Interstate liability for climate change-related damage
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5 Establishing International Responsibility for Climate Change-Related Damage

5.1 Introduction

As has been made clear in Chapter 3, none of the existing approaches to state liability appear to offer any viable solutions with regard to climate change-related damage. Albeit the Kyoto Protocol is equipped with a compliance mechanism aimed at promoting, facilitating, and securing compliance of states parties with their obligations under the Protocol, it does not address the injurious consequences of climate change; proposals to include provisions to that effect have been rejected by industrialized nations. A proposal to assign to the KP Compliance Committee ‘the power to require a state to pay for the restoration of damage to the environment’ was not accepted.503 Attempts to include the polluter-pays principle were likewise rejected.504

A comprehensive legally-binding global treaty remaining the preferred option for addressing anthropogenic climate change, the international negotiations have not advanced beyond the point of mandating the ADP to develop ‘a protocol, another legal instrument or an agreed outcome with legal force under the Convention applicable to all Parties’ by 2015 to take effect in 2020. With Canada, Japan, the Russian Federation, and New Zealand refusing to take on commitments under the KP second commitment period and developing countries having no emissions reduction or limitation commitments under the KP, the Protocol only covers approximately 15 per cent of the global emissions. Against this backdrop, no international claims have been brought to challenge heavily emitting states for their contribution to climate change. Attempts to hold such states to account have been unsuccessful. For example, in 2002, the island nation of Tuvalu announced its intention to launch lawsuits against the United States and Australia, neither of which had ratified the Kyoto Protocol at that time,505 but subsequently abandoned the idea. In 2011, Palau and the Marshall Islands called upon the UN General Assembly to request the ICJ for an advisory opinion to clarify the obligations and responsibilities of states under international law for ensuring that GHG-emitting

activities under their jurisdiction or control do not cause damage to other states.\textsuperscript{506} Even if such an opinion is ultimately requested and delivered, the Court’s advisory opinions are not legally binding, and for liability purposes, are nothing more than a reflection of the existing law.

Absent liability provisions in the Convention and the KP, the need to address loss and damage has now been recognized by the COP on several occasions and a work programme on loss and damage has been launched under the Convention.\textsuperscript{507} Parties have also agreed to establish at COP19 institutional arrangements, such as an international mechanism, to address loss and damage in particularly vulnerable developing countries.\textsuperscript{508} Yet, already now, it is submitted, climate change-related damage can be effectively addressed within the framework of the law of state responsibility.

Some academic writers have observed that the law of state responsibility has not ‘played a large practical role in the environmental liability context’ and that it was ‘unlikely that a [s]tate responsibility approach could play a role in addressing global environmental problems’ because ‘the regular system of state responsibility is not particularly suitable for environmental protection.’\textsuperscript{509} In the present author’s view, this approach underrates the potential of the state responsibility framework to address effectively at least some environmental harms associated with, \textit{inter alia}, the injurious effects of climate change. In fact, there has been a substantial increase in international environmental dispute settlement since the early arbitrations, such

\textsuperscript{506} ‘Palau seeks UN World Court opinion on damage caused by greenhouse gases,’ UN News Centre, 22 September 2011, available from:

\textsuperscript{507} See \textit{Bali Action Plan}, UNFCCC Decision 1/CP.13 (2007), para. 1(c)(iii) on consideration of ‘disaster reduction strategies and means to address loss and damage associated with climate change impacts in developing countries that are particularly vulnerable to the adverse effects of climate change;’ see also \textit{Cancun Agreements: Outcome of the work of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention}, UNFCCC Decision 1/CP.16 (2010), paras 25-26, 29 on recognizing ‘the need to strengthen international cooperation and expertise in order to understand and reduce loss and damage associated with the adverse effects of climate change;’ deciding ‘to establish a work programme in order to consider […] approaches to address loss and damage associated with climate change impacts in developing countries that are particularly vulnerable to the adverse effects of climate change;’ and intending for the SBI to consider submissions to that effect ‘with a view to making recommendations on loss and damage to the Conference of the Parties for its consideration at its eighteenth session.’

\textsuperscript{508} \textit{Approaches to address loss and damage associated with climate change impacts in developing countries that are particularly vulnerable to the adverse effects of climate change to enhance adaptive capacity}, FCCC/CP/2012/L.4/Rev.1 (UNFCCC decision number not available at the time of writing), 8 December 2012, para. 9.

as Pacific Fur Seal (1893), Trail Smelter (1941), and Lac Lanoux (1957), and the law of state responsibility has played a progressively more significant role in the settlement of international environmental disputes.

Dispute settlement under the law of state responsibility is without prejudice to MEAs’ compliance procedures and mechanisms and, in principle, both processes could be engaged simultaneously or consecutively. The potential role of the law of state responsibility vis-à-vis breaches of international obligations related to climate must be understood in the context of some important distinctions between compliance procedures and dispute settlement. First, compliance procedures extend beyond legal disputes whereas dispute settlement focuses on the interpretation and application of treaty provisions and obligations of states under customary international law. Under the Kyoto Protocol compliance mechanism, there need not be a legal dispute; it is a question of implementation submitted by an ERT, a party in respect of itself or a party in respect of another party that sets the compliance procedure into motion (see Chapter 2). In effectively enabling *actio popularis*, this method of triggering indicates that the aim of submitting a question of implementation to the KP Compliance Committee’s EB is to protect common treaty interests and ‘assist the defaulting state in returning to compliance,’ which is the second distinctive feature of compliance procedures. Third, unlike dispute settlement, compliance procedures are inherently non-adversarial; they can be better described as dialogue based on peer review. Fourth, although the compliance procedures are compulsory, the results are not formally binding. It has been argued, however, that the non-binding character of the consequences applied by the Compliance Committee’s EB does not affect their effectiveness. This characteristic sets compliance procedures apart from such means of international dispute settlement as adjudication and arbitration, which require that states voluntarily submit to the jurisdiction of a competent court, whose decision will be legally binding on the parties to the dispute. Finally, compliance procedures are future-oriented and proactive. Once a compliance issue has been identified, the goal is to find its cause and formulate the response most appropriate for the state in question to remain in compliance or to return to a state of compliance as soon as

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514 An exception is the EB of the KP Compliance Committee.

515 Lefeber & Oberthür 2010, p. 151.
possible. Under the Kyoto Protocol, these responses range from facilitative to stronger measures, such as those applied by the EB (see Chapter 2). While dispute settlement based on the law of state responsibility is orientated towards the past in that it is aimed at redress, compliance regimes, on the contrary, focus mainly on future compliance. Although the procedure before the EB of the KP Compliance Committee may be seen ‘among the non-compliance procedures, as the most similar to a judicial or arbitral one’ (see Chapter 2) and although in practice, a determination of non-compliance by the EB amounts to a determination of breach of an international obligation, the ultimate goal remains that of incentivizing compliance in the future rather than determining the legal consequences of the breach alone.516

These distinctions suggest that there are several reasons for why dispute settlement under the law of state responsibility may be an attractive option to an injured state. First, since compliance procedures serve a common interest and not the interests of a single state, an injured state cannot obtain redress through a compliance procedure. However, this may be of less relevance in the context of climate change. As will be demonstrated below, most claims for reparation are unlikely to succeed and sustainable claims are likely to benefit mankind as a whole rather than a single state. Yet, a claim could still be brought in the interest of a particular group of states, such as SIDs. Second, adjudication or arbitration would secure a legally binding decision. Third, cessation and reparation of the injury caused by an internationally wrongful act in the form of a declaration of wrongfulness, could provide an effective remedy and has the potential to restore the international legal order.

Chapter 3 has drawn a distinction between state liability and state responsibility and outlined the existing approaches to interstate liability in international law, concluding that none of those approaches can be relied upon with respect to climate change-related damage. Now, Chapter 5 seeks to explain how the international law of state responsibility can provide an effective legal framework for dealing with the injurious consequences of climate change by way of imposing responsibility on the state for acting in breach of its international obligations. Since no interstate cases have been brought to date before an international court or tribunal, some core lessons will be drawn from climate change claims litigated in domestic courts (Chapter 4) insofar as parallels can be made.

In order to enable the application of the rules of state responsibility in the climate change context, the relevant primary norms will be identified first. For this purpose, and pursuant to the distinction between developed and developing states reflected in the UNFCCC principle of common but differentiated responsibilities and respective capabilities, five groups of states will be singled out: (1) industrialized countries participating in the Kyoto Protocol; (2) EITs; (3) industrialized countries not participating in the Kyoto Protocol; and (3) developing countries. Treaty-based obligations on climate change mitigation and climate change adaptation as well as the customary obligation to prevent significant transboundary harm will be considered for each group of states (Section 5.2). Second, once the primary obligations have been determined, the origins of international responsibility for each group of states will be dealt with (Section 5.3). Third, the current chapter will address the content of state responsibility focusing on the legal consequences of the perpetrator state’s failure to live up to its international obligations pertaining to mitigation of, and adaptation to, climate change as well as prevention of harm (Section 5.4). Fourth, questions of implementation of the international responsibility of the state in breach of its international obligations will be tackled (Section 5.5), which will be followed by some concluding remarks (Section 5.6).

5.2 Climate Change and Origins of State Responsibility: Primary Obligations of States

As has been demonstrated in Chapter 2, the international climate change regime contains no liability mechanism of its own. Despite their enforcement dimension, compliance procedures and mechanisms envisaged under the KP are geared towards the future and are primarily aimed at encouraging ‘a non-complying State to return to compliance,’ and not to repair the injury caused by the wrongful conduct of a responsible state to the affected state. Albeit, in comparison with compliance regimes established under other MEAs, the KP compliance measures are the strongest, their nature is non-adversarial. Significantly, the application of the KP compliance procedures is limited to states that are party to the Protocol, which leaves out developing states and developed states not party to the KP. Thus,

517 See 1992 UNFCCC, preamble and Art. 3(1).
518 A separate section is devoted to the origins of the international responsibility of EITs due to their special position.
520 Loibl 2010, p. 435.
the only available framework for addressing internationally wrongful conduct, restoring the disrupted legal relation, and obtaining reparation for an international wrong is the law of state responsibility, which can provide interstate litigants with the necessary remedial mechanisms in the wake of an international breach. As Chapter 3 has shown, in the absence of primary rules governing liability for climate change-related damage, a state can only be held to account having committed an internationally wrongful act. In order to determine wrongfulness of a state’s conduct, it must be established whether the act in question is attributable to that state and whether that act constitutes a breach of the relevant primary obligation. Therefore, the first step is to identify the primary obligations imposed on states by the global legal framework for international climate policy and customary international law. The next step would then be to analyse the legal consequences of their breach under the secondary norms of state responsibility.

5.2.1 International Obligations on Climate Change Mitigation

Today’s international climate policy rests to a large extent on two pillars – mitigation and adaptation.\(^{521}\) Having considered the IPCC Fourth Assessment Report, the UNFCCC Conference of the Parties at its thirteenth session decided ‘to launch a comprehensive process to enable the full, effective and sustained implementation of the Convention through long-term cooperative action, now, up to and beyond 2012’ by addressing, inter alia (1) enhanced action on mitigation of climate change; and (2) enhanced action on adaptation.\(^{522}\)

An instrumental distinction to make in this context is that between industrialized and developing nations encapsulated in the UNFCCC’s principle of common but differentiated responsibilities and respective capabilities. The global legal framework for climate policy makes this differentiation between developed and developing countries due to the fact that the largest share of historical and current global emissions of GHGs has originated in developed countries, that per capita emissions in developing states are still relatively low and that the developing countries’ share of global emissions will continue to grow to meet their development needs.\(^{523}\) The UNFCCC captures the essence of the principle of common but differentiated responsibilities as follows:

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\(^{521}\) 1992 UNFCCC, Art. 4; see also Chapter 2.

\(^{522}\) *Bali Action Plan*, UNFCCC Decision 1/CP.13 (2007), especially para. 1(b) and 1(c); see also IPCC *AR4, Synthesis Report* (2007).

\(^{523}\) See the 1992 UNFCCC, preamble.
The Parties should protect the climate system for the benefit of present and future
generations of humankind, on the basis of equity and in accordance with their
common but differentiated responsibilities and respective capabilities. Accordingly,
the developed country Parties should take the lead in combating climate change
and the adverse effects thereof.\footnote{1992 UNFCCC, Art. 3(1).}

In other words, it is accepted that the entire international community has a
responsibility to mitigate climate change; however, different countries bear various
degrees of responsibility, which is determined by their historic and contemporary
contributions as well as their implementation capacity.

The UNFCCC’s ultimate objective is to stabilize GHG concentrations in the
atmosphere at a level that would prevent dangerous anthropogenic interference with
the climate system,\footnote{1992 UNFCCC, Art. 2.} which is achieved through mitigation. According to the
Copenhagen Accord and the Cancun Agreements, this objective must be interpreted
to mean that the increase in global average temperature is to be kept below 2°C
above preindustrial levels.\footnote{Copenhagen Accord, UNFCCC Decision 2/CP.15 (2009), para. 1; Cancun Agreements: Outcome of the work of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention, UNFCCC Decision 1/CP.16 (2010), para. 4.} In order to stabilize GHG concentrations in the
atmosphere, the UNFCCC imposes upon industrialized states (UNFCCC Annex I
parties) the common quantified target of returning their anthropogenic GHG
emissions to the 1990s levels by the end of the last decade of the twentieth century.
Albeit achieved, this target was not ambitious enough to stop climate change.
Therefore, it was agreed to supplement the Convention with a set of stricter
quantified targets for developed countries. Such new targets with a legally-binding
effect found manifestation in the 1997 Kyoto Protocol.\footnote{The need for revised targets was already recognized in 1995; see Berlin Mandate: Review of the adequacy of Article 4, paragraph 2(a) and (b), of the Convention, including proposals related to a protocol and decisions on follow-up, Decision 1/CP.1 (1995).} The revised target for
industrialized states provided for in the Kyoto Protocol aims at reducing their
overall anthropogenic emissions of GHGs by at least 5 per cent below 1990 levels
in the commitment period 2008-2012 and, in accordance with the KP amendment
adopted in Doha in 2012, by at least 18 per cent below 1990 levels in the
commitment period 2013-2020.\footnote{1997 KP, Art. 3(1) and Art. 3(1)bis: for KP amendment, see Outcome of the work of the Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol, FCCC/KP/CMP/2012/L.9 (UNFCCC decision number not available at the time of writing), 8 December 2012.} Additionally, the Kyoto Protocol assigns to
developed countries (KP Annex B parties) individual quantified targets that must likewise be achieved by 2012 and 2020, respectively.529

However, not all UNFCCC Annex I parties are also included in Annex B of the KP.530 On the basis of 1990 emissions, Annex B of the KP covered approximately 63.7 per cent of industrialised countries’ emissions. This is due to the fact that the US, a major emitter among developed states, is not party to the Protocol and therefore, is not bound by its provisions. In 1990, the US was responsible for about 32 per cent of all industrialized countries’ GHG emissions. By 2008, its share grew to approximately 39 per cent.531

In 2009, hopes were running high at the Copenhagen summit as COP15 negotiated towards an agreement that would provide for a comprehensive legally-binding emissions reduction strategy beyond 2012. At the end of the conference, which has widely been considered a failure, the COP took note of what is now known as ‘the Copenhagen Accord’ – a document without any binding force, which endorses the industrialized states’ commitment to implementing individually or jointly the quantified economy-wide emissions targets for 2020. Set at 25-40 per cent below 1990 levels by 2020 in accordance with the IPCC recommendations, the aggregate target for industrialized countries has been repeatedly recognized by the CMP.532 In Doha, it was agreed that industrialized countries taking on commitments under the second commitment period will revisit their commitments by 2014 and may increase their ambition in line with an aggregate reduction in GHG emissions of at least 25-40 per cent below 1990 levels by 2020.

Following Copenhagen, most industrialized and some developing countries subscribed to 2020 individual emissions reduction targets; however, those

530 In addition to the US, there are several other UNFCCC Annex I parties without KP Annex B targets. Due to its special circumstances recognized by the COP, Turkey is included in Annex I but not in Annex B. For Belarus, the amendment to Annex B concerning its emissions reduction target has not yet entered into force. Kazakhstan is party to the KP but does not have an emissions reduction target. Cyprus and Malta are EU member states but are not parties to the KP with a commitment inscribed in Annex B. On 15 December 2011, Canada, which in 1990 was responsible for about 3 per cent of developed states’ emissions, withdrew from the Protocol. In addition to Canada, the Russian Federation, Japan, and New Zealand have not taken on commitments under the KP second commitment period.
532 See Cancun Agreements: Outcome of the work of the Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol at its fifteenth session, UNFCCC Decision 1/CMP.6 (2010), preambulatory paragraphs; Outcome of the work of the Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol at its seventh session, UNFCCC Decision 1/CMP.7 (2011), preambulatory paragraphs; and Outcome of the work of the Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol, FCCC/KP/CMP/2012/L.9 (UNFCCC decision number not available at the time of writing), 8 December 2012, para. 7.
voluntary targets are not legally binding and cannot entail responsibility in case of a state’s failure to comply with them.\textsuperscript{533} Conversely, individual quantified emissions limitation and reduction commitments taken on by industrialized countries for the 2013-2020 commitment period in accordance with the amendment to the KP adopted in Doha in 2012 are binding, and non-attainment of those commitments will amount to a breach of an international obligation (see below).

Although the implementation of quantified targets by developed countries is an important element of mitigation of climate change, the UNFCCC’s approach to mitigation is broader and more inclusive. For example, it encompasses, \textit{inter alia}, conservation and forest management, development of energy efficiency, and promotion of alternative energy sources. Taking into account their common but differentiated responsibilities as well as specific development priorities, Article 4(1)(b) requires all states-parties to formulate, implement, publish and regularly update national and, where appropriate, regional programmes containing measures to mitigate climate change.\textsuperscript{534} However, the Convention imposes a further obligation to adopt national policies and take corresponding measures on the mitigation of climate change only on industrialized nations.\textsuperscript{535} Furthermore,\textsuperscript{536}

\begin{quote}
\[t\]he extent to which developing country Parties will effectively implement their commitments under the Convention will depend on the effective implementation by developed country Parties of their commitments under the Convention related to financial resources and transfer of technology and will take fully into account that economic and social development and poverty eradication are the first and overriding priorities of the developing country Parties.\textsuperscript{536}
\end{quote}

Thus, the developing states’ obligation to formulate climate change mitigation programmes is effectively limited and contingent on the financial resources and transfer of technology by the developed states who have taken the lead in the climate change mitigation process. Albeit the on-going economic and population growth in the developing world is increasing the developing countries’ share in the global GHG emissions, their \textit{per capita} emissions, are and, at least for some time, will continue to be, lower than those in industrialized countries. For this reason, developing states are indisposed to take on any legally binding mitigation

\textsuperscript{533} For a list of industrialized countries that have subscribed to 2020 GHG emissions reduction targets see <http://unfccc.int/home/items/5264.php> (last visited on 11 February 2011); a list of developing countries that have undertaken similar commitments can be found at: <http://unfccc.int/home/items/5265.php> (last visited on 11 February 2011); see also \textit{Copenhagen Accord}, UNFCCC Decision 2/CP.15 (2009).

\textsuperscript{534} 1992 UNFCCC, Art. 4(1)(b), see also 1997 KP, Art. 10(b).

\textsuperscript{535} 1992 UNFCCC, Art. 4(2)(a), see also 1997 KP, Art. 2(1)(a).

\textsuperscript{536} 1992 UNFCCC, Art. 4(7), emphasis added.
commitments. Nevertheless, following the conclusion of the Copenhagen Accord, a number of developing states have stated their intent of implementing nationally appropriate mitigation actions (NAMAs). The Kyoto Protocol does not impose on developing countries any commitments to reach quantified emissions reduction or limitation targets. Yet, since some of them are already contributing to the global mitigation effort, the UNFCCC states-parties have agreed that developing countries will continue to do so by taking NAMAs ‘supported and enabled by technology, financing and capacity-building’ provided by developed countries. The objective of NAMAs is to achieve ‘a deviation in emissions relative to ‘business as usual’ emissions in 2020.’ Thus, (1) the implementation of NAMAs by developing states is subject to developed countries’ support, which the latter are under an obligation to give, and (2) the contemplated emissions reduction or limitation by developing countries does not envision any legally binding quantified targets. It must be reiterated that developing states’ commitments to NAMAs have no legally binding force; their voluntary character is repeatedly emphasized in the Cancun Agreements, and failure to live up to them cannot entail state responsibility.

It is significant that under the UNFCCC and Kyoto Protocol, only industrialized countries are legally obligated to adopt national policies and take corresponding measures on the mitigation of climate change. Developing states are only bound by the general obligation to formulate national or regional programmes containing measures to mitigate climate change, whereas the obligation to implement such programmes is not binding and is further subject to the developed countries’ provision of technological, financial, and capacity-building assistance. Therefore, under the UNFCCC and KP, only developed states can potentially be held responsible for failure to adopt national policies and take measures on climate change mitigation. Once attributed to a particular industrialized state, such an omission can potentially constitute a breach of an international obligation thereby giving rise to an internationally wrongful act, which in turn would entail international responsibility of that state (see Section 5.3.1). Whereas in such a case attributability would pose no difficulties, the question of breach of the obligation to adopt national policies and take corresponding measures on mitigation must be

541 In particular, see Cancun Agreements: Outcome of the work of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention, Decision 1/CP.16 (2010), paras 48, 50, and 54.
addressed with care. In order to establish whether this obligation has been breached, it is essential to determine its nature and exact content. In this respect, the UNFCCC and Kyoto Protocol can provide some guidance.

First, the obligation to adopt national policies and take corresponding mitigation measures appears to be both an obligation of conduct as well as an obligation of result. It is an obligation of result because it requires that industrialized nations put mitigation policies and measures in place, which is a result in itself. It is also an obligation of conduct in that it prescribes a course of conduct towards the attainment of its ultimate goal, that of climate change mitigation. Further, this obligation is binding on each industrialized state individually. While mitigation of climate change is its overall objective, compliance with this obligation would not be assessed in relation to the result of stopping, or significantly reducing, climate change. Rather, a state’s conduct in adopting policies and taking mitigation measures would be measured against the standard of due diligence. However, reliance on due diligence in determining compliance with this obligation is controversial (see below).

Second, the obligation to adopt national policies and take corresponding measures on mitigation does not require industrialized states to mitigate climate change. Formulated in absolute terms, the obligation in question is only absolute in a procedural sense; it stops short of imposing an actual obligation to mitigate climate change. It has been argued that developed states may not even be required to exercise due diligence as long as they adopt some mitigation policies and measures.\(^{542}\) As to the content of those policies and measures, the UNFCCC only provides that industrialized countries must limit their anthropogenic GHG emissions and protect and enhance their GHG sinks and reservoirs;\(^{543}\) it offers no further explanation. The Kyoto Protocol requires that developed states implement and/or further elaborate policies and measures in accordance with their national circumstances and provides a non-exhaustive list of possible measures.\(^{544}\) In other words, states enjoy complete discretion in the choice of domestic policies and measures on mitigation. Such policies and measures need to be assessed so that a determination could be made of whether or not a given state has complied with its obligations on mitigation. National communications submitted to the UNFCCC Conference of the Parties may be relevant in this regard; however, they cannot be relied upon for the purposes of determination of a breach of an international obligation. Instead, review by the Conference of the Parties is directed at the adequacy of the measures taken pursuant to the UNFCCC provisions.\(^{545}\) Due to the

\(^{542}\) Lefeber 2012, p. 331.
\(^{543}\) 1992 UNFCCC, Art. 4(2)(a).
\(^{544}\) 1997 KP, Art. 2(1)(a).
\(^{545}\) 1992 UNFCCC, Arts. 4(2)(d), 7(2)(e), and 10(2)(b).
fact that the obligation to adopt policies and measures on mitigation does not
require industrialized states to mitigate climate change (or even to act diligently to
achieve this objective) and that the choice of such policies and measures is left to
the states’ discretion, it would be difficult to argue that a state has not complied
with its UNFCCC and Kyoto Protocol obligation on mitigation as long as it adopts
some policies and measures thereby conforming to the conduct prescribed.

Although the Kyoto Protocol does not obligate industrialized states to take
specific mitigation measures but merely proffers a number of possible options, it
imposes: individual quantified emissions reduction or limitation targets that are
legally binding and must be achieved by 2012 (the first commitment period) and by
2020 (the second commitment period). Non-attainment by a particular state of its
individual target will lead to a breach of an international obligation. Industrialized
countries are required to achieve their individual targets by domestic measures. The
KP market-based supplementary mechanisms, i.e. emissions trading (Art. 17), joint
implementation (Art. 6), and the CDM (Art. 12), provide an additional means for
countries to meet their targets.546

Since the Kyoto Protocol affords industrialized countries complete freedom in
the choice of measures towards the achievement of their emissions reduction or
limitation targets, the obligation on individual quantified emissions reduction or
limitation is an obligation of result, i.e. states’ quantified targets must be achieved
regardless of the exact means employed. The Kyoto Protocol’s quantified approach
also suggests that the industrialized states’ obligations on mitigation are of an
absolute character. Therefore, it would be relatively easy to determine whether a
breach has occurred because if a state does not live up to its quantified emissions
reduction or limitation target, it will have breached its international obligation
under the Kyoto Protocol. However, whether or not a state has lived up to its
emissions reduction or limitation targets under the first commitment period can be
assessed only after 2012.547 Taking into account the Kyoto Protocol reporting and
review procedures, in practice such an assessment would not take place before
2015 (see Chapter 2).

To recap, only industrialized states are required to adopt mitigation policies and
measures, however neither the UNFCCC nor the Kyoto Protocol specify the exact
content of those measures. Therefore, in practice it may be difficult to prove that a
developed state has breached its obligation to take mitigation measures as long as it
has taken some steps towards that end. Developing states are not legally bound to

546 See Chapter 2 for a detailed description of the KP market-based mechanisms.
547 Accordingly, non-attainment of emissions limitation and reduction commitments under the KP second
commitment period will not be assessed before 2020. Industrialized countries will also revisit their second
commitment period commitments by 2014.
take mitigation measures but they may do so by adopting NAMAs, the preparation and implementation of which must be enabled by technology and finance provided by developed countries.\textsuperscript{548} The Kyoto Protocol further imposes on industrialized countries an absolute obligation of result to achieve their respective quantified emissions reduction targets by 2012 under the first commitment period and by 2020 under the second commitment period. Cases of non-compliance will be addressed by the EB of the KP Compliance Committee.\textsuperscript{549} An international claim raising questions of responsibility may be simultaneously or subsequently submitted to a dispute settlement body.\textsuperscript{550} In the unlikely event of an injured state seeking reparation in the form of compensation, such a claim would have to be postponed until after the obligation to meet quantified emissions reduction or limitation targets is due, including the true-up period and the time necessary for the KP Compliance Committee to review country reports. However, if an injured state were to seek a declaration of wrongfulness, which, in combination with cessation of wrongful conduct, would effectively amount to an injunction, it would be sensible to bring a claim sooner than 2015. Yet, even a clear trajectory towards non-compliance, \textit{e.g.} a continuous significant increase in an industrialized country’s GHG emissions, cannot provide a legal basis for arguing that it has breached its obligations under the KP. Individual quantified emissions reduction or limitation targets are absolute obligations. Therefore, a possible breach cannot be assessed before the obligations are due, which in practice cannot happen before 2015, as explained above.

\section*{5.2.2 Obligations on Climate Change Adaptation}

A certain degree of global warming is inevitable regardless of how successful climate change mitigation efforts are.\textsuperscript{551} Adaptation addresses the adverse consequences of climate change that are taking place at the present time and aims at increasing mankind’s resilience to future impacts. Under the UNFCCC, all states are required to implement measures to facilitate adequate adaptation to climate change and cooperate in preparing for adaptation to its impacts.\textsuperscript{552} While successful mitigation is conditional on international cooperation, satisfactory adaptation can be achieved at the local level. However, as has been demonstrated in Chapter 1, climate change impacts are not uniform across the world and the worst effects will

\textsuperscript{548} See 	extit{Cancun Agreements: Outcome of the work of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention}, UNFCCC Decision 1/CP.16 (2010), para. 52.
\textsuperscript{549} See 1992 UNFCCC, Art. 14(2) and 1997 KP, Art. 19.
\textsuperscript{550} 1992 UNFCCC, Art. 14; on the relationship between the settlement of disputes and non-compliance procedures see Treves 2009.
\textsuperscript{552} 1992 UNFCCC, Arts. 4(1)(b), 4(1)(e).
be suffered in developing countries despite their relatively small historical contribution thereto. Developing states also have the least capacity to adapt to the injurious consequences of climate change. Therefore, international cooperation is necessary in order to finance global adaptation efforts and the central question is whether in undertaking those efforts industrialized countries are under any obligation to provide financial and technological assistance to developing states.

In principle, the UNFCCC and Kyoto Protocol require developed states to make available to developing countries financial resources for the development of adaptation policies and for the transfer of technology. However, industrialized states appear to be under no obligation to finance the actual costs of adaptation measures in the developing world. They are merely required to endeavour to make technology available to developing states and to assist developing countries that are particularly vulnerable to the adverse effects of climate change in meeting costs of adaptation to those adverse effects.

In 2007, the Bali Action Plan addressed enhanced action on adaptation including, inter alia, consideration of international cooperation. In 2009, the non-legally binding Copenhagen Accord stressed ‘the need to establish a comprehensive adaptation programme including international support.’ It reiterated the developed countries’ intention to ‘provide adequate, predictable and sustainable financial resources, technology and capacity-building to support the implementation of adaptation action in developing countries’ and stated that ‘new and additional, predictable and adequate funding as well as improved access shall be provided to developing countries […] to enable and support enhanced action’ on mitigation, adaptation, technology development and transfer as well as capacity-building. The following year, COP16 adopted a decision on enhanced action and international cooperation on adaptation. For those purposes, the Cancun Adaptation Framework was established as well as a process to enable LDCs ‘to formulate and implement national adaptation plans.’ Also, an Adaptation Committee was set up in order ‘to promote the implementation of enhanced action on adaptation […] under the Convention.’ Further, COP16 ‘requested’ developed countries to

553 Lefebre 2012, p. 326.
554 1992 UNFCCC, Art. 4(3) and 1997 KP, Art. 11(2).
555 1992 UNFCCC, Art. 4(3) & 4(4) and 1997 KP, Art. 11(2).
558 Copenhagen Accord, UNFCCC Decision 2/CP.15 (2009), paras 3, 8.
provide developing countries with ‘long-term, scaled-up, predictable, new and additional finance, technology and capacity-building [...] to implement urgent, short-, medium- and long-term adaptation actions, plans, programmes and projects at the local, national, subregional and regional levels, in and across different economic and social sectors and ecosystems.’ 561 At the same time, developed countries undertook a collective commitment of providing ‘new and additional resources [...] approaching USD 30 billion for the period 2010-2012, with a balanced allocation between adaptation and mitigation’ and with funding for adaptation being prioritized for the most vulnerable developing countries, such as LDCs, SIDs, and African states. 562 Since these short-term resources are intended for financing both adaptation and mitigation, the actual figure for adaptation efforts must be lower than the total. Also, this collective target is not translated into individual commitments. The non-binding language used in the Cancun Agreements (the COP ‘requesting’ industrialized states to make available finance and technology) and the collective pledge of funding point to the fact that developed states are under no individual legal obligation to provide financial resources to developing countries. Failure to follow up on the requests by the COP and on the collective commitments on adaptation financing set out in the Cancun Agreements cannot give rise to a breach of any individual international obligation by an industrialized state. Therefore, there is no legal basis for a finding of an internationally wrongful act and, consequently, state responsibility cannot be engaged.

According to Lefeber, a potential legal basis for holding industrialized countries liable for the financing of adaptation measures in developing states could be grounded in the polluter-pays principle, which is based on the assumption that the polluter is obligated to pay for the pollution it has caused. 563 This principle imposes the costs of the environmental harm on operators responsible for the pollution (see Chapter 3). 564 The polluter-pays principle is most easily applied in a geographical area subject to uniform environmental law, e.g. within one country or in the European Union; 565 however, it is unclear whether its cross-border

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562 Cancun Agreements: Outcome of the work of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention, UNFCCC Decision 1/CP.16 (2010), para. 95, emphasis added.
565 Kiss & Shelton 2007a, pp. 96-97.
application extends to imposing financial liability on the state within whose
territory the responsible polluter operates. In principle, it could be argued that since
the state can and must control operators’ activities within its territory, it should
require operators to internalize transboundary costs of their activities because
adaptation costs incurred in the developing world are aimed at the prevention of
damage caused by them in the first place. However, neither conventional law,
nor case law supports such broad application of the polluter-pays principle.
Therefore, industrialized countries’ failure to finance adaptation measures in
developing states cannot result in a breach of an international obligation and
therefore cannot give rise to state responsibility.

As far as the issue of technology transfer is concerned, industrialized countries are
not placed under an absolute obligation to transfer technologies to developing
nations. Under the UNFCCC, developed countries are required to ‘take all practicable steps’ to promote, facilitate and finance, as appropriate, the transfer of,
or access to, environmentally sound technologies and know-how’ to developing
countries to enable them to implement the provisions of the Convention. In
Cancun, industrialized states were encouraged to ‘undertake domestic actions […]
to engage in bilateral and multilateral cooperative activities on technology
development and transfer and to increase private and public research, development
and demonstration in relation to technologies for mitigation and adaptation.’
Developed nations cannot be obligated to provide technologies to developing
countries because private parties rather than states own the intellectual property
rights on most technologies. In terms of domestic regulation, industrialized states
may only be expected to invite private actors to make technologies available for the
purposes of transferring them to developing nations; however, they cannot make
this process compulsory. Several proposals on how to reconcile intellectual
property rights with the need to accelerate development and transfer of
technologies have been made by UNFCCC parties. At present, failure to transfer
technologies to developing states cannot result in a breach of an international
obligation and thus, cannot give rise to the international responsibility of an
industrialized state.

566 Lefeber 2012, p. 327.
568 Cancun Agreements: Outcome of the work of the Ad Hoc Working Group on Long-term Cooperative
Action under the Convention, UNFCCC Decision 1/CP.16 (2010), para. 116.
569 Ideas and proposals on paragraph 1 of the Bali Action Plan, revised note by the Chair,
FCCC/AWGLCA/2008/16/Rev.1 (15 January 2009), para. 129.
5.2.3 Obligation to Prevent Significant Transboundary Harm

It is submitted that states are under an obligation to take adequate measures to prevent transboundary damage from GHG emissions. This obligation is derived from the customary duty of states to ensure that activities within their jurisdiction or control do not cause transboundary damage.

The obligation not to cause transboundary damage originated in the Trail Smelter arbitration and is considered one of the foundational norms of contemporary international environmental law. In ruling that ‘under the principles of international law […] no State has the right to use or permit the use of its territory in such a manner as to cause injury by fumes in or to the territory of another or the properties or persons therein, when the case is of serious consequence and the injury is established by clear and convincing evidence,’ the Trail Smelter arbitral tribunal gave expression to an important primary rule of international law. The obligation to prevent transboundary damage stems from the concept of sovereign equality of states and prohibits states from causing significant harm in another’s territory thereby protecting their respective national interests.

This principle is reflected in state practice and has been incorporated in a number of international environmental legal instruments. For instance, it is reproduced as Principle 21 of the 1972 Stockholm Declaration on Human Environment and Principle 2 of the 1992 Rio Declaration on Environment and Development: ‘States have […] the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction.’ Kiss & Shelton have further traced the principle through the 2002 World Summit on Sustainable Development, the UN Charter of Economic Right and Duties of States, and the World Charter for Nature. They have further observed that the principle has been included in the 1982 Convention of the Law of the Sea, the 1985 Association of South East Asian Nations (ASEAN) Convention on the Conservation of Nature and Natural Resources, and the 1979 Geneva Convention on Long Range Transboundary Air

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570 Kiss & Shelton 2007a, p. 90.
572 Drumbl 2006, p. 86.
574 1982 UNCLOS, Art. 194(2).
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Pollution.\textsuperscript{576} It appears in the Convention on Biological Diversity\textsuperscript{577} and the UNFCCC preamble.\textsuperscript{578} The International Law Commission has relied on the no-harm principle in its recent work related to environmental law.\textsuperscript{579} and the International Court of Justice has repeatedly endorsed it in its judgments. In its advisory opinion on the \textit{Legality of the Threat or Use of Nuclear Weapons}, the ICJ declared that

The existence of the general obligation of States to ensure that activities within their jurisdiction and control respect the environment of other States or of areas beyond national control is now part of the corpus of international law relating to the environment.\textsuperscript{580}

The Court reiterated the significance of the obligation to prevent transboundary harm in the \textit{Gabčíkovo-Nagymaros Project} judgment citing the above passage from its advisory opinion.\textsuperscript{581} More recently, the obligation to prevent transboundary harm was reaffirmed by the ICJ in the \textit{Pulp Mills} case and by the ITLOS Seabed Disputes Chamber in its advisory opinion on responsibilities and obligations of states sponsoring persons and entities with respect to activities in the area.\textsuperscript{582} It can thus be concluded that the obligation to prevent transboundary harm is part of customary international law\textsuperscript{583} and as such, it is binding on all states and does not discriminate between developed and developing countries.

\textsuperscript{577} 1993 CBD, Art. 3.
\textsuperscript{578} Kiss & Shelton 2007a, p. 20.
\textsuperscript{579} Draft Articles on the Law of the Non-Navigational Uses of International Watercourses, ILC Report on the work of its 46th session, A/49/10, YILC, vol. II, Part Two (1994), Art. 7 (Obligation not to cause significant harm); 2001 Draft Articles on Prevention of Transboundary Harm from Hazardous Activities, Art. 3 (Prevention); Draft Articles on the Law of Transboundary Aquifers, ILC Report on the work of its 60th session, A/63/10, forthcoming in YILC (2008), Art. 6 (Obligation not to cause significant harm); see also Chapter 5.
5.2.3.1 Obligation to Prevent Transboundary Harm as a Duty of Due Diligence

The obligation to prevent transboundary harm can also be extended to damage caused by the emission of GHGs\(^{584}\) and its potential to require states to mitigate climate change is of particular consequence. The states’ duty to ensure that activities within their jurisdiction or control do not cause transboundary harm is a due diligence obligation and does not impose an absolute duty to prevent harm.\(^{585}\) Whereas prevention of transboundary damage is the objective of this obligation, it is not an obligation to achieve, in each and every case, the result of harm prevention. Rather, as a due diligence obligation of conduct, it is ‘an obligation to deploy adequate means, to exercise best possible efforts, to do the utmost, to obtain this result.’\(^{586}\)

States are required to exercise due diligence to achieve the objective of prevention of damage resulting from GHG emissions associated with activities within their jurisdiction or control. Compliance with the obligation to prevent transboundary harm necessitates the adoption, implementation, and enforcement of certain policies and measures. In its judgment in the *Pulp Mills on the River Uruguay* case, the ICJ has illustrated the meaning of the obligation to act with due diligence as follows:

> It is an obligation which entails not only the adoption of appropriate rules and measures, but also a certain level of vigilance in their enforcement and the exercise of administrative control applicable to public and private operators, such as the monitoring of activities undertaken by such operators […]\(^{587}\)


Thus, in fulfilling their due diligence obligation to prevent transboundary harm, states are under an obligation to take regulatory and enforcement measures towards compliance. With respect to climate change, states are obligated to adopt policies and measures preventing, limiting or reducing GHG emissions in order to comply with their general due diligence obligation to prevent transboundary damage resulting from those emissions.

As discussed in Section 5.2.1 above, the UNFCCC obligation to adopt policies and take corresponding measures on climate change mitigation (binding only on industrialized states) does not actually require that climate change is successfully mitigated. It leaves developed states with a great deal of leeway in the choice of measures to take. States are nonetheless bound by the customary obligation to prevent transboundary damage and are required to exercise due diligence to that end. As has been mentioned earlier, the obligation to prevent significant transboundary harm is binding on developed and developing states alike. In exercising due diligence, states are required to regulate public and private conduct in areas subject to their jurisdiction or control that may cause transboundary environmental harm. In the international climate policy context, this must be done through mitigation action that may or may not lead to significant transboundary harm prevention, however states must show due diligence in their endeavours to avoid it.

Now that it has been established that states are required to exercise due diligence in fulfilling their obligation to prevent transboundary harm resulting from GHG emissions, it is important to estimate the degree of due diligence associated with this obligation. The due diligence standard can be described from an objective and subjective point of view. Objectively, the degree of due diligence exercised by a state in order to prevent transboundary harm must not be ‘significantly less’ than the degree of diligence other states may be expected to exercise. Therefore, in principle, all states are required to be compatibly diligent in acting towards transboundary harm prevention. Subjectively, however, the degree of diligence due in a particular situation must depend on the circumstances of the case, available means, and the nature of protected interests. For example, the ITLOS recently recognized the possibility of different treatment of developed and developing states and that ‘the requirements for complying with the obligation to apply the precautionary approach may be stricter for the developed than for the developing sponsoring States;’ however, it also observed that what counts in a particular situation is ‘the level of scientific knowledge and technical capability available to a

588 Lefeber 2012, p. 335.
given State in the relevant scientific and technical fields." The subjective approach to GHG emission regulation in the international climate policy context is reflected in the UNFCCC and KP provisions on mitigation that distinguish between developing and industrialized states and rely on the principle of common but differentiated responsibilities and respective capabilities. Conversely, the special legal regime under the UNCLOS makes no such distinction and hence does not differentiate between the degrees of due diligence on the basis of levels of development. With respect to the international climate regime, it may be argued that the degree of due diligence to be deployed by industrialized states is not the same as can be expected of developing countries. This is not to suggest that developing states are freed from the obligation to act diligently for purposes of transboundary harm prevention but the subjective approach does seem to imply that the degree of due diligence countries must exercise corresponds to "an objective international standard for states with an equivalent level of prosperity."

It is also important to keep in mind that due diligence is a variable concept. It "may change over time as measures considered sufficiently diligent at a certain moment may become not diligent enough in light [...] of new scientific or technological knowledge." Thus, with the development of climate change science, the degree of due diligence required to meet the obligation to prevent transboundary damage from GHG emissions may increase for industrialized and developing states respectively. For example, if in 1990 scientists cautioned that there merely was "concern that human activities may be inadvertently changing the climate of the globe through the enhanced greenhouse effect," in 2007 they stated with "very high confidence that the net effect of human activities since 1750 has been one of warming," that most of the observed increase in global temperatures since the mid-20th century was "very likely" due to the increase in anthropogenic GHG concentrations, and that discernible human influences also extended to other aspects of climate (e.g. sea level rise, changes in weather patterns, heat waves, and heavy precipitation events). These scientific developments have inspired the advancement of the international climate policy and continue to inform the ongoing negotiations. The UNFCCC common quantified target of returning anthropogenic GHG emissions to the 1990s levels by the end of the last decade of the twentieth century, albeit achieved, turned out to be insufficient to prevent dangerous

591 1992 UNFCCC, Art. 3(1).
592 Lefeber 2012, p. 335.
anthropogenic interference with the climate system. Thus, what would have been considered diligent in the 1990s can no longer be regarded as diligent today as is evidenced by the new scientific data reflected in the IPCC reports, KP commitments undertaken by industrialized countries for the two commitment periods, and the current negotiations towards a new agreement.

Furthermore, the IPCC AR4 has shown that despite the current mitigation policies, global GHG emissions are growing and will continue to grow over the next few decades.\textsuperscript{596} This means that the industrialized countries’ commitments under the KP and Cancun Agreements and the developing countries’ NAMAs under the Cancun Agreements are no longer sufficient to prevent significant transboundary harm that will result from the changing climate unless more ambitious measures are taken. Therefore, it is submitted that the due diligence standard for significant harm prevention must be higher than what can be achieved under the current international climate policy.

5.2.3.2 Scope of the Obligation to Prevent Transboundary Harm

Bearing in mind the climate change mitigation potential of the obligation to prevent transboundary harm, its scope calls for further elaboration. It must first be noted that the obligation to prevent transboundary damage extends to all activities within a state’s jurisdiction or control and is not limited to hazardous activities which are regulated by a special set of rules.\textsuperscript{597} Hazardous activities are activities that have a high probability of causing significant transboundary harm or a low probability of causing disastrous transboundary harm.\textsuperscript{598} The emission of GHGs from a particular source is not hazardous \textit{per se} as global warming is caused by the accumulation of GHGs from multiple activities as well as gradual degradation of GHG sinks worldwide. Therefore, states must address the potential dangerous effects of GHG emission by regulating activities within their jurisdiction or control. By taking such regulatory measures, a state would exercise due diligence required of it by the obligation to prevent significant transboundary harm. Such measures derive from procedural and substantive duties associated with the obligation to prevent transboundary harm and are analysed in Section 5.2.3.3.

\textsuperscript{596} IPCC \textit{AR4, Synthesis Report}, Summary for Policymakers (2007), p. 72; see also Chapter 1.

\textsuperscript{597} 2006 Principles on the Allocation of Loss in the Case of Transboundary Harm Arising out of Hazardous Activities; see Chapter 4.

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Second, the scope of the obligation not to cause transboundary damage is such that it does not only apply to activities within a state’s territory but to any areas within its jurisdiction or control. That includes GHG emissions by marine vessels and aircraft flying its flag. The Kyoto Protocol provides for the reduction of GHG emissions in the aviation and marine transport sectors to be carried out through the ICAO and IMO, respectively. Both organizations have since taken steps towards improving fuel efficiency and sector-specific GHG emissions reduction. In its consolidated statement of policies and practices related to environmental protection, the ICAO, without attributing specific obligations to individual states and without prejudging the outcome of negotiations under the UNFCCC and KP, has undertaken to achieve a global annual average fuel efficiency improvement of 2 per cent until 2020 and an aspirational global fuel efficiency improvement rate of 2 per cent annually in the 2021-2050 period. The IMO’s Marine Environment Protection Committee (MEPC) has adopted a package of interim guidelines on specific technical and operational reduction measures to improve energy efficiency of ships. Both organizations are also working on the development of market-based mechanisms for industry-specific GHG emissions reduction.

5.2.3.3 Duties Stemming from the Obligation to Prevent Transboundary Harm

Structurally, the obligation to prevent transboundary damage is a composite one as compliance with it involves a variety of procedural and substantive duties. In

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600 1997 KP, Art. 2(2).
601 Consolidated statement of continuing ICAO policies and practices related to environmental protection – General provisions, noise and local air quality, ICAO Assembly Resolution A37-18 (2010), para. 1(c); Consolidated statement of continuing ICAO policies and practices related to environmental protection – Climate change, ICAO Assembly Resolution A37-19 (2010), preambulary paragraphs and paras 4-5.
602 IMO Marine Environment Protection Committee circulars: Interim guidelines on the method of calculation of the energy efficiency design index for new ships, IMO Marine Environment Protection Committee, MEPC.1/Circ.681 (17 August 2009); Interim guidelines for voluntary verification of the energy efficiency design index, IMO Marine Environment Protection Committee, MEPC.1/Circ.682 (17 August 2009); Guidance for the development of a ship energy efficiency management plan (SEEMP), IMO Marine Environment Protection Committee, MEPC.1/Circ.683 (17 August 2009); and Guidelines for voluntary use of the ship energy efficiency operational indicator (EEOI), IMO Marine Environment Protection Committee, MEPC.1/Circ.684 (17 August 2009).
603 See Consolidated statement of continuing ICAO policies and practices related to environmental protection – Climate change, ICAO Assembly Resolution A37-19 (2010), paras 13-18 and Ann.; for information on IMO initiatives see <www.imo.org/OurWork/Environment/PollutionPrevention/AirPollution/Pages/GHG-Emissions.aspx> (last visited on 12 September 2011).
604 Kiss & Shelton 2007a, p. 91.
acting diligently, a state must regulate activities within its jurisdiction or control through general measures or measures pertaining to the authorization of a particular activity. Among procedural duties, Lefeber lists assessment of the transboundary impact of a particular measure;\(^{605}\) notification of potentially affected states; exchange of information with the states involved; consultations and negotiations with those states; and the monitoring of transboundary environmental impacts throughout the implementation stage of the relevant measure.\(^{606}\) Given the fact that GHG emissions from a particular source contribute to global climate change that may potentially affect the entire international community, including the source state, states that are likely to be affected have the right to demand that other states comply with their implementation duties. Recently, the Federated States of Micronesia made use of this right.

In a letter to the Ministry of the Environment of the Czech Republic dated 4 January 2010, the government of the Federated States of Micronesia expressed its concern over the plan for the modernization of the lignite-fired power plant Pruněřov II.\(^{607}\) An Environmental Impact Assessment (EIA) of the proposed modernization plan had been made but it did not take into account the transboundary impact of the project. The Federated States of Micronesia requested that the Czech Ministry of the Environment issue a negative final statement on the EIA of the plan. Micronesia stated that the Pruněřov modernization plan was in substantial conflict with the applicable EU and Czech law. In Micronesia’s view, Pruněřov, being one of the largest single sources of GHG emissions in the world and the largest one in the Czech Republic, contributed significantly to climate change and its serious environmental impacts could affect the territory of the Micronesian state. Micronesia underscored that it was particularly vulnerable to the dangerous impacts of climate change, particularly flooding, and that Pruněřov could dangerously affect its environment by contributing to the accelerated sea-level rise. On 1 February 2010, the Czech Minister of the Environment decided to submit the project for independent international assessment without any explicit mention of Micronesia’s request.\(^{608}\) Yet, the subsequent EIA of the project that the Minister accepted on 29 April 2010 did not take into account its transboundary

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605 See Micronesia’s challenge to the Pruněřov plant modernization plan *infra*.

606 Lefeber 2012, p. 335.


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Incidentally, this happened shortly after the ICJ ruling in the *Pulp Mills on the River Uruguay* case, in which the Court referred to

[...] a practice, which in recent years has gained so much acceptance among States that it may now be considered a requirement under general international law to undertake an environmental impact assessment where there is a risk that the proposed industrial activity may have a significant adverse impact in a transboundary context, in particular, on a shared resource. Moreover, due diligence, and the duty of vigilance and prevention which it implies, would not be considered to have been exercised, if a party planning works liable to affect the régime of the river or the quality of its waters did not undertake an environmental impact assessment on the potential effects of such works.610

Although the *Pulp Mills on the River Uruguay* judgment concerned a specific situation submitted to the Court, reference to the customary status of the requirement to make an EIA in a transboundary context is significant; in its absence, the duty of due diligence cannot be considered fulfilled. The following year, the ITLOS also confirmed that the obligation to conduct an EIA was a general obligation under customary international law.611

Substantive duties stemming from the composite obligation to prevent transboundary damage are largely determined by the source of damage.612 In order to prevent significant transboundary harm associated with climate change, states are required to exercise due diligence by way of taking mitigation action in the form of aggregate emissions reduction. Limiting GHG emissions may involve the use of the cap and trade mechanism, carbon capture and storage or the use of the best available technology (BAT) standard by major single emissions sources.

The latter standard is of relevance to Micronesia’s challenge of the Prunéřov modernization plan. Whereas Micronesia did not contest the modernization project per se, it demanded that the BAT standard be used for the Prunéřov modernization as set out in both the EU and Czech legislation on net energy efficiency of new power plants, which requires a minimum of 42 per cent net energy efficiency for a new power plant while the EIA proposed only 38 per cent. Micronesia expressed its concern over this discrepancy and questioned whether the renovation of Prunéřov was not in fact a new construction, which would be subject to higher limits of

efficiency than reconstruction projects. Although, as has been mentioned earlier, the EIA accepted by the Czech Minister of the Environment included no transboundary impact assessment, its approval was subject to a condition aimed to compensate the use of ‘technology with lower effectiveness than that of the best available techniques.’ In fact, the compensatory measures proposed and eventually accepted ‘will not only attain, but even exceed by 84 %, the required savings of greenhouse gases.’ It must be clarified that while the use of technology with lower effectiveness than the BAT in combination with certain compensatory measures may have been justified by the Minister of the Environment with respect to the modernization of an existing plant, the Czech Environmental Ministry does not appear to contest the fact that the approval of new plants construction proposals must be determined by the BAT standard. The Minister’s decision to subject the Prunéřov modernization project to the requirement to take compensatory measures to counterbalance the use of inferior technology seems to signify the implicit intention of the Czech Republic to exercise due diligence in abiding by the duty to prevent significant transboundary harm.

5.2.3.4 Significant Harm Requirement

The obligation to prevent transboundary harm is qualified by the degree of actual or potential damage: it only requires states to prevent transboundary harm that is significant. To quote the ILC, ‘[t]he ecological unity of the planet does not correspond to political boundaries [and i]n carrying out lawful activities within their own territories, States have impacts on each other. These mutual impacts, so long as they have not reached the level of “significant,” are considered tolerable.’ Thus, some level of transboundary harm, as long as it is not significant, is acceptable.

Chapter 1 has described the observed and projected changes in climate and their impacts. It has been concluded that many of those impacts are having, and will

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continue to have, devastating effects, particularly in the developing world. The magnitude of those injurious impacts will vary and may be significantly reduced depending on the effectiveness of mitigation and adaptation measures and the rate of the global average temperature change; however, the injurious consequences of climate change cannot be eliminated entirely. The types of harm associated with those impacts include loss of land and livelihoods due to the rising sea levels and consequent displacement of persons and/or mass migration, damage from extreme weather events and changes in water availability patterns (e.g. floods, droughts, storms, hurricanes), negative impacts on human health and food sources associated with the global temperature rise (e.g. malnutrition and food shortages due to decreases in crop productivity, increased burden from infectious diseases), and damage to ecosystems.

It is submitted that climate change damage – be it damage to the environment or human health, loss of territory or damage to crops, loss of biodiversity or wide-ranging damage to economic interests – falls within the protective scope of the obligation to prevent significant transboundary harm. The actual occurrence of damage is not required as long as it can be shown that a state’s acts or omissions have the potential of resulting in such damage and, according to the IPCC Fourth Assessment Report, climate change damaging impacts are imminent and cannot be underestimated.

The significance requirement for transboundary damage is well-established in international environmental law. However, there are no strict criteria for determining the exact threshold of significant harm. The concept of a threshold of damage was introduced in the Trail Smelter case, which referred to injury of ‘serious consequence.’ Following that decision, sensitivity of the international community to transboundary environmental damage has undergone considerable changes. The ILC has defined significant damage as something more than detectable or appreciable, but not necessarily serious or substantial. According to that understanding, the harm must lead to a real detrimental effect on human health, industry, property, environment or agriculture in other States and such detrimental effects must be susceptible of being measured by factual and objective standards.

619 Lefeber 2012, p. 338.
620 See Chapter 1.
621 See, e.g. Handl 2006; Lefeber 2012.
This is a reflection of the *de minimus* approach to the determination of the threshold. Another approach involves case-by-case assessment of all economic, social, and environmental circumstances and proposes taking into account all interests involved by ‘balancing the socio-economic utility of an activity against its detrimental environmental effects.’ Such a threshold requirement balances the right of states to develop against the obligation to prevent transboundary damage.

With respect to climate change damage, the accepted increase in global temperature of not more than 2°C above pre-industrial levels can be helpful in determining the significance-of-harm threshold. Throughout the UNFCCC negotiating process, states have acknowledged the fact that a lesser global temperature rise will still result in a certain degree of climate change-associated harm. However, the international community has agreed to tolerate the extent of damage associated with the global temperature increase of less than 2°C. Anything above this level would amount to *significant* harm. In the absence of binding GHG emissions reduction targets reaching beyond 2012, the global temperature rise will reach, and possibly exceed, the 2 degree threshold by the end of this century. Thus, the potential additional harm resulting from climate change must be considered significant.

The ILC has observed that while a certain ‘deprivation at a particular time might not be considered ‘significant’ because scientific knowledge or human appreciation at that specific time might have considered such deprivation tolerable,’ that view may later change and ‘the same deprivation might then be considered ‘significant damage.’ In this regard, it is of consequence that the UNFCCC Conference of the Parties has recognized the need to revise the long-term goal for the acceptable global temperature increase, including in relation to the proposed target of 1.5°C. Whether or not this revision is put into practice, states must at the very least take mitigation action in order to prevent harm associated with a global temperature rise of more than 2°C.

The obligation to prevent transboundary harm could be relied upon in contesting the respondent state’s failure to take adequate mitigation action in

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*Allocation of Loss in the Case of Transboundary Harm Arising out of Hazardous Activities, ILC Report on the work of its 58th session, A/61/10, forthcoming in YILC, commentary to Principle 2, para. 2.*


*626* [IPCC AR4, Working Group I Report: The Physical Science Basis, Summary for Policymakers (2007), pp. 13-14; see also Chapter 1.](#)


*628* [Cancun Agreements: Outcome of the Work of the Ad Hoc Working Group on Long-Term Cooperative Action under the Convention, UNFCCC Decision 1/CP.16 (2010), para. 4.](#)
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general and in challenging a single major emissions source in terms of its contribution to global warming. The potential of the obligation to prevent significant transboundary harm can be inferred from Micronesia’s challenge to the Pruněřov plant modernization plan. Micronesia accepted the fact that Pruněřov’s share of the global GHG emissions was ‘only’ 0.0161 per cent and that the plant did not ‘directly cause sea-level rise, change weather patterns and increase storms.’ It pointed out, however, that there were 5000 lignite-fired power plants worldwide and each of them accelerated climate change by contributing to total global CO₂ emissions. In fact, Micronesia demanded a transboundary EIA precisely because Pruněřov’s serious environmental impacts could affect its territory if only by contribution.

5.2.3.5 Causal Link

In bringing a claim based on an allegation of breach by the respondent state of the obligation to prevent significant transboundary harm through the emission of GHGs, the claimant state would have to overcome a number of legal obstacles, and causal proof may present a particularly large challenge. In being contingent on the occurrence of actual or potential harm, the obligation to prevent significant transboundary damage requires that there be a causal link between GHG emissions and climate change damage. Assuming the existence of a general causal link between anthropogenic GHG emissions and global warming (see Chapters 1-2), the claimant state would have to show that (a) there is a causal connection between global warming and particular damaging effects of climate change and (b) to what extent GHG emissions originating from the respondent state are responsible for global warming, i.e. the extent to which global warming can be attributed to a given state. It may be difficult to attribute global warming to a particular state because the contribution of other states would have to be taken into account. Since at present not a single state is carbon-neutral, the contribution of the claimant state would have to be considered too. Further, it is submitted that the exact

629 Viewpoint of the Federated States of Micronesia on the complex renovation of Pruněřov II power plant 3x250 MWe plan, letter of 4 January 2010 from the Director of the Office of Environment and Emergency Management of the Federated States of Micronesia to the Ministry of the Environment of the Czech Republic.
630 Lefeber 2012, p. 338; see also Lefeber 1996, p. 89.
631 So far only the Maldives has announced its intention of becoming carbon-neutral by 2020; pledges of carbon neutrality have also been made by Bangladesh, Barbados, Bhutan, Ghana, Kenya, Kiribati, Nepal, Rwanda, Tanzania, and Vietnam, see Declaration of the Climate Vulnerable Forum, Malé, Maldives (10 November 2009), available from: <http://daraint.org/wp-content/uploads/2010/12/Declaration-of-the-CVF-FINAL2.pdf>.
standard of proof would vary depending on whether actual or potential harm is alleged as well as on the remedy sought.

For instance, if the respondent state is challenged for failure to prevent *actual* harm, the claimant state could seek reparation in the form of compensation as in the context of climate change restitution would likely be impossible (see Section 5.4). As described in Chapter 3, proof of a causal link between the wrongful act of a state and the damage suffered is necessary in order for the obligation to make reparation for injury to arise (see also Section 5.4). With regard to climate change-related damage, the claimant state would have to prove that the respondent state’s failure to take adequate mitigation measures has led, or contributed to, climate change. The claimant state would then need to prove the causal connection between GHG emissions originating in the respondent state and their contribution to climate change on the one hand, and the link between climate change and a particular event, which caused the harm complained of, on the other. Given the current state of the climate change science (see Chapter 1) and the global acceptance of the linkage between anthropogenic emissions and the warming effect (see above), proving that the emission of GHGs in a particular state contributes to causing the climate to change would not be difficult. However, showing that climate change has caused a particular extreme weather event, such as a hurricane or a drought, to occur may present considerable problems. Proving causation in this instance would place on the claimant state a serious evidentiary burden as it would require the admission of statistical evidence, which has not been the practice of international courts. The study of the practice of domestic courts in dealing with allegations of actual harm in claims for compensation has also revealed considerable causal proof difficulties (see Section 4.2.3.3). This finding could be indicative of a general principle of law and, as such, could be seen as corroborating the conclusion that proving the causal link for the purposes of obtaining compensation for actual harm may be an insurmountable hurdle also for a claimant state.

It is submitted that it may be easier for the claimant state to establish a causal connection between climate change and a slow onset event. The types of harm that result from slow onset events include, *inter alia*, loss of sovereign territory due to the rising sea levels, loss of fisheries to ocean acidification, and loss of productive land due to desertification. Slow onset events are gradual in occurrence, often permanent in character, and the link between such events and the warming of the

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632 The suitability of Satisfaction in the climate change context is also dealt with in Section 5.4.
633 E.g. neither the ICJ Rules of the Court nor the PCA Rules of Procedure contain any provisions on the admissibility of statistical evidence.
climate system is supported by science. However, due to the rigours of the *causa proxima* test required for the obligation of reparation to arise, it may still be a challenge (see Section 5.4). Lack of success in litigating compensation claims domestically seems to point in the same direction as plaintiffs have been unable to overcome causal challenges regardless of whether the harm complained of was due to an extreme weather event (*e.g.* Comer) or a slow onset event (*e.g.* Kivalina).

Additionally, even if the claimant state is able to show that GHG emissions from the respondent state contribute to global warming, which, *inter alia*, causes the sea levels to rise, which, in turn, leads to loss of territory in the claimant state, retroactivity may pose additional challenges as the law of state responsibility provides a guarantee against retroactive application of international law. Due to the cumulative effects of climate change, the claimant state would have to demonstrate that all of the respondent state’s emissions since the Industrial Revolution must be taken into account; consideration of GHG emissions released since the time of availability of scientific evidence on global warming alone would be insufficient. The IPCC AR4 has shown that the global effect of human activities dates back to the 1750s and that that effect has been one of warming. The international community is in agreement on that as well, as is evidenced by the near-universal ratification of the UNFCCC. To avoid the assumption of retroactive liability, the respondent state would likely propose introducing a cut-off date so that only the emissions from a particular time period are taken into account. The respondent state could argue that it could only be held responsible for the harm caused after it knew or could have been expected to know about the connection between GHG emissions and the injurious effects of climate change. For instance, 1992, the year the UNFCCC was agreed upon, could serve as such a date or 1994, the year the Convention entered into force, or the year the UNFCCC entered into force for the party concerned. Recalling the gradual and cumulative character of climate change, it could be difficult to conclude that GHG emissions released between the cut-off date and the present time have alone been capable of causing global warming and the harm stemming from it. For about 200 years since the beginning of the Industrial Revolution, anthropogenic GHG emissions did not cause any major problems but recent emissions may have pushed the Earth’s climate over the threshold. The claimant state could thus argue that the role of incremental emissions should be taken into account. Even so, given the

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637 See, in particular, reference to ‘historical global emissions’ in the 1992 UNFCCC preamble.
638 See also Chapter 4 on cut-off dates in domestic claims.
639 Farber 2008, p.10524.
640 See Chapter 3.
prohibition against retroactivity and the difficulties with proving causation, it appears unlikely that an interstate claim for compensation for actual harm suffered can be sustained. Domestic practice, too, appears to be in line with this finding. Albeit courts have not explicitly dealt with retroactivity in the climate change context, they have indicated that they perceived the issue as problematic, and there is little doubt as to the general-principle-of-law status of the prohibition against retroactivity.641

Yet, historical counterarguments against retroactivity cannot be used to avoid responsibility altogether. The claimant state may choose to base its claim on breach of the obligation to prevent potential harm and seek cessation of wrongful conduct. It has been argued that in practice, cessation would amount to injunctive relief. In other words, to cease non-compliance with the obligation to prevent transboundary harm, the respondent state would need to start taking adequate mitigation measures, thereby exercising due diligence required of it by the obligation to prevent. In assessing the adequacy of mitigation measures, the principle of common but differentiated responsibilities and respective capabilities would need to be taken into account. For example, the level of adequacy of mitigation measures for a small developing state would be different from that to be expected of the US.

It would suffice for the claimant state to show that GHG emissions originating in the respondent state are capable of causing harm through a slow onset event or an extreme weather event. Thus, the evidentiary hurdles associated with proving causation between global warming and extreme weather events could also be overcome. The claimant state would have to prove that GHG emissions from the respondent state are, by way of their contribution to global warming, capable of: causing its territory to disappear because of the rising sea levels, causing its land to become unproductive due to desertification, or causing damage to its property through a hurricane or a flood. In other words, the claimant state would need to show that the respondent state’s emissions are capable of causing foreseeable harm in the future. IPCC reports could be relied upon for arguing that the various types of harm caused by slow onset events or extreme weather events alike are objectively foreseeable. This finding is not only relevant to slow onset events but also to extreme weather events because it appears to suggest that the standard of proof for demonstrating the causal link in injunctive relief claims is lower than that in compensation claims. It should be noted that domestic claimants for injunctive relief have enjoyed a fair amount of success with proving causation. Although claims for injunctions have yet to be decided on the merits, successful demonstration of causation-as-an-element-of-standings seems to be indicative of a

standard of proof that is lower than the one involved in compensation claims based on allegations of actual harm.

The claimant state could also allege a breach by the respondent state of certain procedural duties stemming from the obligation to prevent transboundary harm, i.e. the duty to prepare an EIA of a particular project, the duty to inform the states likely to be affected or the duty to consult and negotiate with the affected states. Micronesia’s challenge has demonstrated that although a single GHG emissions source such as Pruněrov cannot be considered to cause sea level rise or increase storms directly, its contribution to the global emissions is sufficient to necessitate a transboundary EIAs, without which due diligence cannot be considered to have been exercised. This seems to suggest that in order to substantiate breaches of procedural duties, it is sufficient to show that the emissions from a particular source are capable, by way of contribution, of causing significant harm in the claimant state. This conclusion is also supported by numerous decisions from domestic jurisdictions. A careful consideration of procedural injury claims has shown that the causal link, both general and specific, has not been a major challenge for plaintiffs, and courts have frequently accepted it.

5.3 Origins of the International Responsibility of States for Climate Change-Related Damage

In the climate change context, states could incur international responsibility for breaches of their treaty obligations on mitigation as well as obligations under customary international law. The following section explores the possibilities of imposing international responsibility for climate change-related damage on heavily emitting states. Options presently available to the claimant state would differ depending on the origins of the international responsibility of the respondent state, i.e. the primary obligation breached, and on (a) whether or not the perpetrator state is a party to the Kyoto Protocol and, taking into account the principle of common but differentiated responsibilities, (b) whether the respondent state is an industrialized or a developing country. Section 5.3.1 addresses the origins of the international responsibility of industrialized states party to the Kyoto Protocol and Section 5.3.2 deals with the origins of the international responsibility of EITs. Section 5.3.3 focuses on the international responsibility of industrialized countries not party to the KP; and, finally, Section 5.3.4 describes the responsibility of developing states.

At the outset, the relationship between the customary obligation to prevent significant transboundary harm and the conventional obligations on mitigation must
be clarified. In international law, whenever multiple norms deal with the same subject matter, the more specific norm is given priority. Assuming that the rationale behind the maxim *lex specialis derogat legi generali* is for the special rule to be more concrete in a particular context (climate change in the case at hand), it is submitted that conventional international obligations on climate change mitigation do not constitute *lex specialis* in respect of the duty to prevent significant transboundary harm (see Section 3.2.2.1). Rather, the duty to prevent and international obligations on climate change mitigation coexist in parallel. The UNFCCC is a political framework agreement whose objective is to prevent dangerous anthropogenic interference with the climate system. The Convention does not impose any obligations on the participating states directed at the prevention of transboundary harm; it merely contains the common target of returning GHG emissions to 1990 levels by the end of the 20th century. The KP, it is argued, does not provide for more specific rules on harm prevention either. A political agreement, it spells out industrialized states-parties’ mitigation commitments in the form of quantified emissions limitation or reduction targets, which, again, are not directed at transboundary harm prevention. It is therefore submitted that states with quantified targets under the KP are also bound by the customary no-harm rule and breach of the duty to prevent can be measured against the state’s compliance with the KP (see Section 5.3.1). This is also in line with the principle of harmonization, in accordance with which several norms bearing on the same issue should, insofar as it is possible, be interpreted as to give rise to a single set of compatible obligations, and general law will continue to apply in situations not provided for by the special rule. Thus, the obligation to prevent significant transboundary harm will be binding on industrialized states with commitments under the KP.

5.3.1 Origins of the International Responsibility of Industrialized States Party to the KP

Under the international climate change regime, industrialized states have accepted more stringent commitments than those applicable to all states-parties. Industrialized countries are bound by a wide range of substantive and procedural

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commitments related to climate change mitigation and adaptation, which include enactment and coordination of policies and measures to mitigate climate change, achievement of quantified targets within a specific time-frame, consideration of specific needs of developing countries vulnerable to climate impacts in providing new and additional financial resources, and transfer of technology and capacity-building, and reporting all of the above in a transparent and verifiable manner. The Kyoto Protocol prescribes individual quantified emission limitation and reduction commitments for industrialized countries. It also requires that, in achieving these commitments, developed countries implement and further elaborate policies and measures related to climate change mitigation. Failure to live up to emissions limitation and reduction commitments will trigger the KP compliance procedure, which is designed not only to promote return to compliance, but also to ensure that the defaulting state does not take advantage of defaulting (see Chapter 2, Section 2.2.2.2).

Canada provides an interesting example. When still party to the KP, it publicly declared that it did not intend to meet is emissions reduction target under the Protocol. Led by the Liberal government, Canada played an active role in the KP negotiations and committed itself to a 6 per cent target: it must reduce its emissions to 94 per cent of 1990 levels by 2013. The federal elections of 2006 changed the political climate in the country resulting in a minority government led by the Conservative Party. GHG emissions have been rising steadily and by 2007 increased 26.2 per cent above 1990 levels and 33.8 per cent above Canada’s Kyoto target. That year, the Canadian government unveiled ‘Turning the Corner: An Action Plan to Reduce Greenhouse Gases and Air Pollution’ that prescribed new mandatory industrial emissions reduction targets. The target set by the Action Plan was to reduce emissions by 20 per cent by 2020 and 60 to 70 per cent by 2050, using 2006 as the reference year. Needless to say, this new goal was at odds with the Canadian reduction target under the KP. Although the Parliament rejected the

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645 1997 KP, Art. 3.
646 1997 KP, Art 2.
Action Plan and adopted the Kyoto Protocol Implementation Act, which is being implemented through a Climate Change Plan, Canada will still not achieve its KP reduction target.649

In 2008, the Canadian government’s inaction was challenged in a domestic court by the local branch of the *Friends of the Earth* civil society organization.650 The court, however, refused judicial review of the government’s response to Canada’s international obligations under the KP. More recently, the Canadian government announced its commitment to reduce its GHG emissions by 17 per cent below 2005 levels by 2020.651

On 15 December 2011, Canada withdrew from the Kyoto Protocol. The withdrawal took effect one year later pursuant to Article 27(2) of the KP, which provides:

*Any [...] withdrawal shall take effect upon expiry of one year from the date of receipt by the Depositary of the notification of withdrawal, or on such later date as may be specified in the notification of withdrawal.*

Therefore, as of 15 December 2012, Canada was no longer bound by the KP provisions. The first commitment period under the KP ended on 31 December 2012, which means that Canada’s withdrawal was effected only 16 days prior to that.

The timing of Canada’s withdrawal raises a number of questions. First, it can be argued that Canada has acted in contravention of the pacta sunt servanda principle reflected in Article 26 of the Vienna Convention on the Law of Treaties, which provides that ‘[e]very treaty in force is binding upon the parties to it and must be performed by them in good faith.’652 The fact that Canada withdrew from the KP two weeks before its obligation to meet its individual emissions target was due seems to point to the lack of bona fide intention to fulfil its emissions reduction obligations under the Protocol. In the alternative, Canada could have chosen (but did not) to purchase emissions credits on the international carbon market to compensate for its growing emissions and thus achieve compliance. Second, Canada’s late withdrawal from the KP raises proportionality concerns. Since Canada must be considered bound by the KP provisions until 15 December 2012, it

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650 *Friends of the Earth – Les Ami(e)s de la Terre v. The Governor in Council and The Minister of the Environment*, 2008 FC 1183, 20 October 2008; see Chapter 4.


seems unbalanced that it should be altogether excused from its emissions reduction commitments – an obligation of result due by the end of a 4-year commitment period. It is submitted that, given its withdrawal, Canada must only be considered free from its Kyoto obligations for the last two weeks of 2012, and not for the entire 2008-2012 period. Therefore, Canada’s original assigned amount target should be recalculated to reflect the two-week difference. This new target would only be fractionally lower, and Canada could still be held accountable under the law of state responsibility for its failure to meet it. Third, irrespective of whether or not Canada is considered to be bound by its revised quantified emissions reduction target that, as suggested earlier, would be due on 15 December 2012, it can be argued that it is still under an obligation to comply with the methodological and reporting requirements under the Protocol at least for the period preceding 15 December 2012 (see Chapter 2). This means that Canada would still be under an obligation to submit its annual national inventory containing information on GHG emissions, including methodologies used to estimate these emissions, as well as a national communication for 2012 (covering the period until 15 December 2012) containing, *inter alia*, information on: national GHG emissions and projections, mitigation policies and measures, vulnerability and adaptation to climate change, and financial assistance and technology transfer to non-Annex I parties.

Overall, the Compliance Committee EB can only assess the non-compliance of industrialized states with their targets under the KP after 2012 and, taking into account the KP reporting and review procedures, its non-compliance will not be established before 2015. The FB could exercise its early-warning function before the end of the first commitment period and provide advice to promote compliance. In 2012, the FB tried to exercise its early-warning function with regard to Canada’s potential non-compliance. On 9 February 2012, the FB chairperson sent a letter to Canada offering it an opportunity to respond to the concerns raised by the ERT. On 16 May 2012, Canada responded that on account of its notification of withdrawal from the KP, further engagement with the FB would be of little value, and the FB concluded its consideration of the matter.

At present, it is impossible to determine whether an industrialized country has breached its emissions reduction obligations under the KP. Additionally, despite the laxity of domestic policies and measures and the government’s expressed reservations, industrialized countries could still purchase emission credits on the international carbon market to ensure their ultimate compliance with the Protocol. The inventories for the last year of the first commitment period are not due before

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653 Lefeber & Oberthür 2010, p. 137; see also Chapter 2.
654 *Annual report of the Compliance Committee to the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol*, FCCC/KP/CMP/2012/6 (8 November 2012), paras 72-74.
15 April 2014, and ERTs will have up to one year to review them, which will be followed by a 100-day true-up period. During this additional period, developed countries party to the Protocol could still make use of the option to fulfil their commitments as they may ‘continue to acquire, and other Parties may transfer to [them], emission reduction units, certified emission reductions, assigned amount units and removal units under Articles 6, 12 and 17 of the Protocol, from the preceding commitment period’ provided their eligibility has not been suspended by the EB. Therefore, an interstate claim to secure an industrialized state’s compliance with the KP would have to be dismissed because the obligation to meet the reduction targets is not due before 2015.

Industrialized countries party to the KP, including Canada, could also be challenged for not living up to their customary duty to prevent significant transboundary harm. Canada is under an obligation to ensure that activities within its jurisdiction or control do not cause transboundary harm. It must exercise due diligence directed at significant transboundary harm prevention. It could be argued that upon becoming a party to the KP and undertaking quantified emissions reduction commitments, Canada implicitly recognized that reaching the GHG emissions reduction target would be equivalent to acting diligently in endeavouring to prevent significant transboundary harm resulting from climate change. Its current GHG emissions trajectory and recent withdrawal from the KP suggest that Canada is anything but exercising due diligence for the purposes of significant harm prevention. It is thus submitted that Canada has acted in breach its international customary duty to prevent significant transboundary harm.

Should Canada’s endeavours to prevent climate change-related damage resulting from its GHG emissions be found inadequate under the due diligence standard, the next step would be to establish the causal link between Canada’s emissions, climate change, its manifestations (e.g. the rising sea levels or extreme weather events), and the actual and/or potential damage because the duty to prevent is contingent on the actual or potential occurrence of harm. While, for the purposes of obtaining reparation, it would be relatively easy to prove that anthropogenic GHG emissions originating in Canada contribute to the global climate change, the causal link between climate change and some of its damaging effects, such as extreme weather events, is less straightforward (see Chapter 1). Establishing such a link may necessitate the admission of statistical evidence (see Section 5.2.3.5 above). The chances of substantiating a claim for reparation of Canada’s breach of the obligation to prevent significant transboundary harm may be higher when the damage is manifested through the rising sea levels and ocean acidification as it

655 Procedures and mechanisms relating to compliance under the Kyoto Protocol, UNFCCC Decision 27/CMP.1 (2005), Section XIII.
would be easier to prove that this type of damage is related to global warming (see Chapter 1). Causal proof may be further complicated by the need to consider the contribution of other states as well as the claimant state itself.

However, if cessation, or injunctive relief, is the appropriate remedy, it will suffice to show that Canada’s GHG emissions trajectory is merely capable of causing significant transboundary harm, thus making the burden of proof less onerous. In principle, all Canada’s emissions from the time of the Industrial Revolution would have to be taken into account, in which case retroactivity may pose additional challenges. It can be argued, however, that the Earth’s climate system has been able to cope with the growing concentrations of GHGs in the atmosphere for centuries whereas the increase in anthropogenic emissions of the recent decades has tipped the balance (see Section 5.2.3.5).

In 2012, the KP first commitment period expired and, on 1 January 2013, the eight-year second commitment period began. Same as the first commitment period, the second commitment period only extends individual emissions limitation and reduction commitments to industrialized states. Besides the US, at least two developed states and one EIT – Canada, Japan, and the Russian Federation – have undertaken no emissions limitation and reduction commitments under the KP second commitment period.\(^{656}\) New Zealand has indicated its intention to take on an economy-wide emissions reduction target in accordance with the Convention, and not the Protocol.\(^{657}\) Yet, regardless of the level of participation of industrialized states in the second commitment period, an interstate claim against them could still be based on the customary rule to prevent significant transboundary harm.

At the moment it is unclear whether developing states will undertake binding emissions reduction commitments under a new ‘protocol, another legal instrument or an agreed outcome with legal force under the Convention applicable to all Parties’ to come into effect in 2020\(^{658}\) and whether, in the absence of such commitments, all industrialized nations will come on-board. Irrespective of post-2020 obligations on climate change mitigation, all states will remain bound by the customary obligation to prevent significant transboundary harm. The duty to prevent will continue to be binding even in the absence of specific treaty obligations on climate change mitigation. Therefore, a potential interstate claim could be based on customary international law whereas additional opportunities for

\(^{656}\) Outcome of the work of the Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol at its sixteenth session, UNFCCC Decision 1/CMP.7 (2011), Ann. 1.

\(^{657}\) See Outcome of the work of the Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol, FCCC/KP/CMP/2012/L.9 (UNFCCC decision number not available at the time of writing), 8 December 2012, Ann. 1.

holding states to account for climate change-related damage will depend on whether or not the climate negotiations produce a set of post-2020 legally binding mitigation commitments.

5.3.2 Origins of the International Responsibility of EITs

EITs, *i.e.* the Russian Federation and several other Central and Eastern European countries,\(^\text{659}\) enjoy a special status under the Convention and the Protocol. However, since EITs are industrialized states and since they are also listed in KP Annex B (with the exception of Belarus, see below), the origins of their international responsibility would be largely similar to those of any other developed state party to the KP. Yet, their special position deserves separate mention.

Under the Convention, EITs are allowed ‘a certain degree of flexibility’ in implementing their commitments due to major economic and political upheavals that they went through following the demise of the Soviet Union.\(^\text{660}\) Accordingly, several EITs have chosen a baseline earlier than 1990, *i.e.* before the economic changes which led to significant reductions in their GHG emissions.\(^\text{661}\) Also, under the Convention, EITs, together with developing states, benefit from the obligation to transfer climate-friendly technologies imposed on Annex II parties.\(^\text{662}\)

EITs are also entitled to ‘a certain degree of flexibility’ in implementing their commitments under the KP.\(^\text{663}\) With the exception of Belarus, all EITs are included in Annex B of the KP.\(^\text{664}\) The EB of the KP Compliance Committee interpreted the notion of ‘a certain degree of flexibility’ in the case concerning Croatia in 2009. With regard to emissions reduction or limitation commitments under the KP in the case concerning Croatia, the EB concluded that flexibility under Article 3(5) only extends to flexibility in the use of an historical base year or period other than 1990.\(^\text{665}\) It further noted that ‘a certain degree of flexibility’ provided for under KP Article 3(6) refers to the implementation of commitments under the Kyoto Protocol

\(^{659}\) Belarus, Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia, Slovenia, and the Ukraine.

\(^{660}\) 1992 UNFCCC, Art. 4(6).

\(^{661}\) Bulgaria, Hungary Poland, Romania, and Slovenia.

\(^{662}\) 1992 UNFCCC, Art. 4(5).

\(^{663}\) 1997 KP, Arts. 3(5), 3(6).

\(^{664}\) As mentioned earlier, for Belarus, the amendment to Annex B concerning its emissions reduction target has not yet entered into force.

other than those under Article 3.\textsuperscript{666} Therefore, the relevant provisions under the KP provide no basis for allowing ‘the addition of tonnes CO\textsubscript{2} eq to the level of emissions for a base year or period in the implementation of commitments under Article 3 of the Kyoto Protocol.’\textsuperscript{667} In the case related to the Ukraine, the EB also noted that it could not grant flexibility and defer a decision or the application of consequences for EITs in the absence of a decision by the CMP that allows such flexibility under KP Article 3(6).\textsuperscript{668}

It appears that, in practice, the flexibility in the implementation of commitments related to emissions reduction or limitation afforded by the KP to EITs only extends to the choice of a base year other than 1990; flexibility in the implementation of commitments other than those under KP Article 3 is subject to approval by the CMP. It should be added that under the Convention, EITs enjoy greater flexibility in meeting their commitments, and the degree of flexibility afforded to EITs by the CMP may also change in the future.

5.3.3 Origins of the International Responsibility of Industrialized States not Party to the KP

The US, the largest GHG emitter among industrialized nations, has not adopted a mitigation policy based on the KP.\textsuperscript{669} At the time of the KP adoption, the US agreed to reduce its GHG emissions to 93 per cent of the 1990 levels but since it has not ratified the Protocol, it is not bound by this target. Its total aggregate emissions have grown by 13.3 per cent in the period between 1990 and 2008.\textsuperscript{670}

Although the US is not party to the Kyoto Protocol, it has ratified the UNFCCC and is bound by the obligation to adopt a national mitigation policy and take corresponding measures. The US government has adopted such policies and measures including a quantified target of reducing the emissions by 17 per cent below 2005 levels by

\textsuperscript{666} Question of Implementation – Croatia, KP Compliance Committee, Final Decision, CC-2009-1-8/Croatia/EB (26 November 2009), Ann., para. 15(b).

\textsuperscript{667} Question of Implementation – Croatia, KP Compliance Committee, Final Decision, CC-2009-1-8/Croatia/EB (26 November 2009), Ann., para. 15(c).

\textsuperscript{668} Question of Implementation – Ukraine, KP Compliance Committee, Final Decision, CC-2011-2-9/Ukraine/EB (12 October 2011), para. 5(c).

\textsuperscript{669} There are several other UNFCCC Annex I parties without KP Annex B targets. Due to its special circumstances recognized by the COP, Turkey is included in Annex I but not in Annex B. For Belarus, the amendment to Annex B concerning its emissions reduction target has not yet entered into force. Kazakhstan is party to the KP but does not have an emissions reduction target. Cyprus and Malta are EU member states but are not parties to the KP with a commitment inscribed in Annex B.

\textsuperscript{670} National Greenhouse Gas Inventory Data for the Period 1990-2008, note by the secretariat, FCCC/SBI/2010/18 (4 November 2010), p. 11.
2020, which could be seen as evidence of the US complying with its obligations on mitigation under the UNFCCC (see also Section 5.2.1). The US could be challenged, however, on the grounds that those measures are insufficient for it to comply with its customary obligation to prevent transboundary harm.

As a non-party to the Protocol, the US is not required to meet its KP quantified emissions reduction target. Instead, it may choose an alternative course of action to ensure compliance with its customary obligation to prevent transboundary damage. In June 2009, a comprehensive energy bill was passed by the House of Representatives by a vote of 219-212. American Clean Energy and Security Act 2009 includes provisions on clean energy, reducing global warming pollution, establishing a cap-and-trade system for GHG emissions, and transitioning to a clean energy economy. It also sets a reduction goal for GHG emissions from covered sources at 83 per cent of 2005 levels by 2050. Additionally, the Act contains provisions promoting international reductions in industrial emissions and states that the US policy in this respect is ‘to work proactively under the United Nations Framework Convention on Climate Change, and in other appropriate fora, to establish binding agreements, including sectoral agreements, committing all major greenhouse gas-emitting nations to contribute equitably to the reduction of global greenhouse gas emissions.’ The Act imposes an international reserve allowance requirement on imported goods per industrial sector in order to prevent carbon leakage in the event the US does not enter into a binding climate change agreement. Under the international reserve allowance program, countries that have taken adequate measures to mitigate the carbon intensity of a particular sector may receive emission allowance rebates whereas states that have not taken such measures are subject to the international reserve allowance requirement. The Act, however, remains a legislative proposal as the Senate has not yet taken a vote on it, nor is it expected to any time soon.

Like states that have ratified, but not complied with, the KP and acted in breach of due diligence, the US could be challenged for acting in breach of its international

673 American Clean Energy and Security Act 2009, H.R. 2454 (111th Congress), Sec. 765, p. 1113.
674 See also Section 3.2.2.4.1 on countermeasures and retortions and Section 5.5.3 on countermeasures.
675 Not complying with KP targets may automatically mean that due diligence has also been breached. Whether a state has acted with due diligence must be determined on a case-by-case basis.
customary obligation to prevent significant transboundary harm. Bound by international custom, the US is under an obligation to ensure that activities within its jurisdiction or control do not cause significant transboundary harm. It must act diligently in its endeavours to prevent such harm, which in the climate change context implies that it must take adequate mitigation measures. As detailed in Section 5.2.3.5 above, it is sufficient for the claimant state to demonstrate that the US’ failure to take adequate mitigation measures is only capable of causing climate change-related damage, such as damage from slow onset events or extreme weather events. Yet, since the UNFCCC does not specify what mitigation measures are to be considered adequate, it may be difficult to prove that the measures that are currently being taken by the US are insufficient to meet the due diligence threshold.

It could be argued, however, that deferral of federal action on climate change and GHG emissions reduction, coupled with the emissions trajectory that is inadequate to help keep the global temperature increase below 2°C, amounts to a breach of the US’ customary obligation to prevent significant transboundary damage. Stalling clean energy legislation, it could be claimed, shows reluctance of the US government to adopt measures that conform to a higher standard of diligence than the country’s current climate policy. It could be argued that since the due diligence threshold shifts in accordance with scientific progress, mitigation measures reported on by the American government in 2006 should have been upgraded pursuant to the new developments in the field of climate change science published in the IPCC FAR in 2007. A claim alleging the US’ breach of its obligation to prevent significant transboundary harm could also face causation and retroactivity challenges similar to the ones described in the Canadian example above.

Regardless of whether or not a new mitigation agreement is concluded (see Chapter 2), the international responsibility of the US could still originate from breaches of the customary obligation to prevent significant transboundary harm (see Section 5.3.1 as the origins of state responsibility under custom are the same regardless of KP ratification).

### 5.3.4 Origins of the International Responsibility of Developing States

It has been pointed out that the Kyoto Protocol imposes no quantified emissions reduction or limitation targets on developing states. Following the principle of common but differentiated responsibilities and respective capabilities, the international climate regime places developing states under no obligation to adopt mitigation policies and measures. It is accepted that the developing countries’ share

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676 See Section 5.2.1.
of global emissions will grow and their right to development is accordingly recognized.677 Developing states are only required to formulate national programmes containing measures to mitigate climate change but the implementation of this obligation by developing states is contingent on the provision of financial and technological resources by industrialized countries.678

Currently, the developing states’ contribution to the global emissions is swiftly rising because of rapid population and economic growth those countries are experiencing. As stipulated in the Cancun Agreements, developing countries have been invited to take nationally appropriate mitigation actions, and many of them have done so, but in and of themselves those commitments have no legally binding effect (see Section 5.2.1). Some developing countries have made use of this option. For instance, China – the world’s largest emitter of GHGs – has informed the UNFCCC Secretariat of its intention to lower its carbon dioxide emissions per unit of GDP by 40-45 per cent by 2020 compared to the 2005 level.679 However, since developing countries are not legally bound to take NAMAs, they cannot be held responsible for their failure to meet those voluntary targets.

Notwithstanding the principle of common but differentiated responsibilities and respective capabilities, developing countries are required to prevent significant transboundary harm because this customary obligation is equally binding on industrialized and developing nations. Developing states must conduct themselves with due diligence in their efforts to prevent such harm. A claimant state could argue that in discharge of their due diligence duty of harm prevention, developing countries must take some sort of mitigation action despite the fact that they are not specifically required to do so under the UNFCCC. It could be reasoned that formulating a national programme containing measures to mitigate climate change cannot be considered sufficiently diligent unless some of those measures are actually implemented.

It could be argued that all states should be subject to a minimum level of due diligence, with any additional diligence being voluntary. Yet, it could also be argued that developing states cannot be expected to exercise the same degree of due diligence as industrialized nations. Also, the level of diligence required of a particular developing country cannot be lower than that required of other countries with an equivalent level of prosperity.680 Seeing that the level of prosperity of

677 See 1992 UNFCCC, preamble.
678 1992 UNFCCC, Art. 4(7).
680 See, e.g. ILC Report on the work of its 50th session, A/53/10, YILC, vol. II, Part Two (1998), commentary to Art. 3, p. 28, para. 14; see also Section 5.2.3.1.
certain developing countries is significantly higher than that of other developing nations (and even some industrialized states), the level of due diligence expected of developing states with a higher level of prosperity cannot be the same as the level of due diligence expected of developing states with a lower level of prosperity. What is of relevance here is not the developed/developing dichotomy inherent in the international climate regime but rather the individual circumstances of a particular state, the level of scientific knowledge and technical capability available to it as well as its historic contributions. Due diligence must be assessed on a case-by-case basis. Thus, a developing state’s efforts, e.g. those of China, in exercising due diligence towards significant transboundary harm prevention as reflected in its NAMA’s voluntary mitigation target could, in principle, be challenged as insufficient. First, it could be argued that China’s target does not reflect its level of scientific and technological development. Second, it could be claimed that its NAMA is not ambitious enough to be considered as an adequate contribution to the international community’s effort to keep the global temperature rise below 2°C.

The claimant state could also challenge China by invoking the obligation to prevent significant transboundary harm in contesting China’s failure to comply with certain substantive and/or procedural obligations inherent to the due diligence element of the preventive duty. For example, notwithstanding the principle of common but differentiated responsibilities and respective capabilities, the claimant state potentially affected by climate change could demand that China comply with those duties in a similar way as Micronesia challenged the modernization plan of a Czech power plant. The claimant state could demand that China make an EIA taking into account transboundary impacts of a particular project, issue a notification to potentially affected states and/or continue monitoring transboundary environmental impacts of a specific activity throughout its operational cycle. The claimant state could also argue that, at the national level, China must take ‘reasonably appropriate’ mitigation action consistent with its level of technological development, adopt appropriate rules and measures, and exercise ‘a certain level of vigilance in their enforcement and the exercise of administrative control applicable to public and private operators.’

Should developing states undertake binding commitments under a new mitigation agreement, their international responsibility could originate from possible breaches of treaty obligations. However, having repeatedly emphasized the NAMAs’ voluntary character, developing countries may not wish to commit to any legally binding emissions reduction or limitation targets. Therefore, breach of the customary obligation to prevent significant transboundary harm may provide the sole legal basis for invoking the international responsibility of states, industrialized and developing alike, for taking inadequate mitigation measures.

5.4 Content of State Responsibility for Climate Change-Related Damage

The present chapter has identified the primary obligations of states under the international climate regime as well as international custom distinguishing between industrialized countries and EITs party to the KP, industrialized countries and EITs not party to the KP, and developing countries. Further, the origins of state responsibility for each group of states have been examined. In situations when a primary obligation is breached and the international legal order is impinged upon by the commission of an internationally wrongful act, states enter into a special legal relationship governed by the secondary rules of state responsibility. According to those rules, certain states derive rights from such an impingement whereas the perpetrator state must repair the breach. If an internationally wrongful act originates from a serious breach of a peremptory norm of international law, other states are duty-bound to respond to a breach of such an obligation (see Chapter 3, Section 3.2.2.3.2).

The perpetrator state is under an obligation to cease the wrongful act if it is of a continuous nature and, in some situations, offer guarantees of non-repetition. Thus, it is submitted that the law of state responsibility could provide a legal basis for seeking injunctive relief that would require the responsible state to take adequate mitigation measures or discontinue the construction or modernization of a single major emitting source until the relevant procedural and substantive duties are fulfilled.683 Two essential conditions for the obligation of cessation to arise have been stressed in the Rainbow Warrior arbitration, ‘namely that the wrongful act has a continuing character and that the violated rule is still in force at the time in which the order is issued.’684 It is apparent that interference with the climate system is a lengthy process that can only be achieved through an act of a continuous nature.

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683 See Chapter 3; for national claims seeking injunctive relief, see Chapter 4, Section 4.2.2.
Failure to take adequate mitigation measures at the state level could qualify as an act of continuous nature interfering with the climate system.

It could be argued that by not taking adequate mitigation measures, the respondent state has not been diligent in endeavouring to prevent significant transboundary harm. Thus, failure to take adequate mitigation measures could amount to a violation of the obligation to prevent. Cessation of wrongful conduct in this context implies that the respondent state would have to start taking such measures. Thus, for the claimant state to demand cessation of wrongful conduct would in effect be equivalent to seeking an injunction against the perpetrator state. The claimant state would have to demonstrate that failure by the respondent state to take adequate mitigation measures has the potential of causing significant transboundary harm (see Section 5.2.3.5). Since no actual harm is necessary for demonstrating breach of the primary norm, the standard of causal proof is lower than that required for a successful claim for reparation (see below).

Also, the obligation of cessation offers the basis for challenging a single major emitting source in the respondent state and demanding compliance with procedural and/or substantive obligations inherent in the duty to prevent transboundary harm. In this context, cessation of wrongful conduct would amount to compliance with the relevant procedural and substantive duties, e.g. making an EIA where one has not been made or, like in Micronesia’s challenge of a power plant modernization project in the Czech Republic, demanding that a project’s EIA take into account its transboundary impacts. In terms of causation, it would suffice for the claimant state to show that a particular GHG emitting source is capable of causing it potential harm, which is foreseeable (see also Section 5.2.3.5).

Cessation and non-repetition are directed at the re-establishment of the legal relation disrupted by an internationally wrongful act but on their own they do not fully restore the international legal order. Therefore, the responsible state is required to eliminate the consequences of the wrongful act by making reparation, which must ‘as far as possible, wipe out all the consequences of the illegal act and re-establish the situation which would, in all probability, have existed if the act had not been committed.’685 Reparation can take the form of restitution, which can be achieved through clean-up or response measures; compensation or satisfaction. Reparation is subject to the requirement of a causal connection between the internationally wrongful act and the damage suffered. An analysis of the reparation modules available under the law of state responsibility suggests that, in the climate change context, restitution in kind would likely be impossible. Satisfaction may play an important role as declaratory judgments have been made ‘to ensure respect

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685 Factory at Chorzów (Germany v. Poland), Merits, Judgment 1928 PCIJ (Ser. A) No. 13, p. 47; see also Chapter 3.
Compensation, however, may be a more attractive option for the claimant state.

The legal consequences described above arise automatically once the perpetrator state has committed an internationally wrongful act; other states are not required to take any action to trigger those consequences. Yet, the claimant state is only entitled to reparation if there is a causal link between the injury and the internationally wrongful act. In international law, there are two causality tests: (1) the *conditio sine qua non* test and (2) the *causa proxima* test. According to the *conditio sine qua non* test, the harm would not have occurred but for the event causing it. This test requires that there be a factual relation between the cause and the harm sustained. The number of links in the causal chain is irrelevant as long as the chain is uninterrupted. Causality-in-fact is a necessary but not a sufficient condition for reparation.

The more stringent *causa proxima* test requires that the harm be not too remote from the cause; the damage must be its normal or natural consequence. The ILC associates the proximate cause test with the exclusion of injury that is too ‘remote’ or ‘consequential’ and refers to the criteria of ‘directness,’ ‘foreseeability,’ and ’proximity.’ The foreseeability criterion suggests that the respondent state foresaw or should have foreseen the harm caused by its conduct. In other words, the harm must be objectively foreseeable. For instance, since compliance with the obligation to prevent transboundary harm is determined by a due diligence standard, foreseeability becomes a requirement for proving causation. The claimant state would have to prove that the respondent state foresaw or should have foreseen, that its unmitigated or inadequately mitigated GHG emissions, by way of their contribution to climate change, would have caused damage to the claimant state through the injurious manifestations of climate change, such as an extreme weather event or the rising sea levels. Given the universal adherence to the UNFCCC, it would not be difficult to prove that the respondent state foresaw the contributory effects of its GHG emissions on the global climate. As far as the link between global warming and the damage caused through its manifestations is concerned, it has been observed earlier in the chapter that linking

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the emission of GHGs originating from a particular state to damage resulting from
the rising sea levels or other slow onset events in another may be less problematic
than connecting it to the harm caused by an extreme weather event (see Section
5.2.3.5). Successful invocation of state responsibility in the latter case may be
impeded by the need to introduce statistical evidence. In any event, since the causa
proxima test required for the obligation of reparation to arise is stricter than the one
used to determine the breach of the obligation to prevent significant transboundary
harm, making a successful compensation claim may not be easy. Since the causa
proxima test requires that the damage be the normal or natural consequence of the
cause, the state claiming compensation would not only have to show the causal link
between GHG emissions originating in the respondent state and global warming. It
would also have to prove that a particular event that has caused it injury was the
natural consequence of global warming. This, particularly with respect to extreme
weather events, may present considerable difficulties. Retroactivity, too, may pose
additional challenges in compensation claims (see Section 5.2.3.5).

Additionally, even if the court were to accept the claimant state’s causation and
retroactivity arguments, determining the due amount would not be without
difficulty given the perpetrator state’s responsibility for a mere proportion of the
total damage. Given the notion that each state is separately responsible for conduct
attributable to it and that its responsibility is not diminished by the fact that other
states may be responsible for the same act, it could be argued that responsibility
should be proportionate rather than joint and several (see also Section 5.5.1).692 The
ILC neither accepts nor rejects joint and several responsibility of states. Yet, in the
context of climate change, joint and several responsibility would make little sense
because all states, including the claimant state, are responsible for climate change
and its injurious effects. It would seem reasonable for the respondent state to be
held responsible in proportion to the amount of GHGs it has contributed.

Additional legal consequences apply to serious breaches of peremptory norms of
international law. They have not yet fully crystallized into custom but the duty of
states to cooperate in bringing such breaches to an end is certain.693 Already in
1976, the ILC listed ‘modifications of weather and climate’ among serious breaches
of international obligations ‘of essential importance for the safeguarding and
preservation of the human environment, such as those prohibiting massive pollution

693 See Section 3.2.2.3.2.
of the atmosphere or of the seas.\textsuperscript{694} As is evidenced by the UNFCCC’s universal ratification, the international community of states has accepted the scientific evidence of the fact that anthropogenic GHG emissions contribute to climate change. The conclusion must be that obligations on climate change mitigation are peremptory norms of international law.\textsuperscript{695} No derogation from those obligations may be permitted. The capacity of climate change to destroy lives and livelihoods on a global scale is generally recognized by the international community; in fact, the injurious consequences of climate change threaten the very existence of entire countries and, in the worst-case scenario, the human race as we know it (see Chapter 1). Although the qualification of international obligations on climate change mitigation as peremptory norms of international law has not been extensively debated in academic literature, it cannot but logically follow that those obligations are peremptory norms.

A breach of a peremptory norm is serious if it involves ‘a gross or systematic failure by the responsible state to fulfil the obligation.’\textsuperscript{696} The ILC has defined ‘systematic failure’ as a violation ‘carried out in an organized and deliberate way,’ while the term ‘gross’ refers to the intensity of the violation and ‘denotes violations of a flagrant nature, amounting to a direct and outright assault on the values protected by the rule.’\textsuperscript{697} On the one hand, since climate change mitigation calls for long-term planning and implementation efforts, proof of systemic breach may be relatively straightforward. On the other hand, all states agree on the fact that anthropogenic climate change poses a threat to human survival and that it is necessary to mitigate its dangerous consequences; it is the exact content of obligations involving mitigation measures that is disputed, which, in the absence of an internationally agreed benchmark, may compromise proof of breach of obligations related to climate change mitigation in the first place unless absolutely no mitigation measures are taken. It is submitted that consideration of GHG emissions trajectories compared to the 2°C warming target may aid proof of breach of such obligations. In this respect, GHG inventories submitted by developed countries to the UNFCCC Secretariat and national communications submitted by developing countries could provide some guidance.


\textsuperscript{695} Lefeber 2012, pp. 342-343.

\textsuperscript{696} 2001 ILC Articles on Responsibility of States for Internationally Wrongful Acts, Art. 40(2).

5.5 Implementation of State Responsibility for Climate Change-Related Damage

Notwithstanding the fact that the consequences of an internationally wrongful act arise automatically upon its commission, other states have the right to hold the perpetrator state accountable for its wrongful conduct. They may launch interstate claims and trigger procedures to enforce those claims through diplomatic negotiations, third-party dispute settlement and/or unilateral measures. The rules on the implementation of state responsibility spell out conditions this right is subject to. The notion of an injured state is central to the law of state responsibility; it is only in exceptional cases that a state other than the injured state can invoke the responsibility of a perpetrator state.

5.5.1 Invocation of State Responsibility

As discussed in Chapter 1, certain effects of climate change may be beneficial for some states, at least in the short term. Conversely, other states, such as small island nations and states with a low coastline, are already enduring the injurious effects of climate change. Coastal territories and certain islands are becoming uninhabitable, due to storm surges intensity and increasing damage from coastal flooding, and will have to be permanently abandoned even before they are submerged completely. This may eventually lead to a sovereign state having to abandon its territory and relocate its entire population. One way or another, all states on the planet will be affected by climate change. Already now a number of states would have no difficulty demonstrating climate change-related injury and, consequently, *locus standi* to bring an interstate claim. The plurality of injured states does not affect the right of each individual state to invoke responsibility. The plurality of responsible states is likewise not an obstacle as the responsibility of each contributing state may be invoked. Domestic practice also appears to suggest that alleging injury should not be an arduous task. At the national level, standing, albeit not an obstacle in procedural injury cases, has been difficult to show for plaintiffs bringing claims for compensation or injunctive relief, alleging actual or potential harm, respectively. However, standing

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698 While the present analysis is limited to states as subjects of international law, international organizations may also have the right to invoke state responsibility. For more information, see 2011 ILC Draft Articles on the Responsibility of International Organizations, ILC Report on the work of its 63rd session, A/66/10, forthcoming in YILC, especially Art. 43.

699 See Chapter 1; see also IPCC AR4, Synthesis Report, pp. 33, 52.

700 See Section 3.2.2.4; see also 2001 ILC Articles on Responsibility of States for Internationally Wrongful Acts, Art. 46.

701 See Section 3.2.2.4; see also 2001 ILC Articles on Responsibility of States for Internationally Wrongful Acts, Art. 47(1).
has not been challenging for lack of injury. Whereas, in showing standing, plaintiffs in US courts have struggled to meet the requirements of causation and redressability, demonstrating injury has not been problematic.

Since, as explained earlier, no state is carbon-neutral, all countries contribute to climate change, and the international community of states has agreed to tolerate this. An injured state could only invoke the responsibility of another state (or multiple states) if that state’s contribution to climate change has exceeded the tolerance threshold marked by the 2°C goal. It could be argued that by not taking adequate mitigation measures, the perpetrator state has failed to keep its contribution to climate change within those tolerated boundaries, thus failing to prevent harm regarded as significant. A likely claimant would be a small island state suffering from the injurious effects of climate change. In fact, a number of such small island states, upon signing the UNFCCC, made a formal declaration that their respective governments’ signature of 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, and that no provisions in the Convention can be interpreted as derogating from the principles of general international law.’ While legally redundant, those declarations reaffirm existing international law by articulating the right of injured states to bring an interstate claim under the law of state responsibility. Nonetheless, no state suffering climate change-related injuries has made use of this right to date with the exception of Micronesia, who submitted its complaint through diplomatic channels. In 2002, the island nation of Tuvalu considered suing the US and Australia for their contribution to global warming but later abandoned the idea having weighed the difficulties associated with winning such a case. The government of Australia has since become a party to the KP while the US has not done so.

As regards the plurality of responsible states, the ILC neither recognizes nor excludes joint and several responsibility. The law of state responsibility is predicated on the principle of individual responsibility of states for their wrongful behaviour; the injured state can hold each responsible state to account ‘for the wrongful conduct as a whole.’ Yet, in the absence of strict ILC standards for shared responsibility and due to the fact that climate change is gradually compounded by the emission of GHGs from multiple sources in multiple jurisdictions and the degradation of sinks worldwide over time, the application of proportionate responsibility to reparation claims would seem appropriate. The GHG inventory data compiled by UNFCCC Secretariat could be relied upon in the proportionate assessment of states’ contributions to climate change.

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702 Nauru, Tuvalu, the Republic of Kiribati, Fiji, and Papua New Guinea.
704 Lefeber 2012, p. 346.
A state other than the injured state could invoke the responsibility of the respondent state only in exceptional circumstances, i.e. if the latter is in breach of an obligation erga omnes. It could be argued that although all states have an individual interest in other states’ compliance with their obligations on climate change mitigation, those obligations also protect a collective interest and are therefore obligations erga omnes since climate change affects not only states but also territories outside the limits of national jurisdiction.\textsuperscript{705} Obligations on climate change mitigation are also aimed at protecting the atmosphere – a shared natural resource.\textsuperscript{706} A state other than the injured state could, on behalf of the injured state, demand that the responsible state take adequate mitigation action or, for example, it could challenge the modernization of a single emissions source. While not entitled to reparation itself, a state other than the injured state could demand that the obligations of cessation and reparation be performed in the interests of the beneficiaries of the obligation breached.\textsuperscript{707} The ILC has recognized that although this provision involves ‘a measure of progressive development,’ it is justified because it ‘provides a means of protecting the community or collective interest at stake.’\textsuperscript{708} If climate change-related damage has been caused to areas beyond national jurisdiction, compensation could, in theory, be paid to an existing financial mechanism that sponsors mitigation or adaptation projects.\textsuperscript{709} Admittedly, in the absence of precedent of such a claim being awarded by an international court or tribunal, international courts and tribunals would be unlikely to award such claims in the near future.\textsuperscript{710}

\section*{5.5.2 Competent Courts}

Closely related to the issue of invocation of state responsibility is the question of appropriate fora for third-party dispute settlement. Before bringing a claim to an international court, the invoking state would submit a diplomatic claim, following...
which negotiations would take place. Only after available bilateral procedures have been exhausted may states resort to third-party dispute settlement. The UNFCCC provides that parties to a dispute ‘shall seek a settlement […] through negotiation or any other peaceful means of their own choice.’711 This means that although priority is clearly given to negotiation, other diplomatic means, such as good offices or mediation by a third party complement negotiations.712

Should states fail to achieve a settlement, the state invoking the responsibility of another state may launch a claim in a permanent court or an ad hoc arbitral tribunal may be established for the settlement of a particular dispute. However, because of its binding character, international adjudication/arbitration is subject to acceptance of the competent court’s jurisdiction by all parties to a dispute. The UNFCCC provisions on dispute settlement apply mutatis mutandis to the Kyoto Protocol and, next to diplomatic methods of settling a dispute, envisage mandatory recourse to non-binding conciliation and optional recourse to the ICJ and/or arbitration.713 Compulsory adjudication is subject to optional declarations to be submitted by parties to the depositary. By submitting a declaration in accordance with the compromissory clause under the UNFCCC Article 14(2) and/or KP Article 19, parties may opt for compulsory adjudication and indicate their preference for submission of disputes to the ICJ, arbitration or accept both options. The effectiveness of this clause is uncertain because its applicability does not only depend on whether or not all parties to a dispute have accepted compulsory adjudication; it is also contingent on all parties’ recognition of the jurisdiction of the same court. In practice, states parties have been reluctant to make use of the right to make optional declarations. Only three countries have done so to date. Solomon Islands and Tuvalu submitted upon ratification declarations choosing for compulsory arbitration and, in 2010, the Kingdom of the Netherlands made a declaration accepting both means of dispute settlement.

Acceptance of the UNFCCC/KP compromissory clause is not the only way for parties to a dispute to submit themselves to the jurisdiction of an international court. For example, they may recognize the ICJ’s compulsory jurisdiction under Article 36 of its Statute or under any other instrument relating to amicable settlement of disputes. Only about one third of all states have accepted the ICJ’s jurisdiction under the Statute of the Court. Major emitters like the USA and China have not done so. Canada, as has been noted earlier, has withdrawn from the KP and is on an emissions trajectory that may result in a breach of its international obligations, including customary duties. It did submit a declaration under the ICJ Statute in 1994, so in principle the Court could

711 1992 UNFCCC, Art. 14(1).
exercise jurisdiction over a claim invoking Canada’s international responsibility provided that the invoking state has likewise recognized its jurisdiction.

Similarly, the claimant state and the respondent state could choose to submit their dispute to arbitration by a tribunal set up especially for that purpose or to a permanent arbitral body such as the Permanent Court of Arbitration (PCA) in The Hague. Recognition of the arbitral tribunal’s jurisdiction by all parties to the dispute is a prerequisite due to the binding nature of its decisions.

The UNFCCC also provides for compulsory conciliation in cases when negotiation, or any other means the parties to a dispute decide to choose, does not lead to settlement within twelve months following notification by one party to another.\(^{714}\) The award rendered by the conciliation commission created upon the request of one of the parties to the dispute is of a recommendatory nature (Art. 14(6)). The parties to a dispute are always entitled not to accept the solution suggested by the conciliation commission. Indeed, the main difference between arbitration and conciliation as envisioned by the UNFCCC is the non-binding character of the latter. However, effectiveness of the UNFCCC conciliation procedure must not be underestimated as it ‘may serve as a powerful incentive for inducing the other Party or Parties to negotiate in good faith or to seek, in good faith also, to agree on other methods of settling the dispute.’\(^{715}\)

### 5.5.3 Countermeasures

The conclusion from the previous section must be that the UNFCCC/KP dispute settlement rules, like under many other MEAs, are not all applicable to all the parties as, somewhat paradoxically perhaps, compulsory adjudication envisaged by those rules is in fact optional, \(i.e.\) is dependent on optional declarations by parties. Since collective enforcement mechanisms in international law are rare,\(^{716}\) the ‘practice whereby each state party to a treaty monitors whether or not other states parties comply with the requirements of the agreement’ remains relevant.\(^{717}\) In this context, self-help may be the only remaining option for the injured state to see to it that the legal relation disrupted by a breach of an international obligation is restored and appropriate reparation is made. The right to take countermeasures provides the injured state with a tool to secure the restoration of the legal relation and reparation of its breach unilaterally by its own means. Under the law of state responsibility, the lawful taking of countermeasures precludes wrongfulness of otherwise

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\(^{714}\) 1992 UNFCCC, Art. 14(5).

\(^{715}\) Treves 2009, p. 503.

\(^{716}\) The KP Compliance Committee could be seen as an example of a collective enforcement mechanism.

\(^{717}\) Kiss & Shelton 2007a, p. 81.
wrongful behaviour. The use of countermeasures is justified by the previous wrongful conduct of the perpetrator state but is subject to strict conditions. First of all, as discussed in the Chapter 3, countermeasures must be taken in a way that would allow the responsible state to comply with its obligations of cessation and reparation. Second, countermeasures are always temporary and must cease as soon as the responsible state has complied with its international obligations under the law of state responsibility. Third, they must be proportional to the injury sustained and finally, they may not belong to the list of prohibited countermeasures contained in ILC Article 50(1), such as the use of force or peremptory norms on international law.

A state injured by the deleterious effects of climate change could therefore resort to countermeasures to respond to another state’s failure to take adequate mitigation measures. For example, an injured state could take trade-related environmental measures of the sort contained in the US legislative proposal described in Section 5.3.2 above. It could introduce an international reserve allowance requirement on imported goods or a similar border adjustment tax to offset carbon emissions of imported goods. As long as those countermeasures are in line with the law of state responsibility (see above), they need not be compatible with the WTO/GATT law. All states are (potentially) affected by climate change and as such have the right to resort to countermeasures. It has happened in the past that states have taken action, including trade-related measures, against states perceived to be in breach of international obligations protecting a collective interest of a group of states or obligations owed to the international community as a whole. Examples include measures by the European Community Member States against the Federal Republic of Yugoslavia in 1998, which included the freezing of Yugoslav funds and an immediate flight ban; and suspension of landing rights of South African Airlines in the US in 1986 to encourage the South African government to adopt ‘a non-racial democracy.’

It has been argued that obligations related to the mitigation of climate change are obligations erga omnes and states do not have to be individually injured to enforce those. At present, however, international law does not seem to recognize the right of states other than the injured state to take countermeasures to enforce a collective interest. Although there has been some state practice (involving a limited number of states) in support of such a right, the ILC did not deem it appropriate to include a provision on the right of states other than the injured state to take countermeasures. In the climate change context, however, all states are injured states and therefore the taking of countermeasures by any state can be justified.

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718 See Section 3.2.2.4.1.
719 Lefeber 2012, p. 348.
5.4 Concluding Remarks

States are responsible for internationally wrongful acts they commit. If a state breaches its primary obligations under international law, it incurs international responsibility. In the present chapter, the relevant international obligations have been identified as obligations on the mitigation of climate change, obligations on climate change adaptation, and the customary obligation to prevent significant transboundary harm. Multilateral treaty-based obligations on climate change mitigation include quantified emissions reduction or limitation commitments and the adoption of mitigation policies and measures by developed countries. In contrast, developing states only have to formulate national or regional programmes containing measures to mitigate climate change but this obligation is contingent on the provision of financial resources and transfer of technology by industrialized countries. It has been concluded that, for practical reasons, it will not be possible to determine whether or not a developed state has complied with its KP reduction targets for the first commitment period before 2015 and that only industrialized states could potentially be held responsible for failure to adopt mitigation measures, which, given the absence of an international benchmark, would not be an easy task. With regard to obligations on climate change adaptation, it has been argued that developed states cannot be held accountable for not providing financial and capacity-building resources for adaptation efforts in developing countries.

It has been put forward that breach of the obligation to prevent significant transboundary harm can provide the sole legal basis for engaging the international responsibility of any state that fails to take adequate mitigation measures. Since states are duty-bound to regulate public and private conduct in areas subject to their jurisdiction or control in order to fulfil the due diligence requirement in their endeavours to prevent significant transboundary harm, they must adopt measures that would mitigate climate change by way of reduction or limitation of GHG emissions. It must be noted that the degree of due diligence that can legitimately be expected of developing countries must be lower than that to be exercised by industrialized states. If industrialized nations must take mitigation measures in accordance with the UNFCCC, it could be argued that developing states too must take some mitigation measures if they are to live up to their duty to prevent significant transboundary harm. It is in this context that the obligation to prevent significant transboundary harm may also provide a basis for challenging single major emission sources.

It has been argued that causation challenges may be difficult to overcome for the claimant state to obtain compensation for the climate change-related harm suffered. Meeting the *causa proxima* threshold required for reparation may present insurmountable challenges for the claimant state, particularly when harm has been
caused by an extreme weather event. It has also been argued that retroactivity and the apportionment of responsibility may present additional difficulties.

According to the law of state responsibility, if in breach of the obligation to prevent significant transboundary harm, the perpetrator state is under an obligation to cease its wrongful behaviour and comply with the relevant procedural and substantive duties. In practice, it could enable the claimant state to seek injunctive relief as cessation amounts to the same. It has been submitted that in order to demonstrate breach of the primary norm, it is sufficient for the claimant state to show that the GHG emissions originating in the territory within the respondent state’s jurisdiction or control are merely capable of causing it significant transboundary harm. If a single emissions source in the respondent state’s territory is challenged on the basis of the obligation to prevent significant transboundary harm, it is likewise enough to show that the emissions from that source are capable of contributing to climate change, which can cause harm to the claimant state.

In order to comply with its obligation of cessation, the respondent state would have to start taking adequate mitigation measures required by the due diligence obligation to prevent significant transboundary harm from climate change. The adequacy of such measures would have to be determined in accordance with the principle of common but differentiated responsibilities and respective capabilities and would not be the same for all states.

In international law, the responsibility of the respondent state is normally invoked by the injured state. It has been argued that with respect to climate change, every state is an injured state. It has also been argued that international obligations on climate change mitigation are peremptory norms of international law and that no derogation from those obligations is permitted.

It has been concluded that the taking of adequate mitigation measures is necessary to comply with the duty to prevent significant transboundary harm. It has also been put forward that due to the voluntary nature of interstate dispute resolution, it may be difficult to find a competent court to hear a climate change-related claim. Therefore, in practice, if the responsible state is not taking adequate mitigation measures, unilateral action in the form of countermeasures may present an avenue of recourse for the injured state, which could take the form of trade-related environmental measures. Single emissions sources could also be challenged through diplomatic channels, as demonstrated by Micronesia’s claim.