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### **The Practice of Shared Responsibility in relation to Climate Change**

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# The Practice of Shared Responsibility in relation to Climate Change

Jacqueline Peel\*

## 1. Introduction

Climate change has been described as an environmental issue of unrivalled complexity, a ‘diabolical policy challenge’,<sup>1</sup> and a ‘super-wicked problem’ for public policy resolution and legal redress.<sup>2</sup> Part of what has made climate change such a difficult policy and legal problem is the multiple, diverse sources, and widespread nature of emissions of greenhouse gases (GHG) that contribute to global warming and consequent climate change.<sup>3</sup> Every state, as well as numerous entities within states, including companies, farms, households and individuals, emit some level of GHG and thereby contribute to the problem.<sup>4</sup> Moreover, global mixing of GHG in the upper atmosphere leads to concentrations that are roughly equivalent worldwide. Hence the effects of climate change will be experienced everywhere and not just at locations of highest emissions. Indeed, in a cruel irony, some of the severest impacts of climate change are likely to be experienced in states and by communities that have made the least contribution to the global problem in terms of GHG emissions.<sup>5</sup>

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<sup>1</sup> R. Garnaut, *Garnaut Climate Change Review* (Melbourne: Cambridge University Press, 2008), xvii.

<sup>2</sup> R. Lazarus, ‘Super Wicked Problems and Climate Change: Restraining the Present to Liberate the Future’ (2009) 94 *Cornell L. Rev.* 1153.

<sup>3</sup> Data by country and sector can be found at [http://unfccc.int/ghg\\_data/items/3800.php](http://unfccc.int/ghg_data/items/3800.php).

<sup>4</sup> See <http://unfccc.int/di/DetailedByParty.do> for detailed data for each Convention party.

<sup>5</sup> Intergovernmental Panel on Climate Change, *Climate Change 2014: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* (Cambridge University Press, 2014).

These characteristics make climate change not only a complex problem for law to address, but also a paradigmatic issue of shared responsibility. Multiple actors, both state and non-state, are responsible for their contributions to a single harmful outcome – global warming producing climatic change – but those contributions cannot be readily attributed to individual actors in a traditional causal fashion.<sup>6</sup> In large part, climate change poses questions of what Nollkaemper and Jacobs have termed ‘cumulative responsibility’: a situation where harm arises as a result of the independent actions of contributing actors.<sup>7</sup> Climate change is also capable of giving rise to ‘cooperative responsibility’ – shared responsibility arising out of joint or concerted action (or inaction) by states.<sup>8</sup> Collective obligations that might trigger this form of shared responsibility include the treaty commitments of developed states to pursue GHG emissions limitations or reductions from aviation and marine bunker fuels.<sup>9</sup>

While climate change may give rise to issues of shared responsibility *ex post facto*, the international climate change regime, which has evolved over the last two decades in an effort to deal cooperatively with the problem, seeks to take a preventative and precautionary approach. The regime rests on the foundations of the 1992 United Nations Framework Convention on Climate Change (Convention).<sup>10</sup> The Convention states a broad objective of

stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system ... within a timeframe sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner.<sup>11</sup>

The Convention is supplemented by the 1997 Kyoto Protocol,<sup>12</sup> which set specific GHG emissions reduction targets for developed country parties over the first commitment period, 2008-2012.<sup>13</sup> Parties have agreed to extend the Kyoto Protocol to a second commitment period,

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<sup>6</sup> P.A. Nollkaemper and D. Jacobs, ‘Shared Responsibility in International Law: A Conceptual Framework’ (2013) 34 *MIJIL* 359, at 367.

<sup>7</sup> *Ibid.*, at 368.

<sup>8</sup> *Ibid.*

<sup>9</sup> See Kyoto Protocol to the United Nations Framework Convention on Climate Change, Kyoto, 10 December 1997, in force 16 February 2005, 2303 UNTS 148 (Kyoto Protocol or Protocol), Article 2(2).

<sup>10</sup> United Nations Framework Convention on Climate Change, New York, 9 May 1992, in force 24 March 1994, 1771 UNTS 107 (Convention).

<sup>11</sup> Article 2 Convention, *ibid.*

<sup>12</sup> See Kyoto Protocol, n. 9.

<sup>13</sup> Article 3 Kyoto Protocol, *ibid.*

running from 2013-2020, though the necessary treaty amendment has not yet come into force and only a limited subset of the original developed country parties have indicated that they will take part.<sup>14</sup> Other Convention parties, both developed and developing countries, have submitted voluntary emissions reduction pledges under the framework of the Copenhagen Accord<sup>15</sup> and Cancun Agreements.<sup>16</sup> Current international efforts are focused on negotiations for a new, comprehensive climate change agreement to be concluded by the end of 2015 and to be in effect from 2020.<sup>17</sup>

On one view, state negotiations concerning treaty commitments for emissions reduction might be seen as an effort to agree upon ‘an ex ante apportionment of responsibility’.<sup>18</sup> Nonetheless, it is clear that a significant gap remains between current mitigation obligations and the emissions reductions climate scientists stress are urgently needed to avoid ‘dangerous anthropogenic interference with the climate system’.<sup>19</sup> There is also growing evidence of climate change-related harms already occurring, especially due to polar ice melt and sea level rise.<sup>20</sup> Moreover, even with the implementation of measures to reduce GHG emissions and to adapt to climate change impacts, some states – particularly vulnerable, developing countries and small island states – face the prospect of loss of life or damage to their property and environment, and harm to the health of

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<sup>14</sup> Doha Amendment to the Kyoto Protocol, Doha, 8 December 2012, C.N.718.2012.TREATIES-XXVII.7.c, not yet in force. Thirty-seven countries, representing around 15 per cent of global emissions, approved the Doha amendment. Apart from the 27 member countries of the European Union, Australia, Belarus, Croatia, Iceland, Kazakhstan, Liechtenstein, Monaco, Norway, Switzerland, and Ukraine were the only other countries that indicated they would accept second commitment period targets.

<sup>15</sup> Decision 2/CP.15, ‘Report of the Conference of the Parties on its Fifteenth Session’, Copenhagen, 7-19 December 2009, FCCC/CP/2009/11/Add.1 (30 March 2010) (Copenhagen Accord). 141 parties have expressed their intention to be listed as agreeing to the Accord, including the 114 parties listed in its chapeau: see UNFCCC, ‘Copenhagen Accord’, available at [http://unfccc.int/meetings/copenhagen\\_dec\\_2009/items/5262.php](http://unfccc.int/meetings/copenhagen_dec_2009/items/5262.php).

<sup>16</sup> Decision 1/CP.16, ‘Report of the Conference of the Parties on its Sixteenth Session’, Cancún, 29 November-10 December 2010, FCCC/CP/2010/7/Add.1; Decision 1/CMP. 6, ‘Report of the Conference of the Parties Serving as the Meeting of the Parties on its Sixth Session’, Cancún, 29 November-10 December 2010, FCCC/KP/CMP/2010/12/Add.1 (Cancún Agreements).

<sup>17</sup> Decision 1/CP.17, ‘Establishment of an Ad Hoc Working Group on the Durban Platform for Enhanced Action’, 15 March 2012, FCCC/CP/2011/9/Add.1, available at <http://unfccc.int/resource/docs/2011/cop17/eng/09a01.pdf>. The negotiations are seeking to ‘develop a protocol, another legal instrument or an agreed outcome with legal force under the Convention applicable to all parties’: *ibid.*, para. 2.

<sup>18</sup> Nollkaemper and Jacobs, ‘Shared Responsibility in International Law’, n. 6, at 394.

<sup>19</sup> UNEP, *The Emissions Gap Report 2013: A UNEP Synthesis Report* (United Nations Environment Programme, Nairobi, 2013).

<sup>20</sup> See IPCC, *Climate Change 2014*, n. 5.

their peoples.<sup>21</sup> This has led to calls for ‘climate justice’ to provide compensation, as a matter of equity, to those nations and communities suffering or likely to suffer harms despite having contributed the least to climate change.<sup>22</sup>

This chapter considers the application of shared responsibility concepts in the context of climate change, focusing upon situations of cumulative responsibility. The most important questions that arise in such situations concern how responsibility is to be shared amongst the multiple states and entities whose activities produce GHG emissions that cause climate change. For instance, what is the nature of the responsibility that arises where some states have contributed more substantially to the problem than others through their past and present practices of GHG emissions? How is responsibility to be apportioned in the context of a global atmospheric problem that has multiple contributing sources (both state and non-state)? And how can responsibility for climate change damage be linked to the actions of major GHG emitting states where both the causes and effects of climate change are so diffuse? Examining climate change through the lens of shared responsibility not only offers a way to explore and elucidate these questions, but also to re-evaluate the value of traditional international legal rules of state responsibility for dealing with complex environmental pollution problems.

## 2. Factual scenarios

To date, no claim has been determined at the international level based on a theory of (shared) responsibility for climate change-related injuries, or breaches of joint obligations to take action

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<sup>21</sup> Intergovernmental Panel on Climate Change, *Climate Change 2007: Synthesis Report* (Cambridge University Press, 2007), at 65. This recognition led to establishment of the Convention’s work program on ‘loss and damage’: see Decision 1/CP.16, ‘Report of the Conference of the Parties’, n. 16, paras. 25-29.

<sup>22</sup> R.S. Abate, ‘Public Nuisance Suits for the Climate Justice Movement: The Right Thing and the Right Time’ (2010) 85 *Washington Law Review* 197; J. Brunnée, ‘Climate Change, Global Environmental Justice and International Environmental Law’, in J. Ebbesson and P. Okowa (eds.), *Environmental Law and Justice in Context* (Cambridge University Press, 2009), 316; J.C. Carlson, ‘Reflections on a Problem of Climate Justice: Climate Change and the Rights of States in a Minimalist International Legal Order’ (2009) 18 *Transnat’l L. & Contemp. Probs.* 45; J. Gupta, ‘Legal Steps Outside the Climate Convention: Litigation as a Tool to Address Climate Change’ (2007) 16(1) *Review of European Community and International Environmental Law* 76; R. Lyster, ‘Towards a Global Justice Vision for Climate Law in a Time of “Unreason”’ (2013) 4(1) *Journal of Human Rights and the Environment* 32; Friends of the Earth, *Climate Justice: A Fair Share of the Atmosphere* (Melbourne: FoE, 2006); B. Newell, ‘Climate Injustice in the Arctic’, *Center for Earth Jurisprudence: Groundswell*, 2011.

on aspects of the climate change problem.<sup>23</sup> That said, there are several analogous claims and proposed cases, as well as a lively discussion of the prospects for international responsibility actions in the literature.<sup>24</sup> Also potentially relevant to the determination of questions of shared responsibility – or, more properly, questions of *shared accountability*<sup>25</sup> – is the procedure for dealing with instances of non-compliance under the Kyoto Protocol, discussed in section 4 below.

## 2.1 Climate justice claims

The most debated category of potential shared responsibility cases concerning climate change is what might be termed the ‘climate justice’ scenarios. This category involves claims by vulnerable, low-emitting states – for example, a small island nation threatened by rising sea levels – against major emitting states.<sup>26</sup> Defendant states may be selected due to their high overall levels of emissions (for example the United States (US), which is the largest historical emitter of GHGs; or China, which is currently the largest global GHG emitter).<sup>27</sup> Alternatively, defendant

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<sup>23</sup> By contrast, liability for climate change-related harms has been the subject of a number of domestic cases, particularly in the United States, although none have achieved success on the merits. For a useful overview of U.S. climate change litigation see M.B. Gerrard and G.E. Wannier, ‘United States of America’, in R. Lord et al. (eds.), *Climate Change Liability: Transnational Law and Practice* (Cambridge University Press, 2012), 556.

<sup>24</sup> See, e.g., P. Barton, ‘State Responsibility and Climate Change: Could Canada be Liable to Small Island States?’ (2002) 11 *Dalhousie J. Legal Stud.* 65; L. Horn, ‘Is Litigation an Effective Weapon for Pacific Island Nations in the War Against Climate Change?’ (2009) 12(1) *Asia Pacific J Envtl L.* 170; R.E. Jacobs, ‘Treading Deep Waters: Substantive Law Issues in Tuvalu’s Threat to Sue the United States in the International Court of Justice’ (2005) 14 *Pacific Rim Law and Policy Journal* 103; J.C. Larson, ‘Racing the Rising Tide: Legal Options for the Marshall Islands’ (2000) 21 *MIJIL* 495; J.D. Werksman, ‘Could a Small Island Successfully Sue a Big Emitter?’, in M.B. Gerrard and G.E. Wannier (eds.), *Threatened Island Nations: Legal Implications of Rising Seas and a Changing Climate* (New York: Cambridge University Press, 2013), 409.

<sup>25</sup> Nollkaemper and Jacobs, ‘Shared Responsibility in International Law’, n. 6, at 369.

<sup>26</sup> An example in this category is the 2002 announcement by the Prime Minister of the Pacific Island nation of Tuvalu, Koloa Talake, that his country was preparing to sue the United States and Australia in the International Court of Justice over the two nations’ contribution to global warming (see K. Seneviratne, ‘Tiny Tuvalu Steps up Threat to Sue Australia, U.S.’, *Inter-Press Service News Agency*, 5 September 2002). However, in light of the difficulties of mounting a successful claim, and with the defeat of Talake in the 2002 Tuvaluan election, Tuvalu did not pursue the case. More recently Tuvalu’s Pacific neighbour, the state of Palau, called upon the General Assembly to request an Advisory Opinion from the ICJ addressing ‘the responsibilities of states under international law to ensure that activities carried out under their jurisdiction or control that emit greenhouse gases do not damage other states’: L. Hurley, ‘Island Nation Girds for Legal Battle Against Industrial Emissions’, *New York Times*, 28 September 2011. Again this proposal has not progressed, due largely to opposition from members of the United Nations Security Council such as the United States.

<sup>27</sup> European Commission, Joint Research Centre (JRC)/PBL Netherlands Environmental Assessment Agency, Emission Database for Global Atmospheric Research (EDGAR), release version 4.2., CO<sub>2</sub> time series 1990-2011 per region/country, available at <http://edgar.jrc.ec.europa.eu/overview.php?v=CO2ts1990-2011>.

states may be selected on the basis of their high per capita emissions (e.g. Australia), meaning they contribute disproportionately to atmospheric concentrations of GHGs relative to their population size.<sup>28</sup> Other states (e.g. Canada) might be targeted due to their egregious failure to take action to address emissions at the domestic and international levels.<sup>29</sup> Further, a claim might be brought against all developed states parties to the Convention on the basis that they bear the greatest responsibility for causing the climate change problem, and have failed to take a leadership role in addressing it.<sup>30</sup> Responsibility is shared between major GHG emitting states whose independent actions in generating or permitting the generation of GHG contribute to global warming and climate change, albeit as a causal matter it is difficult to attribute a particular instance of damage to the actions of any one state.

There is a clear (corrective) justice dimension to these claims. Plaintiff states are suffering, or face the real prospect of damage brought about by changes in the climate, and seek reparation from those they deem most responsible for contributing to the problem. The foundation of climate justice claims is the notion of equity, recognised as a fundamental principle of the international climate change regime and international environmental law more broadly.<sup>31</sup> Claims are mostly framed in terms of the principle of intra-generational equity: that the climate system be protected for the equal benefit of present generations. However, it is equally possible to envisage claims brought on the basis of the principle of inter-generational equity. This provides that the climate system should be protected for the benefit of future, as well as present, generations. An inter-generational equity climate justice claim, advocated by way of an *actio popularis* action,<sup>32</sup> would seek reparation for climate change harms caused by current and past major emitters.

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<sup>28</sup> Ibid., CO<sub>2</sub> time series 1990-2011 per capita for world countries, see [http://edgar.jrc.ec.europa.eu/overview.php?v=CO2ts\\_pc1990-2011](http://edgar.jrc.ec.europa.eu/overview.php?v=CO2ts_pc1990-2011).

<sup>29</sup> For example, Canada withdrew in 2011 following the emergence of evidence that its emissions far exceeded its Kyoto target. See R. Lefeber, 'Climate Change and State Responsibility', in R. Rayfuse and S.V. Scott (eds.), *International Law in the Era of Climate Change* (Cheltenham: Edward Elgar, 2012), 321, at 332.

<sup>30</sup> Preamble and Articles 3(1), 4(2)(a) Convention, n. 10.

<sup>31</sup> D. Shelton, 'Equity', in D. Bodansky, J. Brunnée and E. Hey (eds.), *The Oxford Handbook of International Environmental Law* (Oxford University Press, 2008), 639.

<sup>32</sup> Such an action is contemplated by Article 48 of the ILC Articles on Responsibility of States for Internationally Wrongful Acts, ILC *Yearbook* 2001/II(2) (ARSIWA); Commentary to the Articles on Responsibility of States for Internationally Wrongful Acts, ILC *Yearbook* 2001/II(2) (ARSIWA Commentary).

## 2.2 Claims relating to joint obligations or projects

The existence of primary law obligations under the climate change treaty regime – discussed further in section 3 – raises another set of possible shared responsibility scenarios that pertain to specific joint obligations under the regime. For example, Article 3 of the Kyoto Protocol allows parties with emissions reduction commitments to implement them ‘jointly’.<sup>33</sup> This option was taken up by the European Union (EU), which utilised an internal burden sharing agreement to distribute targets amongst its member states in order to reach a collective first commitment period target of an eight per cent reduction from 1990 levels.<sup>34</sup> As Article 4 makes clear, parties to the EU internal burden sharing agreement are taken to have met their individual Kyoto Protocol targets, provided they achieve the same total combined level of emissions reductions jointly as they would have with each acting independently. Where this does not occur, Article 4(5) of the Kyoto Protocol makes each party to the burden sharing agreement ‘responsible for its own level of emissions set out in the agreement’. However, this provision would not seem to preclude a shared responsibility claim against the states parties to the EU burden sharing agreement in the event of a collective failure to reduce their overall emissions to the required level.<sup>35</sup>

Other possible situations of shared responsibility stem from the Protocol’s ‘flexibility mechanisms’, which include joint implementation,<sup>36</sup> international emissions trading,<sup>37</sup> and the Clean Development Mechanism (CDM).<sup>38</sup> These mechanisms permit a form of burden sharing by effectively allowing Protocol parties to transfer a portion of their allowed emissions to other parties.<sup>39</sup> For example, under a joint implementation arrangement, one party, such as Japan, might fund emissions reduction activities in another party, such as Russia, in order to credit the

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<sup>33</sup> Article 3(1) Kyoto Protocol, n. 9.

<sup>34</sup> Council Decision 2002/358/EC of 25 April 2002 concerning the approval, on behalf of the European Community, of the Kyoto Protocol to the United Nations Framework Convention on Climate Change and the joint fulfilment of commitments thereunder, (2002) OJ L 130/1 (15 May 2002), 1.

<sup>35</sup> For discussion see J. de Cendra de Larragán, ‘Liability of Member States and the EU in View of the International Climate Change Framework: Between Solidarity and Responsibility’, in M. Faure and M. Peeters (eds.), *Climate Change Liability* (Cheltenham: Edward Elgar, 2011), 55.

<sup>36</sup> Article 6 Kyoto Protocol (limited to Annex I parties), n. 9.

<sup>37</sup> Article 17 Kyoto Protocol (limited to Annex B parties), *ibid.*

<sup>38</sup> Article 12 Kyoto Protocol (limited to projects initiated by Annex I parties in non-Annex I parties), *ibid.*

<sup>39</sup> These allowed emissions are known as ‘assigned amounts’ and are equivalent to a party’s baseline emissions levels, less the required reduction, multiplied by the number of years in a commitment period. See Decision 13/CMP.1, ‘Modalities for the accounting of assigned amounts under Article 4, paragraph 4 of the Kyoto Protocol, Report of the Conference of the Parties serving as the Meeting of the Parties to the Kyoto Protocol on its First Session’, Montreal, 28 November-10 December 2005, FCCC/KP/CMP/2005/8/Add.2, para. 5. Most Annex I parties have a 1990 baseline, but countries with economies in transition may elect to use a 1995 baseline instead.



resulting emission reduction units against Japan's target. Where such transfers result in the inability of the transferring party to meet its emissions reduction obligations, questions may arise as to the responsibility of the participating parties for rectifying the problem through taking action or foregoing the use of assigned amounts.<sup>40</sup> Additional questions of shared responsibility might arise if the activities for which units are issued do not take place or do not achieve the full emissions reductions credited under the joint implementation agreement.

### *2.3 Claims relating to climate change responses*

A third category of shared responsibility scenarios is associated with climate change responses, including cooperative emissions reduction or adaptation projects that seek a 'technological fix' to aspects of the climate change problem.

One example is offshore carbon capture and storage (CCS), the storage element of which involves the injection and long-term storage of liquefied carbon dioxide (CO<sub>2</sub>) wastes in underground reservoirs.<sup>41</sup> Several states might inject CO<sub>2</sub> into a single common reservoir or a particular reservoir may straddle different state jurisdictions. In such situations, if the storage site later experienced some mishap leading to a release of the stored CO<sub>2</sub>, there would likely be questions of shared responsibility in respect of the resulting harm.<sup>42</sup> Also implicated in the shared responsibility situation might be institutional and private actors, including the Executive Board of the CDM and private Designated Operational Entities (DOEs) accredited by the Board. Projects involving the storage of CO<sub>2</sub> are permitted under the CDM, with resulting GHG emissions

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<sup>40</sup> Center for International Environmental Law and EURONATURA-Centre for Environmental Law and Sustainable Development, *Responsibility for Non-compliance under the Protocol's Mechanisms for Cooperative Implementation* (1998), available at <http://ciel.org/Publications/ResponsibilityforNCundertheKP.pdf>. As to the future linkage between the carbon markets and the Kyoto Protocol compliance mechanism see F. Sindico, 'Post-2012 Compliance and Carbon Markets', in J. Brunnée et al. (eds.), *Promoting Compliance in an Evolving Climate Regime* (Cambridge University Press, 2012), 240.

<sup>41</sup> I. Havercroft, R. Macrory and R.B. Stewart (eds.), *Carbon Capture and Storage: Emerging Legal and Regulatory Issues* (Oxford: Hart Publishing, 2011).

<sup>42</sup> I am grateful to Professor Catherine Redgwell for raising this scenario.

reductions verified by DOEs and certified in the form of emissions reductions credits by the Executive Board.<sup>43</sup>

In the future, similar prospects of shared responsibility might be raised by geoengineering projects (or from another perspective, large-scale adaptation measures such as seawalls), which are jointly undertaken and/or funded by several states or international organisations. For example, failure of a solar radiation management project, such as deployment of a large array of reflective mirrors in space, could result in substantial physical and other damage, leading to responsibility claims against the states involved.<sup>44</sup>

#### *2.4 Horizontal vs vertical responsibility scenarios*

In the three categories of scenarios described above, liability need not be shared exclusively between states. It is possible to envisage both the more conventional scenarios of ‘horizontal’ shared responsibility – a plurality of *states* causing climate change-related harm, as well as those of ‘vertical’ shared responsibility – a plurality of *actors* (states, private entities, international organisations) whose actions produce harm.<sup>45</sup> The latter is particularly relevant in the case of climate change given that it is generally private entities, rather than states, which emit GHG or undertake adaptation activities. In addition, there are numerous institutional actors and mechanisms involved in approving, funding or reviewing state activities under the climate change regime. These include the aforementioned Executive Board of the CDM (responsible for certifying emissions reduction credits generated in CDM projects); the equivalent institution for joint implementation known as the Joint Implementation Supervisory Committee; various funding bodies such as the Adaptation Fund and the Green Climate Fund; and expert review teams established to review national GHG inventories and identify compliance issues.

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<sup>43</sup> See Decision 10/CMP.7, ‘Modalities and procedures for carbon dioxide capture and storage in geological formations as clean development mechanism project activities, Report of the Conference of the Parties serving as the Meeting of the Parties to the Kyoto Protocol on its Seventh Session’, Durban, 28 November to 11 December 2011, FCCC/KP/CMP/2011/10/Add.2.

<sup>44</sup> For details of solar radiation management techniques see The Royal Society, ‘Geoengineering the Climate: Science, Governance and Uncertainty’, September 2009, at ix-x, available at <https://royalsociety.org/>. See also C. Redgwell, ‘Geoengineering the Climate: Technological Solutions to Mitigation - Failure or Continuing Carbon Addition’ (2011) 5 *Carbon & Climate Law Review* 178.

<sup>45</sup> See Chapter 39 in this volume, I. Plakokefalos, ‘Liability for Transboundary Harm’, at \_\_\_.

### 3. Primary rules

As for the broader fields of responsibility for transboundary air pollution and environmental damage,<sup>46</sup> the primary legal rules *directly* applicable to the situation of climate change are limited in number. However, there are numerous primary rules that may be considered *indirectly* applicable to the situation of climate change by virtue of the fact that activities giving rise to climate change may result in a breach of these rules. A number of authors have considered the potential for international climate change litigation to be brought, relying on primary rules under various environmental and other treaties, including the World Heritage Convention;<sup>47</sup> the United Nations Convention on the Law of the Sea (LOSC);<sup>48</sup> human rights treaties;<sup>49</sup> the Convention on Biological Diversity;<sup>50</sup> and agreements under the World Trade Organisation.<sup>51</sup> Some limited practice also exists in this regard. For instance, several petitions made to the World Heritage Committee have raised the prospect of GHG emissions causing damage, through climate change, to world heritage properties such as the Great Barrier Reef in Australia.<sup>52</sup> The Inter-American Commission on Human Rights has also received two petitions from Arctic indigenous

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<sup>46</sup> See Chapter 36 in this volume, P.H. Sand, 'Transboundary Air Pollution', at \_\_\_; and Chapter 39 in this volume, Plakokefalos, *ibid.*, at \_\_\_.

<sup>47</sup> Convention for the Protection of the World Cultural and Natural Heritage, Paris, 16 November 1972, in force 17 December 1975, 1037 UNTS 151 (World Heritage Convention); for discussion see W.C.G. Burns, 'Belt and Suspenders? The World Heritage Convention's Role in Confronting Climate Change' (2009) 18(2) *Review of European Community and International Environmental Law* 148; E.J. Thorson, 'The World Heritage Convention and Climate Change: the Case for a Climate-Change Mitigation Strategy beyond the Kyoto Protocol', in W.C.G. Burns and H.M. Osofsky (eds.), *Adjudicating Climate Change: State, National and International Approaches* (New York: Cambridge University Press, 2009), 255.

<sup>48</sup> United Nations Convention on the Law of the Sea, Montego Bay, 10 December 1982, in force 16 November 1994, 1833 UNTS 3 (LOSC). For discussion see W.C.G. Burns, 'Potential Causes of Action for Climate Change Damages in International Fora: the Law of the Sea Convention' (2006) 2 *McGill International Journal of Sustainable Development Law and Policy* 27; W.C.G. Burns, 'A Voice for the Fish? Climate Change Litigation and Potential Causes of Action for Impacts under the United Nations Fish Stocks Agreement' (2008) 48 *Santa Clara L. Rev.* 605.

<sup>49</sup> For an overview of human rights treaties and their relevance for climate change see S. Humphreys, 'Climate Change and International Human Rights Law', in R. Rayfuse and S.V. Scott (eds.), *International Law in the Era of Climate Change* (Cheltenham: Edward Elgar, 2012), 29.

<sup>50</sup> Convention on Biological Diversity, Rio de Janeiro, 5 June 1992, in force 29 December 1993, 1760 UNTS 79. See Chapter 37 in this volume, A. Trouwborst, 'Nature Conservation', at \_\_\_.

<sup>51</sup> For discussion see M. Doelle, 'Climate Change and the WTO: Opportunities to Motivate State Action on Climate Change through the World Trade Organization' (2004) 13(1) *Review of European Community and International Environmental Law* 85; M. Doelle, *From Hot Air to Action? Climate Change, Compliance and the Future of International Environmental Law* (Toronto: Thomson, 2005).

<sup>52</sup> Petitions for 'in danger' listings have been presented to the World Heritage Committee concerning the Belize Barrier Reef Reserve System; the Huascarán National Park in Peru; the Sagarmatha National Park in Nepal; the Waterton-Glacier International Peace Park spanning the United States and Canada and the Great Barrier Reef; and Blue Mountains National Parks in Australia. For details of the petitions see [www.climatelaw.org/cases/topic/unesco/](http://www.climatelaw.org/cases/topic/unesco/).

communities alleging human rights violations on the basis of climate change regulatory failures by states parties.<sup>53</sup>

Space limitations do not permit full canvassing of the range of indirect primary rules relevant to climate change.<sup>54</sup> Instead, the following sections focus on the two sets of direct primary rules most pertinent to claims of shared responsibility for climate change damage. The first are obligations binding on multiple states parties that exist under the international climate change regime, consisting of the Convention and the Kyoto Protocol. Although the Convention, with 195 parties, enjoys near universal participation, the Kyoto Protocol has some notable non-parties (e.g. the United States) that are not bound by the Protocol (and hence cannot be involved in a shared responsibility claim brought on the basis of a breach of Protocol obligations). In addition, the Kyoto Protocol permits withdrawal,<sup>55</sup> opening up the possibility of state exit from the regime, as at least one state has done so far.<sup>56</sup> These limitations of primary rules under the climate change regime point the need to consider other rules of general applicability that could cover multiple state contributors to climate change harms, such as the customary law obligation of states to prevent environmental damage (the ‘no-harm’ rule).

### *3.1 Primary rules under the international climate change regime*

As the principal treaty of the international climate change regime, the Convention reflects strong multilateral consensus regarding the importance of global action to address climate change. It establishes an institutional framework for long-term management of climate change at the

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<sup>53</sup> See ‘Petition to the Inter-American Commission on Human Rights Seeking Relief from Violations Resulting from Global Warming Caused by Acts and Omissions of the United States’, submitted by S. Watt-Cloutier with the support of the Inuit Circumpolar Conference, on behalf of all Inuit of the Arctic Regions of the United States and Canada, 7 December 2005, available at [http://www.ciel.org/Publications/ICC\\_Petition\\_7Dec05.pdf](http://www.ciel.org/Publications/ICC_Petition_7Dec05.pdf); ‘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’, submitted by the Arctic Athabaskan Council on behalf of all Athabaskan Peoples of the Arctic Regions of the United States and Canada, 23 April 2013, available at [http://earthjustice.org/sites/default/files/AAC\\_PETITION\\_13-04-23a.pdf](http://earthjustice.org/sites/default/files/AAC_PETITION_13-04-23a.pdf).

<sup>54</sup> For a discussion of the relevance of climate change to international law beyond the climate change regime see R. Rayfuse and S.V. Scott (eds.), *International Law in the Era of Climate Change* (Cheltenham: Edward Elgar, 2012).

<sup>55</sup> Article 27 Kyoto Protocol, n. 9.

<sup>56</sup> Canada announced its decision to withdraw from the Protocol in December 2011, one year prior to the end of the first commitment period: A. Vaughan, ‘What does Canada’s withdrawal from Kyoto Protocol mean?’, *The Guardian*, 13 December 2011.

international level, including administrative infrastructure, a financial mechanism and requirements for information provision.<sup>57</sup> The latter obligations, which are amplified by the Kyoto Protocol,<sup>58</sup> establish an important repository of data on the parties' anthropogenic GHG emissions from 1990 onwards. For Annex I parties (developed countries and countries of the former Soviet Union), national GHG inventories must be submitted on an annual basis and are reviewed by independent expert teams.<sup>59</sup> As a result, there exists relatively robust information regarding at least the GHG emissions of Annex I countries, which can be used in assessing the respective contributions of Convention parties to global GHG emissions from 1990 onwards.

Nonetheless, given its 'framework' nature, the Convention lacks the kind of specific obligations and standards that would allow information about states' relative contribution to global GHG emissions to translate into claims of responsibility for climate change damage.<sup>60</sup> Indeed, the perceived need for 'strengthening' of the obligations of Annex I parties to reduce GHG emissions under the Convention was a primary motivation for the negotiation of the Kyoto Protocol, and its approach of setting 'quantified limitation and reduction objectives within specified timeframes'.<sup>61</sup>

### 3.1.1 Obligations under the Convention

Several commentators have sought to identify provisions of the Convention that are capable of being construed as binding international obligations for parties to prevent climate change damage.<sup>62</sup> One candidate in this regard is the Convention's objective set out in Article 2 (see the text cited above in the Introduction). Together with references in the preamble, this statement emphasises that change in the Earth's climate and ensuing adverse effects are a 'common concern of humankind', and that prevention of climate change thus forms the primary goal of the treaty.

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<sup>57</sup> Articles 4(1)(a), 7-10, 11, 12 Convention, n. 10.

<sup>58</sup> Articles 5, 7 Kyoto Protocol, n. 9.

<sup>59</sup> Article 4(1)(b) and 7 Convention, n. 10.

<sup>60</sup> A. Okamatsu, 'Problems and Prospects of International Legal Disputes on Climate Change', Berlin Conference on the Human Rights Dimensions of Global Environmental Change, 2-3 December 2005, available at [www.sprep.org/att/irc/ecopies/countries/tuvalu/47.pdf](http://www.sprep.org/att/irc/ecopies/countries/tuvalu/47.pdf).

<sup>61</sup> Decision 1/CP.1, 'Report of the Conference of the Parties on its First Session', Berlin, 28 March-7 April 1995, FCCC/CP/1995/7/Add.1, para. 2(a).

<sup>62</sup> See particularly, R. Verheyen, *Climate Change Damage and International Law: Prevention Duties and State Responsibility* (Leiden: Martinus Nijhoff, 2005); C. Voigt, 'State Responsibility for Climate Change Damages' (2008) 77 *Nordic Journal of International Law* 1.

Subsequent scientific research has helped to put some parameters around the concept of ‘dangerous anthropogenic interference with the climate system’ in Article 2.<sup>63</sup> As a result, Convention parties have agreed upon a threshold of a maximum of two degrees Celsius (2°C) of global average temperature rise (equivalent to an atmospheric CO<sub>2</sub> concentration of 450 parts per million (ppm)).<sup>64</sup> However, the specification that the Convention’s objective is to be achieved ‘within a timeframe sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner’, coupled with frequent textual references to the adverse effects and impacts of climate change, suggests an implicit recognition of the inevitability of some climate change and hence the necessity for adaptation measures.<sup>65</sup>

The objective is supplemented by ‘principles’ articulated in Article 3 which guide parties ‘[i]n their actions to achieve the objective of the Convention’. These principles include requirements for parties to: ‘Protect the climate system for the benefit of present and future generations of humankind’, which is to be done on the basis of equity and in accordance with parties’ ‘common but differentiated responsibilities and respective capabilities’;<sup>66</sup> give ‘full consideration’ to the needs and circumstances of developing country parties, especially those particularly vulnerable to the adverse effects of climate change;<sup>67</sup> and take ‘precautionary measures to anticipate, prevent or minimize the causes of climate change and mitigate its adverse effects’, subject to the proviso that such measures should be ‘cost-effective so as to ensure global benefits at the lowest possible cost’.<sup>68</sup>

At their highest, these provisions might give rise to a collective obligation on the part of Convention parties to stabilise emissions at a level adequate to protect the climate system now and in the future, and to avoid dangerous anthropogenic warming (i.e. the 2°C/450ppm target or a

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<sup>63</sup> H.J. Schellnhuber et al. (eds.), *Avoiding Dangerous Climate Change* (Cambridge University Press, 2006); IPCC, *Climate Change 2007*, n. 21, at 67; N. Stern, *The Economics of Climate Change: The Stern Review* (Cambridge University Press, 2007), 3.

<sup>64</sup> See Copenhagen Accord, n. 15.

<sup>65</sup> P. Sands and J. Peel, *Principles of International Environmental Law*, 3rd edn (Cambridge University Press, 2012), 277-278.

<sup>66</sup> Article 3(1) Convention, n. 10.

<sup>67</sup> Article 3(2) Convention, *ibid.*

<sup>68</sup> Article 3(3) Convention, *ibid.*

lower precautionary level).<sup>69</sup> Article 3(1) indicates that ‘the developed country Parties should take the lead in combating climate change and the adverse effects thereof’. While this might suggest that such parties bear a special, shared obligation to address climate change through reducing their emissions, there is little guidance provided as to how they are to demonstrate leadership in this regard or the extent to which a failure to ‘take the lead’ would give rise to responsibility for resulting climate change damage.<sup>70</sup>

Ambiguous language also plagues other Convention provisions such as Article 4(2), which articulates the ‘commitments’ made by Annex I parties; and Article 4(4), which requires the wealthiest developed countries (listed in Annex II) to ‘assist’ vulnerable developing country parties ‘in meeting costs of adaptation’.<sup>71</sup> Article 4(2)(a) places an obligation on each Annex I party to ‘adopt national policies and take corresponding measures on the mitigation of climate change, by limiting its anthropogenic emissions and enhancing its greenhouse gas sinks and reservoirs’. This obligation is not accompanied by any specific emissions reduction targets other than the vague requirement that, collectively, such policies and measures taken by Annex I parties ‘will demonstrate that developed countries are taking the lead in modifying longer-term trends in anthropogenic emissions consistent with the objective of the Convention’. Voigt has argued that this provision, in conjunction with the objective articulated in Article 2, ‘places a duty on Annex I parties to implement effective measures that would lead to a reversal of long-term emission trends’.<sup>72</sup> She contends that ‘if an Annex I party has increased its emissions continually since its ratification of the [Convention], this could amount to a breach of treaty’.<sup>73</sup>

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<sup>69</sup> Verheyen, *Climate Change Damage and International Law*, n. 62, 66.

<sup>70</sup> While the concept of common but differentiated responsibilities and the leadership role for developed country parties articulated in Article 3(1) are argued by some to indicate the responsibility of developed countries for historic contributions to climate change, the Convention avoids a direct linkage, mentioning historical emissions in a preambular paragraph but not in conjunction with references to common but differentiated responsibilities: Brunnée, ‘Climate Change, Global Environmental Justice and International Environmental Law’, n. 22, 327.

<sup>71</sup> D. Bodansky, ‘The U.N. Framework Convention on Climate Change: A Commentary’ (1993) 18 YJIL 451, at 528; though see P. Sands, ‘United Nations Framework Convention on Climate Change,’ (1992) 1 *Review of European, Comparative and International Law* 270, at 275 arguing that Article 4(4) ‘amounts to an implicit acceptance of responsibility for causing climate change’. See also Article 4(3) Convention, which commits developed countries to ‘provide new and additional financial resources to meet the agreed full costs’ incurred by developing countries in implementing measures, including adaptation measures, under the Convention.

<sup>72</sup> Voigt, ‘State Responsibility for Climate Change Damages’, n. 62, at 7. See also M.G. Faure and P.A. Nollkaemper, ‘International Liability as an Instrument to Prevent and Compensate for Climate Change’ (2007) 43A *Stanford Journal of International Law* 123, at 143; and Verheyen, *Climate Change Damage and International Law*, n. 62, 82-83.

<sup>73</sup> Voigt, *ibid.*, at 7.

Voigt acknowledges, however, that ‘this continues to be a controversial topic and no consensus exists on the interpretation of Article 2 ... in conjunction with Article 4.2’.<sup>74</sup>

Even accepting this reading of the treaty text, any collective obligation on the part of developed states parties to modify longer-term emissions trends is lacking in indications of how it is to be shared amongst multiple responsible states. In addition, attempting to evaluate the adequacy or effectiveness of countries’ climate change policies and measures is far from a straightforward exercise. For instance, while the United States is sometimes singled out as a climate policy laggard given its continuing refusal to ratify the Kyoto Protocol, it has had some climate change law in place since 1978,<sup>75</sup> and more recently has introduced a raft of climate change regulations at the federal level, as well as in many states.<sup>76</sup> This history significantly complicates the question of whether the United States, alone or cumulatively with other states, has in fact breached any Convention treaty obligation to adopt mitigation policies and measures.

### 3.1.2 Obligations under the Kyoto Protocol

The prospects for establishing responsibility as a result of the breach of climate change-related primary rules would seem to be more favourable under the Kyoto Protocol than its parent Convention. Under Article 3(1) of the Protocol, countries listed in Annex I of the Convention agreed to ensure that their aggregate emissions did not exceed their assigned amounts, ‘with a view’ to reducing their overall GHG emissions ‘by at least 5 per cent below 1990 levels’ by 2012.<sup>77</sup> Annex B of the Kyoto Protocol fleshes out this soft collective obligation with specific targets for emissions reduction by listed Annex I countries. As Faure and Nollkaemper point out, ‘[a] breach of these very specific quantified emission limitation and reduction commitments could thus be considered a breach of a treaty obligation that potentially could give rise to state

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<sup>74</sup> Ibid.

<sup>75</sup> U.S. National Climate Program Act, Pub. L. No. 95-367, 92 Stat. 601, 601 (codified as amended at 15 USC §§ 2901–07 (2006)).

<sup>76</sup> See generally H. Osofsky, ‘Diagonal Federalism and Climate Change: Implications for the Obama Administration’ (2011) 62 *Alabama Law Review* 237. On 2 June 2014, the Obama administration announced a new package of climate change measures, including regulations to reduce GHG emissions from new and existing power plants: see Remarks for Administrator McCarthy, Announcement of Clean Power Plan, Washington D.C., U.S. EPA Press Release.

<sup>77</sup> The Doha amendment, n. 14, if ratified by parties, would insert Article 3(1) *bis* making a similar commitment for a collective emissions reduction of 18 per cent below 1990 levels by 2020.



liability (provided other conditions are met)<sup>78</sup>. Indeed, in terms of compliance with the Protocol's first commitment period targets there have been some clear failures by states, such as Canada, which purportedly withdrew from the Kyoto Protocol in 2011 in order to avoid an estimated 14 billion Canadian Dollars in non-compliance penalties.<sup>79</sup> It is less clear whether Article 3 of the Kyoto Protocol alone could found a shared responsibility claim against Annex B parties for climate change damage if their emissions reduction efforts fall short of the promised five per cent decrease on 1990 levels.

The most significant limitation of the Kyoto Protocol as a source of primary rules for *shared* responsibility is that the treaty places binding emissions reduction targets on only a small number of states. The major emitters who are generally touted as potential defendants in any climate change-related responsibility claim – countries such as the United States, China or India – fall outside the Kyoto Protocol's requirements for quantified emissions limitation and reduction. Despite negotiating and signing on to a first commitment period target of a seven per cent reduction on 1990 emissions levels, the United States has subsequently maintained staunch opposition to ratification of the treaty.<sup>80</sup> China, India and other emerging major emitters in the developing world were not assigned reduction targets under the Kyoto Protocol, in light of the distinction the treaty draws between the obligations of developed and developing countries. In the Protocol's proposed second commitment period, only a limited number of developed states have indicated their willingness to accept targets leaving several major players from the first commitment period – Canada, Russia and Japan – without binding international emissions reduction commitments for the 2013-2020 period.<sup>81</sup> Consequently, any claim for shared responsibility directed against major emitters who fall outside the scope of the binding emissions reduction commitments of the Kyoto Protocol would need to rely on customary international law obligations of general application.

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<sup>78</sup> Faure and Nollkaemper, 'International Liability as an Instrument to Prevent and Compensate for Climate Change', n. 72, at 144.

<sup>79</sup> Vaughan, 'What does Canada's withdrawal from Kyoto Protocol mean?', n. 56.

<sup>80</sup> See, e.g., U.S. Senate Resolution 98, 105th Cong. (1997).

<sup>81</sup> Doha amendment, changes to Annex B, n. 14.

### 3.2 Customary law obligation to prevent environmental harm

Under general international law, the International Court of Justice (ICJ) has confirmed the customary status of a state's obligation to ensure that activities within its jurisdiction or control do not give rise to damage to the environment of other states, or to the environment in areas beyond national jurisdiction (the no-harm rule).<sup>82</sup> This obligation 'has its origins in the due diligence that is required of a State in its territory',<sup>83</sup> and in cases such as the *Trail Smelter* arbitration.<sup>84</sup> It has been further elaborated in international environmental instruments such as the Stockholm and Rio Declarations.<sup>85</sup> The no-harm rule is seen as an attractive basis for state responsibility claims for climate change damage as it is binding on all states, including major emitters who lack specific emissions reduction obligations under the Kyoto Protocol.<sup>86</sup>

Applied in a climate change context, the no-harm rule would entail similar obligations of harm prevention as arise under the provisions of the Convention. To this end, states are required to adopt regulatory and administrative measures, designed to prevent climate change harms to other states and areas beyond national jurisdiction, in accordance with a 'due diligence' standard.<sup>87</sup> Unlike the Convention, however, the no-harm rule contains no specific harm threshold equivalent to that of 'dangerous anthropogenic interference with the climate system'. State practice, decisions of international tribunals and the writings of jurists suggest that the harm suffered must be 'significant', 'substantial' or at least 'appreciable' in order for liability to be triggered under

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<sup>82</sup> *Legality of the Threat or Use of Nuclear Weapons*, Advisory Opinion, ICJ Reports 1996, 226, at 242, para. 29; see also *Pulp Mills on the River Uruguay (Argentina v. Uruguay)*, Judgment, ICJ Reports 2010, 14, para. 101 (*Pulp Mills*).

<sup>83</sup> *Pulp Mills*, *ibid.*, para. 101.

<sup>84</sup> *Trail Smelter Arbitration (United States of America/Canada)* (1938 and 1941), 3 RIAA 1905.

<sup>85</sup> Rio Declaration on Environment and Development, Rio de Janeiro, 14 June 1992, (1992) 31 ILM 874 (Rio Declaration), Principle 2; Declaration of the United Nations Conference on the Human Environment, Stockholm, 16 June 1972, (1972) 11 ILM 1416 (Stockholm Declaration), Principle 21. See e.g. Chapter 37 in this volume, Trouwborst, 'Nature Conservation', n. 50, \_\_\_. See also P. Birnie, A. Boyle and C. Redgwell, *International Law and the Environment*, 3rd edn (Oxford University Press, 2009); P.N. Okowa, *State Responsibility for Transboundary Air Pollution in International Law* (Oxford University Press, 2000); Sands and Peel, *Principles of International Environmental Law*, n. 65.

<sup>86</sup> C. Schwarte, "'No harm rule" and climate change', Briefing Paper prepared for the Legal Response Initiative, 24 July 2012, available at <http://legalresponseinitiative.org/legaladvice/no-harm-rule-and-climate-change/>.

<sup>87</sup> *Pulp Mills*, n. 82, para. 101; *Responsibilities and Obligations of States Sponsoring Persons and Entities with Respect to Activities in the Area*, Advisory Opinion, Seabed Disputes Chamber of the International Tribunal for the Law of the Sea, Case No. 17, 1 February 2011, (2011) 50 ILM 458, paras. 114-21.

the no-harm rule.<sup>88</sup> This raises the possibility of greater flexibility in establishing breach of the no-harm rule compared with obligations under the Convention.

However, in order for the no-harm rule to serve as a basis for shared responsibility in the climate change context, it has to be established that this obligation – conventionally applied in bilateral, transboundary pollution disputes – is equally applicable in the more diffuse, multi-party situation of climate change impacts. Also unclear is what might constitute ‘due diligence’ with respect to the prevention of climate change harms, including the implications of the principle of ‘common but differentiated responsibilities’ for determining the duties of states in this regard.

### 3.2.1 Extension of the no-harm rule to the situation of climate change

On one view, the no-harm rule is inapplicable to climate change damage for which a plurality of states and non-state actors are cumulatively responsible as the pertinent harm is not caused by *transboundary pollution*, the traditional situation for which the rule was developed.<sup>89</sup> Unlike many conventional pollutants, CO<sub>2</sub>, the principal GHG is not, of itself, harmful or toxic. Its emission is not prohibited, and even treaty provisions requiring emissions reduction, such as exist under the Kyoto Protocol, implicitly permit some level of emissions. It is only the atmospheric accumulation of CO<sub>2</sub> and other GHGs that, over time, gives rise to global warming and climate change.<sup>90</sup> Moreover, the harm that results from this accumulation is globalised rather than strictly transboundary in nature since the degree of harm experienced is not correlated with the location of emissions.

Despite these seeming limitations of the no-harm rule, most authors do not contest its applicability as a matter of law to climate change damage caused by multiple states. Schwarte points to the restatement of the no-harm rule in the Convention’s preamble as an indication of

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<sup>88</sup> Sands and Peel, *Principles of International Environmental Law*, n. 65, 195-199, 705-707.

<sup>89</sup> Schwarte, “‘No harm rule’ and climate change”, n. 86, at 4, although noting that some ‘traditional’ air pollutants, such as black carbon (soot) and tropospheric ozone, are now implicated in global warming.

<sup>90</sup> Verheyen, *Climate Change Damage and International Law*, n. 62, 166-7, citing M. Schröder ‘Klimaschutz als Problem des internationalen Rechts’, in R. Breuer, M. Kloepfer, P. Marburger and M. Schröder (eds.), *Jahrbuch des Umwelt und Technikrechts* (Heidelberg: Decker, 1993), 191.

supportive state practice,<sup>91</sup> as well as to broad definitions of transboundary pollution and harm in the work of expert bodies such as the International Law Association<sup>92</sup> and the International Law Commission (ILC). For example, the ILC in its Draft Articles on Prevention of Transboundary Harm from Hazardous Activities explicitly loosened the definition of ‘transboundary harm’ by specifying that it includes situations where the state causing the harm and the injured state do not share a common border.<sup>93</sup> Moreover, diffuse harms attributable to the activities of many state and non-state actors are a phenomenon common to many environmental problems beyond climate change.<sup>94</sup> Situations of long-distance air and marine pollution, involving chemicals that react with other substances and accumulate in the environment to cause harm, share analogies with the climate change problem. The application of the no-harm rule and general preventative obligations in these contexts<sup>95</sup> argues for the extension of the customary rule to cover climate change damage. In addition, there is growing recognition – at least at the domestic level – that GHG emissions involve a problem of ‘carbon pollution’ where emissions exceed the levels that can be sustained by the climate system without resulting in ‘dangerous anthropogenic interference’.<sup>96</sup>

### 3.2.2 Due diligence and the prevention of climate change harms

A key question in assessing the application of the no-harm rule in cases of climate change damage is what amounts to due diligence in terms of preventative actions taken by states. This issue is the subject of much debate in the literature, and indeed in the broader climate change negotiations as states struggle to decide how the burden of emissions reduction (and adaptation funding) should be divided amongst them. Despite the importance of the question of what it means for states to act in a duly diligent fashion to prevent climate change harm, no single

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<sup>91</sup> Schwarte, “‘No harm rule’ and climate change”, n. 86, at 3.

<sup>92</sup> ‘Rules on International Law Applicable to Transfrontier Pollution’, International Law Association, 4 September 1982, (1983) 60 ILA 158.

<sup>93</sup> *Draft Articles on Prevention of Transboundary Harm from Hazardous Activities*, ILC Report on the work of its fifty-third session, UNGOAR 56th Sess., Supp. No. 10, UN Doc. A/56/10 (2001), Article 2(c).

<sup>94</sup> It is recognised that liability principles apply in regard to such global commons harms notwithstanding the many difficulties in practical application, see M. Fitzmaurice, ‘Liability for Environmental Damage Caused to the Global Commons’ (1996) 5(4) *Review of European Community and International Environmental Law* 305.

<sup>95</sup> Convention on Long-Range Transboundary Air Pollution, Geneva 13 November 1979, in force 16 March 1983, 1302 UNTS 217; Article 139(2) LOSC, n. 48.

<sup>96</sup> *Clean Air Act* 1963, 42, USC, *Endangerment and Cause or Contribute Findings for Greenhouse Gases* 40 CFR § 202(a), (2009); *Climate Change Act 2008* (UK) C 1, s 4.

answer is possible.<sup>97</sup> The no-harm rule is an obligation of conduct, i.e. it requires a state to ‘take all appropriate measures’<sup>98</sup> or ‘do the best it can’<sup>99</sup> to prevent harm and minimise climate change risks. It is not an obligation of result, requiring the attainment of a specific standard, e.g. a given level of emissions reduction. As such, compliance with the obligation can only be assessed in light of the circumstances of each particular case and taking into account the capacities and limitations of the states concerned. In accordance with the principle of ‘common but differentiated responsibilities and respective capabilities’ (CBDRRC) – found in Article 3(1) of the Convention and international environmental law instruments such as Principle 7 of the Rio Declaration<sup>100</sup> – it is arguable that an assessment of due diligence will need to take into account the relative technological and economic capacities of the states concerned.<sup>101</sup> Considerations of whether the responsible states had the opportunity to take preventive action, the foreseeability of harm, and the proportionality of the measures chosen to reduce the harm, will also be relevant to this determination.<sup>102</sup>

For those seeking ‘climate justice’, however, this may seem a frustratingly evasive conclusion in respect of what scholars, such as Werksman, acknowledge is one of the least developed areas of the law of state responsibility applicable to climate change damage.<sup>103</sup> In the interests of advancing (or provoking) the debate and providing clearer parameters for the operation of the concept of due diligence in the climate context, a number of propositions can be put forward which draw on provisions of the international climate change regime, relevant discussions in the literature, and decisions in international environmental cases.

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<sup>97</sup> *Responsibilities and Obligations of States Sponsoring Persons and Entities with respect to Activities in the Area*, n. 87, para. 117.

<sup>98</sup> Article 3 *Draft Articles on Prevention of Transboundary Harm from Hazardous Activities*, n. 93. See also *Pulp Mills*, n. 82, para. 197.

<sup>99</sup> Voigt, ‘State Responsibility for Climate Change Damages’, n. 62, at 11.

<sup>100</sup> Principle 7 of the Rio Declaration, n. 85, provides: ‘States shall cooperate in a spirit of global partnership to conserve, protect and restore the health and integrity of the Earth’s ecosystem. In view of the different contributions to global environmental degradation, States have common but differentiated responsibilities. The developed countries acknowledge the responsibility that they bear in the international pursuit of sustainable development in view of the pressure their societies place on the global environment and of the technologies and financial resources they command.’

<sup>101</sup> It should be noted, however, that such formulations of the common but differentiated responsibilities principle were developed in the context of attributing accountability for responding to environmental problems, with a particular burden of action placed on developed states. How this principle applies in situations of state responsibility for transboundary harm remains unclear.

<sup>102</sup> Article 3 *Draft Articles on Prevention of Transboundary Harm from Hazardous Activities*, n. 93. For discussion see Verheyen, *Climate Change Damage and International Law*, n. 62, 145-92.

<sup>103</sup> Werksman, ‘Could a Small Island Successfully Sue a Big Emitter?’, n. 24, 419.

First, states have had the opportunity to act preventatively to address foreseeable harm of damage through climate change since the early 1990s (1990 was the date of the release of the IPCC's first assessment report and 1992 saw the conclusion of the Convention).<sup>104</sup> A failure by a state to implement adequate climate change measures since that time would amount to a failure of due diligence.<sup>105</sup>

Second, adequate climate change measures can take a range of regulatory forms (e.g. command-and-control regulations, carbon taxes, emissions trading schemes)<sup>106</sup> but should involve mandatory emissions reductions consistent with the goal of containing average global temperature rise below 2°C above pre-industrial levels.<sup>107</sup> In this respect, fulfilment of Convention and/or Kyoto Protocol obligations by states is an important first step. However, it is not sufficient in and of itself to satisfy the due diligence obligation to prevent environmental damage through climate change,<sup>108</sup> given the relatively narrow focus of the international climate change regime,<sup>109</sup> and the widely acknowledged inadequacy of the emissions reduction obligations under the treaty regime to avert climate change harms.<sup>110</sup>

Third, a higher standard of due diligence applies in respect of those states with significant total emissions or very high per capita emissions (whether these are past or current emissions), given the greater burden that their emissions place on the global climate system. In this regard, an

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<sup>104</sup> See also Schwarte, “‘No harm rule’ and climate change”, n. 86, at 5. A more radical approach would start counting from the earliest time countries could have known about the climate changing effects of GHG emissions – around 1800: R.S.J. Tol and R. Verheyen, ‘State Responsibility and Compensation for Climate Change Damages - a Legal and Economic Assessment’ (2004) 32 *Energy Policy* 1109.

<sup>105</sup> This approach leaves to one side what Brunnée, ‘Climate Change, Global Environmental Justice and International Environmental Law’, n. 22 has identified as ‘the thorny question of historical contributions to climate change’, at 326.

<sup>106</sup> Article 2(1) Kyoto Protocol, n. 9.

<sup>107</sup> Scientific assessments indicate that this would require a global reduction in emissions from 1990 levels of at least 25-40 per cent by 2020 and 80-90 per cent by 2050: IPCC, *Climate Change 2007*, n. 21, at 67.

<sup>108</sup> See also Faure and Nollkaemper, ‘International Liability as an Instrument to Prevent and Compensate for Climate Change’, n. 72, at 152.

<sup>109</sup> As Verheyen's survey of the negotiating history of the treaties shows, there is no indication that either the Convention or the Kyoto Protocol was intended to be a comprehensive response to the problem of climate change damage: Verheyen, *Climate Change Damage and International Law*, n. 62, 45-48.

<sup>110</sup> See A. Strauss, ‘Climate Change Litigation: Opening the Door to the International Court of Justice’, in W.C.G. Burns and H.M. Osofsky (eds.), *Adjudicating Climate Change: State, National, and International Approaches* (New York: Cambridge University Press, 2009), 334, at 344-345, noting that the treaty regime does not definitively settle the question of who should bear the considerable cost of global warming, which will persist even if states' treaty obligations are fully complied with.

evolving notion of differentiation under the CBDRRC principle should be adopted.<sup>111</sup> As such developing countries which, since 2000, have emerged as major emitters of GHG and/or which have large projected emissions growth would be held to a higher standard of due diligence than other developing countries, although not as high as that expected of developed countries given continuing differences in terms of countries' respective technological and economic capabilities.<sup>112</sup>

Fourth, adoption of technological options for mitigation, such as solar radiation management geoengineering technologies,<sup>113</sup> as the sole measure taken to address climate change impacts would not fulfil the obligation to act with due diligence as such measures are not sufficiently precautionary. In the same way, relying entirely on measures that seek to enhance carbon sinks or sequestration (including carbon capture and storage technologies), without addressing source emissions, would fail the due diligence standard.<sup>114</sup>

Fifth, all appropriate preventative measures must be taken by a state even where scientific uncertainty exists as to the extent of likely damage. In such instances, ignoring 'plausible indications of potential risks' would amount to a failure of due diligence.<sup>115</sup>

Sixth, the nature of measures that are considered adequate will change over time: 'measures considered sufficiently diligent at a certain moment may become not diligent enough in light, for instance, of new scientific or technological knowledge'.<sup>116</sup>

Seventh, states proposing to undertake projects or implement policies which carry a significant risk of climate change harm through their contribution to GHG emissions must cooperate with

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<sup>111</sup> T. Honkonen, 'The Principle of Common but Differentiated Responsibility in Post-2012 Climate Negotiations' (2009) 18(3) *Review of European Community and International Environmental Law* 257.

<sup>112</sup> S. Atapattu, 'Climate Change, Differentiated Responsibilities and State Responsibility: Devising Novel Legal Strategies for Damage caused by Climate Change', in B.J. Richardson et al. (eds.), *Climate Law and Developing Countries: Legal and Policy Challenges for the World Economy* (Cheltenham: Edward Elgar, 2009), 37, at 44.

<sup>113</sup> The case may be different for carbon dioxide removal techniques that may offer significant benefits in terms of emissions reduction. By contrast, solar radiation management methods do not seek to mitigate human causes of the climate change problem, but merely to reduce the amount of sunlight and heat retained in the Earth's atmosphere.

<sup>114</sup> Conference of the Parties, United Nations Framework Convention on Climate Change, 'Report of the Conference of the Parties on its Seventh Session', held in Marrakesh from 29 October to 10 November 2001 – Addendum – Part 2: Action Taken by the Conference of the Parties at its Fifteenth Session, UN Doc. FCCC/CP/2001/13/Add.1 (21 January 2002), Decision 11, available at <http://unfccc.int/resource/docs/cop7/13a01.pdf#page=54>.

<sup>115</sup> *Responsibilities and Obligations of States Sponsoring Persons and Entities with respect to Activities in the Area*, n. 87, para. 131.

<sup>116</sup> *Ibid.*, para. 117, also suggesting the application of a stricter standard for 'riskier' activities.

other interested states, including through procedures of consultation, notification and environmental impact assessment.<sup>117</sup>

#### 4. Secondary rules

Secondary rules, addressing the consequences of a breach of the primary obligations outlined in section 3, derive from the general international law rules of state responsibility. No *lex specialis* secondary rules are established by the international climate change regime, although the Kyoto Protocol contains an elaborate procedure for supervising compliance and penalising the most serious breaches (see further section 4.1 below). The Convention itself contains no provisions regarding the legal consequences of a breach of its provisions, apart from a reference to the Conference of the Parties (COP) considering the establishment of ‘a multilateral consultative process ... for the resolution of questions regarding the implementation of the Convention’<sup>118</sup> (which process has not been established),<sup>119</sup> and a general provision on dispute settlement that includes a default process for use of a conciliation commission<sup>120</sup> (for which procedures have not been elaborated). The negotiating histories of both the Convention and Protocol suggest that, although countries were aware of the problem of residual climate change damage (i.e. damage occurring despite mitigation and adaptation efforts), developed states resisted the inclusion of any treaty provisions dealing with issues of responsibility.<sup>121</sup> Consequently, a number of small island states, when signing or ratifying, appended declarations to the effect that joining the Convention ‘shall in no way constitute a renunciation of any rights under international law concerning state responsibility for the adverse effects of climate change’.<sup>122</sup>

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<sup>117</sup> Articles 7-9 *Draft Articles on Prevention of Transboundary Harm from Hazardous Activities*, n. 93; *Pulp Mills*, n. 82, para. 204.

<sup>118</sup> Article 13 Convention, n. 10.

<sup>119</sup> Terms of Reference for Operation of the Multilateral Consultative Process have been largely negotiated (Decision 10/CP.4, FCCC/CP/1998/16/Add.1) but are not in force.

<sup>120</sup> Article 14 Convention, n. 10.

<sup>121</sup> Verheyen, *Climate Change Damage and International Law*, n. 62, 88.

<sup>122</sup> See text of the declarations submitted upon signature or ratification of the Convention by Fiji, Kiribati, Nauru and Papua New Guinea, available at [http://unfccc.int/essential\\_background/convention/items/5410.php](http://unfccc.int/essential_background/convention/items/5410.php). The Convention does not permit reservations (Article 24) and the legal effect of these declarations has not yet been tested.



#### 4.1 Kyoto Protocol non-compliance mechanism

In contrast to the Convention, the Kyoto Protocol elaborates a detailed regime governing the consequences of non-compliance with its central obligations. This mechanism, adopted in Decision 27/CPM.1 of the first meeting of the parties under the Protocol, allows consideration of ‘questions of implementation’ indicated in the reports of expert review teams operating under Article 8 of the Protocol, or raised by any party with respect to itself, or by any party with respect to another party.<sup>123</sup> However, like non-compliance mechanisms found under other environmental treaties, the Kyoto Protocol mechanism is best regarded as a procedure for resolving issues of state *accountability* rather than a *lex specialis* set of rules for determining state *responsibility*.<sup>124</sup> This is particularly the case in respect of the mechanism’s ‘Facilitative Branch’, whose mission is limited to providing assistance and advice to parties to promote greater compliance and which deals with less serious questions of implementation.<sup>125</sup>

The status of the mechanism’s ‘Enforcement Branch’ is more difficult to determine as no equivalent is found in other environmental treaty-based non-compliance mechanisms. The Enforcement Branch is empowered to deal with the more serious implementation questions that arise under the Protocol, such as non-compliance with emissions reduction targets or reporting requirements.<sup>126</sup> Its decisions can be further appealed to the COP on due process grounds.<sup>127</sup> Even so, the Enforcement Branch’s authority is limited to determining whether or not non-compliance arises, rather than issuing a formal finding of international responsibility. Where non-compliance is found, the Enforcement Branch may impose specified ‘consequences’, ranging from a declaration of non-compliance to suspension of a party’s eligibility to participate in the Protocol’s flexibility mechanisms, including emissions trading, and a deduction from a party’s assigned amount for the second commitment period equivalent to 1.3 times the amount in tonnes

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<sup>123</sup> Decision 27/CPM.1, ‘Procedures and Mechanisms relating to Compliance under the Kyoto Protocol, Report of the Conference of the Parties serving as the Meeting of the Parties on its First Session’, Montreal, 28 November – 10 December 2005, FCCC/KP/CMP/2005/8/Add.3 (30 March 2006), Annex, VI, para. 1.

<sup>124</sup> See further A. Cardesa-Salzmann, ‘Constitutionalizing secondary rules in global environmental regimes: Non-compliance Procedures and the Enforcement of Multilateral Environmental Agreements’ (2012) 24(1) *Journal of Environmental Law* 103.

<sup>125</sup> Decision 27/CPM.1, ‘Procedures and Mechanisms relating to Compliance under the Kyoto Protocol, Report’, n. 123, Annex, IV, paras. 4 and 5, and XIV. The Facilitative Branch is required to take account of the principle of CBDRRC in determining the consequences of non-compliance.

<sup>126</sup> *Ibid.*, Annex, V, para. 4.

<sup>127</sup> *Ibid.*, Annex, XI.

of the excess emissions.<sup>128</sup> However, application of these penalties is not intended as reparation for any injury caused by the non-compliance as would be the case in a state responsibility setting. Instead, the non-compliance mechanism stipulates that the consequences applied by the Enforcement Branch ‘shall be aimed at the restoration of compliance to ensure environmental integrity, and shall provide for an incentive to comply’.<sup>129</sup> Consistent with this aim, parties found to be in non-compliance are required to develop a compliance action plan, including details of the actions that will be taken to return to compliance.<sup>130</sup>

#### *4.2 Application of general principles of responsibility*

The lack of *lex specialis* rules governing the consequences of breach of treaty-based or customary obligations to prevent climate change damage means that the general international law principles of state responsibility will provide the applicable regime of secondary rules. Following the approach taken in volume 1, these rules are taken to be codified by the ILC’s 2001 Articles on Responsibility of States for Internationally Wrongful Acts (ARSIWA).<sup>131</sup> Several comprehensive analyses of the application of the ARSIWA to issues of climate change and environmental pollution have been carried out, including Verheyen’s 2005 book, *Climate Change Damage and International Law: Prevention Duties and State Responsibility*.<sup>132</sup> Nevertheless, shared responsibility claims for climate change damage brought against multiple states pose particular challenges for the application of conventional state responsibility doctrines. These include issues of attribution and breach (section 4.2.1), causation of injury (section 4.2.2), and the apportionment of liability in situations of a ‘plurality of responsible states’ (section 4.2.3).

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<sup>128</sup> Ibid., Annex, XV. The failure of many Annex I countries to accept a second commitment period target renders the latter penalty of limited effect.

<sup>129</sup> Ibid., Annex, V, para. 6. See also Lefeber, ‘Climate Change and State Responsibility’, n. 29, 328.

<sup>130</sup> Ibid., Annex, XI, paras. 2 and 6.

<sup>131</sup> See n. 32.

<sup>132</sup> See n. 62.

#### 4.2.1 Attribution and breach

Under the ILC's ARSIWA, an internationally wrongful act consists of conduct, whether by way of an action or omission, that (a) is attributable to the state under international law and (b) constitutes a breach of an international obligation of that state.<sup>133</sup> As a general matter, conduct 'attributable to the State under international law' generally excludes the actions of private actors, other than those acting 'under the direction and control of that state in carrying out the conduct'.<sup>134</sup> In the case of climate change this poses a problem as the GHG that give rise to harm are generally emitted by private entities rather than states (although in some countries there remains significant state ownership of GHG-emitting facilities such as power stations). In addition, emissions of GHG are diffuse and not limited to stationary sources such as industrial and electric facilities that are more readily identifiable and controllable by states.

One approach to dealing with the attribution problem in such circumstances would be to draw an indirect link between the polluting activities of private actors and a state. In general, states use licensing or permitting systems to regulate the release of environmental pollutants, arguably bringing such activities under the 'control' of the state.<sup>135</sup> Alternatively, the attribution issue can be avoided by characterising the conduct that gives rise to a breach of an international obligation not as the private act of emitting GHG, but rather as the failure of the state to implement adequate measures to reduce emissions from private polluters. As reflected in a recent report by the World Bank, there is growing state practice, particularly in the industrialised world, supporting the adoption of carbon pricing and other control measures to reduce GHG emissions.<sup>136</sup> Accordingly, 'the failure to stop, reduce or regulate emitting activities with due care' could be the basis for a

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<sup>133</sup> Article 2 ARSIWA, n. 32.

<sup>134</sup> Article 8 ARSIWA, *ibid.*

<sup>135</sup> Tol and Verheyen, 'State Responsibility and Compensation for Climate Change Damages', n. 104, at 1111-2. However, in the ARSIWA Commentary, *ibid.*, Commentary to Article 8, 47, para. 3, n. 32, the ILC stresses that the necessary degree of 'control' exercised by the state in order for private conduct to be attributable to it must be such that the state 'directed or controlled the specific operation and the conduct complained of was an integral part of that operation'. This test may be difficult to satisfy in circumstances where the only link to a state consists of the issue of a pollution permit by the latter.

<sup>136</sup> Ecofys; World Bank, 'Mapping Carbon Pricing Initiatives 2013: Developments and Prospects' ((Washington D.C.: World Bank Group, 29 May 2013).

finding that a state did not discharge its obligation of harm prevention through the exercise of due diligence.<sup>137</sup>

Nonetheless, any responsibility a state incurs in respect of damage caused by regulatory failures with respect to GHG emissions control would be shared, vertically, with private emitting entities. Particularly for large, often multinational emitters (e.g. oil companies, power stations, and automobile manufacturers) their contribution to GHG emissions and climate change significantly exceeds the collective contribution of many smaller states.<sup>138</sup> As a matter of practice though, actions against states and private entities for climate change damage are likely to be brought in different forums, reflecting the jurisdictional limitations of existing venues to address all aspects of a shared responsibility claim. For example, in contemplating claims for climate change damage against major emitters in 2002, Tuvalu considered separate actions in the International Court of Justice (against the United States and Australia) and in US civil courts (against American oil companies).<sup>139</sup>

#### 4.2.2 Causation of injury

The vertically and horizontally shared nature of responsibility for GHG emissions and resulting climate change harms poses particular problems for establishing the requirement of injury under the ARSIWA.<sup>140</sup> Under the ARSIWA, establishing that the ‘injury’ at issue is ‘caused by’ the internationally wrongful act is an integral element of the obligation on the responsible state(s) to make reparation for the harm.<sup>141</sup> However, where multiple states and other entities contribute to climate change injuries, it will be difficult, if not impossible, to establish that the particular actions of any one state or entity are the ‘proximate’ cause of the harm.<sup>142</sup> This task is

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<sup>137</sup> Tol and Verheyen, ‘State Responsibility and Compensation for Climate Change Damages’, n. 104, at 1112.

<sup>138</sup> M.F. Pawa and B.A. Krass, ‘Global Warming as a Public Nuisance: Connecticut and American Electric Power’ (2004-2005) 16 *Fordham Environmental Law Review* 420.

<sup>139</sup> R.C. Paddock, ‘Tuvalu’s Sinking Feeling’, *Los Angeles Times*, 4 October 2002.

<sup>140</sup> This is also the case for domestic liability claims: see Faure and Nollkaemper, ‘International Liability as an Instrument to Prevent and Compensate for Climate Change’, n. 72 at 157ff.

<sup>141</sup> Article 31 ARSIWA, n. 32. ‘Injury’ is broadly defined in the Articles to include ‘any damage, whether material or moral, caused by the internationally wrongful act’, Article 31(2) ARSIWA. As in the broader field of environmental law, however, serious difficulties exist in terms of quantifying environmental/climate-related damage in financial terms.

<sup>142</sup> ARSIWA Commentary, *ibid.*, Commentary to Article 31, para. 10, 92-93.

complicated by the potential for alternate, contributing causes of the harm (e.g. natural sources of emissions, non-climate change related causes of extreme weather events, or emissions from the injured state), as well as the significant time lag that may exist between the time of emission of GHGs and the manifestation of climate change damage.<sup>143</sup> Werksman argues the interaction between GHG, atmospheric chemistry and global mean temperatures has now been demonstrated with sufficient scientific confidence that ‘it seems unlikely that an adjudicator would require a complainant, in order to obtain relief, to demonstrate what would not be possible – that a specific emission of greenhouse gases by [a source state] caused the specific impact’.<sup>144</sup> Even so, some alternative theory of causation would still seem to be necessary to satisfy the requirement of proximate cause under international responsibility rules.

One option in this regard is to base a finding of a sufficient causal link on the fact that emissions attributable to a state make a material or meaningful contribution to the risk of climate change harm. There is some support for this material risk approach in domestic liability law, although the practice is probably not sufficiently widespread to amount to a general principle of law recognised by civilised nations.<sup>145</sup> For instance, the Canadian Supreme Court in a 2012 decision in *Clements v. Clements* ruled that in negligence cases involving multiple tortfeasors, the standard ‘but for’ test of causation should be replaced with a standard whereby the plaintiff need only establish that the defendant materially contributed to the risk of injury.<sup>146</sup> The Canadian Supreme Court ruled that the ‘material contribution to risk’ approach, which has also been applied in cases in the United Kingdom,<sup>147</sup> ‘applies where “but for” causation cannot be proven against any of multiple defendants, all negligent in a manner that might have in fact caused the

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<sup>143</sup> As Faure and Nollkaemper, ‘International Liability as an Instrument to Prevent and Compensate for Climate Change’, n. 72, at 171-2 note this raises the issue of the time point at which emissions became unlawful, which is connected to the issue of responsibility for historical emissions: see n. 70 and 105 above.

<sup>144</sup> Werksman, ‘Could a Small Island Successfully Sue a Big Emitter?’, n. 24, 412.

<sup>145</sup> Article 38 Statute of the International Court of Justice, San Francisco, 26 June 1945, in force 24 October 1945, 3 Bevens 1179.

<sup>146</sup> The ‘but for’ test applied in many common law jurisdictions requires the plaintiff to demonstrate that the harm/injury would not have occurred but for the defendant’s wrongful conduct.

<sup>147</sup> *Fairchild v. Glenhaven Funeral Services Ltd.*, [2002] UKHL 22, [2002] 3 All ER 305; and *Barker v. Corus UK Ltd.*, [2006] UKHL 20, [2006] 2 AC 572.

plaintiff's injury, because each can use a "point the finger" strategy to preclude a finding of causation on a balance of probabilities'.<sup>148</sup>

In a different context, the US Supreme Court in *Massachusetts v. EPA* considered whether the State of Massachusetts had standing to challenge the federal Environmental Protection Agency's failure to regulate GHG emissions from motor vehicles under the Clean Air Act. The applicable test of standing required the State to demonstrate 'a concrete and particularized injury that ... is fairly traceable to the defendant'.<sup>149</sup> On the issue of causation, the Supreme Court rejected the Agency's argument that its decision not to regulate GHG from new motor vehicles would not contribute to climate change damage in Massachusetts, noting that US motor vehicle emissions (at around 6 per cent of worldwide carbon dioxide emissions) make a 'meaningful contribution' to GHG concentrations and global warming.<sup>150</sup>

These causation tests leave open the question of what amounts to a material or meaningful contribution to the risk, which is likely to turn on the perceived seriousness of the harm. On one view, since climate change is a problem caused by the accumulation of GHG in the atmosphere, every additional quantity of GHG emissions added to the atmosphere increases the cumulative risk of climate change damage and hence could be viewed as material.<sup>151</sup> While it is not possible to link the emissions from a particular country to specific climate change harms, there is a causal relationship between each tonne of GHG emitted and the change in radiative forcing in the atmosphere that results in global warming.<sup>152</sup> In the *Nuclear Tests* case before the ICJ concerning French atmospheric nuclear testing in the Pacific, an analogous argument was pursued by Australia. Australia alleged that the nuclear tests carried out by France had, inter alia, 'resulted in additional radiation doses to persons living in [the southern] hemisphere and in Australia in particular'.<sup>153</sup> The ICJ did not ultimately rule on the merits of this submission. In any event, this approach comes very close to calling for imposition of a strict liability standard, which would seem to be at odds with the due diligence requirements applicable under primary obligations

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<sup>148</sup> *Clements v. Clements* 2012 SCC 32, [2012] 2 SCR 181, para. 43. The Court noted that this is not a test of factual causation but that its approach was justified on the basis of considerations of fairness and justice.

<sup>149</sup> *Massachusetts v. Environmental Protection Agency*, 549 US 497 (2007), at 14.

<sup>150</sup> *Ibid.*, at 525.

<sup>151</sup> K. Boom, 'See You in Court: the Rising Tide of International Climate Litigation', *The Conversation*, 28 September 2011.

<sup>152</sup> Tol and Verheyen, 'State Responsibility and Compensation for Climate Change Damages', n. 104, at 1112.

<sup>153</sup> *Nuclear Tests (Australia v. France)*, Pleadings, Oral Arguments, Documents, vol. I, 13, para. 46.

relevant to climate change damage. A more acceptable approach may instead be to lower the standard of proof demanded of an injured state in establishing that its injury is linked to the internationally wrongful act. As Voigt notes, some international tribunals have relied upon the precautionary principle in order to lower the required standard of proof where the complexity of facts leads to a degree of scientific uncertainty.<sup>154</sup>

In some respects, climate change actions brought on a shared responsibility basis may fare better in establishing requirements of causation and injury than claims brought against a single state. Where a case involves multiple defendant states it may be easier to demonstrate that, collectively, they are responsible for a significant portion of GHG emissions, and hence have made a material contribution to the risk of climate change, which has given rise to harms, including the damage caused to the plaintiff state. Each individual state's responsibility for the injured state's damage can then be assumed to be proportional to its share of emissions.<sup>155</sup> This approach has been pursued in domestic liability cases in the United States, which have targeted the largest emitters within the most GHG-intensive industries in order to buttress the plaintiffs' claim that the defendants' activities are causally linked to global warming and climate change harms.<sup>156</sup>

#### 4.2.3 Multiple responsible states and the apportionment of liability

Of course, a shared responsibility claim, brought against multiple states in respect of climate change damage caused by emissions from their territories, presents other challenges for international law at the stage of determining the appropriate reparation to be made by each state. The ARSIWA envisage a situation of a 'plurality of responsible states', but only in cases of cooperative responsibility where 'several states are responsible for the same internationally wrongful act'.<sup>157</sup> In such situations, the injured state can hold each responsible state to account

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<sup>154</sup> Voigt, 'State Responsibility for Climate Change Damages', n. 62, at 16, citing *Southern Bluefin Tuna Cases (New Zealand v. Japan; Australia v. Japan)*, Provisional Measures, ITLOS Case No. 3 and 4, Order of 27 August 1999, ITLOS Reports 1999, 280. On the other hand, international courts have been resistant to calls for the precautionary principle to be used as a basis for reversing the onus of proof so that it rests on the party alleging no specific causal link, see *Pulp Mills*, n. 82.

<sup>155</sup> Faure and Nollkaemper, 'International Liability as an Instrument to Prevent and Compensate for Climate Change', n. 72, at 174.

<sup>156</sup> For discussion see M.F. Pawa, 'Global Warming Litigation Heats Up' (2008) *TRIAL* 18.

<sup>157</sup> Article 47 ARSIWA, n. 32.

for the wrongful conduct as a whole.<sup>158</sup> This provision does not assist, however, in instances of cumulative responsibility – the main form of shared responsibility at issue in the climate change context. The Commentary to the ARSIWA makes clear that, in such cases, ‘the responsibility of each participating State is determined individually, on the basis of its own conduct and by reference to its own international obligations’.<sup>159</sup> There is thus no equivalent of the principle of joint and several liability found in some domestic legal systems, which allows an injured party to proceed against any of the tortfeasors who contributed to a loss, and to claim the full compensation for the injury from that party (who can then proceed against fellow tortfeasors to recover the amounts which they contributed to the loss).<sup>160</sup>

In the case of a claim for reparation for climate change damage brought against multiple, independently acting states, there is thus the need to apportion liability according to the respective shares of the harm caused by their wrongful acts.<sup>161</sup> This leads back to the troublesome question of causation discussed above. Some authors have suggested that just as domestic law principles offer novel potential solutions to the causation issue in international state responsibility law, so they may also yield useful approaches in apportioning liability and determining the share of compensation payable by each of multiple defendants. For instance, US and Canadian courts have applied a theory of market share liability in a number of cases involving multiple potential defendants, each of whose products might have caused the harm suffered by the plaintiff.<sup>162</sup> Applying this theory to the problem of climate change damage, each responsible state might be held responsible for a share of the harm,<sup>163</sup> whether based on its percentage of total global GHG emissions (since industrialisation or from another given time point) or allocated according to

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<sup>158</sup> ARSIWA Commentary, *ibid.*, Commentary to Article 47, 124, para. 2.

<sup>159</sup> ARSIWA Commentary, *ibid.*, Commentary to Article 47, 125, para. 8.

<sup>160</sup> For a proposal that this principle should apply in international law in the context of climate change damage, see Faure and Nollkaemper, ‘International Liability as an Instrument to Prevent and Compensate for Climate Change’, n. 72, at 178.

<sup>161</sup> In the case of a claim brought in the ICJ, this assumes the *Monetary Gold* principle does not provide a bar to the court exerting jurisdiction: *Monetary Gold Removed from Rome in 1943 (Italy v. France, United Kingdom of Great Britain and Northern Ireland and United States of America)*, Preliminary Question, ICJ Reports 1954, 19, at 32. Questions of jurisdictional barriers to a claim of international responsibility for climate change damage lie beyond the scope of this Chapter, though see Strauss, ‘Climate Change Litigation’, n. 110.

<sup>162</sup> *Sindell v. Abbott Laboratories*, 26 C3d 588 (Cal, 1980), *Martin v. Abbott Laboratories*, 689 P.2d 368 (Wash.S.C., 1984), *Conley v. Boyle Drug Co.*, 570 So.2d 275 (Fla.S.C., 1990). *Hyinnowitz v. Eli Lilly & Co.*, 539 N.E.2d 1069 (N.Y.C.A.) cert denied, 493 US 944 (1989). *Snith v. Cutter Biological Inc.*, 823 P.2d 717 (Hawaii, 1991).

<sup>163</sup> For discussion see Barton, ‘State Responsibility and Climate Change’, n. 24. Emissions data has been readily available since the 1990s when the Convention instituted a national inventorying process and reporting system; less reliable information exists about past emissions.



some other equitable formula<sup>164</sup> (e.g. per capita emissions, energy efficiency, or shares of a ‘carbon budget’).<sup>165</sup>

## 5. Processes

As the analysis to this point highlights, the shared nature of responsibility for climate change damage poses many hurdles for an injured state seeking to secure redress under international law. It is perhaps unsurprising, therefore, that no such international responsibility claims have yet been determined. Nonetheless, the increasing recognition of the inevitability of some climate change damage has led to renewed interest in concepts and procedures for implementing shared responsibility for injuries attributable to climate change.<sup>166</sup> The international climate change regime is also belatedly turning its attention to the issue of ‘loss and damage’ associated with climate change. At the Warsaw COP held in November 2013, parties established the Warsaw International Mechanism for Loss and Damage to help countries deal with such ‘loss and damage’ consequent upon climate change.<sup>167</sup> The functions of the Loss and Damage Mechanism, which is to be administered by an Executive Committee, include enhancing knowledge and understanding of comprehensive risk management approaches; strengthening dialogue, coordination, coherence and synergies among relevant stakeholders; and enhancing action and support, including finance, technology and capacity-building to address loss and damage. Implementation of the latter function may include the provision of funding to cover the costs of

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<sup>164</sup> As Werksman, ‘Could a Small Island Successfully Sue a Big Emitter?’, n. 24, at 421 notes, the Kyoto Protocol’s first commitment period targets also give some indication of where the division of responsibility might lie but this division was derived from negotiations rather than any generalisable standards or principles.

<sup>165</sup> According to the carbon budget approach, the 2°C/450ppm target is used to estimate the amount of carbon the world can still emit without causing dangerous anthropogenic climate change: M. Meinshausen et al., ‘Greenhouse-gas emission targets for limiting global warming to 2°C’ (2009) 458 *Nature* 1158. This figure can be allocated to states on a per capita, or some other, basis, in order to determine the remaining permissible emissions of different states. State emitting at levels exceeding their budget would be liable for damage proportional to the excess emissions.

<sup>166</sup> See, e.g., F. Pearce, ‘Should Polluting Nations be Liable for Climate Damages?’ (2013) *Yale Environment* 360, available at [http://e360.yale.edu/feature/should\\_polluting\\_nations\\_be\\_liable\\_for\\_climate\\_damages/2609/](http://e360.yale.edu/feature/should_polluting_nations_be_liable_for_climate_damages/2609/).

<sup>167</sup> Decision 2/CP.19, ‘Warsaw international mechanism for loss and damage associated with climate change impacts, Report of the Conference of the Parties on its 19th Session’, held in Warsaw from 11-23 November 2013, Part 2, FCCC/CP/2013/10/Add.1.

damage from climate change-exacerbated extreme weather events or ‘slow onset events’ such as sea level rise.<sup>168</sup>

Within the international climate change regime itself, the Kyoto Protocol non-compliance mechanism offers a procedure for dealing with instances of non-compliance that may give rise to climate change related injuries. To date, the implementation questions addressed by the branches of the non-compliance mechanism have all involved individual parties.<sup>169</sup> Indeed, it does not appear that use of the non-compliance mechanism to deal with instances of shared responsibilities was contemplated. All references in the relevant decision establishing the mechanism are to ‘a Party’ or ‘the Party concerned’.<sup>170</sup>

Beyond the climate change regime there is significant potential for the use of international procedures to air damage claims. Rather than direct climate change obligations, these procedures allow for claims regarding the breach of obligations under other treaty regimes that are indirectly relevant to climate change. Examples of processes that could be employed include: a request for provisional measures from the International Tribunal of the Law of the Sea (ITLOS) in regard to a dispute over prevention of climate change-linked harm to the marine environment submitted to an arbitral tribunal under the LOSC;<sup>171</sup> a request for an advisory opinion from ITLOS ‘on a legal question if an international agreement related to the purposes of the Convention specifically provides for the submission to the Tribunal of a request for such an opinion’;<sup>172</sup> claims of climate change-related human rights violations utilising the individual complaint procedures of international and regional human rights instruments;<sup>173</sup> a request for an inspection by the World Bank’s Inspection Panel reviewing the Bank’s application of procedures such as environmental

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<sup>168</sup> Conference of the Parties, United Nations Framework Convention on Climate Change, ‘Report of the Conference of the Parties on its Sixteenth Session, held in Cancun from 29 November to 10 December 2010 – Addendum – Part 2: Action Taken by the Conference of the Parties at its Sixteenth Session’, UN Doc. FCCC/CP/2010/7/Add.1, 15 March 2011, Decision 1, available at <http://unfccc.int/resource/docs/2010/cop16/eng/07a01.pdf>.

<sup>169</sup> For details see [http://unfccc.int/kyoto\\_protocol/compliance/questions\\_of\\_implementation/items/5451.php](http://unfccc.int/kyoto_protocol/compliance/questions_of_implementation/items/5451.php). Note, however, the submission by South Africa on the part of the G77 to the Facilitative Branch which involved a collective complaint about the failure of Annex I countries to submit reports in timely fashion demonstrating progress in accordance with Article 3(2) of the Kyoto Protocol.

<sup>170</sup> Decision 27/CPM.1, Annex, V, para. 4 and IV, para. 2, n. 125.

<sup>171</sup> Article 290(5) LOSC, n. 48.

<sup>172</sup> International Tribunal for the Law of the Sea, *Rules of the Tribunal*, ITLOS/8, 17 March 2009, Article 138.

<sup>173</sup> International Covenant on Civil and Political Rights, New York, 16 December 1966, in force 23 March 1976, 999 UNTS 171; Convention for the Protection of Human Rights and Fundamental Freedoms, Rome, 4 November 1950, in force 3 September 1953, 213 UNTS 221 (European Convention on Human Rights). For an introduction to the topic of the linkage between climate change litigation and human rights see M. Averill, ‘Linking Climate Litigation and Human Rights’ (2009) 18(2) *Review of European Community and International Environmental Law* 139.

impact assessment in decisions for the funding of projects that could have major climate impacts (e.g. fossil fuel power stations);<sup>174</sup> a submission made by a non-governmental organisation or individual to the secretariat of the Commission on Environmental Cooperation under the North American Free Trade Agreement (NAFTA),<sup>175</sup> asserting that a NAFTA party (e.g. the United States or Canada) is ‘failing to effectively enforce its environmental law’ to prevent climate change harms, which can result in the Commission preparing a ‘factual record’ which is released to the public;<sup>176</sup> or petitions made to the World Heritage Committee to include world heritage properties on the ‘List of World Heritage in Danger’ on the basis of ‘serious and specific dangers’ for conservation of the properties posed by climate change.

The extent to which these procedures might be used to agitate claims of shared responsibility is, as yet, untested. Nonetheless, they offer important avenues to hold state and institutional actors to account for their role in contributing to GHG emissions and/or associated climate change damage.

## 6. Conclusion

In their application to the problem of climate change damage, the rules governing state responsibility complement the international treaty regime of the Convention and Kyoto Protocol both by offering the possibility of redress, and through their potential deterrent function.<sup>177</sup> However, concepts and practices of shared responsibility in this area are more than just a backstop to the preventative and precautionary treaty regime, but rather have the capacity to contribute proactively to the development of international climate change law. Responsibility claims for climate change damage – with their focus on specific injuries caused to particular

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<sup>174</sup> See J. Gleason and D.B. Hunter, ‘Bringing Climate Change Claims to the Accountability Mechanisms of International Financial Institutions’, in W.C.G. Burns and H.M. Osofsky (eds.), *Adjudicating Climate Change: State, National, and International Approaches* (New York: Cambridge University Press, 2009), 292 discussing the accountability mechanisms available through the World Bank Inspection Panel and the International Finance Corporation’s Compliance Advisor and Ombudsman.

<sup>175</sup> North American Free Trade Agreement, San Antonio, 17 December 1992, in force 1 January 1994, (1993) 32 ILM 289 and 605 (NAFTA).

<sup>176</sup> North American Agreement on Environmental Cooperation, Washington D.C., 13 September 1993, in force 1 January 1994, (1993) 32 ILM 1480, Part 4, Article 14.

<sup>177</sup> Faure and Nollkaemper, ‘International Liability as an Instrument to Prevent and Compensate for Climate Change’, n. 71, at 139-140.

states or peoples – apply a human face and compelling factual detail to the often seemingly abstract and remote problem of global climate change. In turn, this humanisation of the problem may help mobilise public and political support for effective action.<sup>178</sup> Shared responsibility concepts, and some of the innovative procedural rules developed for this purpose, may also serve as a source of inspiration and ideas for developing institutional arrangements for dealing with climate change-related loss and damage under the international treaty regime.

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<sup>178</sup> D.B. Hunter, ‘The Implications of Climate Change Litigation: Litigation for International Environmental Law-Making’, in W.C.G. Burns and H.M. Osofsky (eds.), *Adjudicating Climate Change: State, National, and International Approaches* (New York: Cambridge University Press, 2009), 357, at 358-360.