regime interaction. We suggest that this interaction will further develop conceptually within both regimes, but also in other institutions engaged with climate change, such as the international development banks and United Nations specialized agencies. Within these institutions, interactions of a regulatory or administrative nature and of an operational nature are also likely to develop as they engage in projects to implement the Paris Agreement.

In addition, we suggest that international human rights courts and court-like bodies have laid the basis for engaging with climate change retrospectively, so far based mainly on non-climate change related environmental litigation. They are in a position to assess climate change action in view of the right to a healthy environment or in view of other human rights such as the right to life, the right to property and the right to private and family life. Additionally, procedural environmental rights are firmly grounded in the case law of international human rights courts and court-like bodies and we suggest these will also be applied to climate change related cases, having a prospective effect. It will be interesting to see if the prospective approach based on constitutional or human rights adopted by some national courts will find its way to international courts and court-like bodies. The recent Advisory Opinion of the IACtHR, which has added a new theme to the climate change and human rights narrative, might be pointing the way forward.

Finally, we submit that studying regime interaction from the point of view of conceptual interaction indeed, as Dunoff suggests, offers the insight that more than politics and struggles for influence are involved. What also seems to be on-going is the development of new narratives or new social understandings. In terms of interaction between the human rights and climate change regimes, that narrative or understanding has evolved to include the special position of vulnerable groups and communities, the notion that human rights may be violated as a result of climate change action, both mitigation and adaptation, and procedural environmental human rights. This new narrative has to some extent been developed by international human rights courts and court-like bodies in terms of environmental law and to a very limited extent for climate change law. We suggest that development of the human rights and climate change narrative does not end here. It will develop further by way of conceptual interaction, but also in terms of regulatory or administrative interactions and in operational interactions, in the climate change and human rights regimes, but also through the work of international institutions seeking to implement the Paris Agreement.

7. PROPOSITIONS AND POINTS FOR DISCUSSION

1. In terms of human rights law, the inclusion of the concept of 'vulnerability' in Article 7 of the Paris Agreement is more significant than the reference to human rights in the 11th paragraph of the Preamble of the Agreement.

2. Provisions in Articles 7, 8 and 12 of the Paris Agreement partially integrate a human rights narrative, thereby providing a basis to develop a new understanding of the *who*, *how* and *where* of the climate change regime.

3. International human rights courts and court-like bodies approach the human-rights/ climate change link in a two-pronged manner, i.e. focusing on violations of particular substantive human rights as well as procedural environmental rights.

4. International human rights courts and court-like bodies engage in prospective regime interaction, in particular when they read procedural environmental rights into substantive human rights obligations.

5. National courts are equally engaged in conceptual and prospective regime interaction, by employing human rights to define positive obligations of states in the context of mitigation and adaptation policies.

6. Considering regime interaction from a conceptual point of view illustrates that the hard work of regime interaction is about integrating distinct narratives that have developed over time and in their own realms.

PRIVATE LAW AS A CROWBAR FOR COMING TO GRIPS WITH CLIMATE CHANGE?*

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TABLE OF CONTENTS

ABBREVIATIONS

APQ	Above Permissible Quantum
BPQ	Below Permissible Quantum
CIEL	Center for International Environmental Law
EP	Principles on Climate Obligations of Enterprises
GHGs	Greenhouse gases
IPCC	Intergovernmental Panel on Climate Change
NDC	Nationally Determined Contribution (to the Paris Agreement)
NGO	Non-governmental organisation
OECD	Organisation for Economic Co-operation and Development
OP	Oslo Principles
PEL Liab. Dam.	Principles of European Law, Non-Contractual Liability Arising out of Damage Caused to Another
PETL	Principles of European Tort Law

1. WHY A FOCUS ON PRIVATE LAW[1]

The focus of this report is on private law and climate change. I am not going to dwell on the not overly exciting question what I mean by private law. In this report it encompasses 'financial law', listing requirements, a series of codes of conduct and governance. Other realms of the law – particularly human rights and environmental law – seemingly have captured the legal debate about climate change. Private law experts have been far less active in entering this scene.[2] That is regrettable, because private law can play a useful role. There are at least two reasons why that is the case.[3]

With due respect, private law is more advanced than more recent offspring of the law.[4] It has a tradition of at least two thousand years. Over the years, it has developed to cope with the changing demands of society.[5] Secondly, enforcement is easier compared to international law and even environmental law. The latter is of significant importance, but, unlike private law, it largely plays a role in a domestic context.

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1 For an overview of the Principles on Climate Obligations of Enterprises see also my contributions to the *Uniform Law Journal*, June 2018 (forthcoming at the time of writing) and the *Chinese Journal of Environmental Law*, July 2018 (forthcoming).

2 Some distinguished experts did, e.g. Monika Hinteregger, 'Civil Liability and the Challenges of Climate Change: A Functional Analysis', 8(2) *Journal of European Tort Law* (2017) pp. 238-259, at p. 239. Faure and Nollkaemper already pointed to tort law in 2007: Michael F. Faure and André Nollkaemper, 'International Liability as an Instrument to Prevent and Compensate for Climate Change', 26A *Stanford Environmental Law Journal* (2007) pp. 123-180, at pp. 147 ff.

3 See e.g. Robert Wai, 'Private v Private, Transnational Private Law and Contestation in Global Economic Governance', in Horatia Muir Watt and Diego P. Fernández Arroyo (eds.), *Private International Law and Global Governance*, Oxford: Oxford University Press 2014, <www.oxfordscholarship.com/view/10.1093/acprof:oso/9780198727620.001.0001/acprof-9780198727620-chapter-3>. See also the contributions by Roger van den Bergh (economic perspective), Frits Stroink (the relation between private and administrative law), Philip Sutherland (the corporate law angle), Siewert Lindenbergh (fundamental rights in private law) and Michael Faure, (multi-level governance of environmental harm), in Michael Faure and André van der Walt (eds.), *Globalisation and Private Law, the Way Forward*, Cheltenham (UK)/ Northampton (US), Edward Elgar 2010, and the comparative conclusions by the editors.

4 I second John Knox's view that it is necessary to clarify the meaning of human rights relating to the environment: (Final) Report of the Special Rapporteur on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment, Human Rights Council, A/HRC/37/59 of 24 January 2018, at p. 5.

5 Human rights law has also progressed, in particular the often ground-breaking judgments of international human rights courts. There are few judgments on global issues, however, and existing case law does not offer a solid basis for concrete obligations in the realm of climate change. On climate change see the advisory opinion of the Inter-American Court of Human Rights of 15 November 2017, OC-23/17 (only available in Spanish) and for an English summary see <www.corteidh.or.cr/docs/opiniones/resumen_seriea_23_eng.pdf>.

2. A FOCUS ON PRIVATE LAW ONLY WOULD BE A MISTAKE

The greater part of legal doctrine and even authoritative reports concerning global issues, such as climate change, are based on one or at best a few legal sources: international, human rights, environmental or – at times – private law. The advantage is that we benefit from the expertise of distinguished experts in the respective fields. That is also important for private law: at the very least, those insights *could* colour the interpretation of private law.[6] The same goes for authoritative reports, declarations, statements and pledges by senior politicians and business leaders.[7] They do not belong to the realm of private law, but they can serve as a fertile basis for its *interpretation*. The insights from different parts of the law can – and should – be used to create the most persuasive legal basis for judgments, authoritative reports and academic writings to tackle the threat of climate change.[8] That is what the Oslo Principles (OP) and the Principles on Climate Obligations of Enterprises (EP) have aimed to achieve.[9]

In particular international and human rights law is tremendously important. John Knox points to 'human rights bodies' which have 'applied human rights law to environmental issues by 'greening' existing human rights'.[10]

For the time being few developed countries and enterprises in these countries reduce their GHG emissions to the extent required. I am not overstating my case. In 2017, global emissions have risen,[11] once again. Some countries did a better – rarely a good – job; some enterprises performed impressively. As the whole, their emission reductions fell considerably short in light of the imperative of the Paris Agreement to stay (well below)[12] 2 degrees C. Hence, the notion that most of them met their legal obligations is untenable.

Non-compliance with one's reduction obligations is a clear violation of the law. International law has no *direct* implications and human rights law 'only' has indirect consequences for enterprises, but both can colour the interpretation of domes-

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6 See extensively Jane Wright, *Tort Law & Human Rights*, Oxford, Hart Publishing; Rob van Gestel and Marc Loth, 'Urgenda: roekeloze rechtspraak of rechtsvinding 3.0?', 37 *Nederlands Juristenblad* (2015) pp. 2598-2605, at p. 2602.

7 For examples see the Commentary to the Principles on Climate Obligations of Enterprises (EP) of the Expert Group on Climate Obligations of Enterprises, The Hague, Eleven International Publishing 2018 (the 'Commentary'), <https://climateprinciplesforenterprises.org/resources/>, at p. 84 ff.

8 See for a similar view Marc Loth, 'Climate Change Liability after All: A Dutch Landmark Case', 21 *Tilburg Law Review, the Journal of International and European Law* (2016) pp. 5-20, at p. 24.

9 These groups could borrow from the expertise of the members, experts in different parts of the law. See for both sets of Principles, the respective commentaries thereto <https://climateprinciplesforenerprises.org>; the website also contains a link to the publisher, the names and a short biography of the members of the EP group and an updated list of the endorsers of the EP.

10 Knox, *supra* n. 4, at p. 4.

11 See 'Analysis: Global CO2 Set to Rise 2% in 2017 after Three-Year "plateau"', *CarbonBrief* 13 November 2017, published by Carbon Brief Ltd., <https://www.carbonbrief.org/analysis-global-co2-emissions-set-to-rise-2-percent-in-2017-following-three-year-plateau>.

12 For a discussion on the 'well below' see the Commentary, *supra* n. 7, at pp. 50 ff.

tic law. The OP and the EP urge compliance with these principles even if relevant national laws or international agreements would require less stringent reduction obligations (OP 12 and EP 15).[13] Hence, international and human rights law can be called to aid if domestic law would raise barriers to issue judgments requiring defendants to reduce their emissions to the extent needed, even if that would mean overriding pertinent domestic law.[14] That may sound like a circular argument, if not for other reasons because there is no consensus about the reduction obligations of countries and enterprises and international law does not offer concrete obligations; it points, however, to the need to avoid passing the fatal threshold of 2 degrees and, by the same token, to upscale the reduction of greenhouse gases (GHGs). Those who challenge this view, should ask themselves: why are emissions that are *at right angles*[15] to the very core of the Paris Agreement (the world at large has to keep global warming below at most 2 degrees) legally acceptable?

3. QUESTIONS AND FEW ANSWERS

Below I pose a series of – in my view – important questions. In addition, I will discuss a series of thorny issues. To the extent possible I have tried to paint the contours of solutions. This report will hopefully serve as an agenda for further research.

It was impossible – and for the purpose of this report not necessary – to refer to many legal systems. I mostly confine myself to European Principles. If one sticks to the very core, private law in many other countries has a lot in common.

4. THE URGENT NEED TO CONCRETISE OBLIGATIONS

Private law – and the law in general – can only play a useful role if we are able to discern *concrete* legal obligations of the major players, at least by approximation. In my Supreme Court years I have learned that it not always easy, and at times close to impossible, to know with sufficient precision the obligations of defendants.

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13 For elaboration see the Commentary, *supra* n. 7, at pp. 158 ff.

14 I realise, of course, that the significance of international and human rights law differs in the respective countries and that it is quite a step to set aside pertinent domestic law in litigation directed against *enterprises*, because it is not directly applicable. It would be a mistake to ignore that climate change is at the very least a human rights issue, while the widely applauded Ruggie Principles and the OECD Guidelines for Multinational Enterprises clearly state that enterprises must respect human rights. That also is the message of John Knox, *supra* n. 4, at p. 4. He overstates his case, I think, by saying that the content of 'a human right to a healthy environment' 'has already been clarified' (p. 5). His reports do not mention what this human right means for pertinent reduction obligations of states.

15 I have emphasised 'at right angles'. Domestic law should be unmistakeably wrong. The EP and similar instruments, if available, might serve as source of inspiration to answer the question whether that is the case.

Quite a few important legal provisions are vague and open. In borderline cases and in particular in the realm of global issues it may be difficult to know *ex ante* whether a specific behaviour is (un)lawful. That ultimately is in the laps of judges.

Climate change is the perfect example. Strikingly, most players – countries, enterprises, auditors, practising lawyers and many others – apparently did not and still do not *want to know* their legal obligations, whether or not pretending that they do *not* have obligations in the absence of pertinent law.[16]

Over the years, I have come to understand that *legal* strategies to come to grips with climate change such as injunctive relief will only work if we are able and willing to discern the legal obligations of major players.[17] Unfortunately, there is little appetite for such of exercises.[18] *Prima facie*, it is not difficult to understand why: a clear understanding of one's obligations comes at a price: one must comply. That is exactly what many players do not want. They prefer voluntary and self-imposed obligations. There is nothing wrong with that position as long as the voluntary or self-imposed obligations are no less demanding than the legal obligations. Otherwise, this stance is risk-laden, unless it were true that enterprises and investors do not have concrete obligations in the absence of concrete and pertinent legislation.

The OP and the EP have tried to fill the gap. They formulate a series of legal obligations of countries (the OP) and enterprises, financiers and investors (the EP) in the face of climate change. The principles are explained in lengthy commentaries, which also shed light on the legal underpinning, based on the groups' interpretation of the law as it stands or will likely develop. The EP are endorsed by – at the time of writing – 71 distinguished experts from around the globe.

5. NO UNIVERSAL TRUTH

In the realm of climate change – and other global challenges – each private law initiative, such as the OP and the EP, would overstate its case by arguing that its principles or drafts are *the (universal)* truth. All they can do, is to interpret as best as they can the law as it stands or will likely develop. That stance was also taken

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16 The Universal Declaration of the Rights of Mother Earth advocates establishing 'effective norms and laws for the defence, protection and conservation of the rights of Mother Earth', <https://pwccc.wordpress.com/programa/>, Art. 3 para. 2 under e.

17 I am not suggesting that less specific principles are pointless. Laurent Fabius rightly emphasised that they have a merit as drivers for 'a fertile dynamic', while they leave a margin of discretion in the national context (Preface to 'Toward a Global Pact for the Environment', White paper, September 2017, <www.leclubdesjuristes.com/wp-content/uploads/2017/05/CDJ_Pacte-mondial-pour-lenvironnement_Livre-blanc_UK_web.pdf>, at p. 9; the introduction suggests that the Pact clarifies the existing soft law (p. 16).

18 See by way of example John Knox's final report, *supra* n. 4. It undeniably is a valuable document with 16 'Framework Principles', but they are rather general, probably because John Knox believes that they stand the best chance of adoption.

by John Knox when he emphasised the coherence and converging trends of a series of legal sources.[19]

That interpretation may be mistaken in one or more respects. More likely than not, it will be challenged in various jurisdictions, by the local legislator, domestic courts or in academic writings. That is an inconvenient truth. E.g., unlike the OP and, at their heels, the EP not all countries adhere to the per capita-approach as a fair basis for the allocation of the reduction obligations of GHG emissions. Even if the diverging view were wrong – e.g. because it violates (the basic principles of) international law – it is to be expected that quite a few domestic courts will rule in line with the view of their respective governments.

Hence, it would be unrealistic to assume that even the principles considered to be the best ones will be universally adopted and applied. Many major players, for example enterprises in China, the Philippines, the US or Brazil, may be subject to *different* domestic rules. These entities cannot, however, safely stick to compliance with the relevant domestic rules (in e.g. country A), unless they are *exclusively* active in country A. By 'exclusively' I mean that their (major) suppliers, customers, financiers and shareholders are based in country A. That will quite often be the case for small enterprises; in relation to major enterprises it is much more likely to be the exception. The latters' customers, suppliers, financiers or investors abroad may believe that these enterprises have more or different obligations compared to domestic law and may pressurise them to comply with more demanding obligations. The enterprises of country A may also have subsidiaries or assets in other countries. These subsidiaries or assets may be at risk if the courts in the jurisdiction in which the subsidiaries are based, or where assets can be traced, take the view that the law of country A (or the interpretation by its courts) is too lenient.[20] That said, claims directed at subsidiaries in other countries for alleged shortcomings of other companies belonging to the same group are fraught with difficulties.

Even if a specific set of principles would be mistaken in one or more respects, they would not be useless. They could serve as a source of inspiration for other groups to submit alternative views, hopefully with an elaborate legal underpinning. They could inspire courts to issue well-considered judgments or legislators to enact pertinent laws on the issues in point. Last but not least, they could spur an academic debate.

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19 Knox, *supra* n. 4, at p. 3. On p. 5 he adds that the 'right to a healthy environment' is not an 'empty vessel waiting to be filled'.

20 For the private international law context see Hans van Loon, 'The Global Horizon of Private International Law', in 380 *Collected Courses of the Hague Academy of International Law*, Leiden/Boston, Brill/Nijhoff 2016.

6. A USEFUL YARDSTICK FOR REDUCTION OBLIGATIONS? THE UNLAWFULNESS ISSUE

6.1 **1.5 or 2 degrees?**

The Paris Agreement[21] sets a global aspiration: global warming must be kept 'well below 2 degrees' (the 'key obligation') and it formulates an even more demanding ambition ('to pursue efforts'): to stay below 1.5 degrees.[22] For now, I leave aside whether 'well below 2 degrees' is an imperative to be achieved by the world at large.[23] Even if it were, 'well below' is rather undetermined. It leaves undetermined *how much* we should stay below 2 degrees.

1.5 degrees clearly is an ambition, not an obligation. Opinions diverge whether it can still be achieved by means of reductions.[24] So-called negative emissions such as carbon storage or carbon capture might work, but for the time being these techniques are still in their infancy.[25] Hence, for legal purposes the better solution probably is to accept that this ambition will not be achieved.

Both the OP and the EP are based on the submission that global emissions must be reduced to avoid the global mean surface temperature rising by more than 2 degrees. This submission is based on international and human rights, environmental, tort and company law, a series of codes of governance, non-binding international instruments, authoritative reports, case law and legal doctrine. Together they serve as a compelling, if not undisputable, legal basis for this view.[26]

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21 <https://unfccc.int/files/essential_background/convention/application/pdf/english_paris_agreement.pdf> and <http://unfccc.int/resource/docs/2015/cop21/eng/10a01.pdf>.

22 Art. 2 under a. According to James Hansen global warming should return to 1 degree 'to preserve island nations and global shorelines', James Hansen, 'Global Climate Justice: Making the Carbon Majors Pay for Climate Action', Earth Institute, Columbia University, 7 November 2017, <http://csas.ei.columbia.edu/2017/11/07/global-climate-justice-making-the-climate-majors-pay-for-climate-action>.

23 For a discussion see the Commentary, *supra* n. 7, at pp. 50 ff. and pp. 112 ff.

24 See e.g. <https://www.mpg.de/11431699/climate-change-target>; Kirsten Gronlund, 'Can Global Warming Stay below 1.5 Degrees? Views Differ Among Climate Scientists', 8 March 2018, <https://futureoflife.org/2018/03/08/can-global-warming-kept-1-5-degrees-views-differ-among-climate-scientists>; Dave Frame and H. Damon Matthews, 'Keeping Global Warming to 1.5 degrees: Really Hard, But Not Impossible', <https://theconversation.com/keeping-global-warming-to-1-5-degrees-really-hard-but-not-impossible-84203>, 11 August 2017, and the Commentary, *supra* n. 7, at p. 52. See also UN Environment, The Emissions Gap Report 2017, <https://wedocs.unep.org/bitstream/handle/20.500.11822/22070/EGR_2017.pdf>.

25 For more details and further references, see European Academies, Science Advisory Council, *Negative Emission Technologies: What Role in Meeting Paris Agreement Targets*, Policy report 35 of February 2018, <https://easac.eu/fileadmin/PDF_s/reports_statements/Negative_Carbon/EASAC_Report_on_Negative_Emission_Technologies.pdf>. About this topic see also Michael G. Faure and Roy A. Partain, *Carbon Capture and Storage: Efficient Legal Policies for Risk Governance and Compensation*, Cambridge, MA, MIT Press 2017.

26 See the Commentary, *supra* n. 7, at pp. 66 ff. with further references and the Joint Summary of the Amicus Curiae, in re: National Inquiry on the Impact of Climate Change on the Human Rights of the Filipino People of 19 March 2018, <www.ciel.org/wp-content/uploads/2018/03/Joint-Summary-Amicus-submitted.pdf> at pp. 67 an 68 (briefs by CIEL and Plan B).

2 degrees may not be a very courageous stance, it is at least pragmatic. The main reasons for this choice are that it will already be a challenge to keep global warming below 2 degrees, not in the least because in the short term quite a few countries and enterprises will not reduce their GHG emissions to the extent required, which puts an increasingly heavy burden on those *willing* to comply with their obligations, as will be explained in paragraph 12 below. Submitting obligations that will be perceived excessively costly or unrealistic will be applauded by developing countries and some non-governmental organisations (NGOs), but they are doomed to be ignored by those who have to realise the reductions. Last but not least, the famous 'well below 2 degrees' is a major political achievement, but lacks precision and by the same token it does not offer a promising basis for clear and workable reduction obligations.

Interestingly, the Oxford Martin Principles ask *enterprises* to opt for a pathway to zero emissions based on a trajectory between 1.5 and 2 degrees to be chosen by the enterprise.[27] *Prima facie*, one might think that no single enterprise may opt for less than 2 degrees, but that is not necessarily true. For instance, enterprises which are already close to being carbon neutral or keen to make themselves attractive to investors, may do so.

6.2 How to allocate reduction obligations?

The Paris Agreement leaves it to the respective countries to determine how much they are willing to reduce their emissions (the (in)famous Nationally Determined Contributions (NDCs)).[28] The Agreement also contains a series of useful rules that have to be taken into account,[29] but the fact remains that countries have (ample) room to manoeuvre. The aggregate NDCs fall short of meeting the key obligation of the Paris Agreement and also the 2-degree obligation formulated by the OP and the EP.[30]

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27 Oxford Martin Principles for Climate-Conscious Investment, principle 1, <https://www.nature.com/articles/s41558-017-0042-4.epdf?author_access_token=x8BjiRtoV65-RzNc_wvBVdRgN0jAjWel9jnR3ZoTv0NHqc6M8EKnq9g71pdy7n__QPpSrsrbG0fccSu5UrfEicS0zECsA18CaN9KYxwvrgr9QWGSuR88KVGh4UUGCgik67FKUxFRVoDFYXo6KtBvYg%3D%3D)>; see also Oxford Martin Principles for Climate-Conscious Investment, an Oxford Martin School Briefing, February 2018, and Richard J. Millar, Cameron Hepburn, John Beddington and Myles R. Allen, 'Principles to Guide Investment towards a Stable Climate', 8 *Nature Climate Change* (2018).

28 Art. 3 and 4. For a discussion on the carbon budget for the EU, based on the Paris Agreement, see Kevin Anderson and John Broderick, 'Natural Gas and Climate Change', 17 October 2017, <www.web.cemus.se/wp-content/uploads/2017/11/natural_gas_and_climate_change_anderson_broderick_october2017.pdf>.

29 E.g. a progression over time (Art. 3), the 'aim to reach peaking as soon as possible' (Art. 4 para. 1) and 'the highest possible ambition, reflecting its common but differentiated responsibilities and respective capabilities, in the light of the different national circumstances' (Art. 4 para. 3). In particular, the latter factor is both understandable and utterly vague. That is no criticism; international negotiations are difficult, especially if the respective interests diverge, but it would be a miracle if such an obligation achieved the common ambition.

30 For more details see the Commentary, *supra* n. 7, at p. 15.

The (pre-Paris Agreement) OP and the (post-Paris Agreement) EP had to discern a concrete yardstick to determine the reduction obligation of countries and enterprises. They align with the widely, though not universally, adopted per capita approach.[31] Under the *OP*, the global 'carbon budget' is determined annually on the basis of the precautionary principle and the 2-degree threshold (Principles 3 and 6).[32] The resulting figure – the globally permissible emissions in a given year – are divided by the world's population. The latter figure is the permissible quantum per person (OP 4). That figure has to be multiplied by the number of inhabitants of a specific country: the country's carbon budget (the permissible quantum of GHG emissions). There are two categories of countries: those exceeding their carbon budget (Above Permissible Quantum (APQ) countries) and countries emitting less than their carbon budget (Below Permissible Quantum (BPQ) countries). APQ countries are, with a few exceptions explicated in several Principles, required to reduce their emissions to the permissible quantum within one year (OP 13).

A series of declarations, principles and the like *arguably* take a different stance. They do not submit concrete reduction obligations, but emphasise the role of the 'polluter pays principle'.[33] To the best of my knowledge they never explain what that concretely means in the context of climate change. Perhaps, the principle implicates that *all* emissions are 'wrongful', or – which seems to amount to the

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31 For different approaches, see Izzet Ari and Ramazan Sari, 'Developing CBDR-RC Indices for Fair Allocation of Emission Reduction Responsibilities and Capabilities across Countries', 4 January 2018, <https://www.cogentoa.com/article/10.1080/23311843.2017.1420365.pdf>, also for further references, and see Christian Holz, Sivan Kartha and Tom Athanasiou, 'Fairly Sharing 1.5: National Fair Shares of a 1.5°C Compliant Global Mitigation Effort', 17 November 2017, <file:///C:/Users/Jaap%20Spier/Downloads/SSRN-id3072045.pdf> [https://papers.ssrn.com/sol3/Data_Integrity_Notice.cfm?abid=3072045?]. See also Joint Summary, Briefs by Client Earth and Plan B, *supra* n. 26, at pp. 39 and 40.

32 For a discussion on the precautionary principle and the 2-degree yardstick, see the Commentary, *supra* n. 7, at pp. 23, 24 and 50 ff.

33 See in more detail Philippe Sands, Jacqueline Peel with Adriana Fabra and Ruth MacKenzie, *Principles of International Environmental Law*, Cambridge, Cambridge University Press 2012, at pp. 228 ff.; Suzanne Kingston, Veerle Heyvaert and Aleksandra Čavoški, *European Environmental Law*, Cambridge, Cambridge University Press 2017, at pp. 100 ff.; Armelle Gouritin, *EU Environmental Law, International Environmental Law and Human Rights Law*, Leiden/Boston, Brill/Nijhoff 2016, at pp. 95 ff.; Luc Lavrysen, 'European Environmental Law Principles in Belgian Jurisprudence', in Richard Macrory (ed.), *Principles of European Environmental Law*, New York, Aspen Publishers 2005, pp. 75-94, at pp. 77 ff.; Priscilla Schwartz, 'The Polluter-Pays Principle', in Malgosia Fitzmaurice, David M. Ong and Panos Merkouris (eds.), *Research Handbook on International Environmental Law*, Cheltenham (UK)/Northampton (US), Edward Elgar 2011, at pp. 243 ff.; OECD, The Polluter-Pays Principle, OECD Analyses and Recommendations', Environment Directorate of the OECD, Paris 1992, <www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=OCDE/GD(92)81&docLanguage=En>; Principle 8 of the Club des Juristes' Global Pact for the Environment; the IUCN World Declaration on the Environmental Rule of Law, <https://www.iucn.org/sites/dev/files/content/documents/world_declaration_on_the_environmental_rule_of_law_final_2017-3-17.pdf> under I sub c. To a lesser extent, the same goes for the 'no harm rule', see Roda Verheyen, *Climate Change Damage and International Law: Prevention Duties and State Responsibility*, Leiden, Martinus Nijhoff Publishers 2005, at pp. 137 ff.

same – that the price of *all* emissions has to be 'internalised'.[34] The idea of internalisation has its merits, but in relation to climate change it is unhelpful at the same time. Firstly, only legislators can put a price on carbon emissions. Secondly, such a price-tag only works if the price is high enough to achieve the reductions globally required. The experience with the Kyoto Protocol is not overly promising. Thirdly, such a price would create the wrong impression that emission-related losses will be compensated. Without a proper understanding of the losses each ton of GHG emissions will cause now and in the future and an in-depth discussion about the losses one aims to compensate (and leaves uncompensated) this 'internalisation' is a shot in the dark. I will elaborate on this point in paragraph 11.11 below.

The Paris Agreement supports the approach adopted by the OP and the EP, I think. It clearly emphasises the need to *reduce* emissions, which seems to suggest that not *all* emissions are 'wrongful'. In this respect, a caveat is needed. Article 8 of the Paris Agreement also recognises 'the importance of […] addressing loss and damage associated with the adverse effect of climate change', but it does not specify whether or not this 'recognition' should be linked to all emissions or only to excessive emissions. I am inclined to believe that the former is not meant. First, these provisions are inserted at the request of *developing* nations. If all emissions were wrongful, that would also affect most developing countries. That was clearly not their intention. Secondly, and importantly, the Decisions to give effect to the Agreement clearly state that the parties agree 'that Article 8 of the Agreement does not involve or provide a basis for any liability or compensation'.[35]

Historical emissions are another brain teaser. They have been ignored by the OP and play a limited role in the EP, as will be explained in paragraph 7 below.

Back to a useful yardstick. The formula adopted by the OP is rather straightforward in relation to states. It is based on the idea that all persons are entitled to the same amount of GHG emissions (see below under 7 for historical emissions). It is up for debate whether there is a sound *legal* basis for the per capita-approach, but there would be considerably less support for any other approach.[36] At the end of the day, courts tend to be pragmatic; they often align – and should align – with the prevailing view, unless there are compelling reasons for a different stance. Hence, it makes sense to use the per capita approach as a basis for the allocation of reduction obligations.

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34 For practical purposes that would also go for strict liability; on that topic see Hinteregger, *supra* n. 2, at pp. 248 ff.

35 Adoption of the Paris Agreement, UN Doc. C=FCCC/CP/2015/L.9/Rev.1, para. 52.

36 See the Commentary, *supra* n. 7, at p. 68. See extensively Philip Sutherland, 'Obligations to Reduce Emissions: From the Oslo Principles to Enterprises', 8(2) *Journal of European Tort Law* (2017) pp. 177-217, at pp. 199 ff. and Marc Loth, *supra* n. 8, at p. 25. In Sutherland's view OP 23 may provide a solution: the cost or hardship can be taken into account (p. 204). The OP are very restrictive, with the benefit of hindsight arguably too restrictive; the commentary to the EP explicitly mentions the role hardship could play; see pp. 97-99 and p.117.

The EP align the allocation of reductions to be achieved by enterprises to those of the countries in which they operate, or, if higher, the NDC of the relevant country under the Paris Agreement (Principle 2).[37]

Our expert group realised, of course, that one should be cautious to lump all enterprises together. Some already have reduced their emissions significantly or emit (considerably) less than their competitors, some produce vital products and services and others only luxury ones. We were unable to develop a workable formula that does justice to every single case, but we do not have any doubt that there may be sound reasons for a more sophisticated allocation in a case in point. That is very much in line with so-called Learned Hand-formula,[38] developed by the famous US judge Learned Hand and the European equivalent[39] reading

> The required standard of conduct is that of the reasonable person in the circumstances, and depends, in particular, on the nature and value of the protected interest involved, the dangerousness of the activity, the expertise to be expected of a person carrying it on, the foreseeability of the damage, […], as well as the availability and the costs of precautionary or alternative methods.

Similar formulae are at the heart of tort law around the globe.[40] The lower the GHG-efficiency of an enterprise, the more it exposes the world at large to significant harm. Hence, as a rule of thumb, that would be a convincing reason to be more demanding.

We could not think of any better solution than to leave it to the relevant countries to reallocate the reduction burden between enterprises within their territories. In doing so, countries complying with their own obligations have more flexibility than non-complying countries (EP 3 and 4). A country willing to determine an enterprise's reduction obligation different from EP 2 must consider seven factors, enunciated in EP 3.1. Many of these factors are in line with the Learned Hand-formula, but they do not offer a sufficiently concrete answer to specific cases.

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37 For the justification to attach importance to the NDCs see the Commentary, *supra* n. 7, at pp. 112 ff.

38 United States Court of Appeals for the Second Circuit, 9 January 1947, *United States et al. v. Carroll Towing Co.*, 159 F.2nd 169 (2d Cir. 1947).

39 Art. 4:102 Principles of European Tort Law (PETL). See also Martin Spitzer and Bernhard Burtscher, 'Liability for Climate Change: Cases, Challenges and Concepts', 8(2) *Journal of European Tort Law* (2017) pp. 137-176 at pp. 160 ff.; unlike the EP they apparently do not think that – in the near future – there is no longer room for excessive emitting activities, products or services (p. 161); EP 9 and 10 offer the solution of countervailing measures to off-set the excessive emissions. See also Hinteregger, *supra* n. 2, at pp. 251 ff. See extensively B. Winiger, E. Karner and K. Oliphant (eds.), *Digest of European Tort Law, Volume 3: Essential Cases on Misconduct*, Berlin, De Gruyter 2018, in particular pp. 201 ff. and the comparative reports on pp. 268 ff., pp. 403 ff., pp. 479 ff., pp. 550 ff., pp. 618 ff. and p. 633.

40 See extensively the commentary to the OP at pp. 38 ff. and the Commentary, *supra* n. 7, at pp. 68 ff. with further references. See also Cees van Dam, *European Tort Law*, 2nd edn., Oxford, Oxford University Press 2013, at pp. 234 ff. and Art. 3:102 PEL Liab. Dam. for a much shorter version.

Countries are in the best position to fine-tune the reduction obligations of enterprises, different from EP 2.

What is the role of private law in relation to the key reduction obligation? No more, no less than a strong underpinning of the idea that

1. global emissions must be kept below 2 degrees; and
2. all countries and enterprises together have the obligation to contribute sufficiently to realise that imperative.[41]

Next to international and human rights law, the very core of tort law – the Learned Hand and similar formulae – paves the way. Private law, nor any other realm of the law, explicitly answers the question how to allocate the reduction obligations. I have tried to explain why the solution adopted by the OP and the EP makes sense for lack of any better and workable alternative. I challenge those who take the view that the OP and the EP are mistaken to submit an alternative formula that is clear and workable, and to explain why such an alternative has a more solid legal basis.

6.3 Scope 2 and 3 emissions

An additional question is whether enterprises are legally accountable for scope 2 and 3 emissions; scope 2 means indirect upstream emissions from the purchase of electricity, heating and cooling; scope 3 emissions are emissions from both the upstream supply-chain and downstream activities such as use and disposal.[42]

The EP answer that question in the negative. Enterprises have obligations in relation to suppliers and their products and services (Principles 9, 10 and 17), but the *GHG emissions* earlier or further down the chain cannot be attributed to them. According to an emerging view emissions of suppliers and particularly (energy) products can be attributed to the first link in the chain. I do not think that there is a (sound) legal basis for that view. In addition, it would be counter-productive. It would mean that buyers of products and services would not have reduction obligations. In that scenario there is literally no hope that the global reductions can be achieved.[43]

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41 It would be unfair and unrealistic to require enterprises to solve the entire problem. After all, there are many other emitters too.

42 See the Commentary, *supra* n. 7, at p. 234, also for further references.

43 See in more detail the Commentary, *supra* n. 7, at pp. 32 ff. It could be argued that both the first link in the chain and *also* the actual emitter are legally accountable (joint and several 'liability'). In that reasoning, the problem that the global reductions cannot be achieved would disappear. I wonder, however, whether the joint and several liability-doctrine extends to reduction-obligations; that is certainly not the case under Art. 9:101 para. 1 and 2 PETL. *Prima facie* Art. 1:102 PEL Liab. Dam., emphasising that 'prevention of damage is better than atonement for damage', might serve as a basis for injunctive relief against joint and several tortfeasors: Christian von Bar, *Non-Contractual Liability Arising out of Damage Caused to Another*, in Study Group on a European Civil Code (ed.), *Principles of European Law* (Series), Berlin, De Gruyter 2009, at p. 265; see also pp. 267 and 268, para. 11. The reason for making the point about injunctive relief is that this often is the only way to avoid losses. Compensation is about

7. HISTORICAL EMISSIONS

7.1 **Historical emissions should be ignored**

Both the OP and the EP do not pay *specific* attention to historical emissions.[44] That position has been criticised at several conferences. The criticism is understandable despite the fact that no pertinent solution was offered.[45] With the benefit of hindsight, we arguably should have taken the obligations under Annex 1 to the Kyoto Protocol into account. It would be too easy, however, to add these obligations lock stock and barrel to the reductions that have to be achieved under the OP, as they are – at least to some extent – incorporated. After all, to some extent the formula adopted by the OP (and at its heels the EP) does take historical emissions into account. They play a role in the OP (Principle 13): countries have to reduce their emissions to the permissible level 'within the shortest time feasible', which the commentary to the EP has interpreted as within one year.[46] In addition and with a few exceptions, most hugely emitting countries also emitted a lot in the past. That is exactly the reason why they are prosperous, currently emit a great deal and have to reduce their emissions significantly. Last but not least, we could not discern a sufficiently sound legal basis for translating past emissions into a workable formula.[47]

One could argue that emissions had to be reduced from the very moment that the dangers of global warming became known.[48] Even in that scenario, it is not overly clear *how much* major players should have reduced their GHG emissions, based on the knowledge of the time. Could they reckon with the miraculous economic progress in countries such as China? Were technical solutions, such as solar and wind energy, already available and were the GHG emissions of manufacturing that kind of equipment lower than doing without these and other techniques?

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losses that already occurred. Joint and several liability is, I think, a feature to facilitate victims getting *financial* compensation.

44 For elaboration see the Commentary, *supra* n. 7, at pp. 63 ff.; see also Spitzer and Burtscher, *supra* n. 39, at p. 159 and see Marc Loth, *supra* n. 8, at pp. 28 and 29.

45 Farber contends that earlier emissions caused harm, while those concerned 'have enjoyed lower costs than they would have incurred by using alternative technologies or by reducing their output. Thus, there is a strong element of unjust enrichment, at least in some situations'. Daniel A. Farber, 'Basic Compensation for Victims of Climate Change', 155 *University of Pennsylvania Law Review* (2006) pp. 1605-1656 at p. 1641. Leaving aside whether alternative technologies were available, Farber has a point. It will be very difficult, however, to calculate the enrichment. It is also a bit one-sided to focus on the emitters only. At least in developing countries and with the caveat mentioned below society at large has benefitted from the past.

46 The Commentary, *supra* n. 7, at pp. 61 and 62.

47 The Commentary, *supra* n. 7, at pp. 63 ff.

48 Recent research (or leakage from internal sources) suggests that at least some enterprises were well aware of the threats of climate change for quite a while; see Center for International Environmental Law (CIEL), *A Crack in the Shell: New Documents Expose a Hidden Climate History*, <www.ciel.org/wp-content/uploads/2018/04/A-Crack-in-the-Shell_April-2018.pdf>.

Close readers may argue that all they needed to know is that they had to reduce their emissions. They had to understand that courts would tell them somewhere in the future whether their achieved reductions were enough. Here we are entering a mine field. In my view, courts would be best served to refrain from dealing with past emissions.

It is easy to rewrite history, but it is a very risky game. Until quite recently, few people cared about climate change. That has changed. At least at the time of the Kyoto Protocol the penny dropped.[49] But little *happened*. In spite of ever stronger declarations and moving pledges, most major players knowingly confined themselves to inadequate action. Nobody, countries, enterprises and NGOs alike, cared about making obligations concrete. Even the admirable Paris Agreement, the very best that could have been achieved those days, leaves it to the countries to determine how much they are willing to reduce their emissions, albeit that it provides a valuable framework they have to respect.

Deliberate ignorance is not a strong excuse, let alone a justification for inadequate action. The asbestos cases have shown – as explicitly emphasised by e.g. the Dutch Supreme Court – that the mere fact that a specific behaviour is commonly 'accepted' does not mean that it is also lawful.[50] The same could be argued in relation to past emissions. I wonder, however, whether such a stance is justified in the context of past emissions. That goes in particular for claims for damages; for elaboration see paragraph 11 below. We should be cautious, however, to apply the asbestos-argument in relation to reduction obligations. To me, it matters that developing countries have been increasingly active to urge far-reaching actions of all kinds, but they did *not* try to map the specific legal obligations of developed countries and enterprises in the absence of pertinent international instruments. Seen from a doctrinal legal angle the latter is (a kind of) contributory negligence that, in many legal systems, does not wipe out all obligations of the tortfeasor.[51]

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49 See also Daniel A. Farber, 'The Case for Climate Compensation: Justice for Climate Change Victims in a Complex World, 2008(2) *Utah Law Review* (2008) pp. 377-413, at pp. 388 and 389.

50 Hoge Raad 2 October 1998, *Nederlandse Jurisprudentie* 1999/683, ECLI:NL:HR:1998:ZC2721.

51 It is up for debate – and will depend on the applicable law in point – whether contributory negligence comes into play to lower the primary obligation of tortfeasors or only plays a role in relation to claims for damages. In addition, it is *at least* questionable whether supposed contributory negligence of, say, a developing country can be a defence against its citizens seeking injunctive relief from, for example, a developed country. Such a case would certainly not fall under the umbrella of contributory negligence mentioned in Art. 5:102 PEL Liab. Dam., or Art. 8:101 PETL. *Lege ferenda*, an answer in the affirmative should be given a serious thought; see also my valedictory lecture at Maastricht University, *De lange schaduw van het verleden? Omgaan met historisch onrecht*, The Hague, Boom juridisch 2016, at pp. 29 and 30, referring to Art. 60 para. 2 of the Draft International Covenant on Environment and Development, Environmental Policy and Law Paper No. 31 Rev. 3 of the International Union for the Conservation of Nature and Natural Resources (IUCN) in cooperation with The International Council on Environmental Law, which reads: 'In cases where there are no circumstances precluding wrongfulness, but the State affected suffers the damage due in part to its own negligence, the extent of any redress or the level of any compensation may be reduced to the extent that the damage is caused by the negligence of that State Party.' It requires, however, a rather extensive

Since time immemorial there have been many evils and atrocities, and there still are many. The answer has mostly been: let us forget about the past and try to do better. The South African Truth and Reconciliation Commission is a telling example. The shocking indifference of the US and its allies to the colossal and fully unjustified devastation they have caused in e.g. the Middle East, also is an example.[52]

For practical purposes, compensation often means that the bill has to be settled by others than those who committed the alleged unlawful acts: the children or grand-children of the wrongdoers.[53] The counter-argument often is that those who have to settle the bill have 'inherited' the benefits of past evil. That may be true in some instances, but it is often mistaken. In many affluent countries costly measures often, if not almost always, imply lowering social security or restrictions on affordable health care. Those affected profited least from past emissions. Unrealistically demanding obligations put on the shoulders of enterprises result in lower profits, affect their share prices, impair pension funds and ultimately go at the expense of pensioners and employees. People with the lowest pensions and lowest salaries are most affected. For that reason it is too easy, I think, to argue that it is unfair to ignore the past.

That said, both the OP and the EP are quite demanding for (relatively) wealthy countries and enterprises in those countries. If they were to comply with both sets of principles global warming can be kept below 2 degrees.

7.2 Historical emissions count

Courts may take a different position on historical emissions. There is a swiftly emerging trend that they should play a role.[54] In that scenario, one has to figure out which emissions were unlawful. The easiest probably is to look at Annex I to the Kyoto Protocol, although that does not provide a solution for emissions before 2005, the year it entered into force.[55] Countries not complying with the Kyoto

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interpretation of this article to sublime shortcomings of a State mentioned in the text under 'its own negligence' of its citizens.

52 This is all the more striking in light of the colossal payments Iraq had to make after its invasion of Kuwait: <www.loc.gov/law/foreign-news/article/united-nations-reparations-paid-for-1990-invasion-of-kuwait>.

53 That would not be the case in relation to the recent atrocities in the Middle East.

54 E.g. Peter C. Frumhoff, Richard Heede and Naomi Oreskes, 'The Climate Responsibilities of Industrial Carbon Producers', 132(2) *Climatic Change* (2015) pp. 157-171, <https://link.springer.com/content/pdf/10.1007%2Fs10584-015-1472-5.pdf>; New Green advocates, Climate-change law suits, <https://www.economist.com/news/international/21730881-global-warming-increasingly-being-fought-courtroom-climate-change-lawsuits>; seemingly also Hinteregger, *supra* n. 2, at pp. 252 and 253; for a nuanced view, see Faure and Nollkaemper, *supra* n. 2, at pp. 171 ff.

55 Annex 1 has been amended on 8 December 2012; the new Annex contains commitments from 1 January 2013 until 31 December 2020. I agree with Michael F. Faure and André Nollkaemper that the Kyoto Protocol is not decisive and that there is no evidence that the parties intended to replace customary law, *supra* n. 2, at p. 152.

Protocol acted wrongfully. It could be argued that *enterprises* had to reduce their emissions at the same rate as the country in which they operated, unless there is a sound reason why they had to reduce them at a higher or a lower rate. In this scenario, the plaintiff would have to explain why the defendant enterprise had to reduce its emissions to a higher extent, and the defendant why lower emissions were required. The factors mentioned in EP 3.1 could butter the case of the party arguing that more or less was required. Although this view carries weight, I prefer ignoring historical emissions for the reasons mentioned in paragraph 7.1 above.

8. ADDITIONAL OBLIGATIONS AND OTHER KEY PLAYERS

Reduction obligations are by far the most important. They are the core of the OP and the EP. They are by no means the only obligations that could make a difference, however, if not for other reasons because it is unthinkable that all major players will comply with their reduction obligations and that compliance can be enforced around the globe.

The EP map obligations concerning activities, products and services,[56] consideration of suppliers, impact assessments, disclosures[57] and obligations of financiers and investors.[58] Private law offers a solid basis for these obligations as explained in the commentary on the respective principles. In light of the maximum number of words allocated to me, I cannot elaborate on these issues.

The EP are silent on the obligations of e.g. auditors and in some instances lawyers, i.e. those engaged in the merger and acquisition-business. They have obligations towards their clients and auditors also towards those who (have to) rely on their reports. Auditors cannot perform properly if they do not have a clue and do not want to learn the obligations of their clients, which quite often seems to be the case; see paragraph 11 below.

Others can come into play too, e.g. architects. They may well be under an obligation to make buildings hurricane-proof in hurricane prone areas. No doubt, there are many other examples. These obligations are important to a small group of people, so I will not elaborate on this issue.[59]

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56 Principles 9-11.

57 Principles 17-24. On the inherent liability risks see Alexia Staker, Alice Garton and Sarah Barker (Commonwealth Climate Law Initiative), *Concerns Misplaced: Will Compliance with the TCFD Recommendations Really Expose Companies and Directors to Liability Risk?*, <www.smithschool.ox.ac.uk/research/sustainable-finance/publications/CCLI-TCFD-Concerns-Misplaced-Report-Final-Briefing.pdf>.

58 Principles 25-30.

59 Hinteregger, *supra* n. 2, at pp. 240 ff.; Richard Lord, Silke Goldberg, Lavanya Rajamani and Jutta Brunnée (eds.), *Climate Change Liability; Transnational Law and Practices*, Cambridge, Cambridge University Press 2012, at pp. 29 and 30; Helena O'Connor, 'Architect's Professional Liability Risks in the Realm of Green Buildings', 04.02 *Perkins + Will Research Journal* (2012) pp. 23-33, at pp. 23 ff., <https://uk.perkinswill.com/files/ID%204_PWRJ_Vol0402_03_Architect%E2%80%99s%20Professional%20Liability%20Risks%20in%20the%20Realm%20of%20Green%20Buildings.pdf>.

9. REMEDIES: INTRODUCTORY OBSERVATIONS

> The most important quality of tort law compared to other instruments is quite simple: […] tort law instruments already exist and need not to be created via the tedious and rather time-consuming political procedure.[60]

The most promising feature of private law probably is that it is much easier to enforce compared to obligations flowing from international and human rights law, albeit that *clear* violations in those domains of the law will often amount to a tort and may be enforceable by domestic courts.[61] Depending on the legal system, litigation about impact assessments, permits and the like can only be brought before specialised courts, such as administrative courts or green tribunals. Litigation before those courts is very important, but falls outside the scope of this report.

There is an increasing trend to focus on the fossil fuel industry. As such, that is understandable. They must reduce their emissions significantly; so do many others. The use of fossil fuels must be phased out. I cannot help thinking, however, that they are demonised or perceived as the one and only or the predominant cause of climate change. That view is mistaken and dangerous. It overlooks that 'all' the oil majors do is putting products on the market that society was, and still is, keen to buy. In other words, we also need to reduce our dependency on fossil fuels. That means far-reaching cuts in GHG emissions by all of us: countries, enterprises and the people. Scapegoating the fossil fuel-industry may well be counter-productive; it fuels the view that others can safely lean backwards.

10. INJUNCTIVE RELIEF AND DECLARATORY JUDGMENTS

> Political action is limited by the short horizon of re-election. Part of the answer may be found in collective action. But the engine to progress lies in the individual. Why not sue politicians, private companies, and their directors for making our planet an unliveable world for the generations to come? The law can be used for purposes going far beyond the satisfaction of self-interests. Instead, it can be a weapon to fight man-made disasters and protect our individual and collective future.[62]

Litigation before the 'regular' courts, seeking injunctive relief against countries and enterprises not complying with their reduction obligations, should be rather straightforward in countries which allow such claims in case of a threat of unlawful acts. For the unlawfulness issue see paragraph 6 above. Non-compliance with

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60 Hinteregger, *supra* n. 2, at p. 245.

61 Exceptions apply. Not all countries have a properly functioning administration of justice. There is no panacea for that unfortunate given. Hinteregger rightly points to the importance of generating public attention, *supra* n. 2, at p. 245.

62 Olivier Moréteau, 'Policing the Compensation of Victims of Catastrophes: Combining Solidarity and Self-Responsibility', 54 *Loyola Law Review* (2008) pp. 65-94, at p. 93.

one's reduction obligations is a violation of the law and – probably in most, if not all, legal systems – a tort (or its domestic equivalent).

Nonetheless, this kind of litigation may be a challenge depending on the appetite of the court that has to deal with the case.[63] It will be easier in relation to enterprises compared to states. In many countries courts unwilling to issue injunctive relief have easy ways out: the political issue doctrine (this is a matter for politicians), minimal causation[64] and the argument that it is of too little avail to the world at large to issue the relief sought, because it would not make 'any' difference.

Before, I touched upon the polluter pays-principle. I alluded to the fact that it could be interpreted in such a way that all emissions are unlawful. That would mean that injunctive relief could be sought to stop *all* emissions. Such a position would not make any sense.[65] The principle could also mean that *all* emissions are *lawful*, albeit that the 'polluter' has to pay for 'the'[66] losses caused by its emissions.[67] That would mean that no injunctive relief could be sought. That view would be unsustainable, so I do not think that this principle is of any use in this context.

In light of the urgent need to reduce GHG emissions at a much greater pace, injunctive relief is the most promising way ahead.[68] There is no need, however, to concentrate on relief aimed at reduction of emissions. Injunctive relief against, e.g. auditors, prudential authorities and even banks and other financial institutions willing to finance coal-fired power plants or similar activities that emit unacceptable amounts of GHGs[69] might be very effective.[70] It could also come into play if enterprises violate their additional obligations briefly mentioned in paragraph 8 above.

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63 For an overview of this kind of litigation see Brian J. Preston, *Recent Climate Litigation Concerning Environmental Rights*, presentation Lahore on 26 February 2018, at pp. 9 ff.

64 See e.g. Spitzer and Burtscher, *supra* n. 39, at p. 175; Hinteregger, *supra* n. 2, at pp. 254 ff.; Sutherland, *supra* n. 36, at p. 212. Doctrinal hardliners may argue that causation does not play a role if the threat of unlawful acts suffices for injunctive relief. In the context of climate change it is not easily conceivable that an unlawful act that, if it occurs, does not cause legally relevant damage, can be prohibited. If minimal causation is an insurmountable hurdle, it is unlikely that such negligible contribution amounts to unlawfulness.

65 Farber, *supra* n. 49, at p. 406, also takes the view that only excessive emissions are unlawful.

66 I have put 'the' between inverted commas because it is very unclear which losses would have to be compensated. The principle does not answer that question.

67 See e.g. Schwartz, *supra* n. 33, at p. 255.

68 Faure and Nollkaemper hit the mark when they say that, with the exception of once-in-a-lifetime victims, it does not make much sense to sue for damages if the emissions continue unabated, *supra* n. 2, at p. 174. See also Giedre Kaminskaite-Salters, *Climate Change Litigation under English Law: Constructing a Private Law Suit Based on Liability for Climate Change in the English Law of Torts*, Alphen aan de Rijn, Kluwer Law International 2010, at pp. 87 ff.

69 See EP Principle 9 in conjunction with Principle 25 and the Commentary, *supra* n. 7, at pp. 207 and 208.

70 In each single case the plaintiff should have a sufficient interest to seek a remedy, which may require some creativity in relation to e.g. auditors.

As to injunctive relief against others than the emitters of GHGs: such litigation only stands a favourable chance if the defendants *undeniably* violate their obligations, I think. Whether and in which scenarios they do, goes beyond the scope of this paper. Some prudential authorities, e.g. the Bank of England and the Dutch Central Bank, do an impressive job. Ever more pension funds and other major investors are at pains to deal with the challenge posed by climate change within the boundaries of the law. For the avoidance of doubt: it would not only be unrealistic, but also unfair to overestimate the role prudential authorities, pension funds and other major investors can play to stem the tide. Pension funds can refrain from buying bonds or shares issued by entities excessively emitting GHGs and/or pressurise them to do better, but they also have obligations to avoid a collapse of the economy, which would jeopardise the financial stability and their ability to pay retirement benefits in the short term.[71] That is the reason why I wrote that injunctive relief should only be considered against these institutions if they *undeniably* violate their obligations.

Injunctive relief granted by a domestic court does not set a worldwide standard. Courts in other countries may believe that the relief is too lenient, or violates one or more rules of international or human rights law. Even courts in the same country may arrive at that conclusion at a later stage if the interests of others, e.g. future generations, were not taken into account.[72] A recent case against Shell illustrates this point. Milieudefensie et al. urge Shell to reduce its GHG emissions to nil by 2050.[73] It is quite possible that 2050 is way too late. That will be the case in the likely scenario that many countries and enterprises refrain from curbing their GHG emissions to the extent required. Hence, plaintiffs and courts would be best advised to refrain from seeking or issuing this kind of injunctive relief. The better solution is to relate the relief to a relatively short period and then reconsider which reductions must be achieved in the subsequent years.[74]

With these caveats, I strongly believe that injunctive relief is the most promising way ahead.[75] It can only be hoped courts will show the courage to issue such relief. Prospective plaintiffs would be well advised to consider which plaintiffs and defendants would stand the most favourable chance before the court they aim to

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71 See extensively the Commentary, *supra* n. 7, at pp. 208 ff.

72 On these issues see Spitzer and Burtscher, *supra* n. 39, at pp. 150 ff.

73 See <https://www.nu.nl/economie/5206211/milieudefensie-daagt-shell-rechter-vanwege-klimaatschade.html?redirect=1>. Much more could be said about this case, but I resist that temptation.

74 For a similar view see Marc Loth, *supra* n. 8, at p. 27.

75 For elaboration see Jaap Spier, Shaping the Law for Global Crises, Thoughts about the Role the Law Could Play to Come to Grips with the Major Challenges of Our Time, The Hague: Eleven International Publishing 2012, at pp. 194 ff. and see in Jaap Spier and Ulrich Magnus (eds.), *Climate Change Remedies, Injunctive Relief and Criminal Law Responses*, The Hague, Eleven International Publishing 2013, Magnus pp. 121 ff. and Spier pp. 13 ff. On prevention in the international human rights context see Eva Rieter's ground-breaking *Preventing Irreparable Harm*, Antwerp, Intersentia 2010, and Dinah Shelton's legendary *Remedies in International Human Rights Law*, 2nd edn., Oxford, Oxford University Press 2005.

address. Poorly performing entities, be it countries, enterprises or others, are the most promising targets. Bad precedents will be unhelpful.

11. DAMAGES FOR NON-COMPLIANCE WITH REDUCTION OBLIGATIONS

11.1 **Introduction**

'If you walk into a room and you know you are going to kill someone, it's first degree murder; I think the same thing with the oil companies', said the former Republican Governor of California, Arnold Schwarzenegger.[76]

In the realm of remedies, damages are the ultimate litmus test. It is gaining track.[77] Strikingly, a 2010 publication by Munich Re already quotes an expert saying:

> Plaintiffs' lawyers are quite explicit about using a mass-tort and contingency-fee model for future climate change cases. One lawyer representing plaintiffs in the Comer case, for example, was quoted recently as saying: 'What's good about the

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76 Quoted by Edward-Isaac Dovere, 'Schwarzenegger to Sue Big Oil for "First Degree Murder"', *Politico* 12 March 12 2018, <https://www.politico.com/magazine/story/2018/03/12/arnold-schwarzenegger-sxsw-trump-big-oil-me-too-217345>.

77 For references see the Commentary, *supra* n. 7, footnote 82 at p. 39 and footnote 92 at pp. 41-42; Michael B. Gerrard and Joseph A. MacDougald, 'An Introduction to Climate Change Liability Litigation and a View to the Future', 20(1) *Connecticut Insurance Law Journal* (2013) pp. 153-164, at pp. 156 ff.; New Green advocates, *supra* n. 54, <https://www.climateliabilitynews.org/2018/04/11/sea-level-rise-california-liability-san-francisco>; <https://www.sfcityattorney.org/2017/09/19/san-francisco-oakland-sue-top-five-oil-gas-companies-costs-climate-change/>; James Hansen, *supra* n. 22; Mary Christina Wood and Dan Galpern, 'Atmospheric Recovery Litigation: Making the Fossil Fuel Industry Pay to Restore a Viable Climate System', 45(2) *Environmental Law* (2015) pp. 259-335, <https://law.uoregon.edu/images/uploads/entries/atmospheric-recovery-litigation--making-the-fossil.pdf>; the Model Climate Compensation Act, in Andrew Cage and Margaretha Wewerinke, 'Taking Climate Justice into our Own Hands', under the auspices of Vanuatu Environmental Law Association, December 2015, <https://www.wcel.org/sites/default/files/publications/2015_takingclimatejusticeintoourhands_web.pdf>; the proposed liability is strict or based on (a kind of) negligence, depending on the head of damages (Art. 4); Julia Kreienkamp and Lisa Vanhala, 'Climate Change Loss and Damage', Policy Brief of the Global Governance Institute, March 2017, <https://www.ucl.ac.uk/global-governance/downloads/policybriefs/policy-brief-loss-and-damage> at pp. 13 and 14, *iure constituendo*; they are more sceptical about the prospects 'in the absence of international solutions on loss and damage', in particular in light of the complex issues of attribution and causation (p. 14); according to Plan B (an NGO) the Philippines' Commission 'may have regard' to this draft (Joint Summary, *supra* n. 26, at p. 79). On the discussions in the context of the subsequent Conferences of Parties, Center for International Environmental Law, Annex to CIEL Opinion in Support of Petitioners' in the case before the Human Rights Commission of the Philippines, <https://www.business-humanrights.org/sites/default/files/documents/CHR-NI-2016-0001%20CIEL%20ANNEX%2010.2.17.R.pdf>, at p. 11. For interstate liability see Elena Kosolapova, *Interstate Liability for Climate Change-Related Damage*, The Hague, Eleven International Publishing 2013, at pp. 40 ff.

> approach ... is that [it] demonstrates that one case can cause a gigantic litigation problem for corporations. […] The courts may be waiting to see if federal and state legislatures take firm action to address climate change issues through new statutory laws […]. If clear action is not taken soon, courts may be willing to open the door to private litigation claims that could cost corporate defendants many millions – if not billions – of dollars.'[78]

Damages are seemingly advocated in the Global Pact for the Environment – not unimportantly, quoted by Lord Carnwath in a judgment of the Privy Council, albeit not in the context of climate change – which aims at both State and non-State actors:[79]

> 2. The Polluter Pays Principle ('PPP' or 'the Principle') is now firmly established as a basic principle of international and domestic environmental laws. It is designed to achieve the 'internalization of environmental costs', by ensuring that the costs of pollution control and remediation are borne by those who cause the pollution, and thus reflected in the costs of their goods and services, rather than borne by the community at large (see e.g. OECD Council 1972 Recommendation of the Council on Guiding Principles concerning International Economic Aspects of Environmental Policies; Rio Declaration 1992 Principle 16). Most recently, the Principle has been simply expressed in the Draft Global Pact for the Environment, presented by President Macron to the United Nations Assembly on 19 September 2017:
>
> Article 8 Polluter-Pays
> Parties shall ensure that prevention, mitigation and remediation costs for pollution, and other environmental disruptions and degradation are, to the greatest possible extent, borne by their originator.[80]

According to Article 7 paragraph 1 of the Pact '[t]he necessary measures shall be taken to ensure adequate remediation of environmental damages.' A resolution

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78 Kevin Haroff, 'Climate-Change Litigation in the United States', in *Liability for Climate Change? Experts' View on a Potential Emerging Risk*, published by Münchener Rückversicherungs-Gesellschaft (2010), <www.munichre.com/site/touch-publications/get/documents_E753942211/mr/assetpool.shared/Documents/5_Touch/_Publications/302-05493_en.pdf>, at p. 8. See also Lindene E. Patton, 'Why Insurers *Should* Focus on Climate Risk Issues', in Geneva Association, *Risk Management SC5*, June 2011, pp. 5-15, at pp. 7 ff.

79 Principle 2 and White Paper, *Toward a Global Pact for the Environment*, <https://www.leclubdesjuristes.com/wp-content/uploads/2017/05/CDJ_Pacte-mondial-pour-lenvironnement_Livre-blanc_UK_web.pdf>, at p. 40.

80 *Fisherman and Friends of the Sea v. The Minister of Planning, Housing and the Environment* (*of Trinidad and Tobago*), Privy Council, 27 November 2017, [2017] UKPC 37; for the application to the case in point see the judgment under 41 and 42. For a critical discussion, in particular about the meaning of core issues in relation to compensation, see Susan Biniaz, '10 Questions to Ask about the Proposed "Global Pact for the Environment"', published by the Sabin Center for Climate Change Law of Columbia Law School, <http://columbiaclimatelaw.com/files/2017/08/Biniaz-2017-08-Global-Pact-for-the-Environment.pdf>; I agree with her that the Pact raises many questions such as: what is meant by 'environmental harm', and 'polluter pays'. The introduction to the Global Pact seems to soften Principle 8, saying that 'the polluter must, *in theory*, bear the costs of pollutions' (p. 41, emphasis added).

based on this Pact, which decided to establish a working group 'to consider the report and discuss possible options to address possible gaps in international environmental law and environment-related instruments,' was adopted by the UN General Assembly by 143 votes in favour and 6 against (among them the US, Russia and Syria).[81] UN ambassador Haley labelled the resolution as 'vague environmental commitments' to the effect that 'American citizens and businesses will get stuck paying a large bill without getting large benefits'.[82]

In July 2014, the UN Human Rights Council decided to establish a working group on transnational corporations and other businesses with respect to human rights mandated to elaborate an international binding instrument.[83] 20 countries (including China, Russia and South Africa) voted in favour; 14 against (European countries, the US and Japan) and 13 abstained. In September 2017, the working group published 'elements for the draft'.[84] The 'elements' contain elaborate thoughts on liability, including criminal liability and liability of 'natural persons who are or were in charge of the decision-making process'.[85]

Prima facie, the Organisation for Economic Co-operation and Development (OECD) Guidelines for Multinational Enterprises 2011 merely contain a series of guidelines worthy of consideration. According to chapter IV under 1 enterprises must respect human rights, 'which means that they should avoid infringing on the human rights of others and should address adverse human rights impacts with which they are involved.' The commentary explains the meaning of this paragraph. It speaks of: 'remediation of actual impacts, and accounting for how adverse human rights impacts are addressed'.[86]

Admittedly, 'remediation' is a bit vague, but together with 'address' it seems to point to compensation. Be it as it may, the most important part of this chapter is the obligation of enterprises to respect human rights, which is in line with the emerging view that corporations have to comply with human rights. That matters, because climate change clearly has an important human rights dimension that comes with obligations.[87] The focus on 'remediation' is important, in spite of the fact that

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81 UN General Assembly A/72//277, <www.un.org/en/ga/search/view_doc.asp?symbol=A/RES/72/277>. Many states from around the globe 'reaffirm' 'all the principles of the Rio Declaration' and advocate a report 'that identifies and assesses possible gaps in international environmental law and environment-related instruments with a view to strengthening their implementation'.

82 <https://www.uscib.org/tag/climate-change/>.

83 UN General Assembly, A/HRC/RES/26/9.

84 Elements for the Draft Legally Binding Instrument on Transnational Corporations and Other Business Enterprises with Respect to Human Rights, 29 September 2017, prepared in the framework of UN Resolution A/HRC/RES/26/9, <www.ohchr.org/Documents/HRBodies/HRCouncil/WGTransCorp/Session3/LegallyBindingInstrumentTNCs_OBEs.pdf>.

85 Ibid., at p. 8.

86 OECD Guidelines for Multinational Enterprises, 2011 Edition, <www.oecd.org/daf/inv/mne/48004323.pdf>, para. 41 at p. 33; see also ibid., Part I, Chapter II (*General Policies*) under A 11 and 12 (p. 20) , and Chapter VI (*Environment*) (p. 42 ff.).

87 See extensively Report of the Special Rapporteur (John Knox) on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment,

the Guidelines are soft law. As the Guidelines express 'the shared values of the governments of countries from which a large share of international direct investment originates and which are home to many of the largest multinational enterprises',[88] they carry weight.

Principle 1 of the Global Compact also emphasises that 'businesses should support and respect the protection of internationally proclaimed human rights'. Under 'What does it mean', the commentary explains that 'a business should […] address adverse human rights impacts with which they are involved'. Further down, it mentions legal liability in case of infringement, and labels Principle 1 as 'the baseline responsibility to respect human rights'. It refers to the Ruggie Principles, on which the human rights chapter of the OECD Guidelines is based[89] for 'further conceptual and operational clarity for the two human rights principles championed by the Global Compact'.[90] The Ruggie Principles are all the more important as they are endorsed by the Human Rights Council.[91]

In 2014 the European environmental judges issued a declaration on 'environmental responsibility'.[92] It states, under 'Fundamentals', that '[l]egal liability is based on moral responsibility'. Signatories 'feel reasonable responsibility for our environment and for safeguarding the constituent elements of nature'. 'Therefore, environmental protection has become inseparable from regulating the economy and defining the principles of social justice.' The Declaration emphasises that it is 'necessary that professionals, including judges, acquire an ecological, environmentally conscious approach'. The 'task of legal systems is to provide legal protection for people suffering from environmental pollution and/or exposed to environmental load'. 'Legislators and legal practitioners play an important role in fostering sustainable development, […] furthermore in the enforcement of environmental responsibility.' The Declaration continues as follows:

> [II] 5. Signatories to the Declaration attribute special significance to the principle of the rule of law, including the environmental rule of law, as well as to the fundamental principles of environmental protection and environmental law, especially in cases of lacking or insufficient regulations.
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> 6. Signatories to the Declaration also emphasize the significance of the enforcement of environmental responsibility, in accordance with the principles of precau-

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United Nations Human Rights Council A/HRC/31/52 of 1 February 2016.

88 OECD Guidelines, *supra* n. 86, Foreword at p. 3.

89 OECD Guidelines, *supra* n. 86, Foreword at p. 3.

90 See United Nations Global Compact, The Ten Principles of the UN Global Compact, Principle 1 (*Human Rights*) and Principle 2 (*Human Rights*), <https://www.unglobalcompact.org/what-is-gc/mission/principles/principle-1>.

91 UN General Assembly, Human Rights Council Resolution 17/4 of 16 June 2011, A/HRC/RES/17/4.

92 The 2014 Budapest Declaration on Environmental Responsibility of the EU Forum of Judges for the Environment. The text of the Declaration may be found at <https://www.eufje.org/images/docConf/bud2014/Declaration_environmental_responsibility.pdf>.

> tion, prevention and with the 'polluter pays' doctrine, in order to prevent, reduce and eliminate environmental pollution, considering that environmental damage can primarily be avoided at its source, by ensuring the reasonable management of natural resources while respecting local conditions.
>
> […]
>
> [III] 3. The fundamental principles of environmental protection and environmental law should serve as guidelines both for legislators and legal practitioners, especially in cases of lacking or insufficient regulations.
>
> 4. It must be promoted that people exposed to environmental load and/or suffering from environmental pollution be aware of the means of legal protection and become able to use them efficiently.

The Declaration cannot be accused of unambiguity. However, the emphasis on the environment, the explicit mention of the polluter pays maxim and the other bits and pieces suggest that the drafters propagate a very active stance, also in relation to compensation.

In 2015, the International Centre of Comparative Environmental Law published a Draft of the International Covenant on the Human Right to the Environment.[93] It states that the 'costs of prevention, pollution reduction, and the fight against pollution, as well as the costs of repairing environmental damage, must be borne by the polluter',[94] while everyone 'who is responsible for damage to the environment is obligated to restore to its original state.'[95]

In amicus curiae briefs in a case pending before the Philippines Human Rights Commission major NGOs harp on the polluter pays principle, which, in their view, 'should be applied to the Carbon Majors'.[96] They seemingly are in favour of compensation duties.[97]

In December 2015, the Global Network for the Study of Human Rights and the Environment issued a draft Declaration on Human Rights and Climate Change, saying, *inter alia*, that

> all human beings have the right to effective remedies and redress in administrative or judicial proceedings for climate harm or the threat or risk of such harm, including modes of compensation, monetary or otherwise.[98]

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93 <https://delawarelaw.widener.edu/files/resources/draftintcoveonhumanrighttoenviro15ii2017en.pdf>.

94 Ibid., Art. 4; see also Art. 1 para. 1 and 2, Art. 2 para. 4 and Art. 3.

95 Ibid., Art. 6.

96 Joint Summary, *supra* n. 26, at p. 59, with elaboration on the subsequent pages.

97 Ibid., pp. 63 and 64.

98 <http://gnhre.org/wp-content/uploads/2015/11/GNHRE-draft-declaration1.pdf>, under II.12.

The – at the time of writing – latest and potentially worrying development is a draft bill issued by (an opposition member of the parliament of) Ontario (Canada).[99] It provides for strict liability of corporations 'engaged in the production of fossil fuels' for a wide scope of losses occurring in Ontario.[100]

A series of codes of conduct and authoritative reports point to access to effective remedies, albeit that it not always clear what exactly the drafters had in mind. John Knox's Framework Principle 10 reads: 'States should provide for access to effective remedies for violations of human rights and domestic law relating to the environment.'

which explicitly includes 'remedies against private actors', encompassing past violations. As damages probably is the only useful remedy for the past,[101] this principle apparently also focuses on that kind of claims, which also seems to follow from the broad wording.

In an ideal world, and in the absence of strict and pertinent legislation such as Ontario's draft, if applicable, courts usually take all relevant factors into account to ensure that the outcome of the litigation is as fair and equitable as possible. In *single* cases that is mostly manageable, arguably even in climate change litigation. Most lawyers, academics and courts tend to confine themselves to the case in point. Such a focus makes sense in run-of-the-mill cases and even in major cases about events that only happen once or rarely. In those instances, judgments do not run the risk of opening the floodgates.

Below, I will put emphasis on claims for damages directed at enterprises. That is not to say that states will necessarily escape, but I expect that courts will be reluctant to issue damages awards against states, while judgments of international courts or tribunals can barely be executed.

11.2 Time limitation and why the 2-degree threshold matters

The first potential problem for victims seeking damages awards is time limitation, a topic in its own right.[102]

Before, I have briefly discussed the question which emissions are unlawful. As a rule, and with quite a few exceptions, losses caused by unlawful emissions could be recovered from the tortfeasor.

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99 Bill 21, the Liability for Climate-Related Harms Act, 2018 introduced in Ontario, see <https://canadians.org/blog/bill-21-liability-climate-related-harms-act-2018-introduced-ontario>.

100 According to Andrew Gage, the bill is not necessary because nuisance already serves as a legal basis under Canadian law. See 'Ontario Climate Bill Blazes a Trail for Fossil Fuel Polluter Liability', *West Coast Environmental Law* 5 April 2018, <https://www.wcel.org/blog/ontario-climate-bill-blazes-trail-fossil-fuel-polluter-liability>. The bill may not stand much chance of getting adopted. See Alex Robinson, 'Ontario bill sparks debate on climate change litigation', *Canadian Lawyer* 6 April 2018, <www.canadianlawyermag.com/legalfeeds./author/alex-robinson/ontario-bill-sparks-debate-on-climate-change-litigation-15567>.

101 Knox, *supra* n. 4, at p. 13; more explicitly at p. 15.

102 On this topic see Art. 15 Model Climate Compensation Act, *supra* n. 77.

It is commonly accepted that global warming must be kept below 2 degrees. Future judgments with – *de facto* – retroactive effect may tell us that 'we' had to keep it below 1.5 degrees or any other figure below 2 degrees. Such judgments would have an immediate impact on the future reduction-burden of the respective players and on claims for damages, related to past emissions.

Interestingly, this view implies, I think, that unlawful emissions may give rise to liability, but *not* for losses occurred before the threshold of 2 degrees, or any other relevant figure, has been passed. That means that present-day victims of climate change-related natural events or other mishaps cannot successfully claim their losses. After all, by now we are well below an increase of 2, and even 1.5 degrees. This would be the 'perfect' *legal* solution to keeping liability within bearable limits, assuming – quite optimistically – that we are able to keep global warming below 2 degrees. Even if we will pass that figure, it will keep the floodgates partly shut.

Creative lawyers might argue that even current losses are recoverable. They could contend that these losses would not have occurred at the relevant venue and time if emissions had been reduced at the pace legally required. To me, such an argument is overly sophisticated; in addition it is speculative what would have happened if the defendant (and others) had reduced their emissions sufficiently.

Alternatively, they might contend that climate change already causes significant losses. Hence, further (excessive) emissions will make things worse and should give rise to liability. Arguing along these lines presupposes that the threshold of 'well below 2 degrees' is the fruit of the shortcomings of the political system and does not mean that politicians are in agreement that a rise of global temperature by, say, 1.2 or 1.6 degrees is acceptable. The latter argument may be true for some politicians, but I wonder whether it mirrors the view of (most) developed countries.

The idea that current losses could be recovered sounds sympathetic, but ignores, I think, that society has accepted, time and again, that liability is not the answer to all losses. Cars are the perfect example. Some countries have created strict liability, mostly for personal injury, but to the best of my knowledge fully fledged liability for all losses caused by cars is an exception. The same goes for losses caused by products. Product liability solves only part of the problem. It follows, I think, that the mere fact that emissions cause damage is insufficient reason for liability if the international community has opted for a maximum threshold of 2 degrees (or any concrete alternative figure).[103] Intuitively, one might be inclined to make an exception for gross negligence (emissions that are excessive by all standards), but such an exception would not easily fit into the system if one accepts the idea that current losses cannot be recovered. Injunctive relief is the solution to get rid of such emissions, in light of cataclysmic consequences of passing the fatal threshold.

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[103] For Client Earth's (not overly clear) position see Joint Summary, *supra* n. 26, at p. 66. For a different and fascinating view, albeit not specifically concerning climate change, see Jörg Fedtke, 'Evolutionary Mismatch and Responsibility', in Helmut Koziol and Ulrich Magnus (eds.), *Essays in Honour of Jaap Spier*, Vienna, Jan Sramek Verlag, 2016, pp. 91-102.

11.3 **A myriad of losses**

Let us assume that countries and/or enterprises would be liable for damages. Which losses count in such a scenario?[104] Take a hurricane. It causes severe losses to property, people cannot work for a certain period of time and may not receive their salary, others will lose their jobs because their employers cease to exist. This, in turn, has an adverse impact on the local shops; loans cannot be repaid and so on and so forth. Or, the premises of suppliers are destroyed, which will affect the supply of goods and services to both private persons, enterprises and the government. The electricity supply may be impaired, which could have devastating consequences for entities dependent on electricity, in particular also the financial sector: payments can no longer be made, surgeries are no longer possible, etcetera. Or take a huge city close to the sea that disappears due to the rising sea level and cannot be protected by means of dykes or other measures. This results in property losses, businesses have to shut down or to be rebuilt at other places, losses incurred by the owner (or manager) of tourist attractions that cease to exist, unemployment, looming poverty for those who lose all their belongings, the cost of resettling elsewhere, new infrastructure (roads, hospitals, energy supply etcetera) to be built in places where the people will settle, to mention just a few of the many losses that will occur.[105]

Unless domestic law specifically provides otherwise,[106] I have little doubt that not all of these losses are recoverable. The formula adopted by tort law/the law of damages offers solutions, as Article 3:201 Principles of European Tort Law (PETL) illustrates. It mentions the following factors:

> (a) the foreseeability of the damage to a reasonable person at the time of the activity, taking into account in particular the closeness in time or space between the damaging activity and its consequence, or the magnitude of the damage in relation to the normal consequences of such an activity;
> (b) the nature and the value of the protected interest;
> (c) the basis of liability;
> (d) the extent of the ordinary risks of life; and
> (e) the protective purpose of the rule that has been violated.

Such a formula provides a starting-point for solutions, but it also leaves quite some manoeuvring room; by the same token it creates uncertainty. It will not be easy to justify why specific losses will be recoverable, whilst others remain uncompensated. Applying traditional 'wisdom', the destruction by a hurricane of a house, worth € 10 million, may be recoverable unlike the, in financial terms modest,

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104 See also Spitzer and Burtscher, *supra* n. 39, at pp. 156 ff.; and see Kaminskaite, *supra* n. 68, at pp. 82 ff.

105 For many other examples see Maxine Burkett, 'Rehabilitation: A Proposal for a Climate Compensation Mechanism for Small Island States', 13(1) *Santa Clara Journal of International Law* (2015) pp. 81-124, at pp. 110 ff.

106 See e.g. the draft bill of Ontario, *supra* n. 99.

losses suffered by a poor community because their village is wiped off the face of the earth. Lawyers may understand such an outcome,[107] but that does not make it appealing.

Before, I mentioned that the aggregate of global emissions causes global warming. In turn, unlawful emissions must be avoided for the sake of the world at large. Hence, the law aims to protect the world at large, I think. That, in turn, means that in case of liability for damages, it is not self-explanatory why a Dutch emitter would not be liable for losses in, say, New Zealand or the Philippines. That illustrates the dilemma: far-reaching liability is probably crushing, a very restrictive liability unbalanced and arbitrary.

11.4 Adaptation and mitigation cost

The looming threats of climate change must be anticipated. In particular poor – and often the most vulnerable – countries cannot afford to pay the necessary adaptation cost from their own purse. In some instances they possibly could, but they prefer to spend the money otherwise.

As a rule of thumb, the costs of adaptation undoubtedly are recoverable insofar as reasonably incurred, as Article 2:104 PETL puts it.[108] But what is 'reasonable' in this context? The mere fact that the expenses turned out unnecessary does not necessarily mean that it was unreasonable to incur them. It comes down to the question whether 'from an objective point of view of a reasonable and careful person' it was reasonable to incur the cost.[109] Hence, if measures were taken, based on reasonable scenarios that did not materialise, the cost can still be recoverable.

If one were prepared to accept that the 'reasonability-test' not only focuses on the question whether the *costs* are reasonably incurred, but that it can be applied more generally[110] to answer the question whether the costs are recoverable, inconvenient questions arise. Could, say, the *State* of New York or the *citizens* of an ultra-conservative US State, which strongly opposes any reduction of GHGs, recover part of the adaptation-expenses from another country or from enterprises? An answer in the affirmative is quite possible. It is far less obvious if:

(a) one is prepared to attribute the shortcomings of the US to both potential claimants; or
(b) the State of New York failed to reduce its own reductions to the extent necessary, the in *pari delicto-maxim*.

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107 See e.g. – albeit cautiously – Spitzer and Burtscher, *supra* n. 39, at pp. 156 and 157.

108 Much has been written about adaptation. See e.g. the Commentary, *supra* n. 7, footnote 94 with further references; Spitzer and Burtscher, *supra* n. 39, at pp. 158 ff.

109 European Group on Tort Law, *Principles of European Tort Law, Text and Commentary*, Vienna/New York, Springer 2005, Art. 2:104 (Magnus), at p. 38. See also Art. 6:302 PEL Liab. Dam.

110 It seems to follow from the commentary to Art. 2:204 PETL that this was not meant; see pp. 37 and 38. The same goes for Art. 6:302 PEL Liab. Dam.; see Christian von Bar, *supra* n. 43, at p. 1000.

In the latter two instances: does or should this affect the entire claim or only part of it? The extent to which the claimant has violated his own reduction obligations could – and should – carry weight, I think. The weighing largely is a value judgment that will appear as a *deus ex machina* in a judgment.

Before, I pointed to the consequences of the prevailing view that global warming must be kept below 2 degrees. That may also affect the recoverability of adaptation costs; at any rate if the costs are incurred to protect against the consequences of global warming *below* 2 degrees. Defendants could possibly harp on the premature character of the measures, as it is still unclear which climate change scenario will enfold. In addition, they could contend that the plaintiff has to bear part of the expenses himself because the measures will be a double catch: they protect against not unlawful global warming up to the relevant figure and also against the consequences of further increase of the global temperature.

The cost of mitigation is a harder nut to crack. As a rule, there is no legal basis for recovery, I think. Exceptions apply, e.g. if an entity – be it a country or an enterprise – incurs costs to reduce its emissions at a greater pace than legally required. The latter mitigation efforts are beneficial to of all of us. *Negotiorum gestio* or unjust enrichment probably are the best legal bases for recovery; for elaboration see paragraph 12 below.

11.5 **Who caused the losses?**

Causation is another very difficult topic; it probably is a nightmare for lawyers. Who caused the losses? The easy answer is: each excessive emitter (i.e. an emitter emitting more GHGs than legally allowed)[111] *pro rata parte* of the excess.

Global warming is caused by the aggregate of excessive global emissions. Hence, the emissions of the Netherlands, Japan, Canada, General Motors, Shell and Bayer *contribute* to the losses around the globe. That is legally highly relevant. It means that excessive GHG emissions (irrespective of how we determine which emissions are excessive) must be avoided to prevent losses the world around. That, in turn, implies that one cannot easily argue: a Dutch enterprise is 'only' accountable for losses in the Netherlands. That is not how climate change works. In light of the global nature of climate change each excessive emitter contributes to worldwide losses. In that respect I am on the same page as a Peruvian farmer who sued the German utility company RWE for his alleged adaptation losses.[112] That has far-reaching consequences if one is prepared to accept liability for damages in the context of climate change.

Does a *clear-cut* proportional division of losses related to unlawful emissions do justice to the very different scenarios? By way of example, two countries with a similar population (important in light of the OP's per capita approach) emit un-

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111 An exception applies in case of strict liability. In such a scenario all emissions will give rise to liability.

112 *Saúl v. RWE AG*. For details see <https://germanwatch.org/en/huaraz>. For a different view, based on the concept of proximity, see Sutherland, *supra* n. 36, at p. 190.

lawful emissions; one only marginally, the other country significantly. Intuitively, one may be inclined to answer in the negative. But such an answer would raise a new question: how should the difference be translated into a workable and fair formula? I must admit that I do not know the answer.

Causation begs many more questions. Discussing these goes beyond the space available for my contribution.[113]

11.6 The time aspect

How far are we willing to extend liability in time? Emissions have an impact on present and future generations. Parts of, or even entire, countries will disappear or become unliveable. Millions of people will have to migrate. Fortunes will get lost (and others made). These and other events will occur after, say, 10, 50, 100, 200 or more years.

Assuming that it is possible to prove a causal link between excessive emissions and specific losses (the emissions are a *conditio sine qua non* for the losses), which losses are still legally relevant? What amounts to a legally relevant loss? These are incredibly difficult questions and, unavoidably, the answers will be arbitrary.

The easy solution, of course, would be to argue that losses occurring after, say, 100 years are no longer attributable to the earlier emissions. Traditional lawyers may be keen to solve the problem along these lines; they will almost certainly be *much* more restrictive in relation to claims for damages after a couple of years, as the PETL formula mentioned above suggests. That may be the better solution to avoid opening the floodgates, despite the fact that any figure (10, 50, 100, 200 or any other number of years) is hugely arbitrary.

The consequences of a 'njet' after a specific number of years would be unsatisfactory, increasingly so as the figure would lie within 'our' lifespan. It would mean that victims suffering the most serious losses (the consequences of climate change will be increasingly cataclysmic) remained uncompensated; current victims will receive compensation, unlike future victims in spite of the fact that their (aggregate) losses will be considerably higher. That is very difficult to justify and is square to the emerging view that we have legal and moral obligations towards future generations, albeit that this mantra mostly does not go beyond a sound-bite. Even if *we* would believe that future losses cannot be claimed, courts may well decide differently in the future. It is at least up for debate whether future generations are bound by judgments they did not seek and may detest.

One could imagine claims on behalf of the next or future generations. Ideally speaking, the money recovered, if any, could be put in a fund. That would require a legal basis, however, also for the distribution. As we do not have a clue about the size of future losses, if not for other reasons because we cannot know how much the global temperature will rise, it will be impossible to administer the fund. Any

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113 See e.g. Spitzer and Burtscher, *supra* n. 39, at p. 174.

distribution will almost certainly be inadequate and unfair to many victims who will not receive compensation.

11.7 *Are* losses recoverable?

Are climate related losses recoverable, assuming that a liable person can be traced and that the time limitation defence is rejected? At the end of the day that depends on the court's appetite. In addition to the 2-degree argument discussed above, private law offers various easy escapes.[114] Below I confine myself to minimal causation.

11.8 Minimal causation

Only a handful countries have emitted and still emit more than 2% of *global emissions*. Unless one were to take historical emissions into account and attribute the scope 2 and 3 emissions to the first link of the chain, no single enterprise comes even close to 1%. The contributions of most enterprises and quite a few states are very small. Seen from a legal angle, it does not belabour the obvious that such minimal contributions matter.[115]

One could strike several parallels for the argument that claims do not *need* to founder on this hurdle.[116] If one is prepared to accept the idea that compensation is the right way ahead, it would be difficult to explain that legal doctrine is an obstacle to a financial remedy concerning the greatest challenge ever for mankind.[117] The latter is (a kind of) a magic word, but for lack of better magic words captures the minds of judges; in cases that really matter they may well be decisive.

Below, I will advocate the utmost reluctance in relation to liability for damages. That does not mean, however, that I am saying that there is or should not be a

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114 See extensively Ina Ebert, 'Climate Liability and Liability Insurance', in Koziol and Magnus (eds.), *supra* n. 103, pp. 79-90. No doubt, defendants will also harp on the tune: it would not make any difference if I reduced my emissions. That argument is not convincing, as Farber rightly contends, quoting *inter alia* a judgment of the Ninth Circuit (*Boeing Co. v. Cascade Corp.*, US Court of Appeals for the 9th Circuit, 24 March 2000, 207 F.3rd 1177, at para. 33): 'Take the philosophers' example … of the kitchen with a light switch at each end. When two people simultaneously flip both switches on, the light goes on. Neither person's conduct is a sine qua non, because the light would have gone on anyway. Neither individual's conduct made a difference to the outcome. [This] analysis would compel the conclusion that neither person caused the light to go on.' Farber 2008, *supra* n. 49 at p. 391, and for a discussion also on the following pages.

115 Ebert, *supra* n. 114, at p. 82; Spitzer and Burtscher, *supra* n. 39 at pp. 162, 167 and 169; in their view minimal causation is an insurmountable hurdle. The Model Climate Compensation Act is deliberately vague on this issue, *supra* n. 77, at p. 31.

116 See extensively, also for further references, Jaap Spier in Spier and Ulrich Magnus (eds.), *supra* n. 75, at. pp. 22 ff.; the Commentary, *supra* n. 7, at pp. 153 ff.; Sutherland, *supra* n. 36, at pp. 192 and 193, quoting *Boim v. Holy Land Foundation for Relief and Development*, US Court of Appeals for the 7th Circuit, 3 December 2008, 511 F.3rd 707.

117 For a similar stance see Plan B's brief, Joint Summary, *supra* n. 26, at p. 71.

remedy to fight climate change. Minimal causation should certainly not torpedo claims for injunctive relief.

11.9 Desirability of extensive liability

11.9.1 *Introduction*

Is liability for damages a promising prospect? In earlier publications I have answered that question in the negative.[118] In discussions about this topic this view was challenged, predominantly because it would remove incentives to comply with one's legal (reduction) obligations. The latter view seems based on the idea that looming liability brings people to their senses.[119] It is difficult to prove whether potential liability has such a deterrent effect.[120]

Discussions with people from corporations seem to suggest that they (1) do not think about their legal obligations in the face of climate change, (2) believe that they do not have legal obligations, (3) 'do enough', or (4) take the view that liability is a non-starter. Ina Ebert, a senior lawyer at Munich Re, strongly takes the latter position.[121] I agree with her that quite a few hurdles need to be removed, but do not think that this is impossible within the boundaries of the law. It may be true that in many developed countries the chance of successful claims for liability is remote, it certainly is not negligible, let alone in developing countries.

The view that liability-litigation does not stand a favourable chance ignores three inter-woven factors. It is crystal clear, as business leaders understand very well,[122] that global GHG emissions must be reduced significantly and that this cannot be achieved without major additional contributions by enterprises. Hence, they do not have a choice but to reduce their GHG emissions. If they clearly fail doing so (i.e. they indisputably fall considerably short of meeting their obligations), that could arguably be labelled as gross negligence in light of the calamitous consequences of insufficient action.[123]

Betting on *doctrinal* defences to avoid liability, is a risky game. With due respect, lawyers do not always understand how the law is administered. Judges in several countries may pay (at times too) much attention to legal doctrine and sacrifice justice on its altar, other judges will explore avenues to by-pass the obstacles, in

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118 See e.g. Spier, *supra* n. 75, at p. 181 ff.

119 See e.g. Hinteregger, *supra* n. 2, at p. 246 ff.; Faure and Nollkaemper, *supra* n. 2, at pp. 156 and 157.

120 See Michael Faure (ed.), *Deterrence, Insurability, and Compensation in Environmental Liability, Future Developments in the European Union*, Vienna/New York, Springer 2003.

121 Ebert, *supra* n. 114.

122 Commentary, *supra* n. 7, at pp. 24 ff.

123 CIEL, *supra* n. 48, suggests that uncomfortable facts may come to light about a series of enterprises. Milieudefensie's letter of 4 April 2018 to Shell is largely based on such findings, which are of little avail in relation to its claim for injunctive relief, I think, but they may help to create a change of mind set.

particular, but by no means only, in Asia, Australia and Latin America.[124] There have been quite a few instances where judges ignored or openly removed legal hurdles; time limitations barring claims for personal injury in relation to 'long tail-diseases' are the example par excellence. Last but not least, most judgments will be delivered at a stage when it has become increasingly clear that the toll of climate change is very high, which may – and probably will – influence their judgments.

11.9.2 *A balancing act*

I still struggle with the question whether (fully fledged) liability should be avoided. Answering that question requires a balancing act. There is no perfect solution or anything that comes close to it.

Non-liability will leave victims empty-handed, unless their government or others were to step in, either by means of funds or *ad hoc* funding. With exceptions, it would be unsatisfactory if climate change victims did not receive compensation for their losses. This goes in particular for present-day's younger generation, future generations and vulnerable people in developing countries; they cannot be blamed for the irresponsible behaviour of those who have caused the mess.[125] That is one of the reasons why the draft bill in Ontario turns things upside down. If other countries will follow this example, there is a fair chance that only the first victims will benefit. The defendants may – and probably will – go bankrupt soon,[126] leaving future victims uncompensated.

It would not be unfair if people in influential positions, who blocked decisions to reduce GHG emissions to the extent necessary and *arguably* also entities that *considerably* fell short of reducing their GHG emissions, were left empty-handed if *they* suffered losses. I emphasise: arguably, as it is up for debate whether it would be proportional to deprive them of *any* compensation if, say, their premises were destroyed by a hurricane that – on the balance of probabilities[127] – was caused by climate change.

In many instances compensation will have to be paid by those who did not cause or contribute to the losses. The worst consequences of global warming are still to

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124 The RWE-case, *supra* n. 112, shows that it would be fraught with risk to bet on reluctance by all European courts.

125 That argument is challenged by Farber in Farber 2008, *supra* n. 49, at pp. 387, 388, 395 and 396. He is right that a 'large number of living Americans were alive' during the period of the greater part of the emissions (as from 1950), but that does not make all or most of them responsible.

126 This view is also challenged by Farber. However, his argument, based on a – in his view – 'generous' carbon tax of $ 50 – is not convincing. See Farber 2008, *supra* n. 49, at pp. 405 and 406. He does not explain why such a carbon tax would suffice to cover all legally relevant losses, let alone how to calculate such losses. That said, I must confess that my view is not based on calculations either. Calculations are pointless as long as we do not have a clear view of the losses that will and should be recoverable.

127 The common law yardstick to decide whether there is legal causation in this context is a problem in its own right. See *Hotson v. East Berkshire Area Health Authority*, House of Lords 2 July 1988, [1987] AC 750.

come, which means that most claims will be issued in the future. They will be related to past[128] emissions. I already explained that it is too easy to argue that future defendants benefitted from these emissions.

We can safely assume that major enterprises and countries will be the main targets of claims for damages. They are no more than legal constructs; they do not act themselves. The culprits are/were the people at the wheel. Compensation would be at the expense of others: shareholders – often pension funds –, employees who will lose their job, creditors who will not be paid, suppliers losing business and so on and so forth. That is not necessarily problematic, e.g. if the shareholders are wealthy people who did not care about climate change, or investment funds focussing on the short term, which was known to and understood by those who put their money in these funds.

Fully fledged liability will open the floodgates, unless it were significantly restricted. Unfortunately, such restrictions are doomed to be very arbitrary. It is in the laps of the Gods how expensive liability will be. That depends on the restrictions on liability and the climate change scenario that will materialise. We can take it for granted, I think, that the aggregate amounts will be colossal and quite possibly unaffordable. If I am right, that would mean that the first victims/plaintiffs would get all. If my fear materialises, many enterprises are doomed to bankruptcy and countries to poverty. That will have many adverse consequences around the globe, both in developed and developing countries.[129]

The highest *financial* losses will be suffered in developed countries by people who are, comparatively speaking, well to do. The value of their property will be significantly higher than that of the dwellings of poor people in developing countries. In addition, the latter rarely have pensions. Hence, the awkward consequence of fully-fledged liability is in the short term beneficial to the already affluent people. The most serious *non-financial* losses will probably fall in the poorest countries and be suffered by people who do not have the means to protect themselves against hurricanes, floods, droughts and other serious mishaps.[130] Part of these losses cannot be made good by money, although it may soothe their grief.

11.9.3 *Solutions?*

Within certain limits – unavoidably curtailed by what is reasonably affordable – it would make sense if developed countries would compensate victims *within their own countries*.[131] Such compensation would not fall under the umbrella of liabil-

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128 I do not mean historical, but, say emissions from now onwards.

129 For a much more nuanced view see Farber, Farber 2008, *supra* n. 49, at p. 397 ff., primarily about the US. In his view the cost of liability would be 'considerably less than the Iraq war' (p. 399). That was perhaps true in 2008; whether it still is depends on the scope of liability, discussed by Farber on p. 405 ff.

130 They will often be accompanied by financial losses, e.g. the cost of medical care or maintenance in case of fatal injuries.

131 See in considerable detail Michael Faure and Ton Hartlief (eds.), *Financial Compensation for Victims of Catastrophes*, Vienna/New York, Springer 2006, with the caveat that climate change is of a different magnitude than other catastrophes.

ity law. Countries would be well advised to introduce a – significant – carbon tax to generate funds to cover such losses and the cost of adaptation these countries have to incur.[132] After all, (most of) these countries failed to take appropriate steps to enter into meaningful international agreements, to urge those within their territory to curb their emissions and they often reaped the fruits of huge taxes on fossil fuels and other unsustainable products, services and activities.[133]

For the reasons mentioned above – the floodgates and the flaws of fully fledged liability – we should:

(1) put emphasis on prevention. That means, in terms of litigation, declaratory and preferably injunctive relief; and
(2) explore a balanced solution to keep liability within affordable limits,
(3) which will only be effective if it receives wide-spread support, ideally speaking by means of binding international instruments.[134]

If, with the caveat about non-recoverability as long as it is uncertain whether we will pass the 2-degree threshold, the world-wide cost of adaptation were affordable,[135] such cost should arguably be given priority over other losses,[136] if and to the extent not yet covered by international agreements.[137] If – based on reasonably reliable expectations – affordable, current and future losses suffered by vulnerable people in least developed countries, the lower part of developing and other well below BPQ countries, should also be given priority,[138] although I do not expect that courts in developed countries will be inclined to take that position.

As a rule, other losses should not be recoverable, unless the relevant country steps in.[139] That will difficult to explain to victims suffering such losses, although they may appreciate that it is justified to put emphasis on adaptation as it avoids or limits future losses for many people. By the same token, adaptation is in the best interest of society as a whole.[140]

Alternatively, liability based on negligence might be a solution:

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132 Such a tax should be high enough to cover foreseeable losses in – at least – the decades to come.

133 I realise, of course, that not all countries can be lumped together. Some did considerably better than others; see below.

134 Unfortunate recent developments (President Trump's withdrawal from the Agreement with Iran and the Paris Agreement) have shown that such instruments do not offer full protection. However, if one or more countries withdrew from the instruments mentioned in the text, enterprises based in their territory would lose the protection provided by the relevant instrument.

135 According to a study by UN Environment, The Adaptation Gap Finance Report, <https://wedocs.unep.org/bitstream/handle/20.500.11822/22172/adaptation_gap_2017.pdf?sequence=1&isAllowed=y>, p. xii, these costs are estimated in the range of US$ 140-300 billion by 2030 and US$ 280 – 500 billion by 2050.

136 For a similar view see Farber, Farber 2008, *supra* n. 49, at p. 407.

137 Regard must be had to the meaning of such agreements: Do they aim at the fullest compensation (developed) countries are willing to offer or not?

138 Regard must be had to the meaning of such agreements: Do they aim at the fullest compensation (developed) countries are willing to offer or not?

139 More generously Farber, Farber 2006, *supra* n. 45, at pp. 1616, 1617 and 1640 ff., but he also wants to keep liability within limits.

140 See also Farber, Farber 2008, *supra* n. 49, at p. 408 and Farber 2006, *supra* n. 45, at p. 1644.

(a) if negligence were well defined. That would require, at least, that the obligations of the potentially liable entities could be known *in advance*. That would mean, most importantly, that these entities' reduction obligations had to be well defined. Put differently: the relevant players, be it states or enterprises, could have known in advance how much they have to reduce their emissions;
(b) if liability would not extend to acts or emissions before the time that the respective obligations were clear;
(c) the scope of liability were well defined as to causation, the attribution of losses and the heads of damages;
(d) if there was a mechanism to keep liability within bearable limits, if (a) – (c) did not suffice to keep the floodgates shut.

Solution (a) is seemingly at odds with the traditional 'wisdom' that the law is as it will be interpreted by courts, quite often many years post facto. That is often perceived as the rule of the 'game'. That 'wisdom' is problematic anyway, because it may – and quite often does – create liability which the relevant 'tortfeasor' could not have anticipated. In most instances it is, all in all, the better solution; otherwise, it would be impossible to administer justice. It may cause bankruptcies of defendants who could not have known that they might be liable, but the only alternative would be to leave a great many victims empty-handed. A few bankruptcies do not stir society. Climate change, however, is a very different 'game', incomparable to any earlier scenario. Ill-considered liability may become crushing. Hence, it requires a different mind-set on the part of lawyers.

This said, acceptance of liability based on negligence is fraught with risk for – at least – three reasons. First, it cannot be taken for granted that the preconditions listed under (a) – (d) above will fall on fertile ground. Secondly, it may open the door for liability for past emissions and other acts or omissions relevant to global warming. Thirdly, in spite of the fact that the law as it stands does not point to clear and pertinent obligations of all kinds, many states and enterprises understand perfectly well that they should upscale their reductions of GHG emissions, in quite a few instances even considerably. Once one accepts liability based on negligence, it is not self-explanatory why it could not come into play in relation to *obvious* shortcomings. In that scenario, the floodgates open and the other disadvantages mapped above will materialise.

An international convention or treaty would be the best and probably the only effective way to achieve world-wide restriction of liability, which should not necessarily equate to fully fledged exclusion.[141] It will not be easy to gain support for

[141] Although I appreciate that the Small Island States lobby for special arrangements to solve their – indeed terrifying – challenges, it would be a serious mistake to tailor international agreements to their needs. For a seemingly different view, see Burkett, *supra* n. 105, with further references. Firstly, they are by no means the only victims. Secondly, such arrangements will incentivise others who will have the ears of the world community to accommodate them. Thirdly, although the per capita emissions of most of these states are low, others emit a lot: <http://uno-

a *global* restriction of liability, backed by all (or most) countries,[142] but it may work if and only if something truly important can be offered in return: a clear, sufficient and binding allocation of the reduction obligations, with a functioning compliance mechanism. That sounds like a daydream, but it may be within reach if the penny drops that devastating liability may well emerge if we stick to insufficient voluntary pledges.[143]

If the idea of a binding international instrument would not fall on fertile ground, we must explore *ad hoc* solutions. The low-hanging fruit is to dismiss claims for relatively trivial losses.[144] An extensive interpretation of contributory negligence, along the lines mentioned above, might be fair. From there onwards, we are on unsafe ground. One could imagine that only specific classes of victims or heads of damages would be recoverable. Restrictions concerning time or space could be put in place. That may end up in fair and convincing judgments in *concrete* cases, but these choices unavoidably will be arbitrary, the legal basis weak and most importantly, awarding compensation to an arbitrarily chosen group of victims and leaving others empty-handed will almost certainly be manifestly unbalanced.

Private law has the means to deliver satisfactory results in a *case in point*. Courts can rely on various techniques, such as the *conditio sine qua* non-requirement, minimal causation, meddling on the scope of liability, the value of the protected interests, *ad hoc* mitigation,[145] contributory negligence,[146] and off-setting benefits.[147] Even if the outcome in *concrete* cases were appealing, the fundamental problem would not be solved.

To avoid chaos – hugely diverging judgments around the globe – I advocate informal discussions and, if possible, a kind of *common and equitable strategy*

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hrlls.org/UserFiles/SIDS%20CO2%20Emissions%20per%20Capita%20Graph2.pdf>. Those working on such solutions would be well served to opt for more balanced and affordable solutions tailored to the needs of the most vulnerable. That will require in-depths discussions.

142 Until recently, the challenge would have been to get developing countries on board. The Ontario draft bill, *supra* n. 99, makes clear that it may also be difficult to get the support of developed countries. A fair and in the short, medium and long term *affordable* international compensation scheme would even be preferable, but seems beyond reach. See also Roda Verheyen, *supra* n. 33, at pp. 333 ff.

143 See in more detail Jaap Spier and Daniël Witte, 'Climate Enterprise Risk', 2016(6) *ESG Magazine* (2016) p. 47 and *Liber Amicorum Johan Scott* (forthcoming), at pp. 137 ff.; see also Burkett, *supra* n. 105, at p. 107.

144 Art. 3:201 under b PETL might serve as a basis; so does Art. 6:102 PEL Liab. Dam. The question what trivial means has to be decided in the case in point. A small amount of money will often not be trivial to poor people.

145 See Art. 3:101, 3:201 and 10:401 PETL respectively and the commentary to these articles by Spier (*Causation*) and Moréteau (*Damages, Reduction of damages*), *supra* n. 109. The PETL do not have a principle on minimal causation. With the exception of *ad hoc* mitigation, most legal systems have the same or similar legal concepts. Traditionally, *ad hoc* mitigation focuses on the consequences in the case in point.

146 See Farber 2006, *supra* n. 45 at pp. 1652 and 1653, although not very clear (to me).

147 See Farber 2006, *supra* n. 45 at pp. 1653 and 1654; he rightly points to the practical difficulties.

adopted by senior judges from around the world.[148] Developing such a strategy requires in-depth discussions based on the best available facts and estimates. Even in this scenario, the problem would only be solved in part, as judges are not called on to judge cases after their retirement. They cannot bind courts, nor cast the law in stone. The same courts may feel tempted to render very different judgments in the future. That may even happen in countries where precedent plays an important role. Future cases may well be decided differently either on the merits or on the different facts. That is exactly the reason why an international agreement is preferable.

Prima facie, *gross negligence* might be a sound basis for far-reaching liability. Such a solution would overlook, however, that states and enterprises are legal constructs; they do not act themselves. Instead, people do. The consequences of such a liability would, once again, affect many innocent others and not 'punish' the culprits.

Although of very limited avail to victims, *personal liability* of senior business people and senior politicians would be a perfect solution.[149] Such liability should not be created easily, but would be fair and probably acceptable if no reasonable person in their position would have acted as they did. If credible, such liability may be a strong incentive to do a much better job. In this context, a debate on the floodgates is pointless. Their liability and potential bankruptcies do not stir the world.

For the avoidance of doubt, I am not saying that the interests of victims do not carry weight. They do, but lawyers cannot solve all problems. Compensation of climate losses is, I think, a political issue, that ought to be solved in international negotiations or otherwise on a national level. This is not going to happen soon. In the intermediate period we must start thinking about the best solutions as long as politicians refrain from taking adequate action. Input from leading economists will be inevitable.

11.10 **Claims for damages against birds of different feathers**

The floodgates-argument and the unbalanced consequences of far-reaching liability do not carry (much) weight in relation to claims directed against well-defined

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148 If they were to consider focusing on specific heads of damages, Farber's detailed overview of a series of 'analogous compensation schemes' might be very helpful (Farber 2006, *supra* n. 45, at pp. 1616 ff.).

149 See Commentary, *supra* n. 7, at pp. 41 and 42, also for references; Noel Hutley and Sebastian Hartford-Davis, 'Climate Change and Directors' Duties', Memorandum of Opinion, 7 October 2016, published by The Centre for Policy Development and The Future Business Council, <http://cpd.org.au/wp-content/uploads/2016/10/Legal-Opinion-on-Climate-Change-and-Directors-Duties.pdf>; The Liberty White Paper Series, 'Climate Change, The Emerging Liability Risks for Directors and Officers', 2010, published by Liberty International Underwriters, <http://assets.liuasiapacific.com/?LinkServID=E737ED39-5056-A25B-C6F95B79758163E5>; Sarah Barker, 'Directors' personal liability for corporate inaction on climate change', *Governance Directions* February 2015, pp. 21-25, <https://static1.squarespace.com/static/569da6479cadb6436a8fecc8/t/56e211bb27d4bd91a217cd88/1457656252528/Directors_liability_inaction_February_2015.pdf>.

classes of defendants, such as auditors.[150] Auditors – and others, such as in some instances asset managers – could and should do a much better job. Auditors are under an obligation to determine whether the documents they are going to sign present a fair picture of the facts and liabilities. It is a mystery how they can do so without a proper understanding of the relevant obligations. There is little reason to believe that they care about it. This is low-hanging fruit for litigation.[151] The prospect of crushing liability put on their shoulders may bring them to their senses, which would be hugely beneficial to the world. I realise, of course, that it would be weird if, e.g., auditors were held liable, while those who caused the losses are not. That is unbalanced! I think, however, this can be justified for two reasons:

(1) together with a few others auditors can bring about a major change at negligible cost. It may even be a win-win situation, because it would require more work to be done by accountants who will not do that for free (why should they); and
(2) the floodgates argument does not come into play in relation to small groups or activities.

Finally: liability of pension funds and similar institutions must be avoided. Only lawyers would gain. It would go at the expense of the funds available for paying pensions.

11.11 **Internalisation of the cost?**

Experts of law and economics will probably argue: it is just a matter of internalisation of the cost. All enterprises have to do, is to add 'the cost' to the price of their products and services. With due respect, that is study wisdom. Firstly, it is impossible to determine ex ante whether and for which amounts an enterprise may be held liable.[152] Secondly, few enterprises will do so, if not for other reasons, then for the (in)famous level playing field: enterprises keen to internalise the cost will put themselves at a competitive disadvantage. Thirdly, enterprises emitting most GHGs probably are doomed to disappear, unless they switch to more sustainable business, which means that they will no longer be able to pay damages. Fourthly, the first victims will get all, despite the fact that future victims will suffer more

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150 For other examples see Hinteregger, *supra* n. 2, at pp. 240 ff.; Gerrard and MacDougald, *supra* n. 77, at pp. 162 ff.; Scott M. Seaman and John E. DeLascio, 'Professional Liability and Global Warming Claims', in the Munich Re publication, *supra* n. 78, pp. 16-18, at p. 17. On liability of auditors see 'Risky business, Climate change and professional liability risks for auditors', published by ClientEarth, December 2017, <https://www.documents.clientearth.org/wp-content/uploads/library/2017-12-13-risky-business-climate-change-and-professional-liability-risks-for-auditors-ce-en.pdf>.

151 I sincerely hope that this will not become a self-fulfilling prophecy. My goal is certainly not the bankruptcy of major auditors but to issue a wake-up call. If they continue to be indifferent, they run risks. The world at large will not be affected by their bankruptcies.

152 For a seemingly different view: Model Climate Compensation Act, *supra* n. 77, at. p. 10.

serious losses as things get worse. Last but not least: without a sound legal basis it will be impossible to ensure that victims will *receive* the internalised cost.

11.12 **Liability insurance: reality or a phantom?**

Other prophets bet on insurance coverage.[153] In the short term, this *may* work. More likely than not, insurers will exclude liability for climate change losses as from the moment that the penny drops that liability might be a starter. They would be well advised to do so right now. Otherwise, they may not survive, depending on the outcome of litigation, of course.

Worse, they already run that risk if they have not excluded the liability risk in plain and unambiguous terms. Whether they do depends on the nature of the coverage: act committed, loss occurrence or claims made.[154] Even in case of claims made-policies they still run a risk, because it cannot be taken for granted that a future cancellation of the coverage will work for risks covered in spite of the many warnings of liability.

It is to be hoped that (re)insurers will soon come to realise that their current stance is risk-laden. In my view, their boards run the risk of *personal* liability if they close their eyes. I emphasise this point because (re)insurers would do the world and themselves a great favour by explicitly *excluding* the liability risk.

On a different note, property and liability insurance may work if the aggregate losses can be kept within affordable limits. That goes in particular for micro-insurance – losses suffered by poor people which will might well be insurable.[155] The same would be true if the aggregate losses to be paid under the respective insurance forms of coverage – i.e. the losses suffered by all victims or insured parties in a specific period, say a year – were limited to what the insurance indus-

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153 On the insurance issue see Michael G. Faure, 'Insurability of Damage Caused by Climate Change: A Commentary', 155(6) *University of Pennsylvania Law Review* June (2007) pp. 1875-1899; The Geneva Association, The Geneva Reports, 'Risk and Insurance Research, The insurance industry and climate change – Contribution to the global debate', published by the Geneva Association, No. 2, July 2009, <https://www.genevaassociation.org/sites/default/files/research-topics-document-type/pdf_public/2009_geneva_report_2_the_insurance_industry_and_climate_change_-_contribution_to_the_global_debate_0.pdf>.

154 For the meaning of these terms see <https://www.hiscox.co.uk/business-blog/claims-made-vs-claims-occurring-simplifying-insurance-jargon/> and <https://www.insurancejournal.com/magazines/mag-features/2006/12/10/153073.htm> and C. van Schoubroeck and G. Schoorens, 'Couverture dans le temps par l'assurance de la responsabilité civile: aperçu comparé des règles applicables dans quelques pays européens', in H. Cousy and H. Claassens (eds.), *Assurance de la responsabilité: couverture dans le temps*, Antwerp, Apeldoorn, Maklu-Uitgevers, Louvain-la-Neuve, Academia-Bruylant 1997, at pp. 241 ff.

155 See Michael Faure, 'Towards Effective Compensation for Victims of Natural Catastrophes in Developing Countries', in Michael Faure and Andri Wibisana (eds.), *Regulating Disasters, Climate Change and Environmental Harm, Lessons from the Indonesian Experience*, Cheltenham (UK)/Northampton (US), Edward Elgar 2013, pp. 243-270, at pp. 269-270. Extensively on the insurance dimension in the context of ecological damage see Liu Jing, *Compensating Ecological Damage, Comparative and Economic Observations*, Diss. Maastricht 2013, Cambridge, Intersentia Ltd 2013.

try could afford to pay. A binding international treaty to this effect would be the safest – and at the same time a utopian – solution. Alternatively, insurers could tailor the coverage in clear and unambiguous wording, which may be difficult, while they would have to reckon with the possibility that courts will – or will try to – find ways to strike down the limitation.

12. AN OBLIGATION TO ASSUME RESPONSIBILITY FOR THE SHORTCOMINGS OF OTHERS?

For the time being very few developed countries and enterprises in those countries comply with their reduction obligations, as global emissions are still rising or stabilise at best. The NDCs under the Paris Agreement take effect as from 2020. Until then, the Kyoto Protocol still maps the obligations of countries. Both fall short of what is needed to keep global warming (well below) 2 degrees C. It is belabouring the obvious to say that reductions at a rate that collides with the most fundamental rights, such as the right to life, cannot be legally acceptable.

To my understanding both the climate change negotiations and the Intergovernmental Panel on Climate Change (IPCC) findings are based on the *still available* carbon budget.[156] Admittedly, there are painful discussions about historical emissions, but the main focus – rightly – is on current and future reductions that have to be achieved. A simplified example may show what this means. Assume there are only two countries, A and B, with the same population, emitting the same amount of GHGs and with the same reduction obligation. Both have to reduce their emissions by 10% annually. In year 1 A does, whilst B only reduces its emissions by 2%. That means that in year 2 A and B would have to reduce their emissions by 10% each + the 8% B fell short in year 1, i.e. 14% each. In year 2 B should reduce its emissions by 10 + 4%; if B sticks to 2% again, the shortcoming for that year (12%) has to be divided by 2, in that in year 3 A has to assume responsibility for a reduction of 16%. And so on and so forth.

This solution, apparently adopted in climate change negotiations (and the OP), is understandable and probably the best possible. Otherwise, it would be even more difficult, if not impossible, to reach agreement on future reductions, and to achieve the globally required reductions, which, in the longer term, is also in the best interest of compliers, in my example A. It would be very unsatisfactory, however, if countries clearly violating their reduction obligations could escape at the expense of countries complying with their obligations. The same goes for enterprises.

In my view, B keeps the reduction obligations it failed to achieve. B is obliged to increase its future reductions to make good its past shortcomings. In the earlier

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156 See e.g. Recitals 9, 16, 17, 19 and 20 to the Decisions adopted by the Conference Parties of the Paris Agreement, FCCC/CP/2015/10/Add.1, <http://unfccc.int/resource/docs/2015/cop21/eng/10a01.pdf>.

example, in the first three years B fell short of achieving reductions at a rate of 24 (30 – 6). This figure has to be added to B's obligations in the subsequent years.[157]

A should be allowed to recover the additional cost it had to incur to assume responsibility for part of B's shortcomings. There are two legal bases for such a claim. The easiest and probably the more promising is tort law. It seems self-explanatory that non-compliance with legal reduction obligations is unlawful, in particular towards entities that had to step in to achieve the reductions not realised by the non-complying entity.

The law of unjust enrichment (or restitution)[158] and *negotiorum gestio*[159] could also be called to aid to recover the cost.

Claims by complying enterprises against non-complying entities would be very inefficient. They could only claim a proportional part of the additional cost incurred by them. As the amounts of most single claims will be very small, it would require a huge amount of litigation and it would be a heavy administrative burden to figure out the amounts that could be recovered from individual defendants.

The administrative burden will be less if a country were to sue a non-complying state (also) on behalf of enterprises within its jurisdiction. Even if the country – or someone else – started a class action to recover the additional cost incurred by the members of the class, the amounts due to each of them should be known. Practical solutions require in-depth research; it would be tremendously unsatisfactory if non-compliers could stick 'unpunished' to their bad habit.[160]

13. CONCLUSIONS

We are on crash course with nature, humanity and future generations. I am not suggesting that most of us do not care; many do. An increasing number of people is working hard to stem the tide; many of them face a series of challenges and obstacles. It is hard to change society overnight. That requires collective action, which does not mean that each of us alone or with others cannot contribute to a better and more sustainable planet. We can.

We must attune with the slowly shifting paradigm that abandons the *après moi le déluge-maxim* of all times. That is by no means only a matter of stewardship. We are desperately running out of time. If not 'too old', it is also our self-interest

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157 Inspired by EU legislation, the EP Principle 13 is stricter; for further elaboration see the Commentary, *supra* n. 7, at pp. 151 ff.

158 See Christian von Bar and Stephen Swann, *Unjust Enrichment* (*PEL Unj. Enr.*), in Study Group on a European Civil Code (Ed.), *Principles of European Law* (Series), Oxford, Oxford University Press 2010. Art. 5:102 para 2 suggests that the enrichment is not the upper limit for recovery if the enriched person was not in good faith, which will often be the case in case of non-compliance.

159 See Christian von Bar et al. (eds.), *Principles, Definitions and Model Rules of European Private Law, Draft Common Frame of Reference*, Interim Outline Edition, Book V, Munich, Sellier European Law Publishers 2009, at pp. 297 ff.

160 See for a slightly more positive stance Hinteregger, *supra* n. 2, at pp. 258 and 259.

to come to grips with the looming threats of climate change and a few other global challenges. If we do not, we will face a series of evils that can still be avoided at affordable cost.

In an ideal world – which is utopian – politicians should negotiate adequate, binding and enforceable international instruments to ensure that global warming is kept (well below) 2 degrees. That may happen at some stage, but it is unlikely that it will happen soon. In the meantime we must explore alternative strategies.

Sleepwalkers will have a rude awakening. They should come to understand how the law is administered. Insufficient action, betting on ignorance and hoping for the better, will cause catastrophe. The toll will be high, both in humanitarian and in economic terms. At that stage, litigation will start against a great many people, such as auditors, attorneys, architects, enterprises and captains of industry who did not care about their obligations. The 'ich habe es nicht gewusst-defence' (or, alternatively, I was only vaguely aware of the contours of my obligations) probably will not work, because they did not *want to learn* their obligations. At the time judges have to decide cases, there is a fair chance that courts will deliver unfavourable judgments to those who took a sit-and-wait position, because by then they cannot understand why reasonable people (the often used yardstick to determine whether actors acted lawfully) deliberately decided to close their eyes. As Victor Hugo famously said: 'It is impossible to resist an idea whose time has come.'[161]

14. PROPOSITIONS AND POINTS FOR DISCUSSION

1. Prevention of climate change is of the essence. This cannot be achieved without an in-depth discussion of concrete obligations of the key players (states, enterprises and the financial sector).

2. The debate about liability for losses caused by climate change is too vague. We need in-depth discussions about the losses that are/should be recoverable, the liable persons and the affordability of such losses. We should also focus on the question who has to shoulder losses falling outside the scope of liability law.

3. The legal debate would be (even) more fruitful if we benefited from the expertise and knowledge of all relevant realms of the law.

[161] Quoted by Knox, *supra* n. 4, at p. 6.

AN OCEAN UNDER STRESS: CLIMATE CHANGE AND THE LAW OF THE SEA*

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SUMMARY[1]

This paper examines the role of the international law of the sea in addressing issues of climate change (global warming) affecting the ocean. It looks both at how the law of the sea has been coping with some of the challenges that climate change poses, and at how the current law of the sea is adapting and could further adapt to the effects of climate change on the oceans.

Anthropogenic causes of global warming are accelerating and intensifying climate change. The ocean, the planet's largest ecosystem, has played and is still playing an important role in mitigating global warming (absorbing heat and acting as a sink of greenhouse gases), but as a result it is itself warming and suffering from acidification and deoxygenation (with severe consequences for marine life), while the sea level is rising. Further measures need to be taken to mitigate the causes of climate change, and for societies to adapt to these effects of climate change.

As far as measures to *mitigate* the causes of global warming are concerned the paper examines how international law is regulating the emission of greenhouse gases from activities at sea (shipping and offshore mineral exploitation), sub-sea storage of greenhouse gases such as carbon dioxide, and marine geo-engineering activities to increase the uptake in the ocean of greenhouse gases, such as ocean iron fertilization.

In the area of *adaptation* to climate change attention is paid to international fisheries management and conservation of marine biodiversity. However, the main focus will be on issues concerning adaptation to sea level rise. Conservative estimates indicate a possible rise of up to one meter during the 21st century, and much more after that. Rising sea levels not only result in loss of land, with serious consequences for coastal populations (including displacement), but also in the potential loss of the extent of maritime jurisdictional zones (archipelagic waters, territorial sea, exclusive economic zone, continental shelf), which are important for the socio-economic development of many coastal States. In particular low-lying island States will be severely affected by the consequences of sea level rise, which could even lead to their complete disappearance.

In this paper I look into how the application of the current rules of the law of the sea will affect the location and extent of maritime jurisdictional zones, and how these rules could be adapted to allow coastal States to prevent these consequences by maintaining their current entitlements.

[1] The full text of this article is available at: <https://www.knvir.org/documents/>.