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Exposure to legal risk for climate change damage under the UNFCCC, Kyoto Protocol and LOSC: a case study of Tuvalu and Australia

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Faculty of Law

Exposure to Legal Risk for Climate Change Damage under the UNFCCC, Kyoto Protocol and LOSC:
A Case Study of Tuvalu and Australia

Keely Aleathea Constance Boom

"This thesis is presented as part of the requirements for the award of the Degree of Doctor of Philosophy of the University of Wollongong"

August 2012
ABSTRACT

In 2002, the Pacific Island State of Tuvalu made international news when its Prime Minister announced that Tuvalu intended to sue Australia and the United States in the International Court of Justice. To date, Tuvalu has never brought the threatened litigation. Tuvalu is one of a number of small island developing States that could eventually become uninhabitable due to the effects of climate change. This thesis aims to test to what extent legal responsibility for climate change damage may arise under international law. It also seeks to determine what level of exposure to legal risk Australia may face for such damage. The study finds that there is a low level of exposure under the United Nations Framework Convention on Climate Change (UNFCCC) which contains vague commitments that would be difficult to enforce. The specific targets for mitigation of greenhouse gas emissions under the Kyoto Protocol provide potentially high exposure to legal risk for States that fail to meet their targets. Australia does not face such risk because it is on track to meet its target. Application of the United Nations Law of the Sea Convention (LOSC) offers a creative avenue for litigation. However, it presents limited exposure due to difficulties around extending its provisions to climate change and problems with establishing jurisdiction. Furthermore, the rules of State responsibility are poorly suited to a problem as complex as climate change damage. However, there are some opportunities for creative application of these rules to respond to the problem of climate change damage. The thesis recommends the seeking of an advisory opinion from the International Court of Justice to clarify the rules of State responsibility, particularly in regard to attribution, causation and apportionment of responsibility. Finally, additional instruments concluded through the international climate negotiations could provide new opportunities for international litigation.
ACKNOWLEDGEMENTS

This doctrinal thesis would not have been possible without the support and help of the many generous people around me. I wish to particularly thank the following people.

I am grateful for the invaluable assistance and guidance that my supervisors Associate Professor Greg Rose and Professor Warwick Gullett have provided. I am thankful to the University of Wollongong, and the Faculty of Law in particular, for offering me an ideal environment to pursue this project. I wish to express my gratitude to my employers, the Climate Justice Programme and the University of Technology, Sydney, and all of my colleagues at these organisations for providing me with part-time employment that has been the perfect complement to my studies.

Deepest gratitude to my partner Matty for his incredible support and patience for the time and energy I have invested in this project. Special thanks to all of my friends and family, especially my Mum, Dad and my brothers Josh, James and Nic. I am thankful for comments on this thesis from my Dad and Josh, my ‘legal eagle’ family members.

Finally, I am grateful for the blessing of my pregnancy and unborn child, who is coming at just the right time and reminding me of our responsibility to protect the Earth for future generations.

For any errors or inadequacies that remain in this work, of course, the responsibility is entirely my own.
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<th>Description</th>
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<td>AAU</td>
<td>Assigned Amount Units</td>
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<td>AG13</td>
<td>Ad hoc Group on Article 13</td>
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<td>Annex B Parties</td>
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<td>Parties listed in Annex I of the <em>United Nations Framework Convention on Climate Change</em></td>
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<tr>
<td>Annex II Parties</td>
<td>Parties listed in Annex II of the <em>United Nations Framework Convention on Climate Change</em></td>
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<tr>
<td>AOSIS</td>
<td>Alliance of Small Island States</td>
</tr>
<tr>
<td>CANZ</td>
<td>Canada, Australia, and New Zealand</td>
</tr>
<tr>
<td>CCSBT</td>
<td><em>Convention for the Conservation of Southern Bluefin Tuna</em></td>
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<tr>
<td>CDM</td>
<td>Clean Development Mechanism</td>
</tr>
<tr>
<td>CMP</td>
<td>Conference of the Parties serving as Meeting of the Parties to the <em>Kyoto Protocol to the United Nations Framework Convention on Climate Change</em></td>
</tr>
<tr>
<td>CO₂</td>
<td>Carbon dioxide</td>
</tr>
<tr>
<td>COP</td>
<td>Conference of Parties to the <em>United Nations Framework Convention on Climate Change</em></td>
</tr>
<tr>
<td>ECJ</td>
<td>European Court of Justice</td>
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<tr>
<td>ENSO</td>
<td>El Niño Southern Oscillation</td>
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<tr>
<td>ERT</td>
<td>Expert Review Team</td>
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<tr>
<td>EU</td>
<td>European Union</td>
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<tr>
<td>GDP</td>
<td>Gross Domestic Product</td>
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<tr>
<td>GEF</td>
<td>Global Environment Facility</td>
</tr>
<tr>
<td>ICJ</td>
<td>International Court of Justice</td>
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<tr>
<td>IMO</td>
<td>International Maritime Organisation</td>
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<td>INC</td>
<td>Intergovernmental Negotiation Committee</td>
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<td>IPCC</td>
<td>Intergovernmental Panel on Climate Change</td>
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<td>IPCC-WGI</td>
<td>Intergovernmental Panel on Climate Change Working Group I</td>
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<td>Intergovernmental Panel on Climate Change Working Group II</td>
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<tr>
<td>IPCC-WGIII</td>
<td>Intergovernmental Panel on Climate Change Working Group III</td>
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<tr>
<td>ISA</td>
<td>International Seabed Authority</td>
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<tr>
<td>JI</td>
<td>Joint Implementation</td>
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<tr>
<td>Acronym</td>
<td>Description</td>
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<td>Kyoto Protocol</td>
<td><em>Kyoto Protocol to the United Nations Framework Convention on Climate Change</em></td>
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<tr>
<td>LDCF</td>
<td>Least Developed Countries Fund</td>
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<tr>
<td>LEG</td>
<td>Least Developed Countries Expert Group</td>
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<tr>
<td>LOSC</td>
<td>United Nations Law of the Sea Convention</td>
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<tr>
<td>LULUCF</td>
<td>Land use, land-use change and forestry</td>
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<tr>
<td>MOP</td>
<td>Meeting of the Parties to the <em>United Nations Framework Convention on Climate Change</em></td>
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<tr>
<td>NAPAs</td>
<td>National Adaptation Programs of Action</td>
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<tr>
<td>ODA</td>
<td>Official Development Assistance</td>
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<tr>
<td>OECD</td>
<td>Organisation for Economic Co-Operation and Development</td>
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<tr>
<td>PCIJ</td>
<td>Permanent Court of International Justice</td>
</tr>
<tr>
<td>QELRO</td>
<td>Quantitative Emission Limitation and Reduction Obligations</td>
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<td>SBI</td>
<td>Subsidiary Body for Implementation</td>
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<td>SBT</td>
<td>Southern Bluefin tuna</td>
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<td>SCCF</td>
<td>Special Climate Change Fund</td>
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<td>SIDS</td>
<td>Small island developing States</td>
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<td>SPA</td>
<td>Strategic Priority on Adaptation</td>
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<td>SWCC</td>
<td>Second World Climate Conference</td>
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<tr>
<td>UK</td>
<td>United Kingdom</td>
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<tr>
<td>UN</td>
<td>United Nations</td>
</tr>
<tr>
<td>UNCC</td>
<td>United Nations Compensation Commission</td>
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<tr>
<td>UNCED</td>
<td>United Nations Conference on Environment and Development</td>
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<tr>
<td>UNDP</td>
<td>United Nations Development Programme</td>
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<tr>
<td>UNEP</td>
<td>United Nations Environment Programme</td>
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<tr>
<td>UNFCCC</td>
<td><em>United Nations Framework Convention on Climate Change</em></td>
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<td>UNGA</td>
<td>United Nations General Assembly</td>
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<tr>
<td>US</td>
<td>United States</td>
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<td>WGI</td>
<td>Intergovernmental Negotiation Committee Working Group I</td>
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<tr>
<td>WGII</td>
<td>Intergovernmental Negotiation Committee Working Group II</td>
</tr>
<tr>
<td>WMO</td>
<td>World Meteorological Organization</td>
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<td>WTO</td>
<td>World Trade Organization</td>
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The Home Frontier and Foreign Ministry Society Case (United States v United Kingdom) (1920) 6 RIAA 42
The Kummerow, Redler and Co, Fulda, Fishbach, and Friedericky Cases (Germany v Venezuela) (1903) 10 RIAA 369
Trail Smelter Arbitration (United States v Canada) [1949] 3 RIAA 1938

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UNFCCC, Enforcement Branch of the Compliance Committee, Decision on Preliminary Examination. Party concerned: Croatia (CC-2009-1-2/Croatia/EB, 8 September 2009), [4], [5].
United States Diplomatic and Consular Staff in Tehran (United States v Iran) [1980] ICJ 3
USA, Federal Reserve Bank v Iran, Bank Markazi Case A28 (2000-02) 36 Iran-US Claims Tribunal Reports 5 at 22, para 58
Wallaby Grip (BAE) Pty Ltd v Macleay Area Health Service (1998) 17 NSWCCR 355

Woodyear v. Schaeffer, 57 MD 1, 9 (Md. 1881)

Youmans Claim (US v Mexico) [1926] IV RIAA 110

Zafft v Eli Lilly & Co 676 S.W. 2d 241, 246 (Mo. 1984)
LIST OF INTERNATIONAL AGREEMENTS

Agreement Between the Government of Australia, the Government of New Zealand and the Government of the United Kingdom of Great Britain and Northern Ireland to Terminate the Nauru Island Agreement of 2 July 1919, Australia-New Zealand-United Kingdom, opened for signature 9 February 1987, PITSE 8 (entered into force 9 February 1987)


Articles of Agreement of the International Bank for Reconstruction and Development, opened for signature 27 December 1945, 2 UNTS 134 (entered into force 27 December 1945)


Chicago Convention on International Civil Aviation, opened for signature 7 December 1944, 15 UNTS 295 (entered into force 4 April 1947)


Convention for the Protection of Human Rights and Fundamental Freedoms, opened for signature 4 November 1950, ETS No 5, 213 UNTS 221 (entered into force 3 September 1953)

Convention for the Protection of the World Cultural and Natural Heritage, opened for signature 16 November 1972, 1037 UNTS 151 (entered into force 17 December 1975)

Convention of the Prevention of Marine Pollution by Dumping of Wastes and other Matter, opened for signature 29 December, 1972, 1046 UNTS 120 (entered into force 30 August 1975)


Helsinki Protocol on the Reduction of Sulphur Emissions or Their Transboundary Fluxes by at Least 30 Percent, opened for signature 8 July 1985, 27 ILM 707 (entered into force 2 September 1987)


Montreal Protocol on Substances that Deplete the Ozone Layer, opened for signature 16 September 1987, 1522 UNTS 3 (entered into force 1 January 1989)


Sofia Protocol Concerning the Control of Emissions of Nitrogen Oxides or Their Transboundary Fluxes, opened for signature 31 October 1988, 28 ILM 214 (entered into force 2 February 1991)

Statute of the International Court of Justice, opened for signature 26 June 1945, 59 Stat 1055 (entered into force 24 October 1945)


In 2002, the Pacific Island State of Tuvalu made international news when its Prime Minister announced that Tuvalu intended to sue Australia and the United States (US) in the International Court of Justice over climate change.\(^1\) To date, Tuvalu has not brought the threatened litigation; however, it remains a possibility. For instance, in 2011 Palau announced that it planned to seek an advisory opinion from the International Court of Justice on whether States have a legal responsibility to ensure that any activities on their territory that emit greenhouse gases do not harm other States.\(^2\)

Tuvalu is one of a number of small island developing States (SIDS) in the South Pacific that are comprised of coral atolls.\(^3\) Like many SIDS, Tuvalu could eventually become uninhabitable due to the effects of climate change.\(^4\) This threat has immense ramifications for the cultural, sovereign and physical integrity of Pacific Islanders, most of whom are indigenous peoples.\(^5\) Its 10,000 citizens primarily engage in subsistence farming and fishing.\(^6\) They have contributed little to the problem of climate change.

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change because Tuvaluans do not have any major sources of greenhouse gas emissions.\(^7\)

The topic of this thesis, ‘Exposure to Legal Risk for Climate Change Damage under the UNFCCC, Kyoto Protocol and LOSC: A Case Study of Tuvalu v Australia’, is based upon the assumption that international law will eventually be faced with the problem of climate change damage in the context of a legal dispute between States. The United Nations Framework Convention on Climate Change (UNFCCC)\(^8\) and the Kyoto Protocol\(^9\) are the two key legal instruments which have been agreed to by States in response to climate change. The United Nations Law of the Sea Convention (LOSC)\(^10\) is an international legal instrument agreed to by States to conserve, preserve and protect the marine environment (among other purposes). Although many treaties are relevant to climate change, the UNFCCC, Kyoto Protocol and LOSC have been selected on the basis that they are particularly relevant to questions relating to damage and liability.

It is possible that a dispute under these instruments will never eventuate. However, given the dire future Tuvalu and other SIDS face, it appears likely that this type of international litigation is on the horizon. This thesis aims to test to what extent legal responsibility for climate change may arise under international law. The aim of this

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chapter is to introduce the reader to the area of research including the objectives of the study, to provide a literature review, explanation of the approach and methodology and an overview of the thesis. A definition of climate change damage is offered in this chapter, with further definitions provided in the Glossary.

A. The nature of the problem

Climate change damage in the South Pacific is a problem for SIDS,\textsuperscript{11} including Tuvalu,\textsuperscript{12} because they may become uninhabitable within the foreseeable future.\textsuperscript{13} While the vulnerability to climate change damage of SIDS\textsuperscript{14} is influenced by a range of factors, including their economic base, population size, and population growth rate,\textsuperscript{15} the height of the land is an important determinant of the seriousness of potential climate change damage.\textsuperscript{16} The average height of Tuvalu is 1m and its highest point is 4.5m.\textsuperscript{17} Tuvalu is attempting to adapt to the impacts of climate change and ocean...

\textsuperscript{13} P Nunn and N Mimura, ‘Vulnerability of South Pacific Island Nations to Sea-level Rise’ (1997) \textit{Journal of Coastal Research} (Special Issue 24) 133; Hampson, above n 4.
\textsuperscript{16} UN GA Res. 206, UN Doc. A/RES/44/206 (Dec. 22, 1989).
acidification; however, its prospects of success depend heavily upon the extent of global mitigation action.\(^{18}\)

The Intergovernmental Panel on Climate Change (IPCC) has estimated that for the 21\(^{st}\) Century, sea level will rise by about 5mm per year in the Pacific region.\(^{19}\) For the 20\(^{th}\) Century, mean sea level rose by about 2mm per year. The IPCC has concluded that the Pacific is at high risk from the impacts of this level of sea level rise. The IPCC has concluded with very high confidence that sea level rise is expected to threaten ‘vital infrastructure, settlements and facilities that support the livelihood of island communities.’\(^{20}\)

Sea level rise threatens fresh water supplies because many islanders rely upon freshwater lenses for their water supplies. These freshwater lenses ‘float’ on seawater, providing drinking water and contributing to the agricultural productivity of overlying land.\(^{21}\) The IPCC has also determined that there is strong evidence that ‘under most climate change scenarios, water resources in small islands are likely to be seriously compromised.’\(^{22}\)

Ocean acidification, which is another ocean effect of climate change, refers to the continuing reduction in the pH and corresponding rise in acidity of the world’s oceans.


\(^{22}\) Mimura, et al, above n 19, 16.
caused by the absorption of carbon dioxide (CO$_2$).$^{23}$ From 1751 to 1994, surface ocean pH levels changed from approximately 8.25 to 8.14.$^{24}$ Although such a change appears small, it threatens to cause reduced calcification or enhanced dissolution for corals$^{25}$ and other marine life.$^{26}$ It is predicted that ocean acidification will occur in Tuvalu’s waters in the 21$^{st}$ Century with change being primarily due to the increasing uptake of CO$_2$ by oceans.$^{27}$

B. The state of climate science

The IPCC, which represents the consensus view of the world’s leading climate scientists,$^{28}$ released its Fourth Assessment Report in 2007. The report stated that ‘warming of the climate system is unequivocal’, as evident from observations of increases in global air and ocean temperatures, widespread melting of snow and ice and rising global average sea level.$^{29}$ The IPCC stated that most of the observed increase in global average temperatures since the mid 20$^{th}$ century is very likely (i.e.

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$^{28}$ The IPCC is the leading international body for the assessment of climate change. It reviews and assesses scientific, technical and socio-economic information. From these reviews, the IPCC produces comprehensive assessment reports which, according to the Australian Department of Climate Change, provide the “authoritative, consensus account of global climate change.” (Department of Climate Change, Climate Change Science Frequently Asked Questions, 22, available at <http://climatechange.gov.au/~media/publications/science/science-faq.pdf> accessed 5 March 2012).

greater than 90% probability) due to the observed increase in anthropogenic greenhouse gas emissions.\textsuperscript{30}

The amount of CO\textsubscript{2} in the atmosphere has increased by 35\% in the industrial era\textsuperscript{31} and has continued to rise. Carbon dioxide emissions from the combustion of fossil fuels and from cement manufacture are responsible for approximately 75\% of that increase.\textsuperscript{32} As a result, the concentration of CO\textsubscript{2} has risen over the past century from about 280 ppm (parts per million) to 389 ppm in September 2011. In contrast, a natural increase of 80 ppm after the last ice age took about 5,000 years.\textsuperscript{33} Anthropogenic greenhouse gas emissions are directly impacting climate change, with an increase of average temperature of 0.76 °C from 1899 to 2005.\textsuperscript{34} The decade from 2000-2009 was the hottest on record.\textsuperscript{35} Recent scientific evidence suggests that climate change is occurring more rapidly than the IPCC forecasts.\textsuperscript{36}

In its 2001 report, the IPCC included the following illustration (\textbf{Figure 1-1}) to portray the findings of simulations to determine the causes of observed temperature changes.

\begin{itemize}
\item \textsuperscript{30} Ibid, 39.
\item \textsuperscript{34} IPCC, 2007 \textit{Summary for Policy Makers}, 5.
\item \textsuperscript{35} NASA, 2009; \textit{Second warmest year on record; End of warmest decade}, \textlangle\textit{http://www.nasa.gov/topics/earth/features/temp-analysis-2009.html}\textrangle accessed 1 June 2012.
\item \textsuperscript{36} S Rahmstorf et al, ‘Recent Climate Observations Compared to Projections’ (2007) 316(5825) \textit{Science} 709.
\end{itemize}
The climate model in Figure 1-1 simulates the Earth’s temperature variations and compares the results with the measured changes. In graph (a) (top left), the band represents only natural forcings (solar variation and volcanic activity). In graph (b) (top right), the band represents anthropogenic forcings (greenhouse gases and an estimate of sulfate aerosols). In graph (c) (bottom), the band represents both natural and anthropogenic forcings.\(^{37}\)

The simulation in graph (b) demonstrates that anthropogenic forcings provide ‘a plausible explanation for a substantial part of the observed temperature changes over

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the past century’. However, the ‘best match’ is found in graph (c) demonstrating that observed increase of temperature over the past century is due to both natural and anthropogenic influence. Although these results are sufficient to explain the observed temperature changes, they ‘do not exclude the possibility that other forcings may also have contributed.’

The Australian Academy of Science released a report in 2010 entitled ‘The Science of Climate Change: Questions and Answers’. The report was prepared by a Working Group and Oversight Committee consisting of Academy Fellows and other Australians scientists with internationally recognised expertise in climate science. In answer to the question, ‘Why are CO₂ emissions from human activities regarded as so significant?’ the report stated that:

Large amounts of CO₂ are continually transferred to and from the atmosphere, which exchanges carbon with the oceans and vegetation on land. Until 200 years ago, these natural exchanges were in rough balance, shown by the nearly constant concentrations of atmospheric CO₂ for most of the last two thousand years. The importance of the human-caused CO₂ emissions is that they are disturbing this balance, adding carbon to the atmosphere faster than it can be removed by vegetation, the slow mixing of CO₂ into the deep oceans, or even the slower weathering processes that control the carbon balance on geological timescales.

There are further indications that most of the rise in temperature has been caused by anthropogenic greenhouse gas emissions. The atmospheric concentration of CO₂ is at the highest level it has been at for at least the last 800,000 years, including ice ages.

38 Ibid.
39 Ibid.
40 Ibid.
42 Ibid, 10.
and earlier interglacial periods. This indicates that natural sources of CO₂ have not caused the recent rise in the atmospheric concentration of CO₂.

One possible natural source for the large increase in atmospheric carbon dioxide is the global oceans. If the global oceans were a source for the large increase in atmospheric carbon dioxide, then this would be accompanied by a carbon decrease in this reservoir. However, there has been no observation of the carbon decreasing in the global oceans. On the contrary, there have been more than 20 published studies observing that carbon has increased in the global oceans. All of these studies show that the carbon content of the global oceans is rising by about 2±1 petagrams of carbon (PgC) annually. By way of contrast, fossil fuels contribute about 7 PgC to the atmosphere annually. This means that the oceans cannot be a source of the increase in carbon in the atmosphere. Instead, the scientific evidence indicates that the global oceans have absorbed increased levels of carbon dioxide.

Another possible natural source for the large increase in atmospheric carbon dioxide is the land biosphere. Once again, if the land biosphere was a source for the large

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43 Ibid, 2.

44 Scientists have used 6 independent methods to measure the increase of carbon in the global oceans. These are: (1) direct observations of the partial pressure of carbon dioxide at the ocean surface: Taro Takashashi et al, ‘Global Sea-Air CO₂ Flux Based on Climatological Surface Ocean pCO₂, and Seasonal Biological and Temperature Effects’ (2002) 49 Deep-Sea Research II 1601; (2) observations of the spatial distribution of atmospheric CO₂ which shows how much carbon goes in and out of the different oceanic regions: P Bousquet et al. ‘Regional Changes of CO₂ Fluxes Over Land and Oceans Since 1980’ (2000) 290 Science 1342; (3) observations of carbon, oxygen, nutrients and CFCs combines to remove the mean imprint of biological processes: Christopher Sabine et al, ‘The Oceanic Sink for Anthropogenic CO₂’ (2004) 305 Science 367; (4) observations of alkalinity and carbon for two time-periods combined with an estimate of water age based on CFCs: B I McNeil et al. ‘Anthropogenic CO₂ Uptake by the Ocean Based on the Global Chlorofluorocarbon Data Set’ (2003) 299 Science 235; (5) along with simultaneous observations of atmospheric carbon dioxide increase and the decrease in oxygen: R F Keeling, S C Piper and M Heinmann, ‘Global and Hemispheric CO₂ Sinks Deduced From Changes in Atmospheric O₂ Concentration’ (1996) 381 Nature 218; and (6) along with the simultaneous observations of atmospheric carbon dioxide increase and carbon 13: P Ciais et al., ‘A Large Northern Hemisphere Terrestrial CO₂ Sink Indicated by the 13C/12C Ratio of atmospheric CO₂’ (1995) 269 Science 1098.

45 1 PgC equates to 1015 grams of carbon. Although there is some uncertainty about the scale of uptake by the global oceans, it is clear that this uptake is occurring.
increase in atmospheric carbon dioxide, this would be accompanied by a decrease in
the carbon in this reservoir. The land biosphere has taken up 15±9 PgC in the period
1980 to 1999.\textsuperscript{46} Although the land biosphere took up 39±18 PgC, the figure of 15±9
PgC includes a reduction in the land biosphere of 24±12 PgC due to deforestation and
other land-use changes.\textsuperscript{47} It is evident that after deforestation and other land use
changes, the land biosphere acts as a carbon sink and does not provide a natural source
for the increase in atmospheric carbon dioxide.

Other possible natural sources for the increase in atmospheric carbon dioxide are
volcanoes and other geological reservoirs. However, the combined annual carbon
emissions from volcanoes both on land and under the sea, averaged over several
decades, ‘are less than 1% of CO\textsubscript{2} emissions in 2009 from fossil fuels, industrial
processes and deforestation.’\textsuperscript{48} This indicates that volcanoes and other geological
reservoirs could provide only a very small contribution to the increase in atmospheric
carbon dioxide.

Climate scientists have measured carbon isotopes as a separate independent means of
determining sources of atmospheric carbon dioxide.\textsuperscript{49} Carbon (C) is comprised of three
different isotopes, \textsuperscript{14}C, \textsuperscript{13}C and \textsuperscript{12}C. The ratio of \textsuperscript{13}C/\textsuperscript{12}C in tree rings provides an
indicator of the source of carbon dioxide because carbon dioxide produced from fossil
fuels or deforestation has a lower \textsuperscript{13}C/\textsuperscript{12}C ratio than that of atmospheric carbon dioxide.
Studies by isotope geochemists have shown that the current \textsuperscript{13}C/\textsuperscript{12}C ratios in the
atmosphere are the lowest that have existed in the last 10,000 years. Furthermore, the

\textsuperscript{47} Ibid.
\textsuperscript{48} Australian Academy of Science , above n 41,11.
\textsuperscript{49} Isotopes are different atoms with the same chemical behaviour but different masses.
$^{13}$C/$^{12}$C ratios started to significantly decline around 1850 AD – the same time that human activities begun contributing higher levels of carbon dioxide.\(^50\)

Based upon all of these factors, it is reasonable to reach a preliminary conclusion that anthropogenic greenhouse gas emissions are responsible for virtually all of the rise in atmospheric greenhouse gas emissions and the associated climate change. However, whether this science will translate into causation in the context of international climate litigation requires consideration and application of a number of tests that are explored in this thesis.

C. Literature review

The aim of this section is to review the existing literature on the issue of the research and to establish that this research will fill a gap in current knowledge about potential legal responsibility for climate change damage under international law. Climate change is a unique problem that transcends State boundaries. It also crosses over into multiple areas of law at the international, regional and national levels.\(^51\)

There is a growing interest in international environmental litigation generally\(^52\) and specifically in relation to climate change. However, some argue that there is little value


in international environmental litigation and instead emphasise the need for cooperation. 53 Enforcement of international environmental law remains a difficult issue. 54 There is a broader body of work on international environmental governance including the manner in which rules of international environmental law are developed, applied and enforced. 55

The proposed research field is part of the broader study of climate change law. 56 Considerable literature has been devoted to responsibility for climate change in terms of the distribution of moral responsibility within the international community. 57 Climate change raises critical issues of equity across developed and developing States and across generations. 58 More recently, an increasing number of authors have


assessed the economic dimensions of climate change.\textsuperscript{59} However, literature that explores legal responsibility through international legal frameworks is in its early development.

The application of the international law doctrine of State responsibility to climate change damage has been written upon, with a leading work being ‘Climate change damage and international law: Prevention Duties and State Responsibility’ by Roda Verheyen.\textsuperscript{60} Verheyen considers climate change damage under the international climate regime, as well as other international law including the LOSC. Verheyen provides case studies including a hypothetical claim by the Cook Islands against Australia based upon injury due to expected sea level rise and relying upon the ‘no harm’ rule of customary international law.\textsuperscript{61} Based upon this case study, Verheyen concludes that it is possible to seek redress for damages based upon the fact that current (and past) greenhouse gas emissions contribute to the phenomenon of climate change and therefore to the risk of future sea level rise with its diverse consequences.\textsuperscript{62}

This thesis offers a critique of Verheyen’s conclusions, which appear to overstate the case for exposure to legal risk for climate change damage. For instance, Verheyen

\textsuperscript{59} See e.g. Nicholas Stern, \textit{The Economics of Climate Change: The Stern Review} (Cambridge: Cambridge University Press, 2007).


\textsuperscript{61} Verheyen, above n 60, 313.

argued that Article 2 of the UNFCCC provides a legally enforceable commitment.\textsuperscript{63} However, upon closer inspection there is little to support such a conclusion. Rather, Article 2 is the objective of the climate regime and does not provide a commitment to mitigate greenhouse gas emissions. Similarly, Verheyen concluded that Article 4.2 of the UNFCCC could be relied upon by a claimant State,\textsuperscript{64} whereas this thesis finds that there are a number of reasons to doubt such a view particularly due to the vague language used in Article 4.2.

Furthermore, the thesis can be distinguished from Verheyen’s work by its consideration of recent international case law (e.g. Behrami and Behrami Case\textsuperscript{65}) and other material (e.g. the International Law Commission’s \textit{Draft Articles on Responsibility of International Organisations}\textsuperscript{66}) which inform issues of multiple attribution and responsibility. It also considers new science on ocean acidification and sea level rise which influence questions of causation. With the first commitment period of the Kyoto Protocol ending in December 2012 it is also now possible to make an assessment about the relative levels of compliance by Parties with their commitments under the Kyoto Protocol.

Finally, the thesis considers other aspects that are not addressed by Verheyen. These include the possible application of the defence of consent, greater consideration of the LOSC (including the decisions in the \textit{Southern Bluefin Tuna Case}\textsuperscript{67} and the \textit{MOX

\textsuperscript{63} Verheyen, above n 60, 56-58.
\textsuperscript{64} Ibid, 81.
\textsuperscript{65} \textit{Behrami and Behrami v France} and \textit{Saramati v France, Germany and Norway} (dec) nos 71412/01 and 78166/01 Eur. Ct. HR 2007 (joint admissibility decision).
\textsuperscript{67} \textit{Southern Bluefin Tuna Case (Australia and New Zealand v Japan) (Jurisdiction and Admissibility)} (Arbitral Panel constituted under Annex VII of the \textit{United Nations Convention of the Law of the Sea} (Award of 4 August 2000); \textit{Southern Bluefin Tuna Cases (New Zealand v Japan; Australia v Japan) (Provisional Measures)} (1999) 38 ILM 1624 (Order of 27 August 1999).
Plant Case\textsuperscript{68}) and the potential of using the principle of common but differentiated responsibility as a basis for allocating responsibility for climate change damage.

Potential claims under the climate change regime have received some attention in other literature. Most authors have focused upon the UNFCCC, specifically the objective contained in Article 2, the mitigation obligation found in Article 4.2 and the obligations to assist in adaptation found in Articles 4.3 and 4.4.\textsuperscript{69} For example, Sands argued that Article 4.4 has the potential to be the most costly obligation in the UNFCCC.\textsuperscript{70} Again, this thesis offers a critique of these conclusions and identifies weaknesses within these previous assessments of exposure to legal risk for climate change damage. There are dimensions to the issue that have yet to be explored by these other authors. This is especially the case in terms of the relationship between the treaty obligations and the rules of State responsibility.

Potential claims under international marine law, including for SIDS, has been explored by some authors.\textsuperscript{71} This literature is in early development and offers room for further analysis. In particular, little attention has been provided to the question of whether the climate regime excludes the LOSC dispute settlement processes\textsuperscript{72} and how the lex

\textsuperscript{68} MOX Plant Case (Provisional Measures) ITLOS NO 10 (2001).
\textsuperscript{69} See e.g. Verheyen, above n 60; Davis, above n 62; Larson, above n 62.
\textsuperscript{72} Doelle, above n 71, 13-14.
A *specialis* rule should be applied. These jurisdictional issues are likely to pose a significant issue for claimant States but have not been examined in depth by other authors. Other issues that have not been fully examined include whether the obligations that deal with specific types of sources for marine pollution (land-based sources and atmospheric sources) could encompass greenhouse gas emissions.

Finally, there has been relatively scant research undertaken on questions relating to establishing attribution and responsibility for climate change. There are innovative legal elements associated with the unique phenomenon of global climate change that have not been examined in the literature. As mentioned above, the principle of common but differentiated responsibility is a new factor in the attribution of responsibility that introduces a new possible formula for the attribution of cumulative damage by several Parties. The principle of common but differentiated responsibility is assessed in this thesis for its influence in relation to other considerations, such as the choice of joint or several responsibility and application of the *sine qua non* formula.

Therefore, it is submitted that the research provides a contribution to the existing knowledge in five respects. First, it offers a critique of the conclusions previously reached by other authors by identifying areas of weakness within these arguments and areas where exposure to legal risk may be overstated. Second, the thesis addresses issues that have either been overlooked or given insufficient attention by other authors. Third, the thesis considers more recent sources of international law, including

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73 The principle of common but differentiated responsibility refers to the concept that countries should have differing responsibilities and rights depending upon distinguishing characteristics such as wealth and level of development. For more on common but differentiate responsibility, see Malgosia Fitzmaurice, ‘Liability for Environmental Damage Caused to the Global Commons’ (1996) 5(4) *Review of European Community and International Law* 305; Christopher D Stone, ‘Common but Differentiated Responsibilities under International Law’ (2004) 98 *American Journal of International Law* 276.

74 Faure and Nollkaemper, above n 60.
international case law. Fourth, it examines the impact of recent science on exposure to legal risk for climate change damage not previously considered by other authors. Finally, the thesis considers exposure within the context of recent developments in factual circumstances that would impact on the question of whether breaches of the law have occurred.

D. Research questions

This thesis aims to answer two research questions. The first of these is ‘What exposure is there to legal risk for climate change damage under the UNFCCC, Kyoto Protocol and LOSC?’ The secondary research question is ‘Would Tuvalu succeed in a claim regarding climate change damage against Australia under the UNFCCC, Kyoto Protocol and LOSC?’

The first research question is a general legal enquiry as to the current state of the law. This enquiry requires an assessment of the phenomenon of climate change, a survey and analysis of the literature and of the applicable international law. In this way, the first research question is a classic doctrinal legal research question in which a study is undertaken to determine what the law is in this particular area.\textsuperscript{75} The aim here is to describe the relevant body of international law and how it applies to the problem of climate change damage. This research question is focused upon the interpretation of the applicable law.

The second research question aims to thoroughly investigate the application of the law, which can often be the most contentious element in doctrinal research.\textsuperscript{76} The aim


\textsuperscript{76} Ibid, 19.
here is to use a plausible case study in order to illuminate the realities of this type of litigation, particularly with regard to procedural and jurisdictional obstacles facing the different avenues of legal claim.

Although part of the paradigm of legal doctrinal research is that the law may be objectively determined,\textsuperscript{77} interpretation and application of this area of law provides ample room for divergent views amongst legal scholars. For this reason, the thesis delves into difficult issues, acknowledges other potential perspectives and provides justification for why particular conclusions have been reached.

E. Definition of climate change damage

Climate change damage is a form of environmental damage and transboundary pollution. Environmental damage refers to all of the adverse effects on human beings, property and the environment caused by human activities.\textsuperscript{78} Transboundary pollution refers to situations where two or more States are affected by pollution across borders.\textsuperscript{79}

Climate change damage is not defined in any legal instruments. However, Article 1.1 of the UNFCCC defines the adverse effects of climate change as:

\begin{quote}
changes in the physical environment or biota resulting from climate change which have significant deleterious effects on the composition, resilience, or productivity of natural or managed ecosystems or on the operation of socio-economic systems or on human health and welfare.
\end{quote}

This definition largely adopts the language employed in other international legal instruments to refer to pollution or adverse effects. However, the definition adopted in

\begin{flushright}
\textsuperscript{77} Ibid, 21.
\textsuperscript{78} Ibid, 125.
\end{flushright}
the UNFCCC contains a threshold (‘significant deleterious effects’) that is not found in some other instruments, such as the 1979 Convention on Long-Range Transboundary Air Pollution. Nonetheless, such a threshold is found in the 1987 Vienna Convention for the Protection of the Ozone Layer.

Although the definition found in the UNFCCC could be adopted, the LOSC’s definition of ‘pollution of the marine environment’ contains a lower threshold element by simply referring to ‘deleterious effects’. Thus, there are climate change impacts that may be captured by the LOSC but not the UNFCCC. Furthermore, the definition contained in the LOSC includes both actual damage and the risk of damage (‘results or is likely to result’).

Therefore, a broad approach is taken in this thesis and climate change damage is defined as encompassing any deleterious effect or risk of deleterious effect to the environment caused by anthropogenic climate change. This definition of climate change damage must be distinguished from compensable damage, which refers to economic losses or harms expressed in economic terms that is found in schemes of

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80 1979 Geneva Convention on Long-Range Transboundary Air Pollution, opened for signature 13 November 1979, 18 ILM 1442 (entered into force 16 March 1983), art 1(a): “‘air pollution’ means the introduction by man, directly or indirectly, of substances or energy into the air resulting in deleterious effects of such a nature as to endanger human health, harm living resources and ecosystems, material property and impair or interfere with amenities and other legitimate uses of the environment and “air pollutants” shall be construed accordingly.”

81 Vienna Convention for the Protection of the Ozone Layer, opened for signature 22 March 1985, 1513 UNTS 324 (entered into force 22 September 1988), art 1(2): adverse effects ‘means changes in the physical environment or biota, including changes in climate, which have significant deleterious effects on human health or on the composition, resilience and productivity of natural and managed ecosystems, or on materials useful to mankind.’

82 LOSC, art 1: “‘pollution of the marine environment” means the introduction by man, directly or indirectly, of substances or energy into the marine environment, including estuaries, which results or is likely to result in such deleterious effects as harm to living resources and marine life, hazards to human health, hindrance to marine activities, including fishing and other legitimate uses of the sea, impairment of quality for use of sea water and reduction of amenities.’
liability and reparation.83 Whether a specific type of climate change damage is compensable damage is a separate matter which is discussed through this thesis.

F. Methodology

The doctrinal methodology used in law is ‘under-theorised’ and often given little attention by scholars.84 As observed by Richard Posner, ‘law is not a field with a distinct methodology, but an amalgam of applied logic, rhetoric, economics and familiarity with a specialised vocabulary and a particular body of texts, practices and institutions.’85 Much of the literature that examines doctrinal methodology compares law to other types of research, including discourse analysis.86

Some commentators draw a distinction between the ‘internal method’ used in doctrinal legal research and the ‘external method’ used by extra-legal disciplines that study the law in practice.87 The internal method refers to the study of law ‘using reason, logic and argument’ and in this method there is a ‘primary of critical reasoning based around authoritative texts.’88 In essence, the internal method involves the ‘analysis of a number of legal rules and principles taking the perspective of an insider in the system.’89

89 Ibid, 633.
Doctrinal research involves forms of reasoning including induction, deduction and analogy. It is a form of qualitative research because it is a ‘process of selecting and weighing materials taking into account hierarchy and authority as well as understanding social context and interpretation.’ In many ways, doctrinal research is similar to a social science literature review; however it goes beyond a literature review by providing interpretation and analysis of documents and texts. The first step requires an objective task of finding the law but the second step is a subjective process personal to the individual researcher.

The task of researching international law requires an examination of the sources of international law that are stipulated in Article 38 of the Statute of the International Court of Justice. The sources are conventions, custom and general principles.

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93 Ibid. Christopher McCrudden, ‘Legal Research and the Social Sciences’ (2006) 122 *Oct Law Quarterly Review* 632, 648: ‘If legal academic work shows anything, it shows that an applicable legal norm on anything but the most banal question is likely to be complex, nuanced and contested. Law is not a datum; it is in constant evolution, developing in ways that are sometimes startling and endlessly inventive.’


95 Examples of sources of custom include: speeches by State officials and diplomats; transcripts of parliamentary proceedings; domestic legislation; decisions of domestic courts and tribunals; diplomatic correspondence; historical records; press releases and communiqués; policy statements; reports of military and naval activities; comments by governments on the work of international bodies (e.g. the International Law Commission); voting records in international forums (e.g. the UN General
Judicial decisions and writings provide subsidiary means for determining the law. Thus, doctrinal research in the context of international law is essentially a ‘matter of treaty interpretation, and of construing applicable customary rules and general legal principles.’

The research questions of this thesis focus particularly upon the law contained in treaties, namely the United Nations Framework Convention on Climate Change (UNFCCC), the Kyoto Protocol and the United Nations Law of the Sea Convention (LOSC). Guidance on how treaties are to be interpreted is provided in the Vienna Convention on the Law of Treaties (VCLT). The general rule of interpretation is that a treaty is to be interpreted in good faith in accordance with the ordinary meaning of the terms in their context and in the light of its object and purpose. Supplementary means of interpretation may be utilised in order to confirm the meaning, or to determine the meaning when the interpretation leaves the meaning ambiguous or obscure, or leads to a result which is ‘manifestly absurd or unreasonable.’

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Assembly); official manuals issued to diplomats and armed forces; and treaties. See Stephen Hall, ‘Researching international law’ in Mike McConville and Wing Hong Chui (eds), Research Methods for Law (2007) 181, 187.

Hall, above n 104, 163.


11 VCLT, art 31.

12 VCLT, art 32.
G. Structure of the thesis

Chapter 2 introduces the international climate change regime, which includes the UNFCCC, Kyoto Protocol and other instruments. It provides a history of the international negotiations and an overview of the key instruments, decisions, institutions and mechanisms. It examines the objective contained in Article 2 of the UNFCCC and identifies its meaning. Chapter 2 also considers an alternative objective which emerges from the text of the UNFCCC. This chapter provides a general overview of the principles contained in Article 3 of the UNFCCC, focusing especially upon common but differentiated responsibility (Article 3.1); the precautionary principle (Article 3.3); and sustainable development (Article 3.4). It also considers the content of the preamble of the UNFCCC and its role as an interpretive aid.

Chapter 3 examines the commitments contained in the UNFCCC and the extent to which these may provide an avenue of redress for victim States. In particular, the chapter examines whether (developed) States are legally bound to mitigate greenhouse gas emissions and whether these States are legally bound to assist victim States in adaptation to climate change impacts. This chapter describes and analyses the content and scope of these commitments with a view to concluding what level of exposure there is to legal risk for climate change damage under the UNFCCC. In addition, this chapter considers the dispute settlement procedures contained in the UNFCCC and the ability of States to litigate contentious cases.

Chapter 4 describes and interprets the commitments contained in the Kyoto Protocol within the context of climate change damage, focusing particularly upon the Quantitative Emission Limitation and Reduction Obligations (QELROs). This chapter examines the emergence of the Kyoto Protocol compliance system and its key
components, including the Enforcement Branch. It also considers the legal status of the compliance system. Finally, Chapter 4 assesses the potential for legal disputes both within and outside of the Kyoto Protocol compliance system around the Kyoto Protocol obligations.

Chapter 5 shifts the focus of the thesis to a separate area of international law, namely the LOSC. This chapter assesses a number of obligations contained in the LOSC which could provide sources of legal exposure. These obligations include the due regard provision, general obligations to prevent, reduce and control marine pollution, and obligations relating to specific types of sources of marine pollution. These specific sources include land-based sources and atmospheric sources. Chapter 5 also examines the compliance and enforcement mechanisms of the LOSC. Particular attention is given to the question of whether claimant States would be able to establish jurisdiction, given that there may be overlap and even conflicts between the LOSC and the climate regime.

Chapter 6 examines the rules of State responsibility and their possible application to climate damage. This chapter assesses the rules of attribution and imputability in international law. It examines causation and considers how factual causation and legal causation could be applied. The chapter assessed the various approaches to allocating responsibility when there are multiple wrongdoers, as is the case with climate change. Finally, Chapter 6 examines possible defences and the available remedies.

Chapter 7 seeks to answer the second research question through the use of a hypothetical case study of *Tuvalu v Australia*. The chapter seeks to test the preliminary conclusions of the thesis in relation to the obligations contained in the UNFCCC, Kyoto Protocol and LOSC and under the rules of State responsibility.
Chapter 8 is the conclusion of the thesis. It brings together the findings of the thesis across the chapters in relation to both of the research questions. This chapter also provides recommendations for responding to climate damage in light of the findings of the thesis.

H. Conclusion

This chapter has introduced the area of research by providing an overview of the problem of climate change damage. The objectives of the research have been explained through the description of the two research questions which the thesis aims to answer. The first of these is ‘What exposure is there to legal risk for climate change damage under the UNFCCC, Kyoto Protocol and UNCLOS?’ The secondary research question is ‘Would Tuvalu succeed in a claim regarding climate change damage against Australia under the UNFCCC, Kyoto Protocol and UNCLOS?’ The topic has been introduced as a classic doctrinal legal research project into the interpretation and application of a particular area of law. Thus, the thesis has adopted the approach of legal positivism. A basic introduction to the terminology that is used in the thesis has been provided. The literature review introduced the area of study identifying relevant gaps in knowledge and an explanation of how the thesis has been designed to address these gaps. Finally, the structure of the thesis has been explained.
2. INTERNATIONAL CLIMATE CHANGE REGIME

A. Overview

This chapter aims to introduce the international climate change regime, including the United Nations Framework Convention on Climate Change (UNFCCC),\(^1\) the Kyoto Protocol\(^2\) and other instruments. The purpose of this chapter is to introduce thoroughly the collective response of the international community to the issue of climate change. This understanding provides background to the following chapters which examine the most relevant obligations in depth. Key points identified in this chapter are featured in tables for ease of reference. This background provides insight into the level of exposure to legal risk that may arise under the international climate change regime, which is further examined in the following chapters.

Section B explores the legal status of the atmosphere, which is not clearly defined in international law. Section C examines the history and preparatory work of the UNFCCC, focusing upon how countries approached the issue of climate change and how they considered the issues of liability and compensation for climate change damage. Section D describes the key instruments and decisions found in the climate regime. It provides an introduction to both the UNFCCC and the Kyoto Protocol, which are more fully examined in Chapters 3 and 4.

Section E considers the object and purpose of the UNFCCC. This section aims to interpret Article 2, which is generally noted for its ambiguity. Section E also considers


an alternative objective which emerges from the text of the UNFCCC. Section F considers the argument that Article 2 may be a legally binding obligation. Section G provides a general overview of the principles contained in Article 3 of the UNFCCC, focusing especially upon common but differentiated responsibility (Article 3.1); the precautionary principle (Article 3.3); and sustainable development (Article 3.4). Section H examines the preamble of the UNFCCC and its role as an interpretative aid. Finally, Section I summarises the findings of this chapter.

A regime refers to a body of international law that deals with a specific problem or area. It may be structured by a framework convention which is accompanied by various other instruments. The international climate change regime adopts this structure and is made up of two key conventions: the UNFCCC and the Kyoto Protocol.3 There are a number of other important instruments found within the regime which are also described in this chapter.

B. Legal status of the atmosphere and climate

The atmosphere is not a distinct category in international law. The ‘air space’ has been defined under other international law as the ‘spatial dimension subject to the sovereignty of the subjacent States.’4 However, the atmosphere encompasses more than just the air space and therefore refers to more than just the air that is subject to State sovereignty. Although the atmosphere is beyond State jurisdiction this in itself

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3 There are other forums in which states have been negotiating action on climate change. In particular, the Major Economies Meeting (MEM) (formerly the Major Economies Process on Energy Security and Climate Change”) was established by US President Bush in 2007 as ‘a new initiative to develop and contribute to a post-Kyoto framework on energy security and climate change.’ Participation is limited to major actors including OECD states, the US, China, Brazil, India and the EU. See <http://www.state.gov.au/g/oes/climate/mem/> accessed 16 January 2012. In addition, the G8 established a process in 2005 (led by the UK). Both of these initiatives state that they seek to complement the UNFCCC.

does not necessarily mean that it is common property.\textsuperscript{5} In the context of climate change, the atmosphere has been treated as the ‘common concern of mankind’.\textsuperscript{6} This means that States share the burden and responsibilities of protecting the atmosphere from harm.\textsuperscript{7}

C. History

This section examines the history and preparatory work of the UNFCCC. The history presented here begins in the early 1980s, when climate change was first raised in the United Nations General Assembly (UNGA). The early history of negotiations, leading up to the Intergovernmental Negotiation Committee (INC), is presented in Table 2-1. Further attention is given to the history of the INC which was given the task of drafting the framework convention on climate change. The focus of this analysis is upon determining how countries approached the issue of climate change and how they considered the issues of liability and compensation for climate change damage.

<table>
<thead>
<tr>
<th>1983</th>
<th>UNGA mandated World Commission on Environment and Development (WCED) to examine climate change.</th>
</tr>
</thead>
</table>


\textsuperscript{6} UN G.A. Resolution 43/53; \textit{Noordwijk Declaration of the Conference on Atmospheric Pollution and Climate Change}; UNFCCC, pmbl; UNEP/GC 15/36 (1989).

See also the legal status of the ozone layer in the \textit{Vienna Convention for the Protection of the Ozone Layer}, opened for signature 22 March 1985, 1513 \textit{UNTS} 324 (entered into force 22 September 1988) [herein ‘Ozone Convention’] sec 3.2: (‘the layer of atmospheric ozone above the planetary boundary layer’). This definition indicates that the entire stratospheric layer is one global unity, without mentioning sovereignty, shared resources or common property. CF the legal status of the atmosphere as a shared resource within the context of transboundary air pollution. \textit{1979 Geneva Convention on Long-Range Transboundary Air Pollution}, opened for signature 13 November 1979, 18 \textit{ILM} 1442 (entered into force 16 March 1983) [herein ‘Convention on Transboundary Air Pollution’].

### 1987
WCED produced a report which called for ‘discussions leading to a convention’ to halt global warming.  

### 1987
UNGA supported United Nations Environment Programme (UNEP) in making the research of climate change a key priority.  

### 1988
Malta proposed a declaration that would provide that the climate system is the ‘common heritage of mankind’. The UNGA passed a declaration that recognised that ‘climate change is a common concern of mankind’ and urged ‘Governments … to treat climate change as a priority issue’ and to make ‘every effort to prevent detrimental effects on the climate and activities which affect the ecological balance’.  

### 1989
UNGA calls for preparation of negotiations for a framework convention on climate change under the auspices of the UN.  

### 1989
The UNGA passed a resolution in response to the initiative of several island States. The resolution recommended that ‘the vulnerability of affected countries and their marine ecosystems to sea level rise be considered during discussions of a draft framework convention on climate and within the framework of the UN Conference on Environment and Development…’.  

### 1989
UNGA recognised that the main responsibility for mitigation of climate change rested with the developed countries because ‘the largest part of the current emission of pollution into the environment’ originated in those countries. UNGA also stated that within the context of climate change, countries have the responsibility ‘to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or areas beyond...

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11 *Protection of Global Environment for Present and Future Generations of Mankind*, UNGA Res. 43/53, UN GAOR, 43rd sess, 70th plen mtg, UN Doc A/43/905 (6 December 1988), paras. 6 and 9.
As can be seen from this brief timeline, the international community first began responding to the issue of climate change in 1983. Gradually, this response grew resulting in the UNGA calling for a framework convention on climate change in 1989. This was the task given to the INC.

1. Intergovernmental Negotiation Committee (INC)

(a) Introduction

The INC met in five sessions prior to the adoption of the UNFCCC from February 1991 to May 1992. The UNGA resolution which established the INC specified that each negotiating session could last only two weeks,\(^{16}\) and the INC was expected to complete the work in time for the UNFCCC to be signed at the United Nations Conference on Environment and Development (UNCED).\(^{17}\) The INC continued to meet after May 1992 (INC 6-11) in order to discuss the implementation of UNFCCC until it entered force.\(^{18}\)

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(b) Framework vs. Substantive Approach

The UNGA gave the INC the task of drafting ‘an effective framework convention on climate change, containing appropriate commitments.’\(^{19}\) The ambiguity in this mandate left open a fundamental question that was present throughout the INC negotiations:

[W]as the INC’s task to draft a framework convention – that is, a largely procedural convention, establishing a basis for future action – or a substantive convention committing States to specific measures and policies?\(^{20}\)

Early in the negotiations, proposals focused on the framework convention/protocol approach, through which countries agree to a framework convention, which establishes preliminary and general obligations on matters such as exchange of information and scientific research.\(^{21}\) Once a framework convention was established, countries would develop protocols setting out specific pollution control measures (including emissions reduction targets) and more detailed implementation mechanisms.\(^{22}\)


\(^{21}\) Other examples of framework conventions include: the Convention on Transboundary Air Pollution and Vienna Convention for the Protection of the Ozone Layer, opened for signature 22 March 1985, 1513 UNTS 324 (entered into force 22 September 1988). In both cases these conventions were initially ‘empty frameworks’ but later became two leading examples of international environmental law. See Patricia Birnie, Alan Boyle and Catherine Redgwell, International Law and the Environmental (New York: 3rd edition, Oxford University Press, 2009), 342ff.

\(^{22}\) Bodansky, ‘The United Nations Framework Convention on Climate Change’, above n 20, 494. This approach had been used with the problems of acid rain and depletion of the ozone layer. Convention on Transboundary Air Pollution. Three protocols to this convention have been adopted: (1) Helsinki Protocol on the Reduction of Sulphur Emissions or Their Transboundary Fluxes by at Least 30 Percent, opened for signature 8 July 1985, 27 I.L.M. 707 (entered into force 2 September 1987), (2) Sofia Protocol Concerning the Control of Emissions of Nitrogen Oxides or Their Transboundary Fluxes, opened for signature 31 October 1988, 28 I.L.M. 214 (entered into force 2 February 1991), and (3) Protocol Concerning the Control of Emissions of Volatile Organic Compounds or Their Transboundary Fluxes, opened for signature 18 November 1991, 31 I.L.M. 568 (entered into force 29 September 1997).
However, many States wanted the INC to produce more than a framework convention due to the perceived urgency of climate change and the extensive preparatory work already done by the IPCC.\textsuperscript{23} Disagreement over this issue was present in both working groups. In Working Group I (WGI), some countries proposed that the INC should set specific targets and timetables for limiting greenhouse gas emissions, potentially in protocols concluded at the same time as the framework convention.\textsuperscript{24} In Working Group II (WGII), countries debated whether the convention should establish just a skeletal structure with room for further development or establish more developed implementation mechanisms.\textsuperscript{25}

Specifically, some oil-exporting countries argued for a ‘barebones’ convention that established general principles and did not include specific commitments. These countries argued against the establishment of subsidiary bodies to the COP and binding dispute settlement procedures.\textsuperscript{26}

The US called for a ‘process-oriented convention’ which would contain little in terms of commitments, but would establish ambitious implementation mechanisms; flexible

\textit{Also see Ozone Convention.} The Montreal Protocol was adopted less than 3 years later, which required 50% cuts in specified ozone-depleting substances from 1986 levels by 1993-94. \textit{Montreal Protocol on Substances that Deplete the Ozone Layer}, opened for signature 16 September 1987, 1522 UNTS 3 (entered into force 1 January 1989).


\textsuperscript{24} For example, Germany initially proposed the negotiation of protocols on the reduction of greenhouse gas emissions, the conservation and creation of CO\textsubscript{2} reservoirs and sinks, and adaptation to climate change. Set of informal Papers Provided by Delegations, INC/FCCC. 2\textsuperscript{nd} Session, Provisional Agenda Item 2, at 21, UN Doc. A/AC.237/Misc.1/Add.1 (1991).

\textsuperscript{25} Bodansky, ‘The United Nations Framework Convention on Climate Change’, above n 20, 495.

\textsuperscript{26} Initially, China objected to including the heading ‘Commitments’ in the outline of the convention, on the basis that the convention should be a framework only. See Bodansky, ‘The United Nations Framework Convention on Climate Change’, above n 20, 495-496.
non-compliance procedures; and detailed provisions on scientific research, information exchange, and education.\textsuperscript{27} Many developing States argued for specific commitments (applying primarily to developed States) but were opposed to the more detailed procedural proposals.\textsuperscript{28}

The European Community, Alliance of Small Island States (‘AOSIS’), and the CANZ group (Canada, Australia, and New Zealand) called for detailed provisions on both procedural mechanisms and substantive commitments. These countries proposed that binding dispute settlement procedures be established and that developed countries make a specific commitment to stabilise CO\textsubscript{2} emissions at 1990 levels by the year 2000.\textsuperscript{29} This debate over the framework/substantive nature of the convention was present up until INC 5, when the INC considered whether the title should be the ‘UN Convention on Climate Change’ or, as was finally agreed by States Parties, the ‘UN Framework Convention on Climate Change’\textsuperscript{30}.

This negotiation history sheds light on the ongoing debate amongst commentators on whether or not the UNFCCC contains substantive commitments. Generally, the UNFCCC has been described as a ‘law-making’ treaty\textsuperscript{31} and, at the other end of the spectrum, devoid of legal rights and obligations.\textsuperscript{32} For instance, Sands argued that the title ‘Framework’ is something of a misnomer on the basis that the UNFCCC established

\begin{flushleft}
\textsuperscript{27} Bodansky, ‘The United Nations Framework Convention on Climate Change’, above n 20, 496.
\textsuperscript{28} Ibid.
\textsuperscript{29} Ibid.
\textsuperscript{30} Ibid.
\textsuperscript{32} Akiko Okamatsu, ‘Problems and Prospects of International Legal Disputes on Climate Change’ (Berlin Conference on the Human Rights Dimensions of Global Environmental Change, 2005), 5.
\end{flushleft}
commitments to stabilise greenhouse gas concentrations in the atmosphere at a safe level, over
the long term, and to limit emissions of greenhouse gases by developed countries in accordance
with soft targets and timetables; a financial mechanism and a commitment by certain developed
country Parties to provide financial resources for meeting certain incremental costs and
adaptation measures; ... and potentially innovative implementation and dispute settlement
mechanisms.  

Okamatsu argued that, as a framework convention, the UNFCCC does not provide
specific rights and obligations.  

Bodansky said that the UNFCCC ‘lies somewhere between a framework and a substantive convention’. He argued that while the
UNFCCC does not contain the type of specific emissions control measures as are
contained in protocols, it establishes more extensive commitments than other framework conventions.  

Indeed, it does appear that the UNFCCC is a mix of a framework and a substantive
convention. Substantive commitments and procedural mechanisms are included in
the UNFCCC, contrary to standard practice with framework conventions. Furthermore, it must be noted that the title of a treaty is an interpretive tool but not conclusive. The negotiation history indicates that the title’s use of the term ‘framework’ should not be heavily relied upon. Rather, the substance of the obligations contained in the text to determine whether these indeed are legally binding substantive obligations.

33 Sands, above n 31, 359. Sands also notes that the UNFCCC established two subsidiary bodies to the conference of Parties and a number of important guiding ‘Principles’.
34 Okamatsu, above n 32, 5.
36 Bodansky also argues that the UNFCCC contains ‘only the vaguest of commitments regarding stabilisation and no commitment at all on reductions.’ Ibid, 451. 
37 This compares to the Convention on Transboundary Air Pollution and the Ozone Convention. These two instruments were initially both empty frameworks but have since evolved into two of the leading examples of international environmental law. See Birnie, Boyle and Redgwell, above n 21, 335. 
(c) Compensation and Liability

The following discussion explains how Parties approached the issues of compensation and liability during the INC negotiations. This discussion begins with an overview of general approaches, and then deals more specifically with the idea of a ‘Climate Fund’ and a proposed ‘International Insurance Pool’. This analysis of the negotiation history is important for the purposes of this thesis because it sheds light upon the options that were considered by Parties and the level of recognition that Parties made of potential liability (both as claimant and respondent countries).

(i) General

The INC negotiations contained very limited discussion of compensation and liability for climate change damage, and instead focused upon mitigation and adaptation. However, at the first INC meeting (INC 1), the UNEP representative emphasised that the negotiators needed to address issues of damage prevention through adaptation, liability and compensation, and several States referred to the polluter pays principle for this purpose.

In response to the lack of discussion of compensation and liability, AOSIS suggested that the following phrase be included in the convention:

This convention … is without prejudice to the existing rights under international law, including rules governing international liability for damage to people, property and the environment.

40 See Guidelines for the Negotiations, as decided by the first INC meeting, in: Report of the first INC session, UN Doc. A/AC.237/6, 23.
42 See submission of Vanuatu on behalf of the Alliance of Small Island States (AOSIS), Elements for a Framework Convention on Climate Change, in: Set of informal papers provided by delegations, related
Germany, in its first country submission, called for a protocol to be developed under the future convention on ‘the adjustment to climate changes and the prevention and containment of climate-related damage’. Although this approach was not adopted by other developed countries, the developing countries proposed a range of measures to deal with climate change damage. Clearly, the issue of climate change damage was present in the minds of many States even in the early stages of the negotiations.

(ii) The Climate Fund

The idea of a Climate Fund was initially put forward in UNGA Resolution 44/207 and then later developed by negotiators. The Fund was meant to ‘meet … on a grant basis … the costs for developing countries to adapt to and mitigate the adverse effects of climate change’ and was to be financed by contributions from developed States in the form of ‘new and additional financial resources’. The Climate Fund would require developed State Parties to meet the ‘full incremental costs’ necessary for all developing State Parties to ‘adapt to and mitigate the adverse effects of climate change’.

Although the proposal did not expressly provide for compensation and liability, the Group of 77 and China asserted that ‘these funds from the developed countries will be to a great extent of a compensatory nature’. This provides evidence that the

to the preparation of a framework convention on climate change, UN Doc. A/AC.237/Misc.1/Add.3, 22.
43 Non-Paper by Germany, in: Set of informal papers provided by delegations, related to the preparation of a framework convention on climate change, UN Doc. A/AC.237/Misc.1/Add.1, 21.
44 Arts 2 and 5 of the Draft Framework Convention of Climate Change, submitted by India, in: Set of informal papers provided by delegations, related to the preparation of a framework convention on climate change, UN Doc. A/AC.237/Misc.1/Add.3, 7.
46 The Group of 77 serves as a negotiation platform for developing States on climate change and other issues.
47 Set of informal papers, Submission by Ghana on behalf of the States members of the Group of 77, UN Doc. A/AC.237/Misc.1/Add.15 (submitted at INC 4), 5.
developing States perceived the issues of climate change damage and damage prevention as an issue of liability for past emissions.\textsuperscript{48}

However, perceived inadequacies in the proposed Climate Fund led AOSIS to suggest a fund with substantive financial obligations for developed countries to ‘compensate developing countries (i) in situations where selecting the least climate sensitive development option involves incurring additional expense; and (ii) where insurance is not available for damage resulting from climate change.’\textsuperscript{49} This proposal by AOSIS was made along with a proposed ‘International Insurance Pool’ to complement the Climate Fund.\textsuperscript{50}

(iii)\textit{The International Insurance Pool – AOSIS proposal}
AOSIS’s proposed International Insurance Pool was designed to provide insurance against sea level rise (as a form of climate change damage) through what has been described by Verheyen as a ‘compensation fund’.\textsuperscript{51} Under this scheme, developed countries would compensate Small Island and low-lying developing States for economic loss, human loss and ecological damage resulting from sea level rise. Existing assets and interests would be valued and registered, as well as the ‘option values’ of assets, meaning the potential value of an asset in the context of future development. Thus, damage was to be calculated \textit{ex ante} rather than \textit{ex post}, contrary to national tort law and the international law of State responsibility.\textsuperscript{52}

\begin{footnotesize}
\begin{enumerate}
\item Verheyen, above n 41, 50.
\item Vanuatu on behalf of the Alliance of Small Island States (AOSIS), Elements for a Framework Convention on Climate Change, in: Set of informal papers provided by delegations, related to the preparation of a framework convention on climate change, UN Doc. A/AC.237/Misc.1/Add.3 at 30.
\item The proposal by Vanuatu on behalf of AOSIS is contained in A/AC.237/WG.II/CRP.8 and reprinted in Report of the 4\textsuperscript{th} INC Session, UN Doc. A/AC.237/15, 126 ff. See also J Linneroth-Bayer, M J Mace and R Verheyen, \textit{Insurance-Related Actions and Risk Assessment in the Context of the UNFCCC} (Background Paper, May 2003) <http://www.unfccc.int>.
\item Verheyen, above n 41, 52.
\item Ibid, 51.
\end{enumerate}
\end{footnotesize}
Claims could only arise once the rate of global mean sea level rise and the absolute level of global mean sea level rise had reached previously-agreed figures, and the relative mean sea level rise for an insured area in a vulnerable State had reached an agreed level above base level. The scheme was to be administered by an administering authority. In assessing claims, the administering authority was to determine whether and to what extent the loss or damage could have been avoided by ‘measures which might reasonably have been taken at an earlier stage.’ Contributions were not to be calculated according to historic emissions, but rather on the basis of (i) the ratio between the GNP of each developed State contributor and the total GNP of the group of contributors, and (ii) the ratio of individual State CO₂ emissions of the total CO₂ emissions of the group of contributing States.

(iv) The last draft texts

At INC 4 in December 1991, the consolidated draft text of the convention was issued and discussed. This draft included the Climate Fund and paragraphs on compensation and liability in the ‘Principles’ section which provided that:

The developed countries responsible for causing damage to the environment through inducing climate change should bear the primary responsibility for rectifying that damage and the costs of prevention measures and should compensate for environmental damage suffered by other countries or individuals in other countries.

Or, alternatively:

Those countries directly responsible for causing damage to the environment through inducing climate change should bear the responsibility for rectifying the damage. By openly

53 Ibid.
55 Verheyen, above n 41, 51.
demonstrating their direct responsibility or negligence, those countries shall compensate for environmental damage suffered by other countries or individuals in other countries.\textsuperscript{56}

Those paragraphs were heavily disputed but reappeared in the draft text at INC 5.\textsuperscript{57} One of the final INC consolidated draft texts still included a paragraph that provided that the convention would be ‘without prejudice to the application of the rules of international law governing the liability of States’.\textsuperscript{58} In the final version of the text, the section on Principles does not provide for a principle on liability. However, the history of the negotiations clearly demonstrates that liability and compensation for climate change damage were heavily debated issues that were not fully resolved.\textsuperscript{59}

The text on the Climate Fund was included in the INC 4 and INC 5 draft texts. However, the final version of this text which is found in Articles 4.3, 4.4 and 11 of the UNFCCC made no reference to a compensatory dimension. Verheyen stated that this was due to ‘successful negotiations by a unified group of industrialised countries.’\textsuperscript{60}

Finally, the AOSIS insurance scheme was included in the draft texts at INC 4 and INC 5, but not included in the final text again due to the strong resistance of developed States.\textsuperscript{61}

\textit{(v) Conclusion}

\textsuperscript{56} See Report of the 4\textsuperscript{th} INC Session, UN Doc. A/AC.237/15, 28.
\textsuperscript{57} See Report of the 5\textsuperscript{th} INC Session, UN Doc. A/AC.237/18 (Part I), 29. INC took place in two sessions, in February and May 1992.
\textsuperscript{58} Consolidated Text, Submitted by the Bureau of Working Group I, UN Doc. A/AC.237/Misc.9, 7.
\textsuperscript{59} Verheyen, above n 41, 53.
\textsuperscript{60} Ibid.
This overview of the negotiations concerning liability and compensation demonstrates that these were issues that were contemplated by Parties. The Group of 77 and China perceived the Climate Fund as a compensation mechanism with funds coming from developed States to developing States. Strong efforts were made by AOSIS for the inclusion of the Climate Fund and the International Insurance Pool, which again was of a compensatory nature. The bases of liability included past emissions, GNP and current CO₂ emissions. The issue of climate change damage was well understood as a serious and costly threat for developed countries.

However, there was also a strong reluctance by the developed countries to accept liability for that damage. The fact that the developing countries failed to have compensation and liability principles or obligations included in the final text demonstrates that there was no agreement on these issues. It shows that the negotiating countries decided to focus upon mitigation and adaptation generally, rather than focusing specifically upon liability or compensation. This history supports a general conclusion that the UNFCCC was not designed to deal with climate change damage as far as liability is concerned. This may undermine any future inter-country claims seeking compensation for climate change damage on the basis of obligations under the UNFCCC.

D. Key instruments and decisions

1. Introduction

The two key instruments in the international climate change regime are the UNFCCC and the Kyoto Protocol. The UNFCCC provides the framework for the entire regime and is of principal importance. It provides an objective, principles, obligations, dispute resolution mechanisms and divides countries up according to responsibilities and
rights. The Kyoto Protocol sets out quantitative obligations for mitigating greenhouse gas emissions by country. These obligations encompass the period 2008-2012 and further protocols are required to cover future periods. These two instruments are examined in greater depth here and a brief overview is provided in the following table (Table 2-2). The full text of these two agreements is contained in the Appendix.

### Table 2-2 Key instruments in the international climate change regime

<table>
<thead>
<tr>
<th><strong>UNFCCC (1992)</strong></th>
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<tbody>
<tr>
<td>Multilateral treaty with 192 Parties.</td>
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<tr>
<td>Defines the ‘ultimate objective’ of the UNFCCC and related legal instruments as ‘to achieve … stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system.’</td>
<td></td>
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<tr>
<td>Contains key principles: common but differentiated responsibility; the precautionary principle and the principle of sustainable development.</td>
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<tr>
<td>Divides Parties into:</td>
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<tr>
<td>- Annex I (OECD countries and countries with economies in transition)</td>
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<td>- Annex II (OECD countries only); and</td>
<td></td>
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<tr>
<td>- Non-Annex I (mostly developing countries).</td>
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<tr>
<td>All Parties: general commitments, including reporting obligations.</td>
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<tr>
<td>Annex I Parties: specific ‘aim’ to return emissions to 1990 levels by 2000.</td>
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<tr>
<td>Annex II Parties: must provide financial assistance to developing countries, and also promote technology transfer to EITs.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Kyoto Protocol (1997)</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Multilateral treaty with 192 Parties.</td>
<td></td>
</tr>
<tr>
<td>Entered into force on 16 February 2005.</td>
<td></td>
</tr>
<tr>
<td>All Parties: general commitments.</td>
<td></td>
</tr>
<tr>
<td>Annex I Parties: Individual emission targets, adding up to a total cut of 5%. Targets range from -8% (most countries) to +10%, and are listed in Annex B.</td>
<td></td>
</tr>
<tr>
<td>Emission targets:</td>
<td></td>
</tr>
<tr>
<td>- Cover CO₂, CH₄, N₂O, HFCs, PFCs, SF₆, counted together as a basket.</td>
<td></td>
</tr>
<tr>
<td>- Also cover certain carbon sequestration activities in the land use, land-use change and forestry (LULUCF) sector, based on specific rules.</td>
<td></td>
</tr>
<tr>
<td>- In most cases, use 1990 as a baseline.</td>
<td></td>
</tr>
<tr>
<td>- Must be met by the ‘commitment period’ 2008-2012.</td>
<td></td>
</tr>
<tr>
<td>Flexibility mechanisms – joint implementation, clean development mechanism (CDM) and emissions trading – can be used to help meet targets. Groups of countries can also meet targets jointly (so far, only invoked by the EU).</td>
<td></td>
</tr>
<tr>
<td>Stricter reporting and review procedures for Annex I Parties.</td>
<td></td>
</tr>
<tr>
<td>Compliance system to address cases of non-compliance with the Protocol.</td>
<td></td>
</tr>
<tr>
<td>Regular reviews of commitments.</td>
<td></td>
</tr>
</tbody>
</table>

2. *United Nations Framework Convention on Climate Change*

The UNFCCC is a multilateral treaty that was adopted on 9 May 1992 by the INC and agreed to by countries in June 1992. It was adopted in response to the challenge of
climate change and a series of UNGA resolutions on the issue (described above in Table 2-1). The UNFCCC was developed and adopted in conjunction with the UNCED. The UNFCCC entered into force on 21 March 1994 and now has almost universal membership amongst the international community.

The articles of the UNFCCC may be divided into four structural categories. These are (1) definitions, objectives and principles; (2) obligations (substantive, monitoring and financial); (3) establishing institutions and procedures; and (4) concluding or formal provisions dealing with matters such as protocols, annexes, amendment, ratification and entry into force.

62 In the preamble of the UNFCCC, it says ‘Acknowledging that change in the Earth’s climate and its adverse effects are a common concern of humankind’ and ‘Concerned that human activities have been substantially increasing the atmospheric concentrations of greenhouse gases, that these increases enhance the natural greenhouse effect, and that this will result on average in an additional warming of the Earth’s surface and atmosphere and may adversely effect natural ecosystems and humankind’. UNFCCC, preamble paras 1 and 2.


64 There are currently 192 Parties to the UNFCCC. Taiwan and the Vatican City are not Parties to the UNFCCC.

65 These articles are: 1 (Definitions), 2 (Objective) and 3 (Principles).

66 These articles are: 4 (Commitments), 5 (Research and Systematic Observation), 6 (Education, Training and Public Awareness).

67 These articles are: 7 (Conference of the Parties), 8 (Secretariat), 9 (Subsidiary Body for Scientific and Technological Advice), 10 (Subsidiary Body for Implementation), 11 (Financial mechanism), 12 (Communication of Information Related to Implementation), 13 (Resolution of Questions Regarding Implementation), 14 (Settlement of Disputes).

68 These articles are: 15 (Amendments to the Convention), 16 (Adoption and Amendment of Annexes to the Convention), 17 (Protocols), 18 (Right to Vote), 19 (Depository), 20 (Signature), 21 (Interim Arrangements), 22 (Ratification, Acceptance, Approval or Accession), 23 (Entry into Force), 24 (Reservations), 25 (Withdrawal), 26 (Authentic Texts).
Under the UNFCCC, Parties fall into different categories. The primary categorisation used in the UNFCCC is of ‘developed’ and ‘developing’ States. Further categories are ‘countries with economies in transition’ and ‘least developed States’.\(^69\) The INC decided to use lists rather than definitions to determine which States fell under these categories. The list of countries under ‘Annex I’ of the UNFCCC includes members of the OECD and ‘countries with economies in transition’. Countries with economies in transition are indicated by an asterisk in Annex I.\(^70\) The list of countries under ‘Annex II’ includes members of the OECD but not ‘countries with economies in transition’. These lists provide the basis for the allocation of commitments under the UNFCCC.\(^71\)

As with other international agreements, interpretation of the UNFCCC is a complicated process. Words were debated and selected for the UNFCCC on the basis of both their political and legal significance.\(^72\) Further, as the UNFCCC represents a compromise between countries, many of its provisions do not resolve differences but ‘paper them over’ through formulations that preserved the positions of all sides\(^73\) or formulations that were deliberately ambiguous.\(^74\) Alternatively, States simply deferred

\(^{69}\) ‘Least developed states’ is not defined in the Convention and there is no list included specifying which States fall into this category. This term is likely to be interpreted by reference to the definition of ‘least developed countries’ given in the UN General Assembly. Least developed states are to receive special consideration for funding and technology transfer.

\(^{70}\) This was to allow these countries with economies in transition to avoid being designated as developed countries. Thus the Convention refers to ‘developed country Parties and other Parties included in annex I’ (UNFCCC, art 4(2)).

\(^{71}\) See e.g., UNFCCC, art 11 (financial mechanism).

\(^{72}\) Bodansky provides the example that developing and developed States ‘argued for hours over whether economic development should be characterised as ‘essential’ or a ‘prerequisite’ for developing countries’ response measures.’ He further argued that ‘Delegations often sought to introduce identical language in different parts of the Convention or to move language from one part of the Convention to another, not to effect particular legal consequences, but to highlight certain provisions for political reasons.’ Bodansky, ‘The United Nations Framework Convention on Climate Change’, above n 20, 493.

\(^{73}\) See e.g., UNFCCC, art 11 (financial mechanism).

\(^{74}\) See e.g. UNFCCC, art 4(2).
issues until the first meeting of the COP. As shall be seen in Chapter 3, many of the key commitments of the UNFCCC are marked by ambiguity.

3. **Kyoto Protocol**

The Kyoto Protocol to the UNFCCC was adopted by the third Conference of the Parties to the UNFCCC (COP) in December 1997. It entered into force on 16 February 2005. Under the Kyoto Protocol, the Annex I Parties accepted quantitative emission limitation and reduction obligations (‘QUELROs’). These commitments are meant to provide a 5% reduction in aggregate greenhouse gas emissions compared to 1990 levels in the period 2008-2012 (the ‘first commitment period’). Annex B of the Kyoto Protocol provides differentiated targets for the individual countries and regional economic organisations.

The Kyoto Protocol is supported by a complex and thoroughly regulated compliance system which has been described as ‘unprecedented’ in international law. The potential for the commitments in Kyoto Protocol to provide a source of legal exposure for climate change damage, both within and outside of this compliance system, is considered in Chapter 4.

4. **Decisions of the Conference of Parties/Meeting of the Parties**

The COP and Meeting of the Parties to the Kyoto Protocol (MOP) have regularly met since 1995 and produced a number of decisions which form part of the international

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75 See e.g. UNFCCC, art 13 (directing COP to consider establishing multilateral non-compliance procedure).

climate change regime. These meetings and some key outcomes are summarised in the Table 2-3 below. As has been noted by many commentators, the climate negotiations have been particularly difficult due to a range of reasons, including the economic implications of mitigation commitments and the principle of common but differentiated responsibility.77

<table>
<thead>
<tr>
<th>Year</th>
<th>COP/MOP</th>
<th>Location</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>The COP declared that the specific commitments for Annex I Parties under Article 4, paragraph 2(a) and (b) of the UNFCCC were ‘not adequate’. The COP agreed to ‘begin a process to enable it to take appropriate action for the period beyond 2000, including the strengthening of the commitments of the Parties included in Annex I to the Convention (Annex I Parties) in Article 4, paragraph 2(a) and (b), through the adoption of a protocol or another legal instrument’. These negotiations were to be concluded by COP3. The COP agreed to not introduce any new commitments for non-Annex I Parties.</td>
</tr>
<tr>
<td>1996</td>
<td>COP2</td>
<td>Geneva, Switzerland</td>
<td>The Kyoto Protocol</td>
</tr>
<tr>
<td>1997</td>
<td>COP3</td>
<td>Kyoto, Japan</td>
<td>The Kyoto Protocol</td>
</tr>
</tbody>
</table>


78 The COP decided that the process would ‘aim, as the priority in the process of strengthening the commitments in Article 4.2(a) and (b) of the Convention, for developed country/other Parties included in Annex I, both

- to elaborate policies and measures, as well as
- to set quantified limitation and reduction objectives within specific time-frames, such as 2005, 2010 and 2020, for their anthropogenic emissions by sources and removals by sinks of greenhouse gases not controlled by the Montreal Protocol’.
The COP adopted the BAPA to address issues under the UNFCCC and Kyoto Protocol.\(^7^9\)

<table>
<thead>
<tr>
<th>Year</th>
<th>COP</th>
<th>Location</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999</td>
<td>COP5</td>
<td>Bonn, Germany</td>
<td></td>
</tr>
<tr>
<td>2000</td>
<td>COP6 Part I</td>
<td>The Hague, The Netherlands</td>
<td><strong>The Bonn Agreements</strong>: Decision 5/CP.6 The COP agreed to a political deal on the key issues in the BAPA negotiations. The COP established the penalties for non-compliance with emission targets, the individual limits for Parties’ use of carbon sink credits, and established new funds to assist developing countries.</td>
</tr>
<tr>
<td>2001</td>
<td>COP6 Part II</td>
<td>Bonn, Germany</td>
<td><strong>The Marrakesh Accords</strong>: Decisions 2-24/CP.7 The Marrakesh Accords incorporated and built upon the Bonn Agreements by setting out detailed rules, procedures, technical guidelines and work programmes. While the Marrakesh Accords concluded many of the issues set out in BAPA, others were unresolved. These included certain technical questions relating to reporting and review, and rules for sink projects under the CDM.</td>
</tr>
<tr>
<td>2002</td>
<td>COP7</td>
<td>Marrakesh, Morocco</td>
<td></td>
</tr>
<tr>
<td>2003</td>
<td>COP9</td>
<td>Milan, Italy</td>
<td></td>
</tr>
<tr>
<td>2004</td>
<td>COP10</td>
<td>Buenos Aires, Argentina</td>
<td></td>
</tr>
<tr>
<td>2005</td>
<td>COP11/MOP1</td>
<td>Montreal, Canada</td>
<td></td>
</tr>
<tr>
<td>2006</td>
<td>COP12/MOP2</td>
<td>Nairobi, Kenya</td>
<td></td>
</tr>
<tr>
<td>2007</td>
<td>COP13/MOP3</td>
<td>Bali, Indonesia</td>
<td><strong>Bali Action Plan</strong>: Decision 1/CP.13 Launched a &quot;new, comprehensive process to enable the full, effective and sustained implementation of the Convention through long-term cooperative action, now, up to and beyond 2012&quot;, with the aim of reaching an agreed outcome and adopting a decision at COP15 in Copenhagen.</td>
</tr>
<tr>
<td>2008</td>
<td>COP14/MOP4</td>
<td>Poznan, Poland</td>
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</table>

\(^7^9\) The BAPA covered the financial mechanism (2 and 3/CP.4), technology transfer (4/CP.4), adverse effects of climate change/implementation of response measures (5/CP.4), activities implemented jointly (6/CP.4), the flexibility mechanisms (7/CP.4), and preparations for COP/MOP (including reporting and review, policies and measures, compliance and LULUCF) (8/CP.4).
<table>
<thead>
<tr>
<th>Year</th>
<th>COP/MOP</th>
<th>Location</th>
<th>Agreement/Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>COP15/MOP5</td>
<td>Copenhagen, Denmark</td>
<td><strong>Copenhagen Accord:</strong> Decision 2/CP.15 The COP took note of the Copenhagen Accord. The total number of Parties listed as agreeing to the Accord is 141. The Accord recognises that in order to prevent dangerous anthropogenic interference with the climate system “the scientific view that the increase in global temperature should be below 2 degrees Celsius”. The Accord provides that developed countries (Annex I Parties) would “commit to economy-wide emissions targets for 2020” to be submitted by 31 January 2010 and that developing nations (non-Annex I Parties) would “implement mitigation actions” to be submitted by 31 January 2010.</td>
</tr>
<tr>
<td>2010</td>
<td>COP16/MOP6</td>
<td>Cancun, Mexico</td>
<td><strong>Cancun Agreements</strong> A number of agreements were made at Cancun, including the Cancun Adaptation Framework, an agreement for the submission of annual inventories and other reports, and for the establishment of a Green Climate Fund.</td>
</tr>
<tr>
<td>2011</td>
<td>COP17/MOP7</td>
<td>Durban, South Africa</td>
<td><strong>Durban Platform:</strong> Decision 1/CP.17 Launched the Ad-Hoc Working Group on the Durban Platform (‘a process to develop a protocol, another legal instrument or an agreed outcome with legal force under the Convention applicable to all Parties’). The Durban Platform was to commence work in 2012 and complete it by 2015, with the agreement to come into force from 2020. Extended the Ad-Hoc Working Group on Long-Term Cooperative Action under the Convention for one year to allow it to reach the Bali ‘agreed outcome’ through COP decisions. <strong>Durban Agreement on the Kyoto Protocol:</strong> Decision 1/CP.7 Extended the Kyoto Protocol for a second commitment period, with details to be decided at the next COP in Qatar.</td>
</tr>
<tr>
<td>2012</td>
<td>COP18/MOP8</td>
<td>Doha, Qatar</td>
<td></td>
</tr>
</tbody>
</table>

At Durban in 2011, the COP launched the Ad-Hoc Working Group on the Durban Platform to develop a ‘protocol, another legal instrument or an agreed outcome with
legal force under the Convention applicable to all Parties. The negotiations are to be completed by 2015 and the new agreement is to be implemented from 2020.

Also at Durban, the MOP extended the Kyoto Protocol for a second commitment period beginning on 1 January 2013. However, a number of matters remained undecided including: the length of the commitment period (either 31 December 2017 or 31 December 2020); the scale or ambitions of individual QELROs; and the implications of the ‘carry over’ of Assigned Amount Units (AAUs) from the first commitment period. All of these matters are to be decided at the next COP/MOP in Qatar however there is no set termination date for the negotiations. The Parties likely to participate in the second commitment period are the EU, Australia, New Zealand, Norway, Switzerland and the Ukraine. In contrast, Japan and Russia have announced that they will not participate in the second commitment period and Canada has

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withdrawn from the Kyoto Protocol. It appears that if the outstanding matters concerning the second commitment period are not resolved then such a situation may risk unravelling the Durban Platform.

E. **Object and purpose of the UNFCCC**

1. **Article 2 as the object and purpose of the UNFCCC**

The general rule of interpretation contained in Article 31 of the *Vienna Convention on the Law of Treaties* (VCLT) provides that a treaty shall be interpreted in light of its object and purpose. As a tool of interpretation, the object and purpose acts as a modifier of the ordinary meaning but cannot override the treaty text. In English, it is difficult to distinguish the terms ‘object’ and ‘purpose’. The Macquarie Dictionary provides that ‘object’ means ‘the end towards which effort is directed’. Similarly, the Macquarie Dictionary defines ‘purpose’ as ‘the object for which anything exists or is done, made, used, etc.’ or ‘the intended or desired result; end or aim’. The words ‘object and purpose’ are generally used synonymously in international law and an abundance of other variants are also used, such as: aim, objective, function, target, and end. Therefore, it is appropriate to apply the phrase ‘object and purpose’ as a single concept that refers to the reasons for why the treaty exists.

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92 Gardiner, above n 38, 190.
93 Ibid, 191.
94 *Macquarie Australian Encyclopedic Dictionary* (Sydney: Macquarie University, 2006) [herein ‘Macquarie Dictionary’], 836
95 Ibid, 976.
96 International case law that supports this approach includes *Oil Platforms Case – Case Concerning Oil Platforms (Islamic Republic of Iran v United States of America) (Preliminary Objection)* [1996] ICJ Reports 803. In this case the ICJ refers to objects and purposes together, but also refers to ‘object’
The UNFCCC contains an objective in Article 2 which is of relevance to the entire international climate change regime.\(^97\) Article 2 provides that it is the ‘ultimate objective’ of the UNFCCC,\(^98\) stating that:

The ultimate objective of this Convention and any related legal instruments that the Conference of the Parties may adopt is to achieve, in accordance with the relevant provisions of the Convention, stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Such a level should be achieved within a time-frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner.

The term ‘objective’ may be used interchangeably with the phrase ‘object and purpose’. Bodansky questioned whether Article 2 falls under the category of ‘object and purpose’ on the basis that the term ‘ultimate’ is used as a qualification. He viewed this as ‘an attempt to prevent “objective” from being equated with “object and purpose”’.\(^99\) However, there is little to support such an interpretation and instead the use of the term ‘ultimate’\(^100\) tends to indicate that this is the overarching and long-term reason for why the UNFCCC and its related instruments exist.

\(^{97}\) The inclusion of this objective and the UNFCCC principles are key distinguishing features of the UNFCCC when compared to the Ozone Convention. See Birnie, Boyle and Redgwell, above n 19, 357.

\(^{98}\) UNFCCC, art 2: ‘The ultimate objective of this Convention and any related legal instruments that the Conference of the Parties may adopt is to achieve, in accordance with the relevant provisions of the Convention, stabilisation of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Such a level should be achieved within a time-frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner.’


\(^{100}\) The Macquarie Dictionary provides a series of definitions for the term ‘ultimate’: ‘1. Forming the final aim or object. 2. Coming at the end, as of a course of action, a process, etc.; final; decisive. 3. Beyond which it is impossible to proceed, as by investigation or analysis; fundamental; elemental. 4. Impossible to exceed or override. 5. Last, as in a series. 6. The final point; final result. 7. A fundamental fact or principle.’ Macquarie Dictionary, above n 94, 1295.
2. **The ordinary meaning of Article 2**

Article 2 provides that the objective is to stabilise greenhouse gas concentrations in the atmosphere ‘at a level that would prevent dangerous anthropogenic interference with the climate system’. The climate system is defined in Article 1 to refer to ‘the totality of the atmosphere, hydrosphere, biosphere and geosphere and their interactions’.\(^{101}\) Importantly, the objective is not to reverse greenhouse gas concentrations but instead to stabilise concentrations. This suggests that the Parties accepted that some degree of climate change would occur.\(^ {102}\)

While initially the ordinary meaning of Article 2 is clear, it becomes less clear when turning to the term ‘dangerous’. This term is left undefined. The Macquarie Dictionary defines ‘dangerous’ as ‘full of danger or risk; causing danger; perilous; hazardous; unsafe’ and ‘danger’ as ‘liability or exposure to harm or injury; risk; peril’.\(^ {103}\) This indicates that the ordinary meaning of the term ‘dangerous’ is the exposure to risk of harm. A similar approach to the ordinary meaning of the term ‘dangerous’ is present in national legal systems.\(^ {104}\) Therefore, a basic definition of dangerous is that this term refers to risk of harm and that Article 2 seeks to prevent such risk. However, it remains unclear exactly what this means.

The second sentence of Article 2 refers to what may be described as three key elements of a safe climate. In particular, Article 2 provides that the stabilisation of greenhouse gas concentrations should not cause dangerous interference with the climate system.

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\(^{101}\) UNFCCC, art 1.


\(^{103}\) Macquarie Dictionary, above n 94, 303.

\(^{104}\) For e.g., under Australian law, ‘dangerous premises’ refers to real property which creates a risk of harm to individuals on or near it: *Australian Safeway Stores Pty Ltd v Zaluzna* (1987) 162 CLR 479; 69 ALR 615.
gas concentrations ‘should’ be achieved in a time-frame sufficient to allow these elements to be met. These three elements are to:

1. allow ecosystems to adapt naturally to climate change;
2. ensure that food production is not threatened; and
3. enable economic development to proceed in a sustainable manner.

Thus, one interpretation of the wording ‘dangerous anthropogenic interference with the climate system’ is that it refers to a level of climate change that interferes with any of these elements. However, the first thing to note about this second sentence is that the term ‘should’ is used. This may be compared with a mandatory provision, for example ‘Such a level shall be achieved…’ Thus, the text chosen to link the second sentence of Article 2 to the first does not indicate that these elements must be achieved.

Interpretation of the phrase ‘allow ecosystems to adapt naturally to climate change’ is complicated by what appears to be an internal contradiction. Article 1.2 of the UNFCCC defines climate change as ‘a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods.’\textsuperscript{105} To ‘naturally adapt’ to something would indicate that the adjustment being made is in itself a natural one. However, given the definition provided in Article 1.2, an ordinary interpretation of ‘climate change’ would indicate that this is a process to which ecosystems are unable to ‘naturally adapt’. Furthermore, the term ‘allow’ is not particularly strong (compared with ‘ensure’ or ‘guarantee’). This means that it is difficult to give meaning to the first listed element.

\textsuperscript{105} Emphasis added.
The phrase ‘to ensure that food production is not threatened’ may refer broadly to food security or more narrowly to stability of food supply. The Food and Agriculture Organisation of the United Nations (FAO) defined ‘food security’ as food availability, access to food, stability of food supply and utilisation of food. It appears that the expectation of States with regard to food production may be particularly high through the use of the term ‘threatened’. The Macquarie Dictionary defines ‘threaten’ as ‘to be a menace or source of danger’. Thus, the second element in Article 2 can be given meaning to ensure that climate change does not reach such a level that it threatens food security.

The third phrase ‘to enable economic development to proceed in a sustainable manner’ may be rephrased as to enable sustainable development. The most frequently cited definition of sustainable development is the one found in Our Common Future, also known as the Brundtland Report: ‘Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.’ The term ‘enable’ does not suggest that sustainable development must be achieved, but simply that climate change should not interfere with the potential for it to occur.

These three indicators of a safe climate help clarify what must be avoided to achieve the objective of preventing dangerous anthropogenic interference of the climate

107 Macquarie Dictionary, above n 94, 1247.
system. However, this list is not definitive and still leaves ambiguity around what the Parties seek to achieve.

Article 31.2 of the VCLT provides that the context of the treaty includes its text, preamble and annexes. In considering the meaning of this term ‘dangerous’ it is useful to consider contents of the preamble that indicate what impacts attracted the concern of the Parties, which includes numerous references to ‘adverse effects’ and the vulnerability of many States. The preambular text and the numerous mentions of ‘adverse effects’ in the substantive provisions of the UNFCCC indicate that the Parties had a general concern about the ‘adverse effects’ of climate change. As discussed in Chapter 1, Article 1 provides a definition of the ‘adverse effects of climate change’ which refers to ‘significant deleterious effects’ in the environment or biota.

Using this context, the phrase ‘dangerous anthropogenic interference with the climate system’ means if and when the ‘adverse effects of climate change’ occur. This interpretation is supported by the fact that the definition in Article 1 contains a threshold element with its reference to ‘significant deleterious effects’. Based upon

109 UNFCCC, pmbl:
‘Concerned that ... [climate change] may adversely affect natural ecosystems and humankind, Recalling also the provisions of General Assembly resolution 44/206 of 22 December 1989 on the possible adverse effects of sea-level rise on islands and coastal areas, particularly low-lying coastal areas and the pertinent provisions of General Assembly resolution 44/172 of 19 December 1989 on the implementation of the Plan of Action to Combat Desertification, Recognising further that low-lying and other small island countries, countries with low-lying coastal, arid and semi-arid areas or areas liable to floods, drought and desertification, and developing countries with fragile mountainous ecosystems are particularly vulnerable to the adverse effects of climate change, Affirming that responses to climate change should be coordinated with social and economic development in an integrated manner with a view to avoiding adverse impacts on the latter, taking into account the legitimate priority needs of developing countries for the achievement of sustained economic growth and the eradication of poverty,’

110 UNFCCC, art 1:
“‘Adverse effects of climate change’ means changes in the physical environment or biota resulting from climate change which have significant deleterious effects on the composition, resilience or productivity of natural and managed ecosystems or on the operation of socio-economic systems or on human health and welfare.’ (emphasis added).
this reasoning, it is reasonable to conclude that the context of the UNFCCC provides evidence that ‘dangerous anthropogenic interference with the climate system’ refers to any occurrence of ‘adverse effects of climate change’, noting that this is restricted to those impacts which have significant deleterious effects on the composition, resilience or productivity of natural and managed ecosystems or on the operation of socio-economic systems or on human health and welfare.

3. Supplementary means of interpretation

The VCLT provides that supplementary means of interpretation may be utilised in order to confirm the meaning resulting from the application of the general rule in Article 31.111 This step allows the interpreter to consider the preparatory work of the treaty.

At a 1989 ministerial conference in Noordwijk, the Netherlands, the Dutch government proposed that greenhouse gas concentrations should be stabilised at levels that would maintain climate change within ‘tolerable limits’, and that the IPCC, which had been established in 1988 by UNEP and WMO, should report on options for achieving this standard.112 This history indicates that the IPCC reports were considered critical in determining what level of greenhouse gas concentrations would prevent climate change from becoming dangerous. The use of the term ‘tolerable limits’ appears to be akin to ‘safe limits’ and is thus consistent with the language used in Article 2.

111 VCLT, art 32.
112 Oppenheimer and Petsonk, above n 102, 200.
At Noordwijk, the Dutch government’s formulation was generally accepted. However, an additional element was added, namely that economies should not suffer. The Noordwijk Declaration provides an important early version of the objective contained in Article 2. It contains the three elements of a safe climate and refers to the stabilisation of greenhouse gas concentrations as an ‘imperative goal’ (similar to ‘ultimate objective’). Furthermore, it contained the phrase ‘tolerable limits’, which acted as an early precursor to the term ‘dangerous’.

In November 1990, at the Second World Climate Conference (SWCC, 1990), a declaration was issued that ‘the ultimate global objective should be to stabilize greenhouse-gas concentrations at a level that would prevent dangerous anthropogenic interference with climate’ and that ‘as a first step’ greenhouse gas emissions needed to be stabilised. The phrase ‘ultimate global objective’ appears to have originated from the Austrian government which used the phrase ‘long-term global objective’.

Article 2 therefore can be understood as building upon the Austrian proposal, combining elements of the Noordwijk Declaration and the SWCC statement. However, there are two important elements to be drawn out of the final stage of the

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113 The Noordwijk Declaration 1989 provided:
‘For the long-term safeguarding of our planet and maintaining its ecological balance, joint effort and action should aim at limiting or reducing emissions and increasing sinks for greenhouse gases to a level consistent with the natural capacity of the planet. Such a level should be reached within a time frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and permit economic activity to develop in a sustainable and environmentally sound manner. Stabilizing the atmospheric concentrations for greenhouse gases is an imperative goal. The IPCC will need to report on the best scientific knowledge as to the options for containing climate change within tolerable limits. Some currently available estimates indicate that this could require a reduction of global anthropogenic greenhouse gas emissions by more than 50 per cent.’

114 Second World Climate Conference (SWCC, 1990).
115 Austrian Government, 1991; Austria/Switzerland Governments, 1991:
‘The long-term global objective must be the stabilization of greenhouse gas concentrations in the atmosphere at a level which minimizes risk to ecosystems, ecological processes, and climatic conditions essential for the functioning of the biosphere and which will ensure sustainable development.’
See Oppenheimer and Petsonk, above n 102, 203.
preparatory work. The first is that the Austrian government’s proposed text suggests that the term ‘ultimate’ is a reference to the notion that this objective is a ‘long-term’ one. The second point is that interpreting the term ‘ultimate’ as meaning ‘long-term’ is supported by the SWCC statement which described the ‘ultimate objective’ but also referred to the stabilisation of greenhouse gases as a ‘first step’.

Thus, this preparatory material supports the conclusion that use of the term ‘ultimate’ was not an attempt by Parties to prevent Article 2 being interpreted as the object and purpose (discussed above). Instead, the term ‘ultimate’ was chosen to indicate that the objective is a long-term or overarching one. This preparatory work raises the possibility that the objective in Article 2 should be viewed as comprising two parts. Firstly, the immediate objective is to stabilise greenhouse gas emissions and secondly, the long-term objective is to prevent dangerous anthropogenic interference with the climate system. Dividing the objective into these two parts does not change the meaning of Article 2. Therefore, while this history is insightful it does not necessitate a different conclusion to that reached in section E.2 above on the ordinary meaning of Article 2.

4. Further context: subsequent agreement

In determining the ordinary meaning of a treaty, the VCLT also provides that any subsequent agreement between the Parties regarding the interpretation of the treaty or the application of the provisions shall be taken into account.\textsuperscript{116} One possible view is that the reports by the Intergovernmental Panel on Climate Change (IPCC) fall within the ambit of this rule. Reports of the IPCC are endorsed by governments as decisions

\textsuperscript{116} VCLT, art 31.3(a).
of the COP of the UNFCCC.\textsuperscript{117} This process of endorsement may mean that the IPCC Reports are appropriately viewed as a ‘subsequent agreement between the Parties regarding the interpretation of the treaty or the application of its provisions’ as provided in Article 31.3(a) of the VCLT. However, the decisions made by the COP do not incorporate the entire text of the IPCC reports but instead provide acknowledgement and appreciation for the work completed by the IPCC. Therefore, it would appear that the IPCC reports do not constitute subsequent agreement by the Parties. Nonetheless, they provide an authoritative source of scientific information endorsed by the COP.

The IPCC was established in 1988 by the United Nations Environment Programme (UNEP) and the World Meteorological Organisation (WMO) to review the science on climate change and the potential environmental and socio-economic consequences of climate change.\textsuperscript{118} The IPCC is made up of three working groups (IPCC-WG): IPCC-WGI assesses the physical basis for climate change; IPCC-WGII assesses impacts, adaptation and vulnerability; and IPCC-WGIII assesses mitigation of climate change.\textsuperscript{119} The IPCC is open to all UNEP and WMO Member States.\textsuperscript{120} The Panel


\textsuperscript{118} Hunter et al state that UNEP and WMO established the IPCC ‘anticipating the critical role that scientific consensus would play in building the political will to respond to climate change.’ See David Hunter, James Salzman and Durwood Zaelke, \textit{International Environmental Law and Policy} (3\textsuperscript{rd} edition, New York: Foundation Press, 2010).

\textsuperscript{119} The working groups were established in 1988; however they were rearranged in 1992. See Tora Skodvin, \textit{Structure and Agent in the Scientific Diplomacy of Climate Change} (New York: Kluwer Academic Publishers, 1999), 146 for implications regarding the IPCC’s structure.

\textsuperscript{120} Principles Governing IPCC Work, Principle 7. The IPCC’s role is to ‘assess on a comprehensive, objective, open and transparent basis the scientific, technical and socio-economic information relevant to understanding the scientific basis of risk of human-induced climate change, its potential impacts and options for adaptation and mitigation. IPCC reports should be neutral with respect to policy, although they may need to deal objectively with scientific, technical and socio-economic factors relevant to the application of particular policies.’ Principles Governing IPCC Work, Approved at the Fourteenth Session (Vienna, 1-3 October 1998) on 1 October 1998, Principle 2. Available at <http://www.ipcc.ch>.
Plenary takes important decisions, using ‘all best endeavours to reach consensus’.\textsuperscript{121} A double-layering review process is used to ensure that all views (including those of governments) are considered.

The IPCC has stated that defining ‘dangerous’ is beyond its legal ambit. However, in its Third Assessment Report the IPCC organised the vulnerabilities of individuals and socio-economic and ecological systems into five categories entitled ‘reasons for concern’.\textsuperscript{122} These categories include the relationship between global mean temperature increase and the following:

1. Damage to or irreparable loss of unique and threatened systems (e.g. coral reefs);
2. The probability of extreme events (e.g. droughts and floods);
3. The distribution of impacts (e.g. increased crop yield in some areas but decreases in others);
4. Global aggregate damages; and
5. The probability of large-scale singular events (e.g. disintegration of the West Antarctic ice sheet and shutdown of the thermohaline circulation).\textsuperscript{123}

The IPCC defined vulnerability within the context of climate change to mean ‘the extent to which climate change may damage or harm a system; it is a function of both the “sensitivity” of a system or structure to climate and the opportunities for “adaptation” to new conditions.’\textsuperscript{124} In essence, this definition of ‘vulnerability’ encapsulates an enhanced risk of being negatively impacted. Table 2-4 below lists

\textsuperscript{121} Principles 4 and 10.
\textsuperscript{123} Oppenheimer and Petsonk, above n 102, 206.
\textsuperscript{124} Robert T Watson et al (eds), *IPCC Special Report on the Regional Impacts of Climate Change: An Assessment of Vulnerability* (1998). (‘Sensitivity is defined as the degree to which a system will respond to change in climatic conditions… Adaptation is defined as adjustments in practices, processes, or structures in response to projected or actual changes in climate.’)
particular vulnerabilities that the IPCC has discussed in the context of Article 2 where a specific concentration or temperature increase has been proposed corresponding to the criteria of Article 2.125

### Table 2-4 Proposed numerical values of ‘dangerous anthropogenic interference’

<table>
<thead>
<tr>
<th>Vulnerability</th>
<th>Global mean limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shutdown of thermohaline circulation126</td>
<td>3°C in 100 years</td>
</tr>
<tr>
<td></td>
<td>700ppm CO₂</td>
</tr>
<tr>
<td>Disintegration of West Antarctic ice sheet</td>
<td>2°C, 450ppm CO₂</td>
</tr>
<tr>
<td></td>
<td>2.4°C, &lt;550ppm CO₂</td>
</tr>
<tr>
<td>Disintegration of Greenland ice sheet</td>
<td>1°C</td>
</tr>
<tr>
<td>Widespread bleaching of coral reefs</td>
<td>&gt;1°C</td>
</tr>
<tr>
<td>Broad ecosystem impacts with limited adaptive capacity (many examples)</td>
<td>1-2°C</td>
</tr>
<tr>
<td>Large increase of persons-at-risk of water shortage in vulnerable regions</td>
<td>450-650ppm CO₂</td>
</tr>
<tr>
<td>Increasingly adverse impacts, most economic sectors</td>
<td>&gt;3-4°C</td>
</tr>
</tbody>
</table>

The IPCC Reports provide two indicators as to how the objective contained in Article 2 should be interpreted. The first is that categories of vulnerabilities may be used to determine if a particular harm or risk of harm is a form of dangerous anthropogenic interference with the climate system. The five categories identified by the IPCC are useful in this regard. Secondly, the specific vulnerabilities identified by the IPCC provide examples of what may be regarded as dangerous anthropogenic interference with the climate system.

The IPCC has identified specific limits for both greenhouse gas concentrations and rises in temperature. The limits that the IPCC has identified for greenhouse gas concentrations are particularly important due to the specific reference to ‘stabilization of greenhouse gas concentrations in the atmosphere at a level’ that would prevent

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125 Ibid, 207.
dangerous anthropogenic interference with the climate system’ in Article 2. Thus, the IPCC Reports on the disintegration of the West Antarctic ice sheet may be used to argue that prevention of dangerous climate change would require stabilisation of greenhouse gas concentrations in the atmosphere at 450ppm CO₂ or alternatively less that 550ppm CO₂.

The lowest temperature rise described in these IPCC Reports is that of 1°C which is associated with the disintegration of the Greenland ice sheet. Given that vulnerabilities increase as the greenhouse gas concentrations increase, it is the lowest stabilisation level that is most relevant as a tool for interpreting Article 2. Therefore, it may be argued that the objective requires stabilisation of greenhouse gas concentrations in the atmosphere at a level that would result in a temperature rise of less than 1°C.

5. An additional objective

Further examination of the UNFCCC reveals that a second objective appears to emerge from its provisions. The UNFCCC’s substantive provisions include a mixture of obligations relating to both mitigation of greenhouse gases and adaptation to the adverse effects of climate change. The UNFCCC refers to the ‘effects’ and ‘adverse effects’ of climate change twenty-two times, and refers to ‘vulnerability’ and ‘impacts’ seven times. Within the context of the obligations the UNFCCC places upon Annex I Parties to assist in adaptation (see Chapter 3), it appears that there is an additional and unstated objective within the UNFCCC to establish an instrument to address the adverse effects of climate change and to ensure that States (especially the most vulnerable ones) are able to adequately prepare for those effects.

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127 Emphasis added.
128 Sands, above n 31, 362.
It is possible, and indeed common, for a treaty to have multiple objects and purposes. The Appellate Body at the World Trade Organisation (WTO) has stated that ‘most treaties have no single, undiluted object and purpose but rather a variety of different, and possibly conflicting, objects and purposes.’

Therefore, there is a secondary objective contained in the UNFCCC which is to ensure that mechanisms are in place for adaptation funding to be provided from developed States to developing State Parties. While the primary objective is to prevent the adverse effects of climate change, the text of the UNFCCC reveals that the Parties also agreed that the UNFCCC and its related instruments should provide for adaptation funding in the event that adverse effects occur.

6. Conclusion

According to Article 2, the ultimate objective of the UNFCCC is to stabilise greenhouse gas concentrations at a level that would prevent dangerous anthropogenic interference with the climate system. Reading the UNFCCC as a whole, ‘dangerous’ may be equated with the occurrence of ‘adverse effects of climate change’ as defined in Article 1. This article defines ‘adverse effects of climate change’ as ‘changes in the physical environment or biota resulting from climate change which have significant deleterious effects on the composition, resilience or productivity of natural and managed ecosystems or on the operation of socio-economic systems or on human health and welfare’.

The second sentence of Article 2 provides three elements of a safe climate: to allow ecosystems to naturally adapt to climate change; to ensure that food production is not threatened; and to enable economic development to proceed in

130 Emphasis added.
a sustainable manner. The inclusion of these elements demonstrates that to prevent
dangerous climate change requires the protection of these three elements.

Reports of the IPCC, which are endorsed as decisions of the COP, have not defined
‘dangerous’ but instead provide categories of vulnerabilities that may be used to
determine if a particular harm or risk of harm is a form of dangerous anthropogenic
interference with the climate system. The specific vulnerabilities identified by the
IPCC provide examples of what may be regarded as dangerous anthropogenic
interference with the climate system. The lowest of these is a temperature rise of 1°C
which is associated with the disintegration of the Greenland ice sheet.

Finally, there is an additional objective contained in the UNFCC which is to ensure
that mechanisms are in place to ensure that adaptation funding is provided from
developed States to developing States Parties. This objective may become increasingly
important in the event that climate change damage occurs.

F. Article 2 as an obligation

The placing of the objective in Article 2 of the UNFCCC was one of the first times
that States agreed to include a treaty objective as a legally binding part of an
international agreement. Previously, the objectives of treaties were generally located
in preambles or may not have been explicitly stated at all.131 The objective of a treaty
is provided to enunciate the Parties’ overarching purpose and to assist in the
acknowledgement and legitimisation of a problem as a matter of international

131 It was around the time that the UNFCCC was agreed that more international environmental
agreements began to include articles on objectives. See e.g. Agreement on Air Quality, US-Canada,
signed 13 March 1991, 30 ILM 676, 679, arts. II (purpose), III (general air quality objective).

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concern. Arguably, the objective in Article 2 has greater legal status than if it had been simply included in the preamble of the UNFCCC. The inclusion of the objective as an article also opens the possibility that it creates a commitment.

Verheyen argued that Article 2 is operative and provides a classic example of an environmental quality standard by setting a threshold for the UNFCCC and all future legal instruments. According to Verheyen, a normative threshold is provided by the term ‘dangerous anthropogenic interference with the climate system’ and that the ‘indicators’ of the second sentence provide a time-element for this threshold.

However, international case law indicates that a legal claim based upon an objective as a source of obligation would be unlikely to be successful. The Oil Platforms Case dealt with this issue. Article I of the Treaty of Amity, Economic Relations and Consular Rights between the United States of America and Iran provided that ‘there shall be firm and enduring peace and sincere friendship between the [US]… and Iran’. The ICJ found that this article amounted to an objective rather than a specific obligation. In relation to the possibility of Article I providing the basis for a legal claim, the ICJ held:

[T]he court considers that the objective of peace and friendship proclaimed in Article I of the Treaty of 1955 is such as to throw light on the interpretation of the other Treaty provisions, and in particular of Articles IV and X. Article I is thus not without legal significance for such an interpretation, but cannot, taken in isolation, be a basis for the jurisdiction of the Court.

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133 Verheyen, above n 41, 57.
137 Para 31.
Other cases have reached a similar conclusion. The principle of good faith cannot be used to fill gaps in a manner which would impose additional obligations. Even an ‘evolutive’ interpretation of the article cannot justify imposing a commitment where one is not plainly provided.

Therefore, the objective contained in Article 2 cannot be relied upon as an obligation. This conclusion is reached on the basis that international case law reveals that the objective of a treaty cannot be relied upon as an obligation and to interpret Article 2 as an obligation would be contrary to the principle of good faith.

G. Principles

Some authors have argued that the distinction between norms and principles in international law is a theoretical one. Indeed, international case law has not determined what consequences flow from the characterisation of a legal obligation as a legal principle rather than a legal rule. Principles provide general statements of law that must be taken into account and guide the processes of interpretation and application of rules of law. Article 3 of the UNFCCC provides that the principles contained in it ‘shall’ guide the Parties, meaning that the principles are binding.

The following discussion provides a general overview of the history and preparatory work on Article 3, and then analyses the three principles most relevant to legal risk for climate change damage. These principles are: common but differentiated

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138 See e.g. USA, Federal Reserve Bank v Iran, Bank Markazi Case A28 (2000-02) 36 Iran-US Claims Tribunal Reports 5, 22, para 58; R v Immigration Officer at Prague Airport ex parte European Roma Rights Centre [2004] UKHL 55, paras 62-63.
139 Gardiner, above n 38, 155.
140 Joint dissenting opinion, paras 23-24, Gardiner, above n 38, 243.
141 Verheyen, above n 41, 67.
142 Sands, above n 31, 232.
responsibility (Article 3.1); the precautionary principle (Article 3.3); and sustainable
development (Article 3.4).

1. History and preparatory work of the principles in the UNFCCC

Most developing States were supportive of an article on principles.\textsuperscript{143} In comparison,
developed States were generally opposed to the inclusion of an article on principles.\textsuperscript{144} The US argued that including an article on principles would create confusion over their legal status.\textsuperscript{145} The US argument rested on the premise that principles should simply provide a context for interpretation (and be placed in the preamble) or should be designated as actual commitments. However, this approach failed to take account of the possibility that principles provide general legal standards.\textsuperscript{146}

Despite the fact that Article 3 was ultimately included, the US successfully negotiated for a number of changes to the article to reduce its legal significance. Firstly, a \textit{chapeau} was added that the Parties are to be ‘guided’ by the principles. Secondly, the term ‘States’ was replaced by ‘Parties.’ Thirdly, the term ‘inter alia’ was added to the \textit{chapeau} to indicate that other principles may be taken into account beyond those listed in Article 3. It appears that these changes were intended to undermine the view that

\textsuperscript{143} An article on general principles was first proposed by China. See Set of Informal Papers Provided by Delegations, Revision 1 to Addendum 4, INC/FCCC, 3\textsuperscript{rd} Session, Provisional Agenda Item 2, at 2, UN Doc. A/AC.237/Misc.1/Add.4/Rev.1 (1991). Argentina was one of the few developing countries to argue against this, stating that principles are appropriate for political declarations rather than legally-binding agreements. Articles on ‘principles’ are fairly rare in international treaty law. See e.g. UN Charter Article 2; Convention on Transboundary Air Pollution, arts 2-5; Convention on International Trade in Endangered Species of Wild Fauna and Flora, opened for signature 3 March 1973, 995 UNTS 243 (entered into force 1 July 1975), art II; Bonn Convention on the Conservation of Migratory Species of Wild Animals, opened for signature 23 June 1979, 19 I.L.M. 15, 18 (entered into force 1 November 1983), art II; Protocol on Environmental Protection to the Antarctic Treaty, opened for signature 4 October 1991, 30 I.L.M. 1460 (entered into force 14 January 1998), art 3. Among this list, some of the putative principles use mandatory language and are best understood as commitments. See e.g. Convention on Transboundary Air Pollution, arts 3-5.

\textsuperscript{144} However, most developed States accepted that such an article would ultimately be included and stressed that it should be short, concise, and focused on climate change. Bodansky, ‘The United Nations Framework Convention on Climate Change’, above n 20, 501.

\textsuperscript{145} Ibid.

\textsuperscript{146} Ibid.
the principles in Article 3 are part of customary international law.\textsuperscript{147} Indeed, the final wording indicates that the principles only apply with regard to the UNFCCC and its Parties.

Developing States compromised on the substance of Article 3, with some proposed principles being transferred to the preamble,\textsuperscript{148} and others not being included at all.\textsuperscript{149} However, three key principles were included: common but differentiated responsibility; the precautionary principle; and sustainable development.

2. \textit{Common but differentiated responsibility (Article 3.1)}

The principle of common but differentiated responsibility is a concept unique to international law and thus has no equivalent in domestic legal systems.\textsuperscript{150} Differential treatment of States recognises that there are real differences between States, in terms of history, economics, politics and other factors,\textsuperscript{151} and seeks to correct inequality.

\textsuperscript{147} The US tried to remove the term ‘principles’ from throughout the Convention. As a result, the term only appears in the title of Article 3 (which was also opposed by the US). The US successfully suggested that a footnote be added to Article 1, which states that ‘Titles of articles are included solely to assist the reader.’ Apparently the US made this suggestion to remove any legal significance from the titles. However, the footnote does not make this clear and may not be interpreted this way. The US further sought to ensure that Parties could not be found in violation of Article 3 in a dispute settlement proceeding under Article 14.


\textsuperscript{149} These included principles on liability and compensation, principles on the right to development, the principle that States have an equal right to ocean sinks, the principle that the greenhouse gas emissions of developing States must grow, the principle that no environmental conditions should be imposed on aid, and the ‘main responsibility’ principle. Bodansky, ‘The United Nations Framework Convention on Climate Change’, above n 20, 502.


\textsuperscript{151} On the differences between States and particularly the impact of colonialism on international law see R P Anand, New States and International Law (Dehli: Vikas Publishing House,1972), 21; Antony Anghie, Imperialist, Sovereignty and the Making of International Law (Cambridge: Cambridge University Press, 2005), 313; James Thuo Gatii, ‘International Law and Eurocentricity’ (1998) 9(1)
Although the principle of common but differentiated responsibility may not be customary international law it is ‘legally relevant and enforceable’.\textsuperscript{152} The principle ‘has become a cornerstone of burden-sharing structures adopted in international environmental treaties.’\textsuperscript{153}

The commitments contained in the UNFCCC are largely based upon the principle of common but differentiated responsibility as provided in Article 3.1.\textsuperscript{154} It is upon the basis of this principle that developed States accepted commitments to limit their greenhouse gas emissions under the Kyoto Protocol. Whilst this principle is founded upon the notion that developed States have greater responsibility for climate change and greater capacity to mitigate, it is possible that this principle may mean that the full extent of urgent mitigation action is not taken.\textsuperscript{155}

The ‘core content of the CBDR principle … is deeply contested … and there are at least two incompatible views on its content.’\textsuperscript{156} This conflict centres upon what Rajamani conceptualises as the culpability/entitlement and consideration/capacity

\textsuperscript{152} Klaus Bosselmann, \textit{The Principle of Sustainability} (Hampshire: Ashgate Publishing Company, 2008), 43.
\textsuperscript{154} UNFCCC, art 3.1:
‘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.’ (emphasis added).
\textit{CF the Ozone Convention}. See Birnie, Boyle and Redgwell, 357.
\textsuperscript{155} Birnie, Boyle and Redgwell, above n 21, 374.
debate.\textsuperscript{157} The view of developed States is generally that the differentiation is based upon different levels of economic capacity not on different contributions to climate change (and other global environmental problems). Whereas the perspective of developing States is that the differentiation is based upon different contributions to climate change and not on different levels of economic development. The rationale behind the culpability/entitlement perspective is that developed countries have externalised the environmental costs of development.\textsuperscript{158}

More recently, it appears that the Parties to the UNFCCC and Kyoto Protocol are moving away from the principle of common but differentiated responsibility.\textsuperscript{159} For example, the Durban Platform does not refer to the principle of common but differentiated responsibility or to developed States and developing States.\textsuperscript{160} Nonetheless, the principle could play a vital role in any international climate litigation (see discussion in Chapters 6 and 7).

The principle of common but differentiated responsibility is accompanied by other concepts that are also found in the preamble. These are the principle that the climate should be protected for the benefit of present and future generations and the principle

\begin{addendum}
\item Ibid, 507.
\end{addendum}
of equity.\textsuperscript{161} The principle of common but differentiated responsibilities and respective capabilities is also found in the preamble of the UNFCCC.\textsuperscript{162}

The developed and developing States provided different reasons for supporting the second sentence in Article 3.1 (‘…the developed country Parties should take the lead in combating climate change and the adverse effects thereof.’). The developing States supported this sentence on the basis that developed States bear the ‘main responsibility’ for climate change,\textsuperscript{163} whereas developed States opposed this reasoning and instead supported the sentence because of their greater financial and technical capabilities. The actual wording of Article 3.1 indicates that the Parties agreed to both of these lines of reasoning (‘in accordance with their common but differentiated responsibilities and respective capabilities’).\textsuperscript{164} Rajamani argued that ‘common responsibility’ is rooted in the principle of co-operation and the need for States to cooperate in preventing transboundary pollution.\textsuperscript{165} Rajamani noted that the Parties recognised in the preamble that ‘change in the Earth’s climate and its adverse effects are a common concern of humankind’ and argued that this recognition is linked to the concept of common responsibility.\textsuperscript{166}

There are numerous examples of the principle shaping aspects of the climate regime. For example, the technology transfer obligations are an example of additional

\textsuperscript{161} For discussions of the implications of the principle of equity for climate change, see Michael Toman and Dallas Burtraw, \textit{Resolving Equity Issues in Greenhouse Gas Negotiations} (Washington: Resources for the Future, 1991), 10.
\textsuperscript{162} UNFCCC, paras 6, 23.
\textsuperscript{163} Bodansky, ‘The United Nations Framework Convention on Climate Change’, above n 20, 498.
\textsuperscript{164} Emphasis added.
\textsuperscript{166} Ibid. Also see Lavanya Rajamani, \textit{Differential Treatment in International Environmental Law} (Oxford: Oxford University Press, 2006).
responsibility allocated to developed States on the basis of this principle. Further examples are found in the provisions around financial assistance to be provided from developed States to developing States.

The implications of the principle of common but differentiated responsibility for legal claims regarding climate change damage may be most important when considering how legal responsibility may be disaggregated. In particular, the elements of responsibility for climate change and financial and technical capabilities may provide a basis for determining an appropriate method of awarding reparation for climate change damage (see Chapters 6 and 7).

3. Precautionary principle (Article 3.3)

The precautionary principle contained in Article 3.3 calls upon the Parties to take precautionary measures even where there is lack of full scientific certainty. This is

168 Ibid, 72.
169 UNFCCC, art 3.3: ‘The Parties should take precautionary measures to anticipate, prevent or minimize the causes of climate change and mitigate its adverse effects. Where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing such measures, taking into account that policies and measures to deal with climate change should be cost-effective so as to ensure global benefits at the lowest possible cost. To achieve this, such policies and measures should take into account different socio-economic contexts, be comprehensive, cover all relevant sources, sinks and reservoirs of greenhouse gases and adaptation, and comprise all economic sectors. Efforts to address climate change may be carried out cooperatively by interested Parties.’ (emphasis added).

significant given the common reference to scientific uncertainty as a reason to not take action on climate change. However, a careful reading of Article 3.3 reveals a number of limitations contained in the principle. Firstly, the precautionary measures may be to anticipate, prevent or minimise. This is a lighter standard than if the text said Parties should take precautionary measures to anticipate, prevent and minimise the causes of climate change and mitigate its adverse effects.

Secondly, the text of Article 3.3 provides that policies and measures should be ‘cost-effective.’ In the INC, the issue of whether the precautionary principle should include a reference to ‘cost-effectiveness’ provided a key area of disagreement. This term introduces an economic factor to what had traditionally been a purely environmental standard. The SWCC Ministerial Declaration had included ‘cost-effective’ precautionary measures,170 as had the G-77 proposal on principles.171 During INC 5, use of the term ‘cost-effective’ in Article 3.3 was dropped but ultimately reintroduced and accepted.172

The two issues highlighted here indicate that while the principle contained in Article 3.3 provides an interpretive tool that supports precautionary measures, the limitations contained in the actual text indicate that the principle could also be used to justify not taking precautionary measures. For example, a Party may argue that precautionary

171 The G-77 text was a compromise between AOSIS, which had argued for inclusion of the precautionary principle in its purely environmental form, and Saudi Arabia, which opposed its inclusion at all. Bodansky, ‘The United Nations Framework Convention on Climate Change’, above n 20, 504.
measures to prevent the adverse effects of climate change were not taken due to those measures not being cost-effective. Furthermore, application of the precautionary principle is limited in the sense that it does not determine what measures are necessary and who must take those measures. 173

4. Sustainable development (Article 3.4)

The first sentence in Article 3.4 indicates that the principle of sustainable development embraces both a right to, and duty to promote, sustainable development. 174 This dual nature emerged from significant differences in approach to the concept of sustainable development in the negotiations. Early in the negotiations, developing States called for the inclusion of a principle recognising that ‘the right to development is an inalienable human right’ and that ‘[a]ll peoples have an equal right in matters relating to reasonable living standards.’ 175 Some developed States called for the inclusion of a principle that countries have a duty to aim at sustainable development. The US had strongly opposed the ‘right to development’ due to concern that it may be used by

173 Burnie, Boyle and Redgwell, above n 19, 377.
174 UNFCCC, art 3.4:
‘The Parties have a right to, and should, promote sustainable development. Policies and measures to protect the climate system against human-induced change should be appropriate for the specific conditions of each Party and should be integrated with national development programmes, taking into account that economic development is essential for adopting measures to address climate change.’ (emphasis added).
developing States to demand financial assistance from developed States.\textsuperscript{176} Developing States have expressed concerns about the concept of ‘sustainable development’ on the basis that it may become a new conditionality on financial assistance.

Article 3.4 arguably ‘fineses both issues’ through its careful use of language:\textsuperscript{177} ‘the Parties have a right to, and should, promote sustainable development’. The term ‘right’ was used to placate developing States, however this is less than a ‘right to development’ because the Article provides that States have a ‘right to … promote sustainable development’.\textsuperscript{178} Further, rather than creating a duty to develop sustainably, the Article provides that Parties ‘should, promote sustainable development’\textsuperscript{179}

The second sentence contained in Article 3.4 provides an important aid for interpreting the objective contained in Article 2. The second sentence of Article 3.4 indicates that Parties agreed that the principle of sustainable development primarily acts as a caveat to what should be expected of developing Parties in adopting policies and measures to protect against climate change. In fact, developing States had initially sought a formulation of the principle that provided that economic development was a ‘prerequisite’ for adopting climate change measures.\textsuperscript{180} Relating this back to the objective contained in Article 2,\textsuperscript{181} this principle may provide reason to argue that the

\textsuperscript{176} In 1986, the US voted against the \textit{UN Declaration on the Right to Development}, GA Res. 128, UN GAOR, 41\textsuperscript{st} Session, 7\textsuperscript{th} plen. Mtg., Supp. No. 53, at 186, UN Doc. A/41/53 (1986).

\textsuperscript{177} Bodansky, ‘The United Nations Framework Convention on Climate Change’, above n 20, 504.

\textsuperscript{178} Cf \textit{Rio Declaration}, principle 3 (‘The right to development must be fulfilled so as to equitably meet developmental and environmental needs of present and future generations.’).

\textsuperscript{179} Bodansky, ‘The United Nations Framework Convention on Climate Change’, above n 20, 504.

\textsuperscript{180} G-77 Statement, at 2; Consolidated Working Document, above n 148, Article II(1).

\textsuperscript{181} UNFCCC, art 2. The second sentence provides: ‘Such a level should be achieved within a time-frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner.’
reference to sustainable development in that article is not as an indicator of dangerous climate change but instead is provided as a caveat for what may be expected of developing State Parties. However, application of the principle of sustainable development does not resolve conflict between economic growth and the protection of the environment.182

5. Conclusion

This discussion shows that the article on principles in the UNFCCC provides an important source of general statements of law that would guide the interpretation of obligations in the event of a State seeking compensation under the UNFCCC or Kyoto Protocol. The key principles are: common but differentiated responsibility (Article 3.1); the precautionary principle (Article 3.3); and sustainable development (Article 3.4). The principle of common but differentiated responsibility indicates that the developed States Parties should take the lead in mitigation and adaptation due to their responsibility for climate change and their greater financial and technical capabilities. This principle may provide a basis for determining an appropriate method of disaggregating legal responsibility for climate change damage (discussed further in Chapters 6 and 7). The precautionary principle contained in Article 3.3 calls for precautionary measures to anticipate, prevent or minimise the causes of climate change and its adverse effects. However, Article 3.3 provides that these measures should be ‘cost-effective’. This would provide support to a Party that has not taken precautionary measures to prevent the adverse effects of climate change on the basis that those

measures were not cost-effective. Finally, the principle of sustainable development in Article 3.4 embraces both a right to, and a duty to promote, sustainable development. This article indicates that the principle of sustainable development primarily acts as a caveat to what should be expected of developing Parties in adopting policies and measures to protect against climate change.

H. Preamble

Preambles to international agreements generally state the background, purposes, and context of the agreement.183 Much of the preamble of the UNFCCC is made up of items that were proposed to be included as principles in Article 3 but did not gain sufficient support from the Parties. The content of the preamble was in many ways evolutionary. For example, this was the first time that Principle 21 of the Stockholm Declaration had been included in a treaty (in the slightly modified form also adopted as Principle 2 of the Rio Declaration).184 The preamble also characterises change in the Earth’s climate and its adverse effects as the ‘common concern of humankind’185 (rather than ‘mankind’) and refers to the principle of inter-generational equity. Both of these are emerging concepts of international law.186

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183 VCLT, art 31(2).
184 UNFCCC, pmbl, para 8: ‘Recalling also that States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental and developmental policies, and 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.
185 UNFCCC, pmbl, para 1.
In terms of legal risk for climate change damage, the part of greatest significance in the preamble is paragraph 3.\textsuperscript{187} Developing States had sought to include the ‘main responsibility’ principle or ‘polluter pays’ principle that would hold developed States as primarily responsible for combating climate change due to their historic contribution to the problem.\textsuperscript{188} The text adopted in paragraph 3 provides recognition of the historic contribution of developed States, but does not link this with the concept that primary responsibility for combating climate change rests with developed States. The reference to ‘per capita emissions’ in paragraph 3 is all that remains of an objective proposed by the Indian government that was based upon per capita emissions.\textsuperscript{189}

Nonetheless, paragraph 3 may provide an important interpretive aid because it provides both recognition by the Parties of the historic contribution of developed States to the problem, and provides a link between historic contributions and the notion of per capita emissions. Thus, paragraph 3 may lend support to the argument that historic contributions may be assessed by reference to per capita emissions. This is potentially significant in considering legal responsibility for climate change damage.

The preamble of the UNFCCC provides important interpretive aids in considering the viability of legal claims related to climate change damage. Paragraph 8 of the preamble recognises that 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 other areas beyond the limits of national jurisdiction’. Paragraph 3 notes that the largest

\textsuperscript{187} UNFCCC, pmbl, para 3: \textquote{[t]hat the largest share of historical and current global emissions of greenhouse gases has originated in developed countries, that per capita emissions in developing countries are still relatively low and that the share of global emissions originating in developing countries will grow to meet their social and development needs.}

\textsuperscript{188} Bodansky, ‘The United Nations Framework Convention on Climate Change’, above n 20, 497.

\textsuperscript{189} Ibid.
share of historical and current greenhouse gases originate in developed States, although this historical contribution is not linked with responsibility for combating climate change. This paragraph also provides recognition of the notion of per capita emissions. All of these principles may provide important interpretive aids in assessing the viability of legal claims under the UNFCCC for climate change damage.

I. Conclusion

The history of the climate negotiations provides a number of important insights into the climate regime relevant to the research questions of this thesis. Firstly, the UNFCCC is a mix of a framework and substantive convention. Substantive commitments and procedural mechanisms are included in the UNFCCC, contrary to other framework conventions. Thus, it is clear that the obligations contained in the text must be examined to determine whether they provide legally binding obligations (see Chapter 3). Secondly, it is evident that many Parties were considering the issues of liability and compensation and sought to have these issues dealt with in the UNFCCC. However, the developed States strongly opposed such efforts and there are no principles of obligations in the UNFCCC concerning compensation or liability.

Third, although the Parties have created the UNFCCC and the Kyoto Protocol, negotiations have stagnated and there was no outcome for a legally binding agreement at COP15 in Copenhagen. The Durban Platform of 2011 has established a process for Parties to commit to a new legally binding agreement by 2015 and to take effect from 2010. This means that there will be a gap between the Kyoto Protocol commitment period (2008-2012) and any subsequent agreement.

Fourth, the object and purpose of the climate regime is to stabilise greenhouse gas concentrations at a level that would prevent dangerous anthropogenic interference with
the climate system. The term ‘dangerous’ appears to mean the occurrence of adverse effects of climate change which refer to significant deleterious effects on the physical environment or biota resulting from climate change. Reports of the IPCC, endorsed as decisions of the COP, provide categories of vulnerabilities that may be used to determine if a particular harm or risk of harm is a form of dangerous anthropogenic interference with the climate system. The specific vulnerabilities identified by the IPCC provide examples of what may be regarded as dangerous anthropogenic interference with the climate system. The lowest of these is a temperature rise of 1°C which is associated with the disintegration of the Greenland ice sheet.

Fifth, there is an additional objective contained in the UNFCC which is to ensure that mechanisms are in place to ensure that adaptation funding is provided from Annex II States to developing State Parties. This objective may become increasingly important in the event that climate change damage occurs.

Finally, the principles contained in the UNFCCC would guide the interpretation of obligations of the UNFCCC and Kyoto Protocol. The principle of common but differentiated responsibility may provide a basis for determining an appropriate method of disaggregating legal responsibility for climate change damage. The precautionary principle contained in Article 3.3 and its requirement that measures be ‘cost-effective’ would provide support to a Party that has not taken precautionary measures to prevent the adverse effects of climate change on the basis that those measures were not cost-effective. The principle of sustainable development in Article 3.4 embraces both a right to, and a duty to promote, sustainable development. It is within this context that we turn now to the question of whether there are obligations in the UNFCCC that could provide exposure to legal risk for climate change damage.
In this chapter, obligations contained in the United Nations Framework Convention on Climate Change (UNFCCC) are analysed to determine if any of these could provide the basis for a legal claim. The aim of this chapter is to identify the potential exposure to legal risk for climate change damage of greenhouse gas emitting States under the UNFCCC, in terms of the primary rules as well as any associated dispute resolution mechanisms.

Section B provides an assessment of the obligations on Parties to mitigate greenhouse gas emissions and obligations to assist in adaptation. The first part of this section considers the mitigation obligations, beginning with a history of the negotiations that led to their adoption. Three mitigation obligations are examined: to return emissions to 1990 levels by the year 2000 (Article 4.2); to modify long-term trends of greenhouse gas emissions (Article 4.2); and to formulate and implement national or regional mitigation programs (Article 4.1(b)).

The second part of Section B considers the obligations to assist in adaptation that are contained in the UNFCCC. Again, this part begins with the history of negotiations that led to these obligations being adopted. The three adaptation obligations assessed are: to provide financial resources to meet the agreed full incremental costs of preparing

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for adaptation (Article 4.3); to assist in adaptation to the adverse effects of climate change (Article 4.4); and to give full consideration to necessary actions (Article 4.8).

Section C turns to the dispute settlement procedures contained in the UNFCCC and the ability of States to bring contentious cases. This section examines the two approaches of the UNFCCC to the resolution of disputes. The first approach is a multilateral, non-adversarial form of dispute resolution. The second approach provides for the resolution of disputes through bilateral dispute resolution. This section considers whether the International Court of Justice (ICJ) could have jurisdiction over disputes concerning the UNFCCC obligations. Finally, Section D provides a summary of the key findings from this chapter in relation to exposure to legal risk for climate change damage.

B. Mitigation and adaptation obligations

In the UNFCCC, Parties agreed to a series of commitments that are set out in Article 4. The commitments in Article 4 are based on the principle of common but differentiated responsibility. All Parties to the UNFCCC are bound by Article 4.1. However, this obligation is subject to ‘specific national and regional development priorities, objectives and circumstances’. Thus, Article 4.1 is an example of a contextual norm, or a norm that implicitly allows the differential treatment of States.

In contrast, Article 4.2 contains more onerous commitments that apply only to Annex I Parties, which include the developed States and the ‘economies in transition’ of Eastern Europe. These commitments are differential norms, which explicitly provide

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for application of different standards for one group of States compared with another group.⁴

The obligations contained in Article 4 cover a range of areas but there are two categories that are most relevant for the purposes of this thesis (see Table 3-1 below). The first category is made up of obligations to mitigate greenhouse gas emissions. The second category concerns obligations to assist in adaptation to the adverse effects of climate change. These two categories of obligations were both intensely debated during the INC, and have continued to be sources of controversy in the ongoing climate change negotiations.

Table 3-1 Obligations in the UNFCCC that may provide legal exposure

<table>
<thead>
<tr>
<th>Article</th>
<th>Description</th>
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<tbody>
<tr>
<td><strong>Mitigation obligations</strong></td>
<td></td>
</tr>
<tr>
<td>Article 4.2(a)-(b)</td>
<td>Obligation to return emissions to 1990 levels by the year 2000</td>
</tr>
<tr>
<td>Article 4.2(a)</td>
<td>Obligation to modify long-term trends of greenhouse gas emissions</td>
</tr>
<tr>
<td>Article 4.1(b)</td>
<td>Obligation to formulate and implement national or regional mitigation programs</td>
</tr>
<tr>
<td><strong>Adaptation obligations</strong></td>
<td></td>
</tr>
<tr>
<td>Article 4.3</td>
<td>Obligation to provide financial resources to meet the agreed full incremental costs of preparing for adaptation</td>
</tr>
<tr>
<td>Article 4.4</td>
<td>Obligation to assist in adaptation to the adverse effects of climate change</td>
</tr>
<tr>
<td>Article 4.8</td>
<td>Obligation to give full consideration to necessary actions</td>
</tr>
</tbody>
</table>

It should be noted that there are commitments in Article 4 of the UNFCCC which may be used to defend a State Party in response to a legal claim relating to climate change damage. The clearest example of this is provided in Article 4.10.⁵ This article, which

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⁴ Ibid, 73.
⁵ UNFCCC, art 4.10:
“The Parties shall, in accordance with Article 10, take into consideration in the implementation of the commitments of the Convention the situation of Parties, particularly developing country Parties, with economies that are vulnerable to the adverse effects of implementation measures to respond to climate change. This applies notably to Parties with economies that are highly dependent on income generated...”
was included at the insistence of Australia, appears to provide a significant concession to States that are highly dependent upon fossil fuels.\textsuperscript{6} Indeed, it is likely that Article 4.10 would be cited by such States to qualify their obligations to mitigate greenhouse gases.\textsuperscript{7} In particular, Article 4.10 provides that in the process of implementing their commitments under the UNFCCC, Parties shall give ‘consideration’ to Parties that are vulnerable to the ‘adverse effects of implementation measures’ (i.e. mitigation measures). The article goes on to specifically mention that this concession applies to Parties with economies that are highly dependent upon the production, processing, export, consumption or use of fossil fuels. Thus, Article 4.10 acts as a qualification to the mitigation commitments of the UNFCCC as they apply to such Parties. Article 4.10 is not limited to economies in transition and would be available to developed Parties that are highly dependent on fossil fuels (for example, the United States and Australia). Article 4.6 provides a concession to Parties included in Annex I undergoing transition to a market economy.\textsuperscript{8}

1. \textit{Mitigation obligations}

This section examines obligations in the UNFCCC which concern mitigation of greenhouse gas emissions and may provide the basis for a legal claim relating to climate change damage. Each of these obligations is analysed primarily through


\textsuperscript{7} Ibid. Article 4.10 may be compared with Article 4.8 which again provides for States which are dependent on fossil fuels, but is limited to developing States Parties.

\textsuperscript{8} UNFCCC, art 4.6: ‘In the implementation of their commitments under paragraph 2 above, a certain degree of flexibility shall be allowed by the Conference of Parties to the Parties included in Annex I undergoing the process of transition to a market economy, in order to enhance the ability of these Parties to address climate change, including with regard to the historical level of anthropogenic emissions of greenhouse gases not controlled by the Montreal Protocol chosen as a reference.’
determining the appropriate interpretation of the text, and how this interpretation would apply to climate change damage.

The legal obligations examined are to:

(1) return emissions to 1990 levels by the year 2000 (Article 4.2);
(2) modify long-term trends of greenhouse gas emissions (Article 4.2); and
(3) formulate and implement national or regional mitigation programs (Article 4.1(b)).

However, before analysing these specific obligations, the following section briefly examines the history of negotiations that led to their adoption. A more general history of the negotiations was provided in Chapter 2. This section aims to more specifically focus upon the State positions on mitigation and the emergence of the commitments now found in Article 4.

(a) Negotiation History of Mitigation Obligations

Some of the most controversial issues during the negotiations were targets and timetables for the mitigation of greenhouse gas emissions. The Macquarie Dictionary definition of ‘target’ is ‘a goal to be reached’.\(^9\) However, under international environmental law the phrase ‘targets and timetables’ refers to quantitative limitations, which are legally binding.\(^10\) Such targets allow States to determine the methods employed to achieve these commitments.

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\(^10\) Generally, framework conventions are used to establish general commitments whereas protocols or subsequent legal agreements are used to subsequently to specify definitive targets and timelines. Examples of framework conventions and protocols include: Convention on Biological Diversity, opened for signature 5 June 1992, 1760 UNTS 79 (entered into force 29 December 1993); Cartagena Protocol to the Convention on Biological Diversity, opened for signature 29 January 2000, 2226 UNTS 208 (entered into force 11 September 2003); Vienna Convention for the Protection of the Ozone Layer,
There were a number of approaches to targets that were considered by States during the negotiations. Two approaches were the ‘per capita approach’ and the ‘GDP approach’. Under the per capita approach, targets would be set based upon per capita emissions. The per capita approach can be justified upon the equitable principle that ‘every human has an equal right to use the atmospheric resource.’ Such an approach was attractive to States with high population relative to their overall emissions (particularly developing States e.g. China). In contrast, the GDP or Gross Domestic Product approach would allow targets to be based upon emissions per unit of GDP. The GDP approach can be justified on the basis that it promotes economic efficiency in mitigation action through incentivising the reduction of emissions relative to economic activity. This approach was particularly appealing to States that use relatively little energy per unit of output (mostly developed States).

opened for signature 22 March 1985, 1513 UNTS 324 (entered into force 22 September 1988); Montreal Protocol on Substances that Deplete the Ozone Layer, opened for signature 16 September 1987, 1522 UNTS 3 (entered into force 1 January 1989). In contrast, self-contained treaties work through appendices or annexes, which are revised from time to time by the parties. Examples of self-contained treaties include the Convention for the Protection of the World Cultural and Natural Heritage, opened for signature 16 November 1972, 1037 UNTS 151 (entered into force 17 December 1975); Convention on International Trade in Endangered Species of Wild Fauna and Flora, opened for signature 3 March 1973, 995 UNTS 243 (entered into force 1 July 1975). Also see discussion in Chapter 2 on the UNFCCC as a framework convention.

Ultimately, the per capita approach was politically infeasible within the US and several other developed States because it would require them to reduce their emissions by substantial levels.\textsuperscript{14} By comparison, the GDP approach would allow developing States to increase their emissions substantially, making any real outcome in reducing global emissions impossible. As a result of these issues, States in the INC adopted the ‘grandfathered emissions’ approach which refers to uniform targets that are based upon historical or current emissions levels.\textsuperscript{15}

Before and during the INC, most developed States called for the adoption of an international stabilisation target and timetable to stabilise greenhouse gas emissions.\textsuperscript{16} The European Community argued for an ‘immediate commitment by developed States to stabilize carbon dioxide emissions at 1990 levels by the year 2000.’\textsuperscript{17} However, the US opposed this suggestion and ‘derided the targets and timetables adopted by most other [States] as political in nature, not backed by concrete measures designed to achieve them.’\textsuperscript{18}

\textsuperscript{14} Bodansky, above n 6, 513.
\textsuperscript{15} Ibid.
\textsuperscript{16} Cf EC Council Conclusions on Climate Change Policy, Council of the European Communities Press Release 9482/90 (29 October 1990). Before the INC, it was widely believed that developed States would eventually have to reduce their greenhouse gas emissions in order to stabilise atmospheric concentrations at a safe level while giving developing States ‘environmental space’ to grow. See e.g. Proceedings of the World Conference on the Changing Atmosphere: Implications for Global Security, Toronto, June 27-30, 1988, WMO & UN Environment Program (UNEP), WMO/OMM Doc. 710 (1989), 521 (recommending 20% reduction in global carbon dioxide emissions); IPCC, Climate Change: The IPCC Scientific Assessment, xi. Thus, early in the negotiations, delegations submitted proposals to establish reduction targets.
\textsuperscript{17} See Consolidated Working Document in Report of the Intergovernmental Negotiating Committee for a Framework Convention on the Work of its Fourth Session, UN GAOR INC/FCCC, 4\textsuperscript{th} Session, UN Doc A/AC.237/15 (1992), Article IV(2)(1)(b), alternative A (‘developed country Parties … shall … commit themselves to stabilization’). This proposal surpassed the European Community’s own unilateral policy adopted in Luxembourg in October 1990 to take actions ‘aiming at reaching stabilization.’ EC Council Conclusions on Climate Change Policy, Council of the European Communities Press Release 9482/90 (29 October 1990), at 267 (emphasis added).
\textsuperscript{18} See Europe ‘Only Political’ – US, EDO, 12 December 1991, 4 (quoting US negotiator Robert Reinstein characterising European targets as ‘political commitments’). According to an OECD report, the targets and timetables adopted by States have varying status: some are conditioned on what others do, some are political rather than legal in nature, and some limit greenhouse gases generally, not carbon dioxide in particular. IEA, Climate Change Policy Initiatives: Update (9 March 1992), 17-18.
The CANZ group (Canada Australia and New Zealand) and Finland called for a stabilisation target that covered all greenhouse gases not controlled by the Montreal Protocol. Japan opposed firm commitments to limit greenhouse gas emissions and instead argued for a ‘best efforts’ approach. In June 1991, Japan provided a degree of mediation between the US and the European Community by proposing a ‘pledge and review’ formula.\(^\text{19}\) The United Kingdom played a mediator role by proposing a ‘phased, comprehensive approach’,\(^\text{20}\) by supporting ‘pledge and review’,\(^\text{21}\) and by finally gaining agreement in May 1992 on the ‘quasi-target’ and ‘quasi-timetable’.\(^\text{22}\)

This history provides a contextual background to the mitigation obligations that are examined here, and may be important in interpreting these obligations. Generally, the history shows that the language agreed to represents a compromise between the State Parties. Although some Parties sought to establish actual targets and timelines for mitigation of greenhouse gases, this was ultimately unfeasible and instead a quasi-target and quasi-timeline emerged.

\[(b) \text{Obligation to return emissions to 1990 levels by the year 2000 (Article 4.2(a)- (b))}\]

Article 4.2 is a differential norm that only applies to developed States. During the INC, the European Community, AOSIS (Alliance of Small Island States), and the CANZ group called for a specific commitment by developed States to stabilise carbon dioxide

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\(^{19}\) Set of Informal Papers Provided by Delegations, Addendum 7, INC/FCCC, 2\(^{nd}\) Session, Provisional Agenda Item 2, 3, UN Doc A/AC.237/Misc.1/Add.7 (1991) (submission of Japan).


\(^{21}\) Set of Informal Papers Provided by Delegations, INC/FCCC, 2\(^{nd}\) Session, Provisional Agenda Item 2, UN Doc A/AC.237/Misc.1/Add.1 (1991), 54; Set of Informal Papers Provided by Delegations, Addendum 2, INC/FCCC, 2\(^{nd}\) Session, Provisional Agenda Item 2, UN Doc A/AC.237/Misc.1/Add.2 (1991), 3.

emissions at 1990 levels by the year 2000.\(^\text{23}\) This was opposed by the US and ultimately Article 4.2 was agreed to,\(^\text{24}\) which has been described as containing a ‘quasi-target’ and ‘quasi-timetable’.\(^\text{25}\)

A liberal interpretation of Article 4.2 would read the two sub-paragraphs together to find that it requires Annex I Parties to return emissions to 1990 levels by the year 2000. Such an interpretation involves combining the phrases ‘by the end of the present decade’ (Article 4.2(a)) and ‘returning individually or jointly to their 1990 levels’ (Article 4.2(b)). However, linking the timetable in subparagraph (a) to the target in subparagraph (b) would amount to an inappropriate interpretation of the text. Although subparagraph (b) does refer to the timetable (‘for the period referred to in subparagraph


\(^{24}\) Article 4.2 provides: ‘The developed country Parties and other Parties included in Annex I commit themselves specifically as provided for in the following:

(a) Each of these Parties shall adopt national policies and take corresponding measures on the mitigation of climate change, by limiting its anthropogenic emissions of greenhouse gases and protecting and enhancing its greenhouse gas sinks and reservoirs. These policies and measures will demonstrate that developed countries are taking the lead in modifying longer-term trends in anthropogenic emissions consistent with the objective of the Convention, recognizing that the return by the end of the present decade to earlier levels of anthropogenic emissions of carbon dioxide and other greenhouse gases not controlled by the Montreal Protocol would contribute to such modification, and taking into account the differences in these Parties’ starting points and approaches, economic structures and resource bases, the need to maintain strong and sustainable economic growth, available technologies and other individual circumstances, as well as the need for equitable and appropriate contributions by each of these Parties to the global effort regarding that objective. These Parties may implement such policies and measures jointly with other Parties and may assist other Parties in contributing to the achievement of the objective of the Convention and, in particular, that of this subparagraph;

(b) In order to promote progress to this end, each of these Parties shall communicate, within six months of the entry into force of the Convention for it and periodically thereafter, and in accordance with Article 12, detailed information on its policies and measures referred to in subparagraph (a) above, as well as on its resulting projected anthropogenic emissions by sources and removals by sinks of greenhouse gases not controlled by the Montreal Protocol for the period referred to in subparagraph (a), with the aim of returning individually or jointly to their 1990 levels these anthropogenic emissions of carbon dioxide and other greenhouse gases not controlled by the Montreal Protocol. This information will be reviewed by the Conference of the Parties, at its first session and periodically thereafter, in accordance with Article 7.’ (emphasis added)

\(^{25}\) Bodansky, above n 6, 516.
(a’), the language chosen does not clearly provide that these two elements should be read together.26

Further, the language expresses the target as an ‘aim’ and ‘the verbs used to characterise the timetable are all descriptive rather than imperative.’27 An additional issue is that Article 4.2 uses the term ‘return’ rather than ‘stabilise’ which suggests that the commitment is not of an ongoing temporal nature.28 Thus, a State Party could argue that once it had returned its emissions to 1990 levels, it would be permitted to increase its emissions.

Interpretative declarations provide an important means to determine the intentions of the Parties particularly when there is ambiguity in the text.29 For the purposes of interpreting Article 4.2 the interpretative declarations of Annex I Parties are more relevant than non-Annex I. Interpretive declarations made by Annex I Parties both support and deny the existence of a commitment in Article 4.2. For example, contrasting perspectives were taken by the UK and the US. Following the adoption of the UNFCCC, the chief British negotiator said that the provisions were

26 See Patricia Birnie, Alan Boyle and Catherine Redgwell, International Law and the Environmental (3rd edition, New York: Oxford University Press, 2009), 360 (Article 4.2 provides ‘neither a strong nor clear commitment’).
27 Bodansky, above n 6, 516. UNFCCC, art 4.2(a) (required policies and measures ‘will demonstrate that developed countries are taking the lead in modifying longer-term trends in anthropogenic emissions consistent with the objective of the Convention, recognizing that the return by the end of the present decade to earlier levels of anthropogenic emissions of carbon dioxide and other greenhouse gases would contribute to such modification’) (emphasis added).
28 Bodansky, above n 6, 515.
29 Interpretative declarations are not defined in the Vienna Convention on the Law of Treaties, opened for signature 23 May 1969, 1155 UNTS 331(entered in force 27 January 1980) [hereinafter ‘VCLT’]. The ILC has offered the following definition: ‘Interpretative declaration’ means a unilateral statement, however phrased or named, made by a State or by an international organization whereby that State or that organization purports to specify or clarify the meaning or scope attributed by the declarant to a treaty or to certain or its provisions.’ Report of the ILC, Fifty-ninth session (7 May-5 June and 9 July-10 August 2007), General Assembly Official Records, Sixty-second Session, Supplement No 10 (A/62/10), Chapter IV, 48, draft guideline 1.2.
'indistinguishable' from an absolute guarantee. However, President George H W Bush’s domestic policy advisor declared that ‘there is nothing in any of the language which constitutes a commitment to any specific level of emissions at any time.’ This interpretative declaration was consistent with the Bush administration’s approach to the UNFCCC and its view that any binding mitigation commitments would require a subsequent protocol.

Thus, the interpretative declarations of the UK and US do not resolve the ambiguity around Article 4.2. There has been no conclusion reached among commentators concerning the effects of interpretative declarations. Although interpretative declarations may provide evidence of intention, or form part of the context of the treaty, the effects of such statements remain open. Generally, the weight of an interpretive declaration will be influenced by the reactions of other States. McRae noted:

A State making an interpretative declaration, therefore, is taking the opportunity in advance to influence any subsequent interpretation of the treaty, the extent of that influence in part being affected by the reaction of other States to the declaration.

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30 Bodansky, above n 6, 516-517. Portugal issued a statement on behalf of the European Community, offering another interpretation. It characterised the Convention as establishing a 'commitment to introduce measures aiming at the return of anthropogenic emissions of carbon dioxide and other greenhouse gases not controlled by the Montreal Protocol to their 1990 levels by the end of the present decade.' Statement by Aníbal Cavaco Silva, Prime Minister of the Portuguese Republic on behalf of the European Community and Its Member States on the Occasion of the Signature by the Community of the Convention (June 1992).


35 Gardiner, above n 32, 98.

36 Ibid, 169-70. Citation and footnotes omitted.
Given that the interpretive declarations made by Parties to the UNFCCC both support and deny that it contains an obligation to mitigate emissions, it is unlikely that they would have much influence in the interpretation of Article 4.2. Instead, they arguably support the view that the Parties did not have any clear consensus about Article 4.2 and its implications.

To some extent, Article 4.2 can be compared with Article 2 of the 1979 Geneva Convention on Long-Range Transboundary Air Pollution. Article 2 provides that Parties were ‘to endeavour to limit’ and ‘as far as possible, gradually reduce and prevent’ air pollution. Article 6 further provides that States are to use best policies, strategies and control measures compatible with ‘balanced development’ and that they are to use the ‘best available technology’ which is ‘economically feasible’. These articles do not establish any concrete commitments to specific reductions in air pollution. One commentator stated that the Geneva Convention on Long-Range Transboundary Air Pollution was no more than a ‘symbolic victory’ intended to provide reassurance to the victims and the polluters.

A similar comment was made by Christian Reus-Smit about Article 4.2 of the UNFCCC, who stated that:

At the Earth Summit in 1992, many environmental organisations (NGOs) were highly critical of the “soft” legal form in which the commitments were expressed. The notable absence of any binding timetable or targets for greenhouse gas emissions reductions in the 1992 document … was widely seen as a failure of commitment.

37 This is particularly directed at new or rebuilt installations.
38 Birnie, Boyle and Redgwell, above n 26, 345.
In terms of long-range air pollution, the ‘elastic obligation’ found in Article 2 enabled the US to continue causing serious air pollution in Canada without violating the Geneva Convention on Long-Range Transboundary Air Pollution.\textsuperscript{41} The latitude provided to polluters in Article 2 to determine their level of effort is very similar to that found in Article 4.2 of the UNFCCC. Although both Article 2 and Article 4.2 fail to establish any clear concrete commitments for the polluting States, the substance of the whole treaty is to act as a framework for cooperation and the development of further concrete commitments.

Furthermore, the history of the negotiations around the mitigation obligations provided above highlighted that although some Parties sought to establish specific targets and timelines for mitigation, they were unsuccessful in these efforts. The negotiation history does not lend support for reading the quasi-target and quasi-timeline together.

Finally, almost all Parties to the UNFCCC are also Parties to the Kyoto Protocol,\textsuperscript{42} including Tuvalu and Australia. This situation suggests that the latter has superseded the former.\textsuperscript{43} The Kyoto Protocol establishes clear obligations for Annex I Parties to meet targets for limiting GHG emissions in the period 2008 to 2012, inconsistent with Article 4.2(a)-(b) of the UNFCCC. Thus, the current status of Article 4.2 in generating a binding obligation is weaker now than it was prior to when the Parties agreed to the Kyoto Protocol.

\footnotesize
\textsuperscript{43} VCLT, art 30.
In conclusion, Article 4.2 does not provide a concrete commitment for Annex I Parties to reduce greenhouse gas emissions. Although a timeline is provided in Article 4.2(a) and a target is provided in Article 4.2(b), there is no justification now for reading these two elements together to create a commitment. Article 4.2 is ambiguous and the interpretative declaration of the US confirms the view that it does not provide a firm commitment. Although some States Parties clearly hoped that Article 4.2 would provide a concrete commitment for mitigation action, the text ultimately agreed failed to do so. On the whole, the case for establishing a binding obligation for mitigation under Article 4.2 is unconvincing.

(c) Obligation to demonstrate that they are taking the lead in modifying longer-term trends of greenhouse gas emissions (Article 4.2(a))

The text of Article 4.2(a) also provides that Annex I Parties shall ‘demonstrate that they are taking the lead in modifying longer term trends’ of greenhouse gas emissions. Article 4.2(a) is one of the clear examples of an obligation founded on the principle of common but differentiated responsibility. While Article 4.2 does not contain an obligation to return emissions to 1990 levels by the year 2000, an alternative possible interpretation proposed by Verheyen is that it requires Annex I Parties to modify their long-term trends of greenhouse gas emissions. Verheyen adopted this view and proposed three arguments to support her interpretation. These are 1) all Parties are bound by the objective in Article 2; 2) Annex I Parties are committed under Article

4.2 to take the lead in mitigation action; and 3) Annex I Parties accept under 4.2 that a modification of greenhouse gas trends is consistent with the objective in Article 2.\textsuperscript{46}

She argued that although the Parties did not intend to be bound by a target or timeframe, they did not want to exclude an obligation to mitigate.\textsuperscript{47}

Yet, it is unclear how the notion that Annex I Parties need to take the lead in mitigation action can be relied upon as a concrete commitment. Verheyen suggested that in proving that a breach has occurred, a claimant State may refer to the inadequacy of the respondent nation’s climate action plans.\textsuperscript{48} However, it is uncertain how the analysis of one State’s climate action plans could determine whether it is taking the lead globally to modify longer-term emissions trends.

Verheyen’s analysis appears to rely upon the principle of effectiveness, which requires adoption of an interpretation that gives meaning and effect to all terms of a treaty.\textsuperscript{49} For example, where a term of a treaty is open to two possible interpretations, only one of which provides the term with meaning, then the interpretator must adopt that interpretation.\textsuperscript{50} However, in the case of Article 4.2, a more reasonable interpretation is that it provides a flexible commitment that does not require any particular action by Annex I Parties. While it provides that Annex I Parties must take the lead in modifying long term trends, this does not actually mean that they must modify their own longer term trends. Rather, Article 4.2 appears to refer to global long term trends of greenhouse gas emissions. The broader language adopted in Article 4.2(a) reflects the

\textsuperscript{46} Verheyen, above n 45, 82.
\textsuperscript{47} Ibid, 83.
\textsuperscript{48} Ibid.
\textsuperscript{49} Commentary on draft article, [1966] Yearbook of the ILC, vol I, 219, para 6.
movement towards cross-border emission reductions, such as through CDM and JI projects. This interpretation of Article 4.2(a) does not mean that it is devoid of meaning; rather it fails to mean that Annex I Parties must modify their own emission trends or take any specific measures. Therefore, the principle of effectiveness does not require the adoption of Verheyen’s interpretation of Article 4.2. Furthermore, it must be remembered that the principle of good faith, of which the principle of effectiveness is an element, cannot be used to fill gaps in a manner which would impose additional obligations. 51 This interpretation is consistent with the negotiation history provided above. Despite some Parties’ intentions to create a concrete obligation to mitigation, others opposed such an approach.

(d) Obligation to formulate and implement national or regional mitigation programs (Article 4.1(b))

The final obligation within the UNFCCC which could be interpreted as a commitment to mitigate greenhouse gas emissions is found in Article 4.1(b). 52 Verheyen and Davis both argued that Article 4.1(b) provides a substantive commitment to reduce emissions. 53 Indeed, Article 4.1(b) does provide that all Parties shall ‘[f]ormulate … programmes containing measures to mitigate’ greenhouse gas emissions.

51 Gardiner, above n 32, 155.
52 UNFCCC, art 4.1(b):
‘1. All Parties, taking into account their common but differentiated responsibilities and their specific national and regional development priorities, objectives and circumstances, shall: Formulate, implement, publish and regularly update national and, where appropriate, regional programmes containing measures to mitigate climate change by addressing anthropogenic emissions by sources and removals by sinks of all greenhouse gases not controlled by the Montreal Protocol, and measures to facilitate adequate adaptation to climate change’ (emphasis added).
53 Verheyen, above n 45, 85; Joy-Dee Davis, ‘State Responsibility for Global Climate Change: The Case of the Maldives’ (Masters of Arts in Law and Diplomacy Thesis, The Fletcher School, Tufts University, 2005, 26.)
However, Article 4.1(b) does not contain any targets or timetables for the formulation of such programs. It is also heavily qualified in the chapeau which provides that the obligation is subject to each Parties’ ‘specific national and regional development priorities, objectives and circumstances’. This wording provides for differential treatment in implementation, creating ambiguity and indeterminacy. The differential treatment provided for in this article is very broad, and coupled with the absence of a target or timetable, means that it establishes a flexible mitigation commitment that would be difficult to enforce.

(e) Conclusions on mitigation

This section has examined the UNFCCC in terms of the commitments it places upon Annex I Parties to mitigate GHG emissions. The focus has been upon Articles 4.2 and 4.1(b). Other commentators have suggested that there are two possible interpretations of Article 4.2 that would provide an enforceable mitigation commitment. Firstly, that Article 4.2 requires Annex I Parties to return emissions to 1990 levels by the year 2000. Secondly, that Article 4.2 requires Annex I Parties to modify their long-term trends of greenhouse gas emissions. However, upon examination it was revealed that neither of these approaches are convincing. Rather, Article 4.2 provides an elastic commitment for Annex I Parties to take mitigation action in accordance with their differential circumstances.

It has also been suggested that Article 4.1(b) may provide a substantive commitment to mitigate greenhouse gas emissions. However, examination of this article also reveals that the language adopted is flexible and falls far short of a concrete

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54 Rajamani, above n 2, 101.
commitment to mitigate. Therefore, the UNFCCC does not provide any commitments by Annex I Parties that could be persuasively relied upon by a claimant State. A summary of these conclusions is provided in Table 3-2 below.

Table 3-2 Sources of exposure to legal risk from mitigation obligations in the UNFCCC

<table>
<thead>
<tr>
<th>Obligation</th>
<th>Article</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obligation to return emissions to 1990 levels by the year 2000</td>
<td>Article 4.2</td>
<td>No exposure. The quasi-timetables and quasi-targets are not sufficiently linked.</td>
</tr>
<tr>
<td>Obligation to modify long-term trends of greenhouse gas emissions</td>
<td>Article 4.2</td>
<td>No exposure. Simply requires Annex I Parties to take the lead in modifying long term trends.</td>
</tr>
<tr>
<td>Obligation to formulate and implement national or regional mitigation programmes</td>
<td>Article 4.1(b)</td>
<td>No exposure. Contains no targets or timetables.</td>
</tr>
</tbody>
</table>

2. Adaptation obligations

(a) Introduction

The following section examines a series of obligations to assist in adaptation contained in the UNFCCC which may provide the basis for a legal claim relating to climate change damage. The emergence of these obligations reflects the fact that many of the poorest States that have contributed least to the problem of climate change are those that will be affected the most. As a result, Parties to the UNFCCC have sought to find ways to assist these States to adapt to the impacts of climate change.

This section analyses the obligations concerning adaptation assistance in the UNFCCC. It considers how these obligations should be interpreted, and the possible hurdles that may arise for Parties seeking to rely upon these obligations in the context of a legal dispute. Regard is given to issues raised by commentators in previous studies, such as the relationship between Articles 4.3 and 4.4, the role of the Global Environment Facility (GEF), and criteria used to provide assistance. Additional issues
have been identified and considered, including the fact that the Parties have not implemented Article 4.4.

The legal obligations examined are the obligation to:

1. provide financial resources to meet the agreed full incremental costs of preparing for adaptation (Article 4.3);
2. assist in adaptation to the adverse effects of climate change (Article 4.4); and
3. give full consideration to necessary actions (Article 4.8).

However, before analysing these specific obligations, the following section briefly examines the history of negotiations that led to their adoption. Again, this history builds upon that provided in Chapter 2, focusing upon the emergence of the adaptation obligations. The purpose of this short history is to shed light on the Parties’ intentions, which is important in the event of any ambiguity.  

(b) History of Negotiations of Adaptation Obligations

The INC negotiations around technology transfer and financial resources were marked by controversy. Within the context of the UNFCCC, developing States sought the transfer of financial resources both to assist in their implementation of obligations and to assist in their adaptation to the adverse effects of climate change if they were to occur. The negotiations tended to focus upon financial resources to implement mitigation obligations because the developing States most interested in these were

\[55\] ‘Recourse may be had to supplementary means of interpretation including the preparatory work of the treaty and the circumstances of its conclusion, in order to confirm the meaning resulting from the application of article 31, or to determine the meaning when the interpretation according to article 31: (a) leaves the meaning ambiguous or obscure; or (b) leads to a result which is manifestly absurd or unreasonable.’ VCLT, art 32.

\[56\] Bodansky, above n 6, 526.
more influential than those developing States most concerned with financial resources to assist in the adaptation to climate change impacts.\textsuperscript{57}

The negotiations that dealt with adaptation to the adverse effects of climate change were primarily initiated by AOSIS. As discussed in Chapter 2, an International Insurance Pool was proposed by AOSIS to provide insurance against sea level rise.\textsuperscript{58} The last remaining trace of this proposal may be found in Article 4.8 which refers to insurance as a measure that may be used to meet the specific needs and concerns of developing States. Bodansky reported that ‘[i]n the closing days of the negotiations, however, AOSIS did succeed in adding Article 4.4 to the Convention’ to assist in adaptation and viewed this as a major success.\textsuperscript{59} This perspective was probably because of the broad commitment Article 4.4 contains, as will be discussed below.

\textit{(c) Obligation to provide financial resources to meet the agreed full incremental costs of preparing for adaptation (Article 4.3)}

Article 4.3 obliges the developed State Parties and other developed Parties included in Annex II to provide financial resources needed by the developing State Parties to meet the agreed full incremental costs of implementing measures covered by paragraph 1 of the article.\textsuperscript{60} It is through this link to Article 4.1 that Article 4.3 provides a binding

\begin{footnotesize}
\begin{itemize}
\item \textsuperscript{57} Ibid, 528.
\item \textsuperscript{58} Elements Related to Mechanisms, INC/FCCC, 4\textsuperscript{th} Session, Working Group II, Agenda Item 2(b), at 3, UN Doc. A/AC.237/WG.II/CRP.8 (1991) (draft annex relating to insurance submitted by Vanuatu).
\item \textsuperscript{59} Bodansky, above n 6, 528. India also proposed that Decision 1/1 refer to the need for ‘new and additional funding’ to assist developing States implement measures against climate change. Global Warming ‘Overtakes Talks’, \textit{ECO}, 14 February 1991, 16. Oppenheimer stated ‘In effect, the Indian proposal sought to secure a pre-negotiation commitment from developed nations to provide financial resources to developing nations. Following intense negotiations with the United States, India ultimately dropped its proposal. Instead, Decision 1/1 directed Working Group I to prepare a text “related to … [a]ppropriate commitments on adequate and additional financial resources.”’
\item \textsuperscript{60} Article 4.3 provides: ‘The developed country Parties and other developed Parties included in Annex II shall provide \textit{new and additional financial resources} to meet the \textit{agreed full costs} incurred by
\end{itemize}
\end{footnotesize}
financial obligation on Annex II States to support developing States in adaptation. In particular, Article 4.1(b) requires all States to implement measures to facilitate adequate adaptation to climate change. Article 4.1(e) commits Parties to cooperate in preparing for adaptation to the impacts of climate change. Together, these provisions require Annex II States to support developing States prepare and implement adaptation measures.

Article 4.3 provides that Annex II Parties will transfer financial resources for the ‘agreed full incremental costs’ of measures to implement Article 4.1 and requires that the developing State Party and the international entity are to agree on these costs. Article 4.3 has been implemented by the Parties through the GEF as the international entity pursuant to Article 21.3. The GEF was initially appointed as the *ad interim* financial mechanism but it has continued in this role for over 15 years. Until recently,


the GEF was the only operating entity of the UNFCCC financial mechanism. At the Bali meeting of the COP in December 2007 the Parties decided to establish the Adaptation Fund Board as the operating entity to supervise and manage the Adaptation Fund. The GEF provides secretariat services to the Adaptation Fund Board, and manages three trust funds for adaptation funding. These trust funds are the Least Developed Countries Fund (LDCF), the Special Climate Change Fund (SCCF) and the Strategic Priority on Adaptation (SPA) (under the GEF Trust Fund).

The SPA was established by the COP to support pilot and demonstration adaptation projects on the basis of State needs. The GEF has provided an initial US$50 million to the SPA. The LDCF was set up to support least developed States in the development of National Adaptation Programs of Action (NAPAs) and receives funding through voluntary contributions. LDCF resources total US$537 million and as of December 2011 the LDCF had approved US$217 million in projects. Fifty-three percent of these funds are dedicated to increase resilience of LDCs in Africa; 23% in Asia; 21% in SIDS; and 3% in the Latin American and Caribbean region.

At COP16 in Cancun, Mexico, the COP adopted a decision providing further guidance for the operation of the LDCF. As a result, the Subsidiary Body for Implementation (SBI) requested that the Least Developed Countries Expert Group (LEG) discuss with the GEF and its agencies a number of matters at its first meeting in 2011. These matters were methods to further improve access to funds from the LDCF, the disbursement of

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funds, the design of implementation strategies for NAPAs using a programmatic approach, ways to best communicate co-financing requirements under the LDCF, and remaining challenges faced by least developed State Parties in working with GEF agencies. In response, the GEF Secretariat, among other things, developed a guide on how to access LDCF resources.\(^67\)

Verheyen argued that implementation of Article 4.3 is made difficult because of its linkage to the GEF.\(^68\) A double majority is required for all decisions of the GEF (60% of all member States and 60% of funds weighted by donors). However, Article 11 of the UNFCCC provides that the financial mechanism will function under the ‘guidance’ of the COP with regard to ‘policies, programme priorities and eligibility criteria’ and will be accountable to the COP. This guidance does not include specific funding decisions.

Verheyen argued that the GEF does not appear to meet the definition of an international entity and it may not have the legal capacity to enter into agreements.\(^69\) However, this argument is unconvincing because the GEF is a part of the World Bank\(^70\) which is an international entity.\(^71\) Furthermore, the GEF Instrument\(^72\) (which is


\(^{68}\) Verheyen, above n 45, 103. The GEF also administers the Kyoto Protocol Adaptation Fund, the Special Climate Change Fund, and the Least Developed Country Fund. These were all established at the second session of COP6 (COP6bis) held in Bonn in July 2001. The Bonn Agreements on the implementation of the Buenos Aires Plan of Action, COP, Dec. 5/CP.6, FCCC/CP/2001/5 (25 September 2001); Funding under the Kyoto Protocol, COP, Dec. 10/CP.7, FCCC/CP/2001/13/Add.1 (10 November 2001).


\(^{70}\) The GEF is jointly implemented by the World Bank, United Nations Development Program and the United Nations Environment Programme.

\(^{71}\) See Articles of Agreement of the International Bank for Reconstruction and Development, opened for signature 27 December 1945, 2 UNTS 134 (entered into force 27 December 1945), art VII.

accepted but not ratified by States) arguably gives the GEF implied powers to enter agreements.\(^73\)

The GEF’s mandate guide the work of the SPA. Adaptation funding is provided for development-related adaptation and adaptation projects of global environmental benefit. Verheyen argued in 2005 that the global environmental benefit criterion would be impossible to apply to adaptation.\(^74\) However, since then the full US$50 million SPA portfolio has been allocated.\(^75\) The GEF took the view that this criteria was easily met when the projects were implemented in vulnerable ecosystems (e.g. projects to reduce the vulnerability of coral reefs).\(^76\)

Nonetheless, the amount of SPA funding provided for adaptation to climate change has been modest.\(^77\) There is considerable disagreement about the level of adaptation funding required by developing States because of differences in measurement and views on what level of adaptation is appropriate. However, most recent estimates show that the level of funding may equal or even exceed recent global Official Development Assistance (ODA) flows.\(^78\) The UNDP’s 2007 Human Development Report estimated

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\(^74\) Verheyen, above n 45, 99.

\(^75\) Global Environmental Facility, Strategic Priority for Adaptation (SPA) <http://www.thegef.org/gef/SPA> accessed 16 May 2012.


that the annual adaptation costs were US$90 billion.\(^79\) The World Bank estimated the costs at US$10 billion\(^80\) and Oxfam estimated US$50 billion.\(^81\) These estimates do not include the costs of responding to the actual impacts of climate change on peoples’ health, livelihoods and human rights.\(^82\) Clearly, the current level of adaptation funding provided falls far short of what developing States need.

The key issue for the purposes of this thesis is whether the obligation contained in Article 4.3 could provide an avenue for these developing States. To bring such a claim, a State would need to demonstrate that the costs it seeks to cover are ‘incremental costs’. The phrase is not defined in the UNFCCC and is only found in Article 4.3. It appears that incremental costs refer to the additional costs associated with more costly environmental projects.\(^83\) Therefore, a determination whether these costs have been additional would require proof of causation. The claimant would need to demonstrate that it has incurred additional costs in the design and execution of an environmental project because of the need to adapt to climate change.\(^84\) However, it may be


\(^82\) Daniel Nelson, ‘Climate will add $100B to Development Costs’ (OneWorld UK, 14 October 2008).


\(^84\) On the meaning of ‘additional’ see Maurice Strong, Remarks at the Opening of the First Meeting of the Precautionary Committee for the 1992 United Nations Conference on Environment and Development (‘Additionality is no mere political slogan. It reflects the stark reality that however much developing countries may recognise that investment in sustainable development makes sense in terms of their long term economic and environmental interests, they simply cannot afford the additional funds this will often require in the short term. It is in everyone’s interest that they have access to these additional funds and to the most environmentally sound technologies. The sooner this is done, the less it will cost, environmentally and economically.’) CF John Ntambirweki, ‘The Developing Countries in the Evolution of an International Environmental Law’ (1995) 14 Hastings International and Comparative Law Review 905, 914.
impossible to prove causation because there are no recognised baselines from which to measure incremental costs.\textsuperscript{85}

The GEF’s Scientific and Technical Advisory Panel (STAP) noted the problems associated with the concept of incremental costs\textsuperscript{86} and as a result a new strategic priority on adaptation was adopted by the GEF.\textsuperscript{87} It appears that the GEF Adaptation Approach goes around the issue of incremental costs by assuming that many adaptation measures under the ‘enabling activities’ are provided with funding under the first sentence of Article 4.3, that is, the ‘agreed full costs’ rather than the ‘agreed full incremental costs’.\textsuperscript{88} While there is no certainty that an international court or tribunal would take the same approach, a claimant State should be able to demonstrate and quantify the additional costs incurred by a project.

In conclusion, Annex II Parties are obliged to provide financial resources to developing States under Article 4.3 to meet the agreed full incremental costs of preparing and implementing adaptation measures. Article 4.3 provides some scope for a developing State to bring a case to recover funds for adaptation costs. The

\textsuperscript{85} Bodansky, above n 6.

\textsuperscript{86} The STAP highlighted that ‘unlike mitigation activities which aim at reducing atmospheric greenhouse gas concentrations, the global benefits related to adaptation activities are likely to be intangible or more difficult to measures. As a consequence, particular attention should be paid for lowering the baseline for adaptation activities. Related to this is the need to establish national/regional adaptation baseline, in the absence of an internationally agreed one’. Report of the STAP Expert Group Workshop on Adaptation and Vulnerability, GEF/C.19/Inf.12, 5.

\textsuperscript{87} The new strategic priority of the GEF states that it ‘will fund the incremental cost of those adaptation activities that generate global environmental benefits as well as the incremental cost of selected adaptation activities that are identified as high priorities by national communications.’ GEF/C.23/Inf.8/Rev.1, ‘GEF Assistance to address adaptation’, para. 21.

\textsuperscript{88} Verheyen, above n 45, 99. A proposed GEF Approach to Adaptation to Climate Change, GEF/C.21/Inf.10. This led to a new strategic priority in the climate change focal area (Piloting an operational approach to adaptation), see \textit{Additional Guidance to an Operating Entity of the Financial Mechanism}, COP, Dec. 4/CP.9, FCCC/CP/2003/6/Add.1 (12 December 2003) requesting the GEF to operationalise the new strategic priority as soon as possible, and GEF/C.23/Inf.8/Rev.1 ‘GEF Assistance to address adaptation’, paras. 20ff. The ‘enabling activities’ mostly encompasses funding for developing the national communication of developing States. Verheyen, above n 45, 96.
establishment of ‘incremental costs’ associated with a project would be a challenging but not insurmountable hurdle.

(d) **Obligation to assist in adaptation to the adverse effects of climate change**

*(Article 4.4)*

Alongside Article 4.3, Article 4.4 provides the other key obligation for Annex II Parties to assist in the costs of adaptation. Under Article 4.4, developed State Parties and other developed Parties included in Annex II commit to assist the developing State Parties that are particularly vulnerable to the adverse effects of climate change in meeting the costs of adaptation.\(^{(89)}\) Sands described Article 4.4 as potentially ‘one of the more unusual, contentious, and perhaps costly, commitments in the Convention’ and that it ‘amounts to an implicit acceptance by developed State Parties of responsibility for causing climate change’.\(^{(90)}\)

A legal claim under Article 4.4 must be based on the premise that the claimant State is ‘particularly vulnerable’ to the adverse effects of climate change. The preamble provides that the Parties recognise that ‘low-lying and other small island countries, countries with low-lying coastal, arid and semi-arid areas or areas liable to floods, drought and desertification, and developing countries with fragile mountainous ecosystems are particularly vulnerable to the adverse effects of climate change’. The preamble is not operative and can only be used as an interpretive aid.\(^{(91)}\) However, as

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\(^{(89)}\) **UNFCCC**, art 4.4:

‘The developed country Parties and other developed Parties included in Annex II shall also assist the developing country Parties that are particularly vulnerable to the adverse effects of climate change in meeting costs of adaptation to those adverse effects.’ (emphasis added)

\(^{(90)}\) Sands, above n 45, 366.

\(^{(91)}\) **VCLT**, art 31. Also see Gardiner who stated: ‘the substantive provisions will usually have greater clarity and precision than the preamble, but where there is doubt over the meaning of a substantive provision, the preamble may justify a wider interpretation, or at least rejection of a restrictive one.’ Gardiner, above n 32, 187
an interpretive aid, this description may support a claimant State that falls within the prescribed categories. Further guidance may be sought from Article 4.8, which provides categories of States that Parties shall give full consideration in the implementation of commitments under the Article 4.92

The Parties have agreed that in order to implement the article, it is necessary to identify particularly vulnerable Parties.93 Without further clarification by the Parties, the term ‘particularly vulnerable’ may be difficult to resolve in the context of a legal claim. Yamin suggests that a list of particularly vulnerable States should be negotiated. She further argues that the international community has accepted SIDS as particularly vulnerable.94 Both of these are reasonable arguments. Further guidance from the COP through a list of particularly vulnerable States would greatly aid the implementation of Article 4.4. Further, it is clear that SIDS are universally regarded as particularly vulnerable to the effects of climate change.

The fact that the Parties have not created a list of particularly vulnerable States may indicate that the Parties have agreed not to implement Article 4.4. The potential claimant States are all a part of the COP. Although the COP has recognised that a list of particularly vulnerable States is required to implement Article 4.4, the COP has declined to do so. It may be argued that although Article 4.4 establishes a financial obligation, the practice of the Parties indicates that they have moved away from the plain meaning of the article. On the other hand, the climate change negotiations around

92 Note that this list contains categories not contained in the preambular text, for example States prone to natural disasters.
93 Report of COP 1, FCCC/CP/1995/7/Add.1, para. 1(d).
adaptation have been ongoing and particularly vexed. A more likely reason that Article 4.4 has not been implemented is that the Parties have struggled to reach consensus on how or when to implement it.

As described in Chapters 1 and 2, the phrase ‘adverse effects of climate change’ is defined in Article 1 of the UNFCCC. Importantly, this definition contains a threshold (‘significant deleterious effects’). Thus, a claimant State would need to establish that the damage that is the subject of its claim is ‘significant’. As was described in Chapter 2, reports by the IPCC on vulnerabilities could be used to clarify what types of effects are significant. A potential claim under Article 4.4 would be strengthened by relying upon one of these vulnerabilities (e.g. widespread bleaching of coral reefs, broad ecosystem impacts with limited adaptive capacity and an increase of persons- at-risk of water shortage in vulnerable regions).

An interesting feature of Article 4.4 is that it is not linked to the GEF. As a result, the commitment to provide financial support under Article 4.4 has not been implemented through the GEF or any other method. This raises the issue of whether Annex II Parties can rely upon the GEF to fulfil their financial obligations set out under the UNFCCC. It may be argued that the implementation of Article 4.3 under the GEF cannot be relied upon to satisfy the financial obligation contained in Article 4.4. Article 4.3 and Article 4.4 establish two clearly distinct financial obligations relating to adaptation. Yet, a respondent State could persuasively argue that the Parties have utilised the GEF to fund adaptation activities and that this is sufficient to meet the obligation in Article

95 UNFCCC, art 1: ‘changes in the physical environment or biota resulting from climate change which have significant deleterious effects on the composition, resilience, or productivity of natural or managed ecosystems or on the operation of socio-economic systems or on human health and welfare.’
4.4. Furthermore, some States have provided funding for adaptation to the costs of climate change outside of the GEF funding mechanisms through bilateral and other multilateral avenues. For instance, Article 12.8 of the Kyoto Protocol establishes adaptation funding and partly mirrors the language used in Article 4.4 (see Chapter 4). This may be sufficient to meet the obligation contained in Article 4.4.

A claimant State would face the added difficulty of ambiguity in the term ‘assist’. The article does not specify if ‘assist’ refers to financial assistance/costs or if it may encompass other forms of assistance. Furthermore, it does not provide that the developed State Parties commit to provide full assistance rather than some partial form of assistance. Verheyen suggested that the wording of Article 4.4 implies that not all the costs of adaptation would need to be met, and instead ‘assist’ may constitute any support provided, even if it is small compared with the overall costs. In contrast, Larson argued that this ambiguity may assist a claimant State because it does not place a cap upon contributions required under the article. However, it is unlikely that an international tribunal would interpret the term ‘assist’ so broadly. It is far more reasonable to assume that a tribunal would find that some level of assistance is required, thus aiding the case of respondent States that have provided some assistance.

It is also important to note that Article 4.4 uses indefinite wording (‘meeting costs of adaptation’) rather than definite (e.g. ‘meeting the costs of adaptation’). Since Article 4.4 lacks specificity in identifying the appropriate level of assistance required, ultimately it may be found that a breach of the obligation only occurs where no
assistance has been rendered.\textsuperscript{98} Moreover, States seeking assistance for adaptation under Article 4.4 would likely face difficulties in proving causation.\textsuperscript{99} Overlap between other drivers and the need to adapt to climate change is likely to make it difficult to prove that a particular cost incurred by a State is due to climate change adaptation.

In conclusion, Article 4.4 sets out an obligation for Annex II Parties to assist particularly vulnerable developing State Parties in adapting to the adverse effects of climate change. While some developing States would fairly easily fall within the category of ‘particularly vulnerable’, the wording of this article suggests that a breach would only occur where no assistance has been rendered. The article vaguely provides that Annex II Parties must ‘assist’ those particularly vulnerable Parties, and only for ‘meeting costs of adaptation’. Therefore, Article 4.4 provides little scope for potential claimant States seeking recourse for climate change damage.

\textbf{(e) Obligation to give full consideration to necessary actions (Article 4.8)}

Finally, Article 4.8 requires the Parties to give full consideration to necessary actions under the UNFCCC to meet the specific needs and concerns of developing States arising from the adverse effects of climate change and/or the impact of the implementation of response measures.\textsuperscript{100} In Article 1.1 of the UNFCCC, ‘adverse


\textsuperscript{99} Bodansky, above n 6, 528.

\textsuperscript{100} UNFCCC, art 4.8: ‘In the implementation of the commitments in this Article, the Parties shall give full consideration to what actions are necessary under the Convention, including actions related to funding, insurance and the transfer of technology, to meet the specific needs and concerns of developing country Parties arising from the adverse effects of climate change and/or the impact of the implementation of response measures, especially on:
effects’ are defined as any changes which have significant deleterious effects on human and natural systems, human health or welfare. Theoretically, a State may claim that a respondent State has failed to meet its obligation under this article by failing to give full consideration to the adverse effects of climate change.

The immediate challenge for claimant States is the question of what ‘full consideration’ means. The Macquarie Dictionary defines ‘consideration’ as, among other things, ‘thoughtful or sympathetic regard or respect’. Thus, ‘full consideration’ likely refers to a degree of thoughtful or sympathetic regard of the needs of developing States that is comprehensive. In practice, such an obligation appears to require no more of the Parties beyond such contemplation. There is no requirement for specific conduct or for the achievement of any particular result. As observed by Durrant, such ambiguity can provide ‘a significant barrier to cohesive implementation, exacerbating transaction costs associated with compliance and making allegations of violation more difficult to prove.’

One issue is whether this is a collective obligation. The article initially refers to ‘the Parties’ and the final sentence refers to the ‘Conference of the Parties’. This choice of wording indicates that the obligation contained in Article 4.8 is imposed upon the COP

(a) Small island countries;  
(b) Countries with low-lying coastal areas;  
(c) Countries with arid and semi-arid areas, forested areas and areas liable to forest decay;  
(d) Countries with areas prone to natural disasters;  
(e) Countries with areas liable to drought and desertification;  
(f) Countries with areas of high urban atmospheric pollution;  
(g) Countries with areas with fragile ecosystems, including mountainous ecosystems;  
(h) Countries whose economies are highly dependent on income generated from the production, processing and export, and/or consumption of fossil fuels and associated energy-intensive products; and  
(i) Landlocked and transit countries.  

Further, the Conference of the Parties may take actions, as appropriate, with respect to this paragraph.’ (emphasis added)

101 Macquarie Dictionary, above n 9, 257.  
102 Nicola Durrant, Legal Responses to Climate Change (Sydney: The Federation Press, 2010), 69.
as a whole rather than any individual Party. Therefore, an argument alleging breach of Article 4.8 would probably need to be directed at decisions of the COP rather than the acts or omissions of any particular Party. Such an argument would need to show that the COP has failed to consider actions necessary to meet the specific needs and concerns of developing States from the impacts of climate change in the making of some decision.

Therefore, Article 4.8 creates an obligation for the COP to give full consideration to actions that are necessary under the UNFCCC to meet the concerns of developing State Parties. The article does not provide scope for a claimant State suffering climate change damage principally because it only requires that the COP give ‘full consideration’ (or thoughtful regard) to its concerns. Such an obligation would be easy to meet making it difficult to prove a breach.

(f) Conclusions on adaptation

The UNFCCC contains three obligations relating to adaptation assistance. The analysis in this section has found that none of these obligations provide a viable avenue for claimant States over climate change damage (see Table 3-3 below). Article 4.3 creates an obligation for Annex II Parties to provide financial resources to developing States to meet the agreed full incremental costs of preparing for adaptation. Article 4.3 provides some scope for a claimant State that would need to show that it has incurred additional costs in an environmental project due to adaptation.

Under Article 4.4, Annex II Parties are obliged to assist particularly vulnerable developing State Parties in adaptation to the adverse effects of climate change. Although some developing States, such as SIDS, would easily meet the category of
‘particularly vulnerable’, the wording of Article 4.4 suggests that a breach would only occur where no assistance has been provided. All developing State Parties have received some assistance for adapting to climate change and the fact that such assistance has not been specifically provided through an implementation of Article 4.4 is unlikely to prevent a developed state from relying upon such assistance in its defence.

Finally, the COP is obliged under Article 4.8 to give full consideration to actions necessary under the UNFCCC to meet the concerns of developing State Parties. Yet, this article only requires that the COP provide ‘full consideration’ (or thoughtful regard) to the concerns of these Parties. This obligation does not provide any scope for a claimant.

Table 3-3 Sources of exposure to legal risk from the obligations to assist in adaptation in the UNFCCC

<table>
<thead>
<tr>
<th>Obligation</th>
<th>Article</th>
<th>Conclusion</th>
</tr>
</thead>
</table>
| Obligation to provide financial resources to meet the agreed full incremental cost of preparing for adaptation | Article 4.3 | Some exposure. Depends upon proof of ‘incremental costs’.
| Obligation to assist in adaptation to the adverse effects of climate change | Article 4.4 | Very low exposure. A breach would only occur where no assistance has been provided.
| Obligation to give full consideration to necessary actions | Article 4.8 | No exposure. Only requires the COP to provide ‘full consideration’ to the concerns of developing State Parties.

C. Dispute settlement in the UNFCCC

This section now turns to the dispute settlement procedures provided in the UNFCCC. The UNFCCC contains two approaches to the resolution of disputes. The first approach is provided in Article 13, in which the COP is directed to ‘consider the establishment of a multilateral consultative process … for the resolution of questions regarding the implementation of the Convention’. The COP was directed to consider the establishment of this process at its first session. COP-1 established an Ad Hoc
Group on Article 13 (AG13) to establish this process. However, the effort was unsuccessful and a multilateral consultative process has not been established under Article 13.\textsuperscript{103} Although this process has not been established, the proposal reflected an interest by the Parties in multilateral, non-adversarial dispute resolution. This approach is reflective of the global nature of climate change and the reality that non-compliance would be an issue of collective, rather than bilateral, concern.

The second approach in relation to disputes under the UNFCCC is set out in Article 14. This approach is more reflective of traditional bilateral dispute resolution. Article 14 provides a number of methods for the resolution of disputes through this bilateral approach. These are (1) negotiation and other peaceful means of dispute settlement (Article 14.1); (2) submission of the dispute to the ICJ (Article 14.2); (3) arbitration in accordance with procedures to be adopted by the COP (Article 14.2) and (4) submission of the dispute to conciliation (Article 14.5). Referral to the ICJ or to arbitration may be done unilaterally; however, this is provided that each of the Parties concerned has made a prospective declaration accepting that particular forum. After 12 months, if the Parties have been unable to resolve the dispute using these methods, then any of the Parties involved may submit the dispute to conciliation in accordance with Article 14.5.\textsuperscript{104} Article 14.7 provides that additional procedures relating to conciliation shall be adopted by the COP and Article 14.2 calls upon the COP to adopt procedures relating to arbitration.


Despite the inclusion of these dispute resolution measures in the UNFCCC, no States have made declarations accepting binding jurisdiction of the ICJ under Article 14.\textsuperscript{105} In addition, the COP has not established arbitration or conciliation procedures.\textsuperscript{106} Thus, the dispute settlement procedures set out in the UNFCCC do not provide appropriate forums for making a claim regarding climate change damage. This raises the issue of whether the ICJ could still have jurisdiction over disputes concerning the UNFCCC.

The ICJ Statute provides that jurisdiction by the ICJ can be established by mutual agreement (Article 36.1); where the States have accepted jurisdiction under the optional clause (Article 36.2); and finally where the treaty concerned specifically provides for ICJ jurisdiction (Article 36.1). As discussed above, this final method does not apply to the UNFCCC. The first method, mutual agreement, is unlikely to apply as a respondent State would have little interest in agreeing to referral to the ICJ. However, it is possible that the second method could apply to a dispute under the UNFCCC. This would apply where the States concerned have consented to the jurisdiction of the ICJ under the optional clause jurisdiction or under other acceptance arrangements.

As of 7 July 2012, 67 States had made declarations accepting the ICJ jurisdiction under the optional clause. However, many of these States have entered reservations with their declaration of acceptance (see Table 3-4 below).\textsuperscript{107} Eighteen States have entered a reservation that provides the declaration will not apply if the other Party has only

\textsuperscript{105} Andrew Strauss, ‘Climate Change Litigation: Opening the Door to the ICJ’ in William C G Burns and Hari M Osofsky (eds), Adjudicating Climate Change (Cambridge: Cambridge University Press, 2009), 343.


accepted the ICJ jurisdiction under the optional clause within 12 months of the dispute, which could apply if the claimant State has not yet accepted the ICJ jurisdiction. Thirty-nine States have entered reservations that their acceptance does not encompass disputes which the Parties have agreed to settle by other means of peaceful settlement. These reservations are potentially a barrier to establishing the jurisdiction of the ICJ in an international climate case.

Table 3-4 Summary of declarations and reservations accepting ICJ compulsory jurisdiction under the optional clause

<table>
<thead>
<tr>
<th>State</th>
<th>Reservations</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not if the Parties have agreed to another means of dispute settlement</td>
</tr>
<tr>
<td>Australia</td>
<td>Yes</td>
</tr>
<tr>
<td>Austria</td>
<td>Yes</td>
</tr>
<tr>
<td>Barbados</td>
<td>Yes</td>
</tr>
<tr>
<td>Belgium</td>
<td>Yes</td>
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<tr>
<td>Botswana</td>
<td>Yes</td>
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<tr>
<td>Bulgaria</td>
<td></td>
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<tr>
<td>Cambodia</td>
<td>Yes</td>
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<tr>
<td>Cameroon</td>
<td></td>
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<tr>
<td>Canada</td>
<td>Yes</td>
</tr>
<tr>
<td>Costa Rica</td>
<td></td>
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<tr>
<td>Cote d’Ivoire</td>
<td>Yes</td>
</tr>
<tr>
<td>Cyprus</td>
<td></td>
</tr>
<tr>
<td>Democratic Republic of the Congo</td>
<td></td>
</tr>
<tr>
<td>Denmark</td>
<td></td>
</tr>
<tr>
<td>Djibouti</td>
<td>Yes</td>
</tr>
<tr>
<td>Dominica, Republic of</td>
<td></td>
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<tr>
<td>Dominican Republic</td>
<td></td>
</tr>
<tr>
<td>Egypt</td>
<td></td>
</tr>
<tr>
<td>Estonia</td>
<td>Yes</td>
</tr>
<tr>
<td>Finland</td>
<td></td>
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<tr>
<td>Gambia</td>
<td>Yes</td>
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<tr>
<td>Georgia</td>
<td></td>
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<tr>
<td>Germany</td>
<td>Yes</td>
</tr>
<tr>
<td>Greece</td>
<td></td>
</tr>
<tr>
<td>Guinea, Republic of</td>
<td>Yes</td>
</tr>
<tr>
<td>Guinea-Bissau</td>
<td></td>
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<tr>
<td>Haiti</td>
<td></td>
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<tr>
<td>Honduras</td>
<td>Yes</td>
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<tr>
<td>Hungary</td>
<td>Yes</td>
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<tr>
<td>India</td>
<td>Yes</td>
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<tr>
<td>Ireland</td>
<td></td>
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<tr>
<td>Japan</td>
<td>Yes</td>
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<tr>
<td>Kenya</td>
<td>Yes</td>
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<tr>
<td>Lesotho</td>
<td>Yes</td>
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<tr>
<td>Liberia</td>
<td>Yes</td>
</tr>
</tbody>
</table>

140
<table>
<thead>
<tr>
<th>Country</th>
<th>Yes</th>
<th>Yes</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liechtenstein</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Luxembourg</td>
<td>Yes</td>
<td></td>
<td></td>
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<tr>
<td>Madagascar</td>
<td>Yes</td>
<td></td>
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<tr>
<td>Malawi</td>
<td>Yes</td>
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<tr>
<td>Malta</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
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<tr>
<td>Mauritius</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
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<tr>
<td>Mexico</td>
<td>Yes</td>
<td></td>
<td></td>
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<tr>
<td>Netherlands</td>
<td>Yes</td>
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<td></td>
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<tr>
<td>New Zealand</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
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<tr>
<td>Nicaragua</td>
<td>Yes</td>
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<tr>
<td>Nigeria</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td>Norway</td>
<td>Yes</td>
<td></td>
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<tr>
<td>Pakistan</td>
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<tr>
<td>Panama</td>
<td>Yes</td>
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<tr>
<td>Paraguay</td>
<td>Yes</td>
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<tr>
<td>Peru</td>
<td>Yes</td>
<td></td>
<td></td>
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<tr>
<td>Philippines</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td>Poland</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td>Portugal</td>
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<td>Yes</td>
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<tr>
<td>Senegal</td>
<td>Yes</td>
<td></td>
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<tr>
<td>Slovakia</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
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<tr>
<td>Somalia</td>
<td>Yes</td>
<td></td>
<td></td>
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<tr>
<td>Spain</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
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<tr>
<td>Sudan</td>
<td>Yes</td>
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<tr>
<td>Suriname</td>
<td>Yes</td>
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<tr>
<td>Swaziland</td>
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<tr>
<td>Sweden</td>
<td>Yes</td>
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<td>Switzerland</td>
<td>Yes</td>
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<tr>
<td>Togo</td>
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<tr>
<td>Uganda</td>
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<tr>
<td>United Kingdom</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
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<tr>
<td>Uruguay</td>
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</tbody>
</table>

Strauss argued that:

While the system envisaged in Article 14 would seem to constitute *other means of peaceful settlement*, the fact that no Party has opted into Article 14 ICJ jurisdiction, and that neither the procedures for arbitration nor conciliation called for by Article 14 have ever been adopted by the Parties, could be interpreted to mean there is, in fact, no final or implementable agreement providing for an *other means of peaceful settlement* under the Parties’ reservations.108

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108 Strauss, ‘Climate Change Litigation’, above n 105, 343. Supporting such a restrictive reading of a *settlement by other peaceful means* reservation as not divesting the predecessor court to the ICJ of jurisdiction despite a later dispute resolution agreement between the parties, see *Electricity Co of Sofia and Bulgaria (Belgium v Bulgaria)* [1939] PCIJ (ser A/B) No 77, 62. For further discussion of the meaning of *settlement by other peaceful means* reservations, see Bernard Oxman, ‘Complementary Agreements and Compulsory Jurisdiction’ (2001) 95 *American Journal of International Law* 277.
Support for Strauss’ interpretation may be found in the negotiation history concerning Article 14 of the UNFCCC. In particular, the Working Group II Co-Chairs ‘suggested the possibility of compulsory arbitration if Parties that have not accepted the jurisdiction of the … [ICJ] are unable to resolve a dispute through negotiation or conciliation.\textsuperscript{109} This history shows that the conciliation and arbitration procedures proposed in Article 14 were envisaged to provide a means of peaceful settlement, but that the opportunity to accept ICJ jurisdiction under Article 14.2 was directed at States that had not already accepted ICJ jurisdiction under the optional clause. On the other hand, it could be contended that the fact that Article 14.1 also provides for negotiation and other peaceful means of dispute resolution is sufficient to trigger this category of reservation.

In addition, some of the other reservations made by States accepting the ICJ’s compulsory jurisdiction could act to prevent a case. For example, Pakistan has entered a reservation that its acceptance will not apply to disputes arising under a multilateral treaty process unless all Parties to the treaty are also Party to the dispute or Pakistan specially agrees to the ICJ’s jurisdiction.\textsuperscript{110} Slovakia’s acceptance does not apply to any disputes with regard to the protection of the environment\textsuperscript{111} and the United Kingdom’s acceptance does not apply to any dispute with the government of any other State ‘which is or has been a Member of the Commonwealth’\textsuperscript{112}

In conclusion, there is little scope to bring a case under the UNFCCC dispute resolution procedures. No States have made declarations accepting binding jurisdiction of the ICJ under Article 14. The COP has not established any arbitration or conciliation procedures. The only scope for a case to be heard is through Article 36 of the ICJ Statute, which is through mutual agreement; acceptance of jurisdiction under the optional clause; or where the treaty provides for ICJ jurisdiction. The greatest potential is where the Parties have accepted the ICJ jurisdiction under the optional clause or other agreement, although reservations may act as barriers. The findings of this section in relation to legal exposure from the dispute settlement procedures for the UNFCCC are summarised in Table 3-5 below.

<table>
<thead>
<tr>
<th>Avenue</th>
<th>Authority</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multilateral consultative process</td>
<td>Article 13</td>
<td>No exposure. Process has not been established.</td>
</tr>
<tr>
<td>Negotiation and other peaceful means of dispute settlement</td>
<td>Article 14.1</td>
<td>No exposure. Negotiations are not binding.</td>
</tr>
<tr>
<td>Submission of the dispute to the ICJ</td>
<td>Article 14.2</td>
<td>No exposure. No Parties have made declarations accepting binding jurisdiction of the ICJ under Article 14.2.</td>
</tr>
<tr>
<td>Arbitration in accordance with procedures adopted by the COP</td>
<td>Article 14.2</td>
<td>No exposure. The COP has not established arbitration procedures.</td>
</tr>
<tr>
<td>Submission of the dispute to conciliation</td>
<td>Article 14.5</td>
<td>No exposure. The COP has not established conciliation procedures.</td>
</tr>
<tr>
<td>Submission to the ICJ by mutual agreement</td>
<td>Article 36.1, ICJ Statute</td>
<td>No exposure. It is unlikely that a respondent State would agree to referral.</td>
</tr>
<tr>
<td>Submission to the ICJ where States have accepted jurisdiction under the optional clause</td>
<td>Article 36.2, ICJ Statute</td>
<td>Some exposure. Reservations could prevent jurisdiction (e.g. disputes to which the Parties have agreed to settle by other means of peaceful settlement).</td>
</tr>
<tr>
<td>Submission to the ICJ where the treaty concerned specifically provides for ICJ jurisdiction</td>
<td>Article 36.1, ICJ Statute</td>
<td>Some exposure. The Parties may have accepted the jurisdiction of the ICJ through some other arrangement.</td>
</tr>
</tbody>
</table>

D. Conclusions

In conclusion, the obligations held by Annex I Parties to mitigate greenhouse gas emissions and assist developing State Parties adapt to the effects of climate change provide little to no exposure to international climate litigation. Article 4.2 provides an
elastic commitment for Annex I Parties to take mitigation action in accordance with their differential circumstances. It does not require Annex I Parties to return emissions to 1990 levels by the year 2000 or for Annex I Parties to modify their long-term trends of greenhouse gas emissions because the language does not provide for such obligations. Its flexible language only requires Annex I Parties to take the lead in modifying long term trends of GHG emissions. Article 4.1(b) is similarly flexible and contains no targets or timetables for mitigation action.

The adaptation obligations found in Articles 4.3 and 4.4 provide very low exposure to legal risk for climate change damage. Article 4.3 establishes an obligation for Annex II Parties to provide financial resources to meet the agreed full incremental cost of preparing for adaptation. Article 4.3 provides some scope for a developing State to bring a case to recover funds for adaptation costs. Article 4.4 requires Annex II Parties to assist in adaptation to the adverse effects of climate change yet a breach would only occur where no assistance has been provided. Finally, the vague commitment in Article 4.8 simply requires the COP to provide ‘full consideration’ to the concerns of developing State Parties.

Furthermore, the UNFCCC’s dispute settlement procedures offer little recourse for potential claimant States. No States have made declarations accepting the binding jurisdiction of the ICJ under Article 14 and the COP has not established any arbitration or conciliation procedures. There is some scope for a matter to be heard by the ICJ if jurisdiction can be established under Article 36 of the ICJ Statute where the Parties have accepted the ICJ’s compulsory jurisdiction under the optional clause. However, a respondent State’s reservation to its acceptance may act to prevent jurisdiction.
4. KYOTO PROTOCOL

A. Overview

In this chapter, the Kyoto Protocol is examined as a possible source of legal risk for climate change damage. The purpose of this chapter is to assess whether the commitments contained in the Kyoto Protocol and its associated dispute resolution mechanisms provide a realistic avenue for international climate litigation. Particular focus is given to the Quantitative Emission Limitation and Reduction Obligations (QELROs) which provide each Annex I Party with a greenhouse gas emission allowance that they must meet in the first commitment period 2008-2012. Collectively, the emission limitations and reductions are meant to add up to a 5% reduction in aggregate greenhouse gas emissions compared with 1990 levels in the first commitment period (2008-2012). Furthermore, the Kyoto Protocol compliance system presents unique issues as both a possible forum for disputes but also as a potential barrier to claimant States seeking to bring interstate disputes.

Section B examines the commitments under the Kyoto Protocol, focusing upon the QELROs, as a possible source of exposure to legal risk for climate change damage (see Table 4-1 below). This section also examines the reporting obligations contained in the Kyoto Protocol. Section C assesses issues of compliance and enforcement. This section examines the emergence of the Kyoto Protocol compliance system and its key components, including the Enforcement Branch. It also considers the legal status of the compliance system. This section assesses the potential for legal disputes both

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within and outside of the Kyoto Protocol compliance system around the Kyoto Protocol obligations. Finally, Section D summarises the key findings of the chapter.

Table 4-1 Obligations in the Kyoto Protocol that may provide legal exposure

<table>
<thead>
<tr>
<th>Article</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Article 3.1</td>
<td>The Parties shall, individually or jointly, ensure that their greenhouse gas emissions listed in Annex A do not exceed their assigned amounts provided in Annex B in the period 2008 to 2012.</td>
</tr>
<tr>
<td>Article 3.2</td>
<td>The Parties will have made demonstrable progress in achieving their commitments.</td>
</tr>
<tr>
<td>Article 12.8</td>
<td>The MOP is required to ensure that a share of proceeds from certified project activities is used to assist developing States Parties that are particularly vulnerable to the adverse effects of climate change meet the costs of adaptation.</td>
</tr>
</tbody>
</table>

B. Commitments under the Kyoto Protocol

1. Quantitative Emission Limitation and Reduction Obligations (QELROs)

The commitments under the Kyoto Protocol provide a broad range of mitigation options along with a firm mitigation commitment. The mitigation commitment contained in the QELROs is designed to strengthen the general mitigation duties found in the UNFCCC. Article 3.1 of the Kyoto Protocol provides this mitigation obligation and states that the QELROs are meant to add up to an aggregate reduction of 5% compared with 1990 levels in the first commitment period 2008-2012.

The individual State targets are contained in Annex B. Some Parties have committed to reduce their greenhouse gas emissions (e.g. the European Community agreed to a

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3 Article 3.1: ‘The Parties included in Annex I shall, individually or jointly, ensure that their aggregate anthropogenic carbon dioxide equivalent emissions of the greenhouse gases listed in Annex A do not exceed their assigned amounts, calculated pursuant to their quantified emission limitation and reduction commitments inscribed in Annex B and in accordance with the provisions of this Article, with a view to reducing their overall emissions of such gases by at least 5 per cent below 1990 levels in the commitment period 2008 to 2012.’
QELRO of 92%); whereas other Parties are allowed to increase their emissions but only to a certain level (e.g. Australia’s QELRO target is 108%). These QELRO targets present a high level of exposure to legal risk for any Parties that breach their commitment. The combination of a specific individual target and a definite time period make this obligation amenable to interstate disputes. 

Parties may meet their QELRO through domestic mitigation activities and/or through mitigation activities that occur elsewhere through the flexible mechanisms which are comprised of: international emissions trading (Article 17), Joint Implementation (Article 6) (‘JI’) and the Clean Development Mechanism (Article 12) (‘CDM’).

Each Annex I Party was assigned a quantity of Assigned Amount Units (AAUs) at the beginning of the first commitment period. The AAUs were calculated in accordance with each Party’s permitted level of emissions. One AAU equals one tonne of carbon dioxide equivalent. Annex I Parties are able to sell or buy AAUs through the international emissions trading mechanism\(^4\) or create additional allowances through the CDM or JI mechanism. Under the CDM, Annex I Parties may fund emission reduction projects in developed States that are Parties to the Kyoto Protocol.\(^5\) In contrast, the JI mechanism provides a means for Annex I Parties to fund emission reduction projects in developed States that are Parties to the Kyoto Protocol, such as States with economies in transition.\(^6\) Thus, the CDM relates to developed-to-developing State projects whereas the JI mechanism relates to developed-to-developed State projects.

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\(^4\) Kyoto Protocol, art 17.
\(^5\) Kyoto Protocol, art 12.
\(^6\) Kyoto Protocol, art 6.
In meeting their QELROs, Annex I Parties may rely upon the flexibility mechanisms provided that this reliance is supplemental to domestic emissions reductions.\(^7\) The COP has declared that domestic emission reductions must constitute a ‘significant element’ of the reductions achieved by Parties in meeting their QELROs. However, the meaning of ‘significant element’ has not been clarified.\(^8\) The term ‘significant’ is defined in the Macquarie Dictionary as referring to ‘important; of consequence.’\(^9\) Thus, it appears that domestic emission reductions must play an important role in a Party’s emissions cuts.

While the QELRO targets are enforceable, they are not necessarily adequate to meet the challenge of climate change. Research by the World Resource Institute found that the COP6\(^{bis}\) and COP7 decisions which allowed Parties to count a higher amount of sinks towards their QELROs led to the overall mitigation target being 1.9%.\(^{10}\) The term ‘sink’ is defined in the UNFCCC to mean ‘any process, activity or mechanism which removes a greenhouse gas, an aerosol or a precursor of a greenhouse gas from the atmosphere.’\(^{11}\) Common examples include afforestation, reforestation and the

\(^7\) Kyoto Protocol, arts 6, 17. Article 17 provides that ‘Any such trading shall be supplemental to domestic actions for the purpose of meeting quantified emission limitation and reduction commitments under that Article.’ Article 6.1(d) provides that ‘The acquisition of emission reduction units shall be supplemental to domestic actions for the purposes of meeting commitments under Article 3.’

\(^8\) COP, Decision 15/CP.7 Marrakesh Accords: Principles, Nature and Scope of the Mechanisms Pursuant to Articles 6, 12 and 17 of the Kyoto Protocol (FCCC/CP/2001/13/Add.2).

\(^9\) Macquarie Australian Encyclopedic Dictionary (Sydney: Macquarie University, 2006) [herein ‘Macquarie Dictionary’], 1113.


\(^11\) UNFCCC, art 1.8 (Definitions).
tackling of deforestation. In addition, other research shows that with full compliance the Kyoto Protocol will only give a 1% reduction in GHG emissions.

Even if the aggregate target of 5% were fulfilled, this would have little or no impact on climate change damage in the medium to long-term. Verheyen argued that if applied to all Annex I States, the Kyoto Protocol QELROs represent a stabilisation of greenhouse gas emissions at 1996 levels by 2012. The inadequacy of the QELROS in stabilising greenhouse gas concentrations has also been recognised by vulnerable Parties, such as SIDS. For example, the Governments of the Cook Islands, Nuie and Nauru have declared that:

...in light of the best available scientific information and assessment on climate change impacts, [they] consider the emissions reduction obligation in Article 3 of the Kyoto Protocol to be inadequate to prevent dangerous anthropogenic interference with the climate system.

On the other hand, Article 3.9 makes clear that the Kyoto Protocol has been designed to develop and bring about greater emission reductions beyond the first commitment period. The Kyoto Protocol was never intended to resolve the problem of climate change, but rather provide the first binding emissions reduction obligations upon

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16 Kyoto Protocol, art 3.9: ‘9. Commitments for subsequent periods for Parties included in Annex I shall be established in amendments to Annex B to this Protocol, which shall be adopted in accordance with the provisions of Article 21, paragraph 7. The Conference of the Parties serving as the meeting of the Parties to this Protocol shall initiate the consideration of such commitments at least seven years before the end of the first commitment period referred to in paragraph 1 above.’
which additional obligation could be built. Although the Parties began negotiations for
this purpose in 2005, there have been no agreements under the Kyoto Protocol for
subsequent commitment periods. Overall, QELROs present the strongest source of
exposure to legal risk for climate change damage within the climate regime.

2. Demonstrable progress

Article 3.2 further provides that by 2005, Annex I Parties will have made
‘demonstrable progress’ in achieving their commitments under the Kyoto Protocol.17
This commitment was not enforced.18 However, it is unclear what this means and it
would be difficult to show a breach of this obligation. This commitment may be
difficult to enforce except in the most extreme of examples.

3. Adaptation Fund

Article 12.8 of the Kyoto Protocol provides for the establishment of adaptation funding
derived from ‘a share of proceeds’ from certified project activities.19 The adaptation
funding is to be provided to States that are ‘particularly vulnerable to the adverse
effects of climate change’. This is the same language used in Article 4.4 of the
UNFCCC and may mean that the obligation contained in Article 4.4 has been
implemented through the Kyoto Protocol.

The Bonn Agreement, which was reached at COP6bis, provides that ‘2% of the
certified emissions reductions issued’ shall be the share of proceeds ‘to assist

17 Kyoto Protocol, art 3.2 provides that ‘Each Party included in Annex I shall, by 2005, have made
demonstrable progress in achieving its commitments under this Protocol.’
18 Nicola Durrant, Legal Responses to Climate Change (Sydney: The Federation Press, 2010), 42.
19 Kyoto Protocol, art 12(8): ‘The Conference of the Parties serving as the meeting of the Parties to this
Protocol shall ensure that a share of the proceeds from certified project activities is used to cover
administrative expenses as well as to assist developing country Parties that are particularly vulnerable
to the adverse effects of climate change to meet the costs of adaptation.’
developing country Parties that are particularly vulnerable. CDM projects in least
developed States Parties are exempt from this levy. The Kyoto Protocol Adaptation
Fund has been established to receive the share of proceeds and voluntary contributions
by Parties in order to finance projects and programs to help developing States adapt to
the negative effects of climate change. As mentioned in Chapter 3, the Adaptation
Fund is administered by the GEF but supervised and managed by the Adaptation Fund
Board.

In total, US$115 million have been pledged to the Adaptation Fund with US$16.9
million disbursed. Most of the funding has come from Spain, Sweden, the UK and
Germany. It is expected that available funding will grow to US$353 million by the
end of December 2012 as a result of the Certified Emission Reduction Certificate
Pool. The Adaptation Fund is currently under review which will be concluded at
CMP 8 (November – December 2012).

It is unlikely that Article 12.8 could be used as the basis of an interstate dispute. The
obligation is placed upon the MOP and only requires that a ‘share of proceeds’ from
certified project activities is used to assist developing States Parties that are
particularly vulnerable to the adverse effects of climate change meet the costs of

\begin{footnotesize}
\begin{enumerate}
\item Adaptation Fund, About the Adaptation Fund, <http://www.adaptation-fund.org/about> accessed 27
May 2012.
\item Climate Funds Update, Adaptation Fund < http://www.climatefundsupdate.org/listing/adaptation-
fund/> accessed 20 June 2012.
\item Ibid.
\item COP/MOP, Report of the Adaptation Fund Board: Addendum: Review of the Interim
\item UNFCCC, Adaptation Fund < http://unfccc.int/cooperation_and_support/financial_mechanism/adaptation_fund/items/3659.php>
accessed 20 June 2012.
\end{enumerate}
\end{footnotesize}
adaptation. In fact, it appears that the Bonn Agreement and its implementation are sufficient to ensure that this obligation is met.

4. Reporting obligations

Articles 5 and 7 of the Kyoto Protocol impose upon Parties commitments to establish national systems for estimating their greenhouse gas emissions and removals by sinks and to submit regular National Communications detailing those estimates. Submitting those National Communications is a requirement for trading in the international climate market. The information provided is used to monitor the progress of Parties in achieving implementation of the QELROs and other commitments. Under Article 7.1, the Annex I Parties are required to submit an annual inventory that incorporates the ‘necessary supplemental information’ to determine compliance with Article 3. Article 7.2 provides that the Annex I Parties must submit their national communications every 5 years and include the ‘supplementary information necessary to demonstrate compliance’ with commitments under the Kyoto Protocol.

The plenary of the Compliance Committee has highlighted that a number of Parties had not submitted their National Communications in a timely manner, with some Parties being more than 20 months late with their submissions.27 However, it is unlikely that these reporting requirements would be the focus of an interstate dispute because the obligation does not directly relate to mitigation or adaptation. This would make it difficult to link the obligations to climate change damage.

The findings in relation to exposure from the Kyoto Protocol obligations are summarised in Table 4-2 below.

Table 4-2: Sources of exposure to legal risk from obligations in the Kyoto Protocol

<table>
<thead>
<tr>
<th>Obligation</th>
<th>Article</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Annex I Parties shall, individually or jointly, ensure that their greenhouse gas emissions listed in Annex A do not exceed their assigned amounts provided in Annex B in the period 2008 to 2012.</td>
<td>Article 3.1</td>
<td>High exposure. This commitment provides a specific target for each Annex I Party to be achieved in the period 2008 to 2012.</td>
</tr>
<tr>
<td>The Parties will have made demonstrable progress in achieving their commitments by 2005.</td>
<td>Article 3.2</td>
<td>Low exposure. Lacks specificity.</td>
</tr>
<tr>
<td>The MOP is required to ensure that a share of proceeds from certified project activities is used to assist developing States Parties that are particularly vulnerable to the adverse effects of climate change meet the costs of adaptation</td>
<td>Article 12.8</td>
<td>Low exposure. The Bonn Agreement provides that 2% of certified emissions reductions issues shall be the share of proceeds. Funding is expected to grow to US$353 million by the end of 2012 as a result of these proceeds.</td>
</tr>
</tbody>
</table>

C. Compliance and Enforcement

The second dimension to determine exposure to legal risk under the Kyoto Protocol is to consider its dispute resolution mechanisms and the potential for interstate disputes both within and outside of these mechanisms. The compliance regime was one of the last aspects of the Kyoto Protocol framework to be negotiated by States Parties. The Kyoto Protocol compliance system originates with Article 18. This article was

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Kyoto Protocol, art 18: ‘The Conference of the Parties serving as the meeting of the Parties to this Protocol shall, at its first session, approve appropriate and effective procedures and mechanisms to determine and to address cases of non-compliance with the provisions of this Protocol, including through the development of an indicative list of consequences, taking into account the cause, type,
included in the Kyoto Protocol in recognition that a strong compliance system was required, despite the fact that the Parties had not yet agreed on what shape that compliance system would take. The phrase ‘compliance system’ refers to a set of rules, institutions and procedures to facilitate, enhance and promote enforcement with commitments.30

As described in Chapter 2, the Buenos Aires Programme of Action (BAPA)31 was adopted at COP-4 and set an agenda for the entry into force of the Kyoto Protocol including the compliance system. The Bonn Agreement was reached at COP-6 which set out the political agreement of Parties as to what should be included in the compliance system including its objectives, principles, consequences for noncompliance and avenues for appeals. The task of negotiators at COP-7 was to transform the political agreement represented in the Bonn Agreement into procedures, institutions and mechanisms with legal consequences.

Most of the Annex I States supported the establishment of a strong and effective compliance system that included an enforcement action. However, there were key differences between the US and the EU. The US wanted clearly defined penalties enforced against emitters in an automatic and predictable manner whereas the EU favoured a case-by-case approach that included hearings and judgments rather than an automatic application of consequences for non-compliance.32 The US approach was primarily motivated by the need for a compliance system that would support the market through providing clear and predictable outcomes for non-compliance, degree and frequency of non-compliance. Any procedures and mechanisms under this Article entailing binding consequences shall be adopted by means of an amendment to this Protocol.’

30 Werksman, above n 28, 17.
31 For a full history of the negotiations regarding the compliance regime, see ibid.
32 Werksman, above n 28.
whereas the EU desired more flexibility. In contrast, Australia joined Japan and the Russian Federation on the ‘fringe’ of the negotiations and rejected the need for an intrusive enforcement system and called for non-binding consequences.\footnote{Ibid.}

Non-Annex I States sought two key elements in the compliance system. They sought geographic representation upon all the institutions of the compliance system (including the Enforcement Branch) and they wanted financial penalties to be included as a consequence of non-compliance.\footnote{The concept of financial penalties was strongly resisted by the Umbrella Group. The Umbrella Group is a loose coalition of States, usually consisting of Australia, Canada, Japan, New Zealand, Norway, the Russian Federation, Ukraine and the US. UNFCCC, Party Groupings <http://unfccc.int/parties_and_observers/parties/negotiating_groups/items/2714.php> accessed 5 July 2012.} Ultimately, the non-Annex I States dropped the concept of financial penalties in exchange for regional geographic representation on the Compliance Committee and Enforcement Branch.\footnote{This occurred at COP-6 Part 2.} The Marrakesh Accords established the Compliance Committee, made up of the Facilitative Branch and Enforcement Branch, to deal with compliance matters under the guidance of set procedures that are quasi-judicial.\footnote{Report of the Conference of the Parties on its Seventh Session, Part Two: Action Taken by the Conference of Parties (herein the Marrakesh Accords), Vol. III, Decision 24/CP.7, at 65, section II. See Tim Stephens, *International Courts and Environmental Protection* (Cambridge: Cambridge University Press, 2009), 85.}

1. *Enforcement Branch*

Matters of non-compliance may be referred to the Enforcement Branch by a Party or any other Party, or by the Expert Review Teams (ERTs). The Enforcement Branch has the power to determine whether a Party is in non-compliance with the Kyoto Protocol commitments and enforcement consequences. The mandate of the Enforcement Branch is set out in Table 4-3 below.
Table 4-3: Mandate of the Enforcement Branch

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>The Enforcement Branch shall determine whether a Party is in non-compliance with:</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>a.</td>
<td>Its qualified emission limitation or reduction commitment under Article 3, paragraph 1, of the Protocol, at the end of the first commitment period.</td>
</tr>
<tr>
<td>b.</td>
<td>The methodological and reporting requirements under Article 5, paragraphs 1 and 2, and Article 7, paragraphs 1 and 4, of the Protocol, after the beginning of the first commitment period.</td>
</tr>
<tr>
<td>c.</td>
<td>The eligibility requirements for participation in the flexibility mechanisms under Articles 6, 12 and 17 of the Protocol, after the beginning of the first commitment period.</td>
</tr>
<tr>
<td>2.</td>
<td>The Enforcement Branch shall also resolve disagreements between an ERT and the Party concerned with respect to:</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>a.</td>
<td>Adjustments to that Party’s national inventory, under Article 5, paragraph 2, of the Protocol that have been proposed by the ERT.</td>
</tr>
<tr>
<td>b.</td>
<td>Corrections to a Party’s compilation and accounting database concerning the validity of a transaction under the Protocol’s flexibility mechanisms, which have been proposed by the ERT.</td>
</tr>
</tbody>
</table>

The MOP elects the members of the Enforcement Branch and must be satisfied that the members have ‘legal experience’. Parties accused of non-compliance have a right to be represented before a hearing of the Enforcement Branch and a right to have access to and respond to other information supplied to the Enforcement Branch. The Enforcement Branch is to reach its decision by consensus. However, if this does not occur, it may decide by a three-quarters majority, provided that there is a double majority of both Annex I and non-Annex I Parties.

37 The Enforcement Branch’s membership must include one member from each of the five regional groups of the UN, one member from the small island developing States, two developed State members (Annex I) and two developing State members (non-Annex I): COP/MOP, Decision 27/CMP.1, Procedures and Mechanisms Relating to Compliance under the Kyoto Protocol. Annex: Procedures and Mechanisms Relating to Compliance under the Kyoto Protocol (FCCC/KP/CMP/2005/8/Add 3), section 5[1].


The compliance system includes a set of procedures designed to provide Parties with assurance of due process in matters of non-compliance.\textsuperscript{40} The compliance procedures under the Marrakesh Accords are set out in Sections VII, VIII and IX of Decision 24/CP.7, which include:

1. setting time limits for decisions;
2. requiring a preliminary examination of the question of implementation;
3. requiring preliminary findings to be communicated to the Party concerned for comment;
4. requiring notification to the Party at the different stages of the process;
5. making information available to the Party;
6. allowing the Party to designate persons to represent it;
7. allowing comments from the Party;
8. allowing the concerned Party to request a hearing; and
9. requiring decisions to include conclusions and reasons.

Section X provides restrictive time limits on procedures in cases of suspension of eligibility to use the flexibility mechanisms in Articles 6, 12 and 17. These time limits are designed to ensure that Parties can re-enter the market as soon as possible. The preliminary examination of the Enforcement Branch is designed to provide an opportunity for the body to determine whether there matter is supported by sufficient

\textsuperscript{40} Jon Hovi, Olav Stokke and Geir Ulfstein, ‘Introduction and Main Findings’ in Jon Hovi, Olav Stokke and Geir Ulfstein (eds), \textit{Implementing the Climate Regime: International Compliance} (London: Earthscan, 2005).
information, has a solid foundation and is based upon the provisions of the Kyoto Protocol.\textsuperscript{41}

Appeals of Enforcement Branch final decisions may be made to the COP/MOP, but only in relation to decisions that relate to Article 3.1 of the Kyoto Protocol (i.e. QELROs) and only on due process grounds.\textsuperscript{42} A three-quarters majority of the COP/MOP is required to overturn a decision of the Enforcement Branch. In such a case the matter is referred back to the Enforcement Branch to be re-decided. However, it does not appear that the members of the Enforcement Branch at the second instance need to be different from those who were members at the first instance.

Many parts of this system are judicial in nature.\textsuperscript{43} However, it is clear that the emphasis of the Kyoto Protocol compliance system is upon encouraging compliance rather than punishing non-compliance.\textsuperscript{44} This compliance system has been criticised on the basis that ‘soft’ forms of enforcement may eventually undermine environmental law regimes.\textsuperscript{45} On the other hand, such a regime may encourage States to agree to more

\begin{footnotes}
\item[42] Decision 24/CP.7, Annex, Section XI, para 1.
\item[43] Stephens, above n 36, 85.
\item[44] Marcel T A Brus, Third Party Settlement in an Interdependent World: Developing a Theoretical Framework (Dordrecht: Martinus Nijhoff, 1995), 40: ‘a form of conciliation between a state and the international community in which a non-compliant state is, initially, not condemned, but given a helping hand.’
\item[45] Martii Koskenniemi, ‘Comment on the paper by Antonia Handler Chayes, Abram Chayes and Ronald B Mitchell’ in Winfried Lang (ed), Sustainable Development and International Law (London/Dordrecht/Boston: Graham Trotman/Martinus Nijhoff, 1995) 91, 94; Jan Klabbers, ‘Compliance procedures’ in Daniel Bodansky, Jutta Brunnée and Ellen Hey (eds), The Oxford Handbook of International Environmental Law (Oxford: Oxford University Press, 2007), 999: (‘anything seems negotiable … including compliance’ and it is only ‘a small step to suggest that the binding force of law is negotiable’).
\end{footnotes}
extensive obligations and provide a more feasible option for responding to non-compliance.\textsuperscript{46}

2. \textit{Legal status of the compliance system}

Article 18 of the Kyoto Protocol provides that any procedures and mechanisms under it that entail binding consequences must be adopted by means of an amendment to the Kyoto Protocol. The legal status of the compliance system was not resolved in the Marrakesh Accords but instead left to the COP/MOP. Rather than being adopted as an amendment to the Kyoto Protocol, the compliance system was simply adopted as a decision of the Parties. This raises the question of what legal status the compliance system holds.

A preliminary question is whether all the sanctions prescribed under the compliance system are binding. In particular, a declaration of non-compliance does not establish new obligations on a Party but instead operates as a means of ‘naming and shaming’ Parties that are in non-compliance. In contrast, the requirement to develop a compliance plan and to submit progress reports would have the legal effect of imposing new obligations upon a Party.\textsuperscript{47} This indicates that only parts of the compliance system would fall under Article 18 and require amendment to the Kyoto Protocol.

\textsuperscript{46} Stephens, above n 36, 88 (‘… the critique falsely presupposes that formal processes of dispute settlement are necessarily ‘harder’. In practice there is a great reluctance by international courts to conclude that a state has breached international law.’)

\textsuperscript{47} Ulfstein and Werksman, above n 41, 56.
However, it is reasonable to conclude that this issue may arise as a barrier in efforts by
the Enforcement Branch to enforce the compliance provisions. It is clear that the
compliance system is contrary to Article 18 of the Kyoto Protocol because it has not
been adopted by an amendment to the Kyoto Protocol. Theoretically, the components
of the compliance system that entail binding consequences are not legally binding upon
the Parties due to this deficiency.

3. Non-compliance and enforcement consequences

The period of assessment for the first commitment period extends beyond 2012
because the Parties are allowed a ‘grace period’ when they are provided the
opportunity to acquire and transfer emission quotas in order to fulfil their QELRO
target. However, in the period 2012-2014, the Enforcement Branch will be able to
begin assessing compliance with QELRO targets. Table 4-4 sets out the method for
calculating non-compliance with the QELRO targets.

Table 4-4: Calculating non-compliance with the QELRO targets

| Non-compliance = Assigned amount < Total reported emissions of greenhouse gases +/- any transactions in ERUs, AAUs, CERs and RMUs |

Compliance with the QELRO targets is not assessable until the end of the commitment
period. Thus, compliance with 2008-2012 commitments will not be determinable until
2015. However, compliance with other commitments in the Kyoto Protocol is
determinable at earlier dates. This is particularly the case with the reporting
requirements. The Enforcement Branch is empowered to apply a range of enforcement
consequences depending upon which commitment with which the relevant Party has

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49 Decision 24/CP.7, Annex, Section XIII.
failed to comply. These commitments and associated enforcement consequences are set out in Table 4-5 below.

### Table 4-5: Enforcement consequences under the Kyoto Protocol compliance system

<table>
<thead>
<tr>
<th>If the Enforcement Branch has determined that a Party is not in compliance with…</th>
<th>...the Enforcement Branch shall apply the following consequence(s) to that Party:</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Its quantified emission limitation or reduction commitment under Article 3.1 of the Kyoto Protocol</td>
<td>1. Deduction from the Party’s assigned amount for the second commitment period of a number of tonnes equal to 1.3 times the amount in tonnes of excess emissions; 2. Development of a Compliance Action Plan within three months; and 3. Suspension of the eligibility to make transfers under the emissions trading provisions of the Protocol, until the eligibility is reinstated.</td>
<td>Decision 24/CP.7, Section XV, section 5.</td>
</tr>
<tr>
<td>The methodological and reporting requirements under Articles 5.1, 5.2, 7.1 and 7.4 of the Kyoto Protocol</td>
<td>1. Declaration of non-compliance; and 2. Development of a compliance plan.</td>
<td>Decision 24/CP.7, Section XV, section 1.</td>
</tr>
<tr>
<td>The eligibility requirements for participation in the flexibility mechanisms under Articles 6, 12 and 17 of the Kyoto Protocol</td>
<td>1. Suspension of eligibility under relevant mechanisms, until eligibility is reinstated.</td>
<td>Decision 24/CP.7, Section XV, section 4.</td>
</tr>
</tbody>
</table>

It is important to note that in a case of non-compliance, the Enforcement Branch must apply the prescribed consequences because of the use of the word ‘shall’ in Section XV of Decision 24/CP.7 of the Marrakesh Accords. According to this wording, once the Enforcement Branch decides that a Party is in non-compliance, it is required to apply the relevant consequences automatically.

However, Decision 24/CP.7 does provide that the consequences shall be applied ‘taking into account the cause, type, degree and frequency of the non-compliance of that Party’. Thus, the Enforcement Branch has discretion to ‘design the designated consequences to the case at hand.’

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50 Ulfstein and Werksman, above n 41, 55.
time, refer a question of implementation to the Facilitative Branch for consideration’. This indicates that the Enforcement Branch has considerable discretion in dealing with matters of non-compliance.

4. Potential for legal disputes

(a) Legal disputes within the Kyoto Protocol compliance system

It is possible for any Party to raise a (euphemistically phrased) ‘question of implementation’ with regard to the compliance of any Annex I Party with its QELRO target. The phrase ‘question of implementation’ is used in Article 6.4 and ‘questions of implementation’ in Article 8 although no definition is provided. It is anticipated that most compliance matters will be raised by an ERT.51 In contrast to ICJ matters, the Kyoto Protocol’s compliance system is non-adversarial and instead is led by the Enforcement Branch itself as interlocutor.

A number of questions of implementation have been considered by the Enforcement Branch52 and one question of implementation has been considered by the Facilitative Branch.53 All of the matters before the Enforcement Branch arose out of compliance matters raised by Expert Review Teams (ERTs). However, the case of Croatia is unusual because Croatia brought an appeal of a decision by the Enforcement Branch to the COP. This case provides an insight into the potential for appeals by Parties over questions of implementation concerning their QELROs.

51 Ibid, 52.
52 These matters concern Greece, Canada, Croatia, Bulgaria, Romania, Ukraine and Lithuania. See UNFCCC, Questions of Implementation <http://unfccc.int/kyoto_protocol/compliance/questions_of_implementation/items/5451.php> accessed 27 May 2012.
In 2009, Croatia was found to be non-compliant for failing to maintain its commitment reserve and for incorrectly calculating its Assigned Amount. The two questions of implementation were related to firstly Croatia’s calculation of its Assigned Amount and its compliance with Article 3, paragraphs 7 and 8 and the modalities for calculating the Assigned Amount established under Article 7, paragraph 4 (Decision 13/CMP.1). The ERT considered the addition of 3.5 million tons CO\textsubscript{2} equivalent by Croatia to its base year following decision 7/CP.12 was not in accordance with these requirements.

The second matter was Croatia’s calculation of its commitment period reserve and its compliance with the modalities for accounting of Assigned Amounts under Article 7, paragraph 4 (Decision 13/CMP.1). The ERT considered that Croatia’s calculation of its commitment period reserve was non-compliant as it was based on decision 7/CP.12.

Decision 7/CP.12 was a decision of the COP made in 2006 with regard to Croatia’s base year greenhouse gas emissions under Article 4, paragraph 6, of the UNFCCC. Article 4.6 allows flexibility to choose a base year other than 1990 in order to take account of the economic circumstances of States undergoing the transition to a market economy. In decision 7/CP.12, the COP decided to allow Croatia to add 3.5 Mt CO\textsubscript{2} equivalent to its 1990 level of greenhouse gas emissions to establish its base year for implementation of its commitments under Article 4.6 of the UNFCCC. The COP adopted similar decisions for Bulgaria, Romania, Poland, Hungary and Slovenia.

\footnote{UNFCCC, Enforcement Branch of the Compliance Committee, \textit{Comments from Croatia on the Final Decision} (CC-2009-1-8/Croatia/EB) (CC-2009-1-9/Croatia/EB, 4 January 2010).}

\footnote{UNFCCC, Enforcement Branch of the Compliance Committee, \textit{Decision on Preliminary Examination. Party concerned: Croatia} (CC-2009-1-2/Croatia/EB, 8 September 2009), [4], [5].}
At both the preliminary and final determinations, the Enforcement Branch decided that decision 7/CP.12 was not applicable to Croatia’s baseline for its QELRO commitment under the Kyoto Protocol. At the preliminary and subsequent hearings, Croatia argued that the approach of the Enforcement Branch was in violation of the principle of equal treatment, though it was not clear on what basis. However, the Enforcement Branch found that securing equal treatment of Parties was not within its mandate.

The Enforcement Branch suspended Croatia’s eligibility to participate in the flexibility mechanisms and directed Croatia to submit a Compliance Action Plan. Croatia announced in January 2010 that it intended to appeal the decision on the basis that the decision-making process was groundless, inappropriate, inequitable and influenced by a conflict of interest. Again, Croatia did not explain the reasoning behind these views.

The appeal by Croatia against the decision of the Enforcement Branch was heard at COP/MOP-6 at Cancun in December 2010. Croatia submitted that main reason for its appeal was the Enforcement Branch had itself noted that it was not competent to address all matters relating to its compliance and had proposed that the issue be referred to the COP/MOP. Croatia argued that the Enforcement Branch’s decision was in breach of the Vienna Convention on the Law of Treaties (VCLT); however, it was

56 Statement of position CC-2009-1-7/Croatia/EB, dated 12 November 2009, as well as in its address to the EBCC at its 8th meeting held 23 – 24 November 2009, in Bonn, Germany.
57 CC-2009-1-8/Croatia/EB.
not clear how this was the case.\textsuperscript{60} In its submission to the COP/MOP, Croatia stated that:

a favourable outcome of this initiative resulting in recognition of COP decision 7/CP.12 shall, in Croatia’s case, under no circumstance result in surplus emission allowance, but provide Croatia with a realistic opportunity to implement its commitments under the Kyoto Protocol, which otherwise shall prove impossible.\textsuperscript{61}

The main issue in the Enforcement Branch’s decision was whether decision 7/CP.12, relating to the level of emissions for the base year of Croatia, could be applied to Croatia’s QELRO target. In the appeal, Croatia stated that it did not want to deal with the issue through the Enforcement Branch and instead called for a COP/MOP decision finding that decision 7/CP.12 applies fully to Croatia’s QELRO target.

However, the key issue at the appeal was that the mandate of the COP/MOP as an appellate body had been specifically limited to grounds of due process. Individual Parties expressed their views about Croatia’s appeal as part of the COP decision making process. The EU argued that in order to protect the integrity of the compliance system’s appellate procedures, the COP/MOP had to confine itself to these due process grounds.\textsuperscript{62} Further, the EU emphasised that if the COP/MOP decided to overturn the Enforcement Branch’s decision, it must then refer the case back to the Enforcement

In contrast, Canada argued that the COP/MOP can adopt a comprehensive approach and address the substantive issue of base-year emission levels. At the COP/MOP hearing, co-Chair Tarasofsky suggested that two COP/MOP decisions could be adopted, one on the appeal and the other on the broader issues related to Croatia.

The COP/MOP adopted a decision on the Compliance Committee’s report and conclusions on Croatia’s appeal on 10 December 2010. Ultimately, the COP/MOP decision noted that: it initiated consideration of the appeal; was unable to complete consideration of the appeal at the session; and that the item would be included on the provisional agenda for COP/MOP 7. It also requested that the Secretariat prepare:

...a technical paper outlining the procedural requirements and the scope and content of applicable law for the consideration of appeals under decision 27/CMP.1 and other relevant CMP decisions, as well as the approach taken by bodies constituted under other multilateral environmental agreements and other international bodies in relation to provisions for the consideration of denial of due process.

However, Croatia withdrew its appeal to the COP and the matter ultimately did not progress any further. Nonetheless, Croatia’s appeal provides an important insight into the potential for legal disputes over compliance with Kyoto Protocol commitments. In particular, the appeal mechanism that allows cases to go from the Enforcement Branch to the COP/MOP is designed to ensure that Parties are accorded

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63 Ibid.
64 Ibid.
65 Ibid.
67 Ibid.
due process in their cases, yet this same appeal mechanism may be used to move the matter to the political forum that is the COP/MOP. The Parties in the COP/MOP have a vested interest in how matters of non-compliance are dealt with and do not offer an independent appellate body. Therefore, a Party seeking to avoid compliance measures from the Enforcement Branch with their QELRO may utilise the option of appeal to the COP as a method of politicising their question of implementation.

There will be no cases of non-compliance in relation to the QELRO targets at the Enforcement Branch until at least 2015. Although it is difficult to predict how such cases will proceed, there are some key issues that are likely to arise. Firstly, the Kyoto Protocol’s compliance system is notable for its ‘strict liability’ approach whereby it does not provide graded sanctions to address varying types of non-compliance.\(^{69}\) Durrant identifies this aspect of the compliance system as potentially ‘a major point of contention for non-compliant Parties’ because the strict liability approach does not import considerations of fairness and reasonableness. Durrant argues that:

Non-compliance may vary from deliberate and reckless non-compliance to inadvertent non-compliance resulting from, for example, natural disasters (Acts of God) and other force majeure events that may themselves be caused by the impacts of climate change.

Where Parties are non-compliant with the QELRO target due to matters beyond their control, the Enforcement Branch has no discretion and technically must apply the same enforcement consequences. In such a case, a non-compliant Party may follow the example of Croatia and seek the intervention of the COP/MOP through an appeal.

However, there is some discretion held by the Enforcement Branch due to uncertainty around the calculations of greenhouse gas emissions. For example, high uncertainty tends to exist around emissions or removals resulting from direct human-induced land use, land use change and forestry (LULUCF). Uncertainty around the total produced inventories varies from around 5 to 20%, and most estimates range from 10 to 20%. Durrant identifies this uncertainty as a key barrier for the Enforcement Branch to determine non-compliance ‘given that the required emissions reductions are themselves only 6 to 8 per cent below reported 1990 baseline emissions.’ This second issue is likely to be raised by a non-compliant Party attempting to evade enforcement consequences.

The third issue relates to the development of the Kyoto Protocol itself. One of the enforcement consequences provided for non-compliance with Article 3.1 is the deduction from the Party’s assigned amount for the second commitment period of a number of tonnes equal to 1.3 times the amount in tonnes of excess emissions. Although Article 3.9 of the Kyoto Protocol provides for the negotiation of subsequent commitment periods, the Parties have to date failed to reach agreement (see Chapter 2). This means that there is no second commitment period to which the enforcement consequence can be applied. If this remains the case, then the potential effectiveness of this compliance system is substantially weakened.

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71 J Gupta, X Olstoorn and E Rotenberg, ‘The Role of Scientific Uncertainty in Compliance with the Kyoto Protocol to the Climate Change Convention’ (2003) 6(6) *Environmental Science and Policy* 477. LULUCF was not included in the inventories reviewed by the authors. Inclusion of LULUCF is likely to increase uncertainty values.
72 Durrant further notes that there is uncertainty around the calculation of the baselines themselves. Durrant, above n 18, 73.
Fourthly, it is possible for a non-compliant Party to withdraw from the Kyoto Protocol (as well as the UNFCCC) after providing one year notice without incurring any penalty.\(^\text{73}\) This ultimately means that even if a second commitment period is negotiated, a non-compliant Party may evade the enforcement consequences simply by withdrawing from the Kyoto Protocol. Indeed, Canada failed to meet its QELRO and in December 2011 withdrew from the Kyoto Protocol.\(^\text{74}\)

Finally, the Kyoto Protocol’s compliance system does not foresee remedies for States claiming unlawful behaviour has damaged the climate system and their territory. This means that the physical consequences of delay in emission reductions are not addressed within the compliance system. Although an affected Party may refer the matter to the Enforcement Branch, there is no scope for such Parties to receive compensation or other remedies.

\textit{(b) Legal disputes outside of the Kyoto Protocol compliance system}

Parties to the Kyoto Protocol may take legal actions outside of the climate regime that are relevant to these commitments. For instance, Micronesia recently brought a transnational legal challenge to the approval of a coal fired power station in the Czech Republic.\(^\text{75}\) However, the Kyoto Protocol compliance system may have implications for the ability of Parties to bring disputes outside of this system. Parties to the Kyoto Protocol have agreed to bring matters of compliance with the commitments through this system which is evidenced by their agreement in establishing the compliance

\(^{73}\) Kyoto Protocol, Article 27; UNFCCC, Article 25. If a party withdraws from the UNFCCC, they cannot remain a party to the Kyoto Protocol.


system. Furthermore, matters of non-compliance have been dealt with through the Compliance Committee and on the whole States have submitted to this process.

As a result, Kyoto Protocol Parties may be shielded from legal challenges outside of the compliance system. It could be argued that the Kyoto Protocol’s non-compliance procedures need to be exhausted before alternative avenues are pursued. In particular, Article 18 of the Kyoto Protocol provides that the Parties shall ‘approve appropriate and effective procedures and mechanisms to determine and address cases of non-compliance with the provisions of this Protocol’. On the other hand, the Kyoto Protocol does not specifically exclude the settlement of disputes outside of the compliance system. The compliance system is designed to re-establish compliance through the application of specific consequences. None of these consequences include the recovery of reparations for Parties injured by another’s non-compliance. Therefore, such injured Parties may be able to seek remedies outside of the Kyoto Protocol’s compliance system.

Nevertheless, the scope and procedure for bringing legal disputes through the ICJ remain unclear. Both the UNFCCC and Kyoto Protocol provide that, at the time of ratification, Parties may declare their recognition of the ICJ and/or arbitration in accordance with procedures adopted by the COP.\(^76\) None of the instruments of ratification to either the UNFCCC or Kyoto Protocol provided such a declaration (see also Chapter 3). Although the COP and MOP have not developed procedures for arbitration, some Parties have recognised that they will be developed.\(^77\) It is feasible

\(^76\) UNFCCC, art 14; Kyoto Protocol, art 19.
that legal disputes related to commitments under the Kyoto Protocol may be referred to the ICJ, but only where the Parties have submitted to the ICJ’s jurisdiction in relation to the matter (see Chapter 3).\footnote{Jurisdictional issues are explored in Chapters 6 and 7.}

The greatest scope for an interstate dispute relates to situations where an Annex I Party has failed to meet its QELRO target. Such a matter could provide a source of exposure to legal risk for climate change damage. This raises the issue of how the compliance procedures of the Kyoto Protocol relate to the rules of State responsibility (examined in Chapter 6). For instance, what legal consequence would arise if a Kyoto Protocol compliance procedure and a dispute settlement procedure were to take place at the same time involving a particular Party and the same subject matter.\footnote{Gerhard Loibl, ‘Environmental Law and Non-Compliance Procedures: Issues of State Responsibility’ in Malgosia Fitzmaurice and Dan Sarooshi (eds), Issues of State Responsibility before International Judicial Institutions (Portland: Hart Publishing, 2004), 214.} It is not entirely clear how the Kyoto Protocol compliance system will interact with the law of State responsibility in the event of breach of the treaty.\footnote{Fitzmaurice, above n 29; Nout van Woudenberg, ‘Compliance mechanisms: a useful instrument’ (2004) 34 Environmental Policy and Law 185, 185-6: argues that the differences between non-compliance systems and dispute settlement procedures ‘are substantial and fundamental, and a procedure under [a] compliance mechanism … does not prejudice any dispute settlement procedure.’} Although the Kyoto Protocol compliance system is very close to a traditional judicial process, it does have some key differences to State responsibility. For example, there is no provision for ‘circumstances precluding wrongfulness’ or defences.

The question is whether the Kyoto Protocol compliance system operates as \textit{lex specialis} and thus precludes application of the rules of State responsibility. The basis of such an argument would be that the Kyoto Protocol involves elements of State responsibility but provides special rules meaning that the general rules no longer apply. However, the rules of the Kyoto Protocol compliance system are only to be applied by
institutions established through the climate regime. Therefore, if a dispute arose in an
international court or tribunal relating to an alleged breach of the Kyoto Protocol, the
applicable rules are those of State responsibility.\textsuperscript{81}

Finally, the recent case of \textit{FSM v. Prunerov}\textsuperscript{82} provides an insight into the potential for
disputes over emissions reductions may cross into multiple areas of law, including
transnational law. In this case, the Federated States of Micronesia brought a
transnational legal challenge to plans to extend the Prunerov coal-fired power plant in
the Czech Republic. Micronesia cited the principle of transboundary harm. The dispute
resulted in the undertaking of an environmental impact assessment of the plant. It is
possible that disputes over QELRO targets may also arise through such transnational
mechanisms simultaneous with matters being heard within the international dispute
mechanisms.

The findings of this section in relation to legal exposure from the dispute settlement
procedures for the Kyoto Protocol are summarised in \textbf{Table 4-5} below.

\begin{table}[h]
\centering
\begin{tabular}{|l|l|l|}
\hline
\textbf{Avenue} & \textbf{Authority} & \textbf{Conclusion} \\
\hline
Facilitative Branch of the Compliance Committee & Marrakesh Accords & No exposure. Does not allow for contentious matters. \\
\hline
Enforcement Branch of the Compliance Committee & Marrakesh Accords & Low exposure. Other States can refer matters to the Enforcement Branch and compliance with QELROs will be determinable from 2015. However, there is no scope for climate change damage to be considered. \\
\hline
COP/MOP & Marrakesh Accords & No exposure. There is no scope for climate change damage to be considered by the COP/MOP in an appeal from the Enforcement Branch. \\
\hline
\end{tabular}
\caption{Exposure to legal risk from Kyoto Protocol dispute settlement procedures}
\end{table}

\textsuperscript{81} Loibl, above n 79, 216. See Part II, Draft Articles.
Submission to the ICJ through UNFCCC provisions
See Chapter 3
No exposure. No States have provided such a declaration.

Submission to the ICJ by mutual agreement
Article 26.1, ICJ Statute (see Chapter 3)
No exposure. It is unlikely that a respondent State would agree to referral.

Submission to the ICJ where States have accepted jurisdiction under the option clause
Article 36.2, ICJ Statute (see Chapter 3)
Some exposure. Reservations could prevent jurisdiction (e.g. disputes to which the Parties have agreed to settle by other means of peaceful settlement).

Submission to the ICJ where the treaty concerned specifically provides for ICJ jurisdiction
Article 36.1, ICJ Statute (see Chapter 3)
Some exposure. The Parties may have agreed to ICJ jurisdiction through some other arrangement.

D. Conclusion

This chapter has examined the Kyoto Protocol as a possible source of legal risk regarding climate change damage. Article 3.2 requires that Parties make demonstrable progress in achieving their commitments by 2005. However, this obligation provides low exposure because it is not clear what ‘demonstrable progress’ means. Article 12.8 of the Kyoto Protocol places an obligation to ensure that a share of proceeds from certified project activities is used to assist developing States Parties that are particularly vulnerable to the adverse effects of climate. This obligation provides low exposure to legal risk because the Bonn Agreement provides that 2% of certified emissions reductions issues shall be the share of proceeds. Funding is expected to grow to US$353 million by the end of 2012 as a result of these proceeds. This is arguably sufficient to meet the obligation in Article 12.8.

The QELRO targets contained in Article 3.1 provide a potentially high level of exposure to legal risk for Annex I Parties because they include a specific target to be achieved in the period 2008 to 2012. A Party breaching its QELRO target could be the subject of an interstate dispute. There is no scope for an interstate dispute to be brought through the Kyoto Protocol compliance system. Although matters of non-compliance
with the QELROs (and other obligations) may be heard by the Enforcement Branch, such matters do not provide for an injured Party to seek remedies in this forum.

However, there is considerable potential for an interstate dispute to be brought through the ICJ where an Annex I Party has failed to meet its QELRO target, provided that the jurisdiction of the ICJ could be established. The Kyoto Protocol compliance system varies in some respects to the rules of State responsibility. This opens up the possibility that this system operates as *lex specialis* and precludes application of the rules of State responsibility. However, the rules of the Kyoto Protocol compliance system are only to be applied by institutions established through the climate regime. Therefore, if a dispute arose in an international court or tribunal relating to an alleged breach of the Kyoto Protocol, the applicable rules are those of State responsibility.
5. LAW OF THE SEA CONVENTION

A. Overview

In this chapter, the United Nations Law of the Sea Convention (LOSC)\(^1\) is analysed for its possible application in international climate change litigation. Anthropogenic greenhouse gas emissions pose a significant threat to the marine environment in a variety of ways, including acidification of the oceans, rising sea levels and loss of marine habitat.\(^2\) The LOSC is the key international instrument designed to protect the marine environment from pollution.\(^3\) Outside of the climate change regime, this is the key international legal instrument examined within this thesis as a potential source of international litigation. However, there are a number of issues that have not been examined by other commentators in the context of climate change damage, including the impact of the ‘due regard’ obligation found in a number of LOSC articles. This chapter provides analysis of this and other issues, such as the difficulties that are likely to arise in establishing jurisdiction for the contentious cases.

Part B describes and analyses the due regard provisions of the LOSC. Part C considers the definition of ‘pollution of the marine environment’ provided in Article 1 of the LOSC and its possible application to climate change and greenhouse gas emissions. Part D examines the relevant commitments under the LOSC, focusing upon both the general obligations and obligations relating to specific types of sources of marine

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pollution. Part E explains the compliance and enforcement mechanisms of the LOSC and seeks to identify the key features of these mechanisms that are likely to support international climate change litigation. It examines the matter of establishing jurisdiction under the LOSC dispute settlement procedures. This section assesses two LOSC cases that may influence any future climate litigation under the LOSC. Finally, Section F summarises the findings of the chapter.

This chapter seeks to analyse a number of issues likely to arise in such litigation, including possible problems with establishing jurisdiction; balancing commitments with the due regard obligation; and the overriding principle of State sovereignty. It also considers whether greenhouse gas emissions can be captured by the specific commitments related to marine pollution from land-based sources and from atmospheric sources. The analysis contained in this chapter is complemented by that found in Chapter 7 which considers these issues in further depth through the use of a case study.

B. Law of the Sea Convention

The LOSC was a groundbreaking agreement which established for the first time a ‘comprehensive framework for the protection and preservation of the marine environment.’ In fact, this was one of the main objectives of the LOSC. The LOSC is also noted for its complexity, with 320 articles and nine annexes. Part XII of the

\[\text{\footnotesize Footnotes:}
5 LOSC, pmbl, para 4.
LOSCE sets out the general provisions and specific provisions for types of marine pollution. The LOSC is supplemented by more detailed agreements and regimes including those regulating dumping at sea and land and atmospheric source marine pollution. These additional instruments may apply to the ocean effects of climate change. However, they are beyond the scope of this thesis.

The links between the LOSC and climate change are not entirely clear and require careful examination. In May 2009, the World Ocean Conference adopted the Manado Ocean Declaration which was an agreement to establish a number of initiatives including for ocean adaptation to climate change. A significant question is the nature of the relationship between the LOSC and the climate regime. On the whole, the relationship between the marine and environmental law regimes is fragmented and under explored. Environmental law regimes operate independently and sometimes inconsistently. Article 4.1(d) of the United Nations Framework Convention on Climate Change.

7 LOSC, arts 192-237.
9 Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities. However, note that this instrument is soft law and would be of little assistance in relation to liability. Also see David VanderZwaag and Ann Powers, ‘The Protection of the Marine Environment from Land-Based Pollution and Activities: Gauging the Tides of Global and Regional Governance’ (2008) 23 The International Journal of Marine and Coastal Law 423.
Climate Change (UNFCCC)\textsuperscript{16} actually encourages the ‘active’ ocean sequestration of CO\textsubscript{2} as the enhancement of a greenhouse gas sink.\textsuperscript{17} Therefore, the UNFCCC presents the uptake of CO\textsubscript{2} by the oceans as part of the solution to climate change, rather than a problem in itself.\textsuperscript{18} Equally problematic, the Kyoto Protocol\textsuperscript{19} does not differentiate between types of greenhouse gas emissions, thus allowing States to increase CO\textsubscript{2} emissions provided that the other greenhouse gases are decreased sufficiently.\textsuperscript{20} Therefore, there is considerable scope for inconsistency and, potentially, conflict between the LOSC and the climate change regime. The implications of this conflict are considered further in this chapter in relation to establishing jurisdiction.

The key obligations contained in the LOSC relevant to the purposes of this thesis are presented in Table 5-1. Note that there are additional obligations considered in the chapter not presented in Table 5-1.

Table 5-1 Obligations in the LOSC that may provide exposure to legal risk

<table>
<thead>
<tr>
<th>Article</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Due regard obligations</strong></td>
<td></td>
</tr>
<tr>
<td>Article 56</td>
<td>Coastal States shall give due regard to the rights and duties of other States in the exclusive economic zone.</td>
</tr>
<tr>
<td>Article 58</td>
<td>Other States shall have due regard to the rights and duties of the coast State in the exclusive economic zone.</td>
</tr>
<tr>
<td>Article 87</td>
<td>States shall provide due regard for the interests of other States in their activities on the high seas.</td>
</tr>
<tr>
<td><strong>General obligations</strong></td>
<td></td>
</tr>
<tr>
<td>Article 192</td>
<td>Parties are obliged to protect and preserve the marine environment.</td>
</tr>
</tbody>
</table>

\textsuperscript{17} UNFCCC, art 4.1(d):
‘Promote sustainable management, and promote and cooperate in the conservation and enhancement, as appropriate, of sinks and reservoirs of all greenhouse gases not controlled by the Montreal Protocol, including biomass, forests and oceans as well as other terrestrial, coastal and marine ecosystems’.
\textsuperscript{18} Baird, Simons and Stephens, above n 10, 464.
\textsuperscript{20} Ibid.
| Article 194 | Parties shall take all measures to prevent, reduce and control pollution of the marine environment from any source. |
| Article 195 | Parties shall act so as not to transfer, directly or indirectly, damage or hazards or to transform one type of pollution into another. |

**Marine pollution from land-based sources**

| Article 207 | Parties shall adopt laws and regulations to prevent, reduce and control pollution of the marine environment from land-based sources. |

**Marine pollution from atmospheric sources**

| Article 212 | Parties shall adopt laws and regulations to prevent, reduce and control pollution of the marine environment from or through the atmosphere. |

C. Due regard provisions

One approach to greenhouse gas emissions would be to consider the competing interests of emitting and damaged States through the lens of the obligation of due regard provided in a number of LOSC provisions. For instance, the LOSC contains a broad obligation requiring due regard of users to the coastal State’s rights and duties, and for coastal States to have due regard to the other users in the exercise of their rights and duties.\(^\text{21}\) These due regard obligations seek to balance the interests of both coastal and maritime States within the Exclusive Economic Zone (EEZ).\(^\text{22}\) This need to balance the competing interests of States is a core element of the LOSC.\(^\text{23}\) Under Article 56, coastal States ‘shall have due regard to the rights and duties of other States’ in the EEZ.\(^\text{24}\) According to Article 58, other States are obliged to have ‘due regard to

\(^{23}\) For an early recognition by the ICJ of the need to achieve such balance, see ICJ Reports 1996, 241-242: 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.’  
\(^{24}\) Article 56: Rights, jurisdiction and duties of the coastal State in the exclusive economic zone:  
‘1. In the exclusive economic zone, the coastal State has:  
(a) sovereign rights for the purpose of exploring and exploiting, conserving and managing the natural resources, whether living or non-living, of the waters superjacent to the seabed and of the seabed and its subsoil, and with regard to other activities for the economic exploitation and exploration of the zone, such as the production of energy from the water, currents and winds;  
(b) jurisdiction as provided for in the relevant provisions of this Convention with regard to:
the rights and duties of the coast State’ and to comply with regulations established pursuant to the LOSC. These articles could provide one avenue for establishing a case around greenhouse gas emissions caused by maritime States in the EEZ for example in shipping.

According to Article 87, all ships and aircraft possess freedom of movement and operation on, under, and over the high seas. However, such activities must be conducted with ‘due regard’ for the interests of other states considering the circumstances. This means that a State must be aware of the interests of others in

(i) the establishment and use of artificial islands, installations and structures;
(ii) marine scientific research;
(iii) the protection and preservation of the marine environment;
(c) other rights and duties provided for in this Convention.
2. In exercising its rights and performing its duties under this Convention in the exclusive economic zone, the coast State shall have due regard to the rights and duties of other States and shall act in a manner compatible with the provisions of this Convention.
3. The rights set out in this article with respect to the seabed and subsoil shall be exercised in accordance with Part VI.’

25 Article 58: Rights and duties of other States in the exclusive economic zone:
‘In the exclusive economic zone, all States, whether coastal or land-locked, enjoy, subject to the relevant provisions of this Convention, the freedoms referred to in article 87 of navigation and overflight and of the laying of submarine cables and pipelines, and other internationally lawful uses of the sea related to these freedoms, such as those associated with the operation of ships, aircraft and submarine cables and pipelines, and compatible with the other provisions of this Convention.
2. Articles 88 and 115 and other pertinent rules of international law apply to the exclusive economic zone in so far as they are not incompatible with this Part.
3. In exercising their rights and performing their duties under this Convention in the exclusive economic zone, States shall have due regard to the rights and duties of the coastal State and shall comply with the laws and regulations adopted by the coastal State in accordance with the provisions of this Convention and other rules of international law in so far as they are not incompatible with this Part.’

26 Article 87: Freedom of the high seas:
‘1. The high seas are open to all States, whether coastal or land-locked. Freedom of the high seas is exercised under the conditions laid down by this Convention and by other rules of international law. It comprises, inter alia, both for coastal and land-locked States:
(a) freedom of navigation;
(b) freedom of overflight;
(c) freedom to lay submarine cables and pipelines, subject to Part VI;
(d) freedom to construct artificial islands and other installations permitted under international law, subject to Part VI;
(e) freedom of fishing, subject to the conditions laid down in section 2;
(f) freedom of scientific research, subject to Parts VI and XIII.
2. These freedoms shall be exercised by all States with due regard for the interests of other States in their exercise of the freedom of the high seas, and also with due regard for the rights under this Convention with respect to activities in the Area.’

27 The shift from the laissez-faire system to the due regard obligation can also be seen in the Fisheries Jurisdiction Case (United Kingdom and Ireland) [1974] ICJ Reports 1, 31: ‘the former laissez-faire
using a high seas area, and balance those interests with its own. It must also refrain from any activities that unreasonably interfere with the exercise of other States’ high seas freedoms in light of that balance of interests.28 Again, this obligation could be used in a case concerning greenhouse gas emissions from shipping but in this case in relation to shipping using the high seas.

It appears that the balanced duties held by coastal and other States with regard to the EEZ would provide one approach to resolving the competing uses found in the example of greenhouse gas emissions. Importantly, these obligations are mutually applicable. Thus, a tribunal or court would need to look at the interests of all Parties to determine the content and application of the due regard obligation.29 The advantage of these obligations is that they encompass a wide range of interests and do not necessarily require proof that the activities have caused pollution of the marine environment. The findings of this section on the due regard obligations are presented in Table 5-2 below.

<table>
<thead>
<tr>
<th>Obligation</th>
<th>Article</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coastal States shall give due regard to the rights and duties of other States in the exclusive economic zone.</td>
<td>Article 56</td>
<td>A claimant State would need to give due regard to the rights and duties of other states in the exclusive economic zone.</td>
</tr>
<tr>
<td>Other States shall have due regard to the rights and duties of the coast State in the exclusive economic zone.</td>
<td>Article 58</td>
<td>Limited exposure. Could be used to establish a case around greenhouse gas emissions by maritime states in the exclusive economic zone.</td>
</tr>
<tr>
<td>States shall provide due regard for the interests of other States in their activities on the high seas.</td>
<td>Article 87</td>
<td>Limited exposure. Could be used to establish a case around greenhouse gas emissions by maritime states on the high seas.</td>
</tr>
</tbody>
</table>

Table 5-2 Sources of legal risk from due regard obligations in the LOSC

treatment of the living resources of the sea in the high seas has been replaced by a recognition of a duty to have due regard to the rights of other states and the need of conservation for the benefit of all.’ Also see Yoshifumi Tanaka, The International Law of the Sea (Cambridge: Cambridge University Press, 2012), 251.

28 Galdorisi and Vienna, above n 22, 153.
29 See generally Klein, above n 21, 139.
D. Pollution of the marine environment

Application of other LOSC obligations would require climate change damage to fall within the definition of ‘pollution of the marine environment’ as provided in Article 1(4): 30

"pollution of the marine environment" means the introduction by man, directly or indirectly, of substances or energy into the marine environment, including estuaries, which results or is likely to result in such deleterious effects as harm to living resources and marine life, hazards to human health, hindrance to marine activities, including fishing and other legitimate uses of the sea, impairment of quality for use of sea water and reduction of amenities;

Article 1 of the LOSC provides a broad definition of the ‘pollution of the marine environment’. 31 Although greenhouse gas emissions were not recognised as a pollutant at the time that the LOSC was drafted, 32 this is not necessarily a reason to preclude application of the definition to greenhouse gas emissions. 33

One significant element to this definition is the wording ‘results or is likely to result in’. This is important because it encompasses substances that have not actually caused


31 ‘Article 1: Uses of terms and scope For the purposes of this Convention … “pollution of the marine environment” means the introduction by man, directly or indirectly, of substances or energy into the marine environment, including estuaries, which results or is likely to result in such deleterious effects as harm to living resources and marine life, hazards to human health, hindrance to marine activities, including fishing and other legitimate uses of the sea, impairment of quality for use of sea water and reduction of amenities.’ (emphasis added).


33 A similar definition of marine pollution is provided in the Montreal Guidelines (‘the introduction by man indirectly or directly of substances or energy’). The definition was expanded to take into account diffuse-source pollution via the atmosphere as knowledge of pollutants became more sophisticated. Protocol to Amend the Convention for the Prevention of Marine Pollution from Land-Based Sources (26 March 1986). See discussion in Rachel Zajacek, ‘The Development of Measures to Protect the Marine Environment from Land-Based Pollution: The Effectiveness of the Great Barrier Reef Marine Park Authority in Managing the Effects of Tourism on the Marine Environment’ (1996) 3 James Cook University Law Review 64, 90.
harm but based upon the available scientific evidence are likely to do so.\textsuperscript{34} This prospective (as opposed to remedial) focus supports application of Article 1 to greenhouse gas emissions, which although may not have caused harm as yet are certainly likely to based upon the available science.

A threshold is provided in the definition by its reference to ‘deleterious effects’. The definition provides a non-exhaustive list of examples of ‘deleterious effects’; namely harm to living resources and marine life, hazards to human health, hindrance to marine activities, including fishing and other legitimate uses of the sea, impairment of quality for use of sea water and reduction of amenities. Arguably, the impacts of greenhouse gas emissions on the marine environment potentially fall into all of these examples. For instance, ocean acidification is causing and will cause damage to coral reefs and the marine life that depends upon them; thereby threatening fish stocks and food security.

The substance or energy can be introduced by man into the marine environment either ‘directly or indirectly’.\textsuperscript{35} The term ‘indirectly’ refers to the introduction of pollution through rivers, estuaries and the atmosphere. Greenhouse gas emissions are a pollutant introduced via the atmosphere. These emissions potentially fall into both the categories of ‘substance’ and ‘energy’. CO\textsubscript{2} is ‘is a colourless, odourless, incombustible gas’\textsuperscript{36} but it also traps energy in the atmosphere by altering the Earth’s radiative balance. Although there is no mention of greenhouse gases as a pollutant in the LOSC, there is

\textsuperscript{34} Michael M’Gonigle, “Developing Sustainability” and the Emerging Norms of International Environmental Law: The Case of Land-Based Marine Pollution Control’ (1990) 28 Canadian Yearbook of International Law 169, 193.


\textsuperscript{36} Macquarie Australian Encyclopedic Dictionary (Macquarie University, 2006), 185.
evidence to suggest that the negotiators considered the potential impact of temperature changes to marine ecosystems as a source of marine pollution.\textsuperscript{37} While their consideration of such impacts may have related to more local sources of pollution, it is evident that the negotiators identified temperature changes in the marine environment as a potential threat.\textsuperscript{38}

Article 1 does not provide a definition of the ‘marine environment’ and its meaning is ‘somewhat unclear given the circular nature of the definition of “pollution of the marine environment”’.\textsuperscript{39} However, further clarity can be gained through examining the provisions of later articles. Article 194(5) indicates subsets of the marine environment include ‘rare or fragile ecosystems,’ ‘habitat of depleted, threatened or endangered species,’ and ‘other forms of marine life.’\textsuperscript{40} Article 211(6) shows that it includes oceanographic conditions, ecological conditions and their resources.\textsuperscript{41} Articles 145 and 196 support the position that the marine environment includes its ‘ecological balance’.\textsuperscript{42} Article 145 indicates that the marine environment includes the coastline and marine natural resources.


\textsuperscript{40} Article 194 obliges states to take measures to prevent, reduce and control pollution of the marine environment. See discussion of this article below.

\textsuperscript{41} Article 211 concerns measures to minimise the threat of pollution from vessels.

\textsuperscript{42} Article 145 relates to the protection of the marine environment and measures by the International Seabed Authority. Article 196 concerns the use of technologies or the introduction of alien or new species.
The International Seabed Authority (ISA) has adopted the following definition of ‘marine environment’ for the purposes of Part XI of LOSC (which includes Article 145):

“Marine environment” includes the physical, chemical, geological and biological components, conditions and factors which interact and determine the productivity, state, condition and quality of the marine ecosystem, the waters of the seas and oceans, and the airspace above those waters, as well as the seabed and ocean floor and subsoil thereof.43

This definition is certainly wide enough to capture the effects of climate change, including the effects upon ocean circulation and stratification, ocean temperatures, sea ice, fish species, and pH levels. Its inclusion of the ‘airspace above … waters’ suggests that the atmosphere itself is part of the marine environment. This definition is an appropriate one because the atmosphere interacts with the oceans, affecting its productivity, state, condition and quality of the marine ecosystem.

Fourthly, Article 293 of the LOSC provides that other sources of international law not inconsistent with the LOSC are to be used in the interpretation of its provisions. This article is consistent with the ordinary rules of treaty interpretation44 and would allow reliance upon the UNFCCC and Kyoto Protocol. As discussed in Chapters 2, 3 and 4, these instruments deal with greenhouse gas emissions as a type of pollutant, thus supporting the view that the LOSC should also view these gases as pollutants.

44 VCLT, art 32.
In conclusion, the definition of ‘pollution of the marine environment’ contained in Article 1 of the LOSC is sufficiently broad to encompass greenhouse gas emissions and their effects upon the oceans. The prospective focus of this definition (‘results or is likely to result in’) aids this interpretation because the harms associated with greenhouse gas emissions have not yet materialised but have been predicted with a high degree of scientific certainty. Greenhouse gas emissions are predicted to cause a range of ‘deleterious effects’ to the ‘marine environment’, including ocean acidification, disruption of ocean circulation, loss of sea ice, sea level rise and shifts in the ranges of fish species.45

E. Commitments under the Law of the Sea Convention

1. General obligations

Part XII ‘Protection and Preservation of the Marine Environment’ of the LOSC provides the key commitments relevant to environmental protection.46 Section 5 ‘International Rules and National Legislation to Prevent, Reduce and Control Pollution of the Marine Environment’ contains general provisions and specific provisions relating to types of marine pollution.

Article 192 sets out a general obligation for States to ‘protect and preserve the marine environment’.47 The commitment contained in Article 192 is not restricted to any particular source of marine pollution. This broad commitment would appear to

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47 Article 192: General Obligation provides ‘States have the obligation to protect and preserve the marine environment.’
encompass protecting and preserving the marine environment from the impacts of anthropogenic greenhouse gas emissions. Yet, Article 192 is so general that it would be difficult to prove a breach in relation to greenhouse gas emissions or any other pollutant.\textsuperscript{48}

Furthermore, Article 192 must be balanced with Article 193 which provides that States have the sovereign right to exploit their natural resources.\textsuperscript{49} The tension between the objectives of the LOSC and State sovereignty is also recognised in the preamble.\textsuperscript{50} Although the LOSC does not specifically refer to the principle of sustainable development, it appears that the juxtaposition of the obligation to protect and preserve the marine environment with State sovereignty and the desire to exploit the sea reflects the role of this principle in implementation.\textsuperscript{51}

The assertion of a sovereign right to exploit resources is a common feature of international environmental agreements. However, without further elaboration Article 193 does not resolve the tensions between balancing economic, social and environmental interests in terms of the marine environment.\textsuperscript{52} Thus, Article 193 does not shed light on how this balance between the obligation to protect and preserve the marine environment with the principle of State sovereignty may be struck. Many declarations by States Parties to the LOSC assert sovereignty rights over marine

\textsuperscript{48} See generally Greg Rose, ‘Protection and Conservation of the Marine Environment’ in Martin Tsamenyi, Sam Bateman and Jon Delaney (eds), \textit{The United Nations Convention on the Law of the Sea: What it Means to Australia and Australia’s Marine Industries} (Wollongong: Centre of Maritime Policy, University of Wollongong, 1996), 152 (‘However, as expressed, the norm is devoid of content.’)

\textsuperscript{49} Article 193: Sovereign right of States to exploit their natural resources provides: ‘States have the sovereign right to exploit their natural resources pursuant to their environmental policies and in accordance with their duty to protect and preserve the marine environment.’

\textsuperscript{50} See generally Heidi R Lamirande, ‘From Sea to Carbon Cesspool: Preventing the World’s Marine Ecosystems from Falling Victim to Ocean Acidification’ (2011) 34 \textit{Suffolk Transnational Law Review} 183, 197.

\textsuperscript{51} Rose, above n 47, 152.

\textsuperscript{52} Carlane, above n 11, 285.
resources. Although none of these declarations specifically cite Articles 192 or 193, they are relevant due to their reliance upon the concept of sovereignty. Similarly, the Seabed Disputes Chamber of ITLOS in the Deep Seabed Advisory Opinion stated that the principle of due diligence has become a normative standard on States for compliance with the ‘no harm’ rule. The principle of due diligence is one way in which State sovereignty may be balanced with environmental protection. Overall, the question of State sovereignty is likely to be a problematic issue in any climate litigation that relies upon Article 192 or other obligations contained in the LOSC.

Article 194 provides that States are obliged to take all measures to prevent, reduce and control pollution of the marine environment ‘from any source’. Under Article 194,

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53 See e.g. Declaration by Brazil upon signature, 10 December 1982, ‘VI. Brazil exercises sovereignty rights over the continental shelf, beyond the distance of two hundred nautical miles from the baselines, up to the outer edge of the continental margin, as defined in article 76.’ Declaration of China upon ratification, 7 June 1996: ‘1. In accordance with the provisions of the United Nations Convention on the Law of the Sea, the People's Republic of China shall enjoy sovereign rights and jurisdiction over an exclusive economic zone of 200 nautical miles and the continental shelf.’


55 Responsibilities and Obligations of States Sponsoring Persons and Entities with Respect to Activities in the Area (Advisory Opinion) [2011] ITLOS 17. Also see David Freestone, ‘Advisory Opinion of the Seabed Disputes Chamber of International Tribunal for the Law of the Sea on “Responsibilities and Obligations of States Sponsoring Persons and Entities With Respect to Activities in the Area”’ (2011) 15(7) ASIL Insights.

56 No States made comment on Article 194 in their declarations to the LOSC. Article 194: Measures to prevent, reduce and control pollution of the marine environment provides: ‘1. States shall take, individually or jointly as appropriate, all measures consistent with this Convention that are necessary to prevent, reduce and control pollution of the marine environment from any source, using for this purpose the best practicable means at their disposal and in accordance with their capabilities, and shall endeavour to harmonise their policies in this connection. 2. States shall take all measures necessary to ensure that activities under their jurisdiction or control are so conducted as not to cause damage by pollution to other States and their environment, and that pollution arising from incidents or activities under their jurisdiction or control does not spread beyond the areas where they exercise sovereign rights in accordance with this Convention.’
damage can include chronic, low-level environmental degradation.\textsuperscript{57} The obligation requires States to prevent, reduce \textit{and} control pollution. In relation to greenhouse gas emissions, there has arguably been some measure of control by States, particularly those States that are Party to the Kyoto Protocol. It would be more difficult to show that States had prevented or reduced greenhouse gas emissions.

Paragraph 1 of Article 194 provides that this obligation is to be met by States using the ‘best practice means at their disposal’ and ‘in accordance with their capabilities’.\textsuperscript{58} These qualifications do not only apply to developing States, but developed States as well.\textsuperscript{59} These qualifications provide wide discretion and considerable scope for States to dilute the obligation contained in Article 194 through reference to their individual

\begin{itemize}
\item [3.] The measures taken pursuant to this Part shall deal with all sources of pollution of the marine environment. These measures shall include, inter alia, those designed to minimise to the fullest possible extent:
  \begin{enumerate}
  \item the release of toxic, harmful or noxious substances, especially those which are persistent, from land-based sources, from or through the atmosphere or by dumping;
  \item pollution from vessels, in particular measures for preventing accidents and dealing with emergencies, ensuring the safety of operations at sea, preventing intentional and unintentional discharges, and regulating the design, construction, equipment, operation and manning of vessels;
  \item pollution from installations and devices used in exploration or exploitation of the natural resources of the sea-bed and subsoil, in particular measures for preventing accidents and dealing with emergencies, ensuring the safety of operations at sea, and regulating the design, construction, equipment, operation and manning of such installations or devices;
  \item pollution from other installations and devices operating in the marine environment, in particular measures for preventing accidents and dealing with emergencies, ensuring the safety of operations at sea, and regulating the design, construction, equipment, operation and manning of such installations or devices.
  \end{enumerate}
\item [4.] In taking measures to prevent, reduce or control pollution of the marine environment, States shall \textit{refrain from unjustifiable interference} with activities carried out by other States in the exercise of their rights and in pursuance of their duties in conformity with this Convention.
\item [5.] The measures taken in accordance with this Part shall include those necessary to protect and preserve rare or fragile ecosystems as well as the habitat of depleted, threatened or endangered species and other forms of marine life.’ (emphasis added).
\end{itemize}


\textsuperscript{58} On the need for differential treatment in the law of the sea, see e.g. Douglas Johnston, ‘Functionalism in the Theory of International Law’ (1988) 26 \textit{Canadian Yearbook of International Law} 3, 33.

\textsuperscript{59} Note that in the \textit{Deep Seabed Advisory Opinion}, the Chamber also provided controversial opinion on the treatment of developing States, holding that the principle of equality required that the same obligations apply to developing and developed States. \textit{Responsibilities and Obligations of States Sponsoring Persons and Entities with Respect to Activities in the Area (Advisory Opinion)} [2011] ITLOS 17.
circumstances. Similarly, the qualification in paragraph 3 (‘fullest possible extent’) significantly reduces the strength of the obligation. In essence, Article 194 is an obligation of best effort.\(^{60}\)

Paragraph 2 of Article 194 incorporates the no harm principle, stating that States are obliged to take all measures necessary to ensure that activities under their jurisdiction or control do not cause damage by pollution to other States. The use of the term ‘necessary’ is stronger the word ‘appropriate’ and indicates that this part of Article 194 sets a relatively high standard.\(^{61}\) However, it does not appear that the obligation contained here goes beyond what is required under customary international law. Together, paragraphs 1 and 2 of Article 194 act to moderate the conventional approach to the concept of due diligence.\(^{62}\) The qualifications (‘best practice means at their disposal’ and ‘in accordance with the capabilities’) particularly indicate that there is a high degree of flexibility and discretion for States in fulfilling this obligation.\(^{63}\) Further, in the Deep Seabed Advisory Opinion the Chamber cited Article 194(2) in the context of the ‘responsibility to ensure’ in international law.\(^{64}\) This citation provides support for the view that the principle of due diligence has become a normative standard on States for compliance with the ‘no harm’ rule.\(^{65}\)

\(^{60}\) Antoinette Hildering, Andrea M Keessen and Helena F M W van Rijswijk, ‘Tackling Pollution of the Mediterranean Sea from Land-Based Sources by an Integrated Ecosystem Approach and the Use of the Combined International and European Legal Regimes’ (2009) 5 Utrecht Law Review 80, 82.

\(^{61}\) M’Gonigle, above n 34, 195.


\(^{63}\) Ibid.

\(^{64}\) *Pulp Mills on the River Uruguay (Argentina v Uruguay)* [2010] ICJ Rep 225, [197].

Article 195 provides that States have an obligation to not transfer, directly or indirectly, damage or hazards or to transform one type of pollution into another.\textsuperscript{66} This article reflects the ‘no harm rule’ which prohibits transboundary environmental damage. The obligation to not cause transboundary harm as set out in Article 195 could be applied to the problem of climate change damage, in which greenhouse gas emissions from one State cause damage to the marine environment of another.\textsuperscript{67} Furthermore, it could be argued that the uptake of additional CO\textsubscript{2} as a mitigation action in order to reduce atmospheric concentrations would equate to the transformation of one type of pollution into another. Thus, a claimant State could rely upon Article 195 in relation to the process of ocean acidification. The findings in relation to legal exposure from these general obligations is summarised in Table 5-3 below.

\textsuperscript{66} LOSC, art 195 (Duty not to transfer damage or hazards or transfer one type of pollution into another): ‘In taking measures to prevent, reduce and control pollution of the marine environment, States shall act so as not to transfer, directly or indirectly, damage or hazards from one area to another or transform one type of pollution into another.’

\textsuperscript{67} On the application of the no harm rule of customary international law to climate change damage, see Roda Verheyen, \textit{Climate Change Damage and International Law: Prevention Duties and State Responsibility} (Leiden: Martinus Nijhoff, 2005); Roda Verheyen and Peter Roderick, Beyond Adaptation: The legal duty to pay compensation for climate change damage (WWF-UK Discussion Paper, 2008).
Table 5-3 Sources of legal exposure from general obligations in the LOSC

<table>
<thead>
<tr>
<th>Obligation</th>
<th>Article</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parties are obliged to protect and preserve the marine environment.</td>
<td>Article 192</td>
<td>Limited exposure. While Article 192 could encompass greenhouse gas emissions, it is so general that it would be difficult to prove a breach. Also, Article 192 must be balanced with the sovereign right to exploit natural resources (Article 193).</td>
</tr>
<tr>
<td>Parties shall take all measures to prevent, reduce and control pollution of the marine environment from any source.</td>
<td>Article 194</td>
<td>Limited exposure. There has been some control of greenhouse gas emissions but it would be difficult for a respondent State to show prevention or reduction. The qualifications provide a high degree of flexibility and discretion.</td>
</tr>
<tr>
<td>Parties shall act so as not to transfer, directly or indirectly, damage or hazards or to transform one type of pollution into another.</td>
<td>Article 195</td>
<td>Moderate exposure. Greenhouse gas emissions result in the transfer of damage to the marine environment of other states. Uptake of CO₂ in the oceans to mitigate atmospheric concentrations equates to the transformation of one type of pollution into another.</td>
</tr>
</tbody>
</table>

2. Marine pollution from land-based sources

The specific article that deals with land-based sources of marine pollution is Article 207. In addition, Article 213 covers enforcement as it relates to land-based sources of marine pollution. These land-based sources were given ‘prioritised treatment’ in the LOSC because they are a major source of ocean degradation. Article 207, which deals with land-based pollutant conduits, and Article 213, which concerns enforcement of controls for standards of land-based marine pollution, are both positioned first in their respective sections.

Article 207 provides that States are obliged to adopt laws and regulations to prevent, reduce and control pollution of the marine environment from land-based sources. According to Article 207, States shall endeavour to establish global and regional rules in these efforts, taking into account economic capacity and the need for economic

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68 John Warren Kindt, ‘Solid Wastes and Marine Pollution’ (1984-1985) 34 Catholic University Law Review 97. However, note that the provisions on vessel source pollution are more extensive. This is because of the extensive jurisdictional questions related to vessel source pollution.
development of developing States. Article 207 provides some examples of the land-based conduits of marine pollution, ‘including rivers, estuaries, pipelines and outfall structures’. Paragraph 4 of this article creates a mandate for States to create ‘global and regional rules, standards and recommended practices to prevent, reduce and control pollution from the marine environment from land-based sources’.

A central question is whether CO₂ emissions, for which the atmosphere is a conduit, are captured by Article 207. The inclusion of airborne particles into agreements relating to land-based sources of marine pollution has been controversial, especially in relation to the LOSC because ‘marine pollution from or through the atmosphere’ is dealt with in Article 212 separately from land-based sources. This context indicates that extending the application of Article 207 to CO₂ is likely to be problematic.

Even if Article 207 applies to CO₂ emissions, there are weaknesses within its provisions. The LOSC provisions on land-based pollution do not provide any progress on customary international law and are the weakest LOSC environmental protection provisions for a specific type of pollution. The reason for the weakness of Article

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69 Article 207: Pollution from land-based sources:
‘1. States shall adopt laws and regulations to prevent, reduce and control pollution of the marine environment from land-based sources, including rivers, estuaries, pipelines and outfall structures, taking into account internationally agreed rules, standards and recommended practices and procedures.
2. States shall take other measures as may be necessary to prevent, reduce and control such pollution.
3. States shall endeavour to harmonise their policies in this connection at the appropriate regional level.
4. States, acting especially through competent international organisations or diplomatic conference, shall endeavour to establish global and regional rules, standards and recommended practices and procedures to prevent, reduce and control pollution of the marine environment from land-based sources, taking into account characteristic regional features, the economic capacity of developing States and their need for economic development. Such rules, standards and recommended practices and procedures shall be re-examined from time to time as necessary.
5. Laws, regulations, measures, rules, standards and recommended practices and procedures referred to in paragraphs 1, 2 and 4 shall include those designed to minimise, to the fullest extent possible, the release of toxic, harmful or noxious substances, especially those which are persistent, into the marine environment.’ (emphasis added).

70 M‘Gonigle, above n 34, 194.
71 Rose, above n 47, 155.
207 is that an effective response to land-based marine pollution would require a radical restructuring of land-based industry. Under Article 207, States must take into account internationally agreed rules, standards and recommended practices and procedures. Arguably, the internationally agreed rules and standards encompass those that make up the climate regime, including the UNFCCC and the Kyoto Protocol. However, the wording ‘take account of’ suggests that States do not actually need to adopt these international rules and standards. In addition, Article 207 does not specify which rules or standards States are to take into account. Nor does it provide criteria for determining which rules of standards should be applied. In contrast, pollution from ships, dumping or seabed installations require adherence to minimum international standards established by international organisations.

Boyle has argued that Article 207 gives States ‘in effect a power to set national standards uncontrolled by any internationally agreed criteria’ and leaves ‘obedience to the duty to regulate land-based … pollution to the good faith of individual states.’ Boyle asks whether the provisions of the LOSC ‘have really provided machinery capable of giving effect to the general obligation to protect and preserve the marine environment.’ The generality of Article 207 means that it does not offer meaningful guidance to States on land-based marine pollution. It does not provide any specific content to the underlying obligation of due diligence which is found in international law.

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72 Ibid.
73 M’Gonigle, above n 34, 185.
74 Birnie, Boyle and Redgwell, above n 61, 452.
76 Ibid, 371.
Arguably, Article 207 is so general and imprecise that it is of little practical effect.\textsuperscript{79}

Article 207 also provides that State laws must minimise, to the greatest extent possible, the release of toxic, harmful or noxious substances, especially those that are persistent substances. Greenhouse gas emissions could fall within the category of ‘harmful’ substances. However, Article 207 provides a wide discretion for States to determine which substances require regulation\textsuperscript{80} and it would be difficult to prove that CO\textsubscript{2} must be dealt with under this article. Therefore, applying Article 207 to CO\textsubscript{2} emissions is likely to be a difficult task. Even if Article 207 does apply to CO\textsubscript{2} emissions, the article is weakened by its generality and offers little recourse for climate litigation. The findings in relation to legal exposure from Article 207 are summarised in Table 5-4 below.

<table>
<thead>
<tr>
<th>Obligation</th>
<th>Article</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parties shall adopt laws and regulations to prevent, reduce and control pollution of the marine environment from land-based sources.</td>
<td>Article 207</td>
<td>Limited exposure. Even if it applies, Article 207 is so general and imprecise that it is of little practical effect.</td>
</tr>
</tbody>
</table>

3. \textit{Marine pollution from atmospheric sources}

Article 212 deals with marine pollution from atmospheric sources. Article 212 provides that States shall adopt laws and regulations to prevent, reduce and control pollution of the marine environment from or through the atmosphere. Although this

\textsuperscript{78} Ibid.
\textsuperscript{80} Hassan, above n 76, 668.
article was not drafted to deal with climate change, theoretically it could be applied to greenhouse gas emissions. Carlane argued that Article 212 focuses upon atmospheric sources of marine pollution caused by air navigation and that this focus may provide little room to extend the obligation to other atmospheric sources of marine pollution. However, there is nothing in the text of Article 212 to suggest that it is restricted only to marine pollution caused by air navigation. Therefore, Article 212 could be relied upon by a claimant State seeking to apply the LOSC to the problem of climate change damage. A breach may be established where a State Party has failed to adopt laws and regulations to prevent, reduce and control such pollution. The findings in relation legal exposure from Article 212 are summarised in Table 5-5 below.

<table>
<thead>
<tr>
<th>Obligation</th>
<th>Article</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parties shall adopt laws and regulations to prevent, reduce and control pollution of the marine environment from or through the atmosphere.</td>
<td>Article 212</td>
<td>Moderate exposure. It appears that the obligation could be extended to greenhouse gas emissions.</td>
</tr>
</tbody>
</table>

4. **Obligations relating to enforcement**

Articles 213 and 235 relate to enforcement of the LOSC. Article 213 provides that States are obliged to ensure their laws and regulations adopted in accordance with Article 207 (Pollution from land-based sources) and other international rules and standards to prevent, reduce and control pollution of the marine environment from

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81 Article 212: Pollution from or through the atmosphere:

‘1. States shall adopt laws and regulations to prevent, reduce and control pollution of the marine environment from or through the atmosphere, applicable to the air space under their sovereignty and vessels flying their flag or vessels or aircraft of their registry, taking into account internationally agreed rules, standards and recommended practices and procedures and the safety of air navigation.
2. States shall take other measures as may be necessary to prevent, reduce and control such pollution.
3. States, acting especially through competent international organisations or diplomatic conference, shall endeavour to establish global and regional rules, standards and recommended practices and procedures to prevent, reduce and control such pollution.’ (emphasis added).

82 Carlane, above n 11, 287.
land-based sources are enforced.83 Article 213 is essentially an obligation to enforce; however, it relies upon the desire of each State to exert good faith regulatory efforts.84 Article 235 provides that States are responsible for the fulfilment of their commitments concerning the protection and preservation of the marine environment.85 In Article 235, the LOSC effectively avoided the issue of State responsibility by providing that States ‘shall be liable in accordance with international law.’86 However, Article 235 mandates cooperation in relation to the existing international law for the protection and preservation of the marine environment. This provides a possible link between the LOSC with the UNFCCC and Kyoto Protocol.87 Paragraph 2 of Article 235 de-emphasises State liability in preference for liability of private actors.88

5. Other commitments

There are other commitments in the LOSC which could be applied to greenhouse gas emissions. These include the obligation of States to provide notification of imminent

83 Article 213: Enforcement with respect to pollution from land-based sources: ‘States shall enforce their laws and regulations adopted in accordance with article 207 and shall adopt laws and regulations and take other measures necessary to implement applicable international rules and standards established through competent international organisations or diplomatic conference to prevent, reduce and control pollution of the marine environment from land-based sources.’


85 Article 235: Responsibility and liability:
1. States are responsible for the fulfilment of their international obligations concerning the protection and preservation of the marine environment. They shall be liable in accordance with international law.
2. States shall ensure that recourse is available in accordance with their legal systems for prompt and adequate compensation or other relief in respect of damage caused by pollution of the marine environment by natural or juridical persons under their jurisdiction.
3. With the objective of assuring prompt and adequate compensation in respect of all damage caused by pollution of the marine environment, States shall co-operate in the implementation of existing international law and the further development of international law relating to responsibility and liability for the assessment of and compensation for damage and the settlement of related disputes, as well as, where appropriate, development of criteria and procedures for payment of adequate compensation, such as compulsory insurance or compensation funds.’


87 Carlane, above n 11, 288.

or actual damage to the marine environment,\textsuperscript{89} the publication of reports on marine pollution,\textsuperscript{90} and assessment of the potential effects of harmful activities.\textsuperscript{91} Article 237 provides that past and future agreements relating to the protection and preservation of the marine environment should be implemented in a manner that is consistent with the LOSC general principles and objectives.\textsuperscript{92} This could provide a basis for arguing that the climate regime needs to be implemented in a manner that is consistent with the LOSC.

F. Compliance and enforcement

The aim of this section is to describe and explain the compliance and enforcement mechanisms of the LOSC applicable to climate change liability. The section examines the process and key procedures involved in an interstate dispute through the LOSC. The LOSC is unusual because of its compulsory jurisdiction,\textsuperscript{93} which may be an attractive feature for potential claimant States in relation to climate change damage. In addition, Parties can use other peaceful means of dispute settlement and not all matters go to binding dispute procedures.

\textsuperscript{89} LOSC, art 198.
\textsuperscript{90} LOSC, art 205.
\textsuperscript{91} LOSC, art 206.
\textsuperscript{92} Carlane, above n 11, 288.
1. **Choices of forum**

The LOSC provides four possible forums for the binding resolution of disputes. These are the International Tribunal on the Law of the Sea (ITLOS) established under Annex VI,\(^{94}\) the International Court of Justice (ICJ),\(^{95}\) an arbitral tribunal established under Annex VII,\(^{96}\) or a special arbitral tribunal established under Annex VIII.\(^{97}\) Each of these forums has authority to determine whether it has jurisdiction to hear a particular matter.\(^{98}\) The findings in a matter are binding on the Parties to the dispute and there is no scope for appeal.\(^{99}\) However, the findings are not binding on any other Parties and thus are not precedential.

The choices of forum are potentially significant in the context of prospective climate change disputes, because the Parties can choose the forum best suited to their needs in their particular dispute.\(^{100}\) Parties can predetermine their choice of forum upon ratification or any time thereafter.\(^{101}\) If all States that are Parties to the dispute are subject to the jurisdiction of a particular tribunal or court under Article 281 and the matter concerns the interpretation or application of provisions of the LOSC regarding the marine environment, that court or tribunal will be competent to deal with the


\(^{96}\) LOSC, art 287(1)(c).

\(^{97}\) LOSC, art 287(1)(d).

\(^{98}\) LOSC, art 288.

\(^{99}\) LOSC, art 296.

\(^{100}\) See generally Klein, above n 21.

\(^{101}\) LOSC, art 287.
matter.\textsuperscript{102} If there is no election of forum or the Parties have different choices, an arbitral tribunal will hear the matter.\textsuperscript{103}

The weighing up of these four forums will depend upon the individual circumstances of the Parties and the particular dispute. However, it is clear that certain forums have advantages over others. For instance, the ITLOS and ICJ are both permanent tribunals that are more likely to provide rulings that are predictable and that take into account the future implications of any case.\textsuperscript{104} The greater predictability of ITLOS and the ICJ is likely to be an advantage to any Parties involved in climate litigation.\textsuperscript{105} On the other hand, consideration of the future implications of a case may undermine the ability of claimants to bring a politically controversial issue such as climate change damage.

Establishing an arbitral tribunal under Annex VII offers Parties the opportunity to have more control over the membership of the tribunal that will hear the dispute. This is likely to be a desirable feature for all Parties involved in climate litigation because influencing the membership of the tribunal could aid either Party’s case.

The jurisdiction of the special arbitral panel is narrower than the other bodies because it is limited to specific topics. One of topics is protection and preservation of the marine environment, which could open up this choice to climate litigation. Setting up a special


\textsuperscript{103} LOSC, art 287.


arbitral tribunal under Annex VIII provides Parties with the opportunity to ensure that the members of the tribunal have specific expertise relevant to the dispute. This feature could be a particularly desirable feature for States in climate litigation given the scientific complexity of climate change and the effects of greenhouse gas emissions on oceans. Overall, none of the choices of forum clearly stands out as particularly desirable for either potential claimants or respondent States in climate litigation although each option certainly provides distinct advantages.

As at 5 August 2012, 41 Parties to the LOSC had indicated a preference for method of dispute resolution pursuant to Article 287.\textsuperscript{106} Most of these States elected ITLOS as their preferred (or equally preferred) judicial body for dealing with LOSC disputes. \textbf{Table 5-6} below lists these declarations. However, most Parties to the LOSC have not elected a preference for method of dispute resolution. In the event of non-election of preferences, the matter may only be submitted to an Annex VII arbitral tribunal.\textsuperscript{107} This table aims to illustrate the scope of forums available for parties seeking remedies for climate change damage under the LOSC.

<table>
<thead>
<tr>
<th>State Party</th>
<th>Preferred Forum(s), in Order of Preference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Angola</td>
<td>(a) ITLOS</td>
</tr>
<tr>
<td>Argentina</td>
<td>(a) ITLOS (b) Annex VIII Special Arbitration</td>
</tr>
<tr>
<td>Australia</td>
<td>(a) ITLOS/ICJ *</td>
</tr>
<tr>
<td>Austria</td>
<td>(a) ITLOS (b) Annex VIII Special Arbitration (c) ICJ</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>(a) ITLOS **</td>
</tr>
<tr>
<td>Belarus</td>
<td>(a) Annex VII Arbitration (b) Annex VIII Special Arbitration</td>
</tr>
<tr>
<td>Canada</td>
<td>(a) ITLOS/Annex VII Arbitration</td>
</tr>
<tr>
<td>Cape Verde</td>
<td>(a) ITLOS (b) ICJ</td>
</tr>
<tr>
<td>Chile</td>
<td>(a) ITLOS (b) Annex VIII Special Arbitration</td>
</tr>
<tr>
<td>Croatia</td>
<td>(a) ITLOS (b) ICJ</td>
</tr>
<tr>
<td>Denmark</td>
<td>(a) ICJ</td>
</tr>
<tr>
<td>Egypt</td>
<td>(a) ICJ</td>
</tr>
</tbody>
</table>


\textsuperscript{107}LOSCL, art 287.
<table>
<thead>
<tr>
<th>Estonia</th>
<th>(a) ICJ/ITLOS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fiji</td>
<td>(a) ITLOS</td>
</tr>
<tr>
<td>Finland</td>
<td>(a) ICJ/ITLOS</td>
</tr>
<tr>
<td>Germany</td>
<td>(a) ICJ/ITLOS</td>
</tr>
<tr>
<td>Greece</td>
<td>(a) ITLOS</td>
</tr>
<tr>
<td>Honduras</td>
<td>(a) ICJ</td>
</tr>
<tr>
<td>Hungary</td>
<td>(a) ITLOS (b) ICJ (c) Annex VIII Special Arbitration</td>
</tr>
<tr>
<td>Italy</td>
<td>(a) ITLOS/ICJ</td>
</tr>
<tr>
<td>Latvia</td>
<td>(a) ITLOS (b) ICJ</td>
</tr>
<tr>
<td>Lithuania</td>
<td>(a) ITLOS (b) ICJ</td>
</tr>
<tr>
<td>Mexico</td>
<td>(a) ITLOS/ICJ/Annex VII Special Arbitration</td>
</tr>
<tr>
<td>Montenegro</td>
<td>(a) ITLOS (b) ICJ</td>
</tr>
<tr>
<td>Netherlands</td>
<td>(a) ICJ</td>
</tr>
<tr>
<td>Nicaragua</td>
<td>(a) ICJ</td>
</tr>
<tr>
<td>Norway</td>
<td>(a) ICJ</td>
</tr>
<tr>
<td>Oman</td>
<td>(a) ITLOS/ICJ</td>
</tr>
<tr>
<td>Portugal ***</td>
<td>(a) ITLOS (b) ICJ (c) Annex VII Arbitration (d) Annex VIII Special Arbitration</td>
</tr>
<tr>
<td>Russian Federation</td>
<td>(a) Annex VII Arbitration/Annex VIII Special Arbitration</td>
</tr>
<tr>
<td>St Vincent and Grenadines</td>
<td>(a) ITLOS</td>
</tr>
<tr>
<td>Slovenia</td>
<td>(a) Annex VII Arbitration</td>
</tr>
<tr>
<td>Spain</td>
<td>(a) ITLOS/ICJ</td>
</tr>
<tr>
<td>Sweden</td>
<td>(a) ICJ</td>
</tr>
<tr>
<td>Switzerland</td>
<td>(a) ITLOS</td>
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<tr>
<td>Trinidad and Tobago</td>
<td>(a) ITLOS (v) Annex VII Arbitration</td>
</tr>
<tr>
<td>Tunisia</td>
<td>(a) ITLOS (b) Annex VII Arbitration</td>
</tr>
<tr>
<td>Ukraine</td>
<td>(a) Annex VII Arbitration/Annex VIII Special Arbitration</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>(a) ICJ</td>
</tr>
<tr>
<td>United Republic of Tanzania</td>
<td>(a) ITLOS</td>
</tr>
<tr>
<td>Uruguay</td>
<td>(a) ITLOS</td>
</tr>
</tbody>
</table>

* ITLOS/ICJ indicates that the State chose both forums and did not elect any preference between them.
** For the settlement of two specific disputes.
*** Although Portugal listed its preferences in this order, it does not appear that it has any order of preference.

Finally, under Article 298, States may declare that they do not accept the LOSC’s compulsory dispute settlement procedures in relation to certain disputes. This exception applies to, among other things, disputes in which the UN Security Council is exercising its functions under the UN Charter, unless the Security Council decides to remove the matter from its agenda or calls upon the Parties to settle it by the means provided for in the LOSC. It is possible that this exception could apply to the problem of climate change because in 2009 the UN Secretary General identified climate change as a ‘threat multiplier’ that exacerbates threats caused by other factors such as weak
institutions. At this stage the Security Council is not dealing with climate change. However, increased action by the Security Council on climate change could preclude LOSC jurisdiction where States have entered such a reservation. Table 5-7 below provides a listing of States that declared an exception in this regard. These declarations may limit the scope for litigation to be brought under the LOSC against these parties in relation to climate change damage.

<table>
<thead>
<tr>
<th>State Party</th>
</tr>
</thead>
<tbody>
<tr>
<td>Argentina</td>
</tr>
<tr>
<td>Belarus</td>
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<tr>
<td>Canada</td>
</tr>
<tr>
<td>Chile</td>
</tr>
<tr>
<td>China</td>
</tr>
<tr>
<td>Denmark (if brought before Annex VII Arbitration)</td>
</tr>
<tr>
<td>France</td>
</tr>
<tr>
<td>Nicaragua</td>
</tr>
<tr>
<td>Norway (if brought before Annex VII Arbitration)</td>
</tr>
<tr>
<td>Portugal</td>
</tr>
<tr>
<td>Korea</td>
</tr>
<tr>
<td>Russian Federation</td>
</tr>
<tr>
<td>Slovenia (if brought before Annex VII Arbitration)</td>
</tr>
<tr>
<td>Tunisia</td>
</tr>
<tr>
<td>United Kingdom</td>
</tr>
</tbody>
</table>

2. Process and procedures

States have a number of options in the event of a dispute under the LOSC, including peaceful negotiations and conciliation as compulsory non-binding processes. There are three key steps in the LOSC compulsory binding dispute settlement process: firstly, the Parties have an opportunity to agree upon a dispute settlement mechanism. Secondly, the LOSC provides rules for a Party to initiate a dispute settlement process

in the absence of an agreement between the Parties. The Parties have an overriding
commitment to resolve disputes through peaceful means\textsuperscript{111} and they are expected to
reach agreement as to the dispute settlement mechanism. If no mechanism has been
selected, the arbitral tribunal procedure under Annex VII is chosen by default.\textsuperscript{112} By
way of contrast, the climate change regime only provides a binding dispute resolution
mechanism in relation to the quantitative emission limitation and reduction obligations
(QELROs) set out in the Kyoto Protocol. As discussed in Chapter 4, the Kyoto
Protocol’s compliance regime does not foresee remedies for States experiencing
climate change damage.

3. Preliminary or provisional measures

(a) Southern Bluefin Tuna Case

The LOSC provides for preliminary or provisions measures to be granted where those
measures will prevent serious harm occurring to the marine environment or where they
will preserve the respective rights of the Parties to the dispute.\textsuperscript{113} In accordance with
Article 290(5) ITLOS may prescribe provisional measures ‘if it considers that \textit{prima facie}
the tribunal which is to be constituted would have jurisdiction and that the
urgency of the situation so requires.’ In the Southern Bluefin Tuna Case (also discussed
below in section F.4(a)), Australia and New Zealand were successful in their request
for provisional measures and obtained an order for Japan to cease catches in excess of
the total allowable catch provided for in the \textit{Convention for the Conservation of

\textsuperscript{111} LOSC, art 280.
\textsuperscript{112} LOSC, art 287(5).
\textsuperscript{113} LOSC, art 290.
Southern Bluefin Tuna (CCSBT),[114] pending the final outcome of the dispute.[115] Although the case provided an opportunity for ITLOS to establish criteria for provisional measures, the obscure wording of the decision makes it difficult to interpret ITLOS’s reasoning.[116]

New Zealand and Australia argued that the situation was urgent on the basis that the Southern Bluefin tuna (SBT) stock was at historically low levels and that low recruitment and declining parental biomass could exacerbate the situation.[117] In addition, Japan was conducting further ‘scientific’ fishing. Japan contested this issue on a number of grounds and relied upon expert scientific evidence.[118] Japan also argued that the applicants needed to show irreparability of any damage on the basis that the ‘concept is integral to both the notion of urgency and the need to preserve the rights of the Parties.’[119] Japan contended that Australia and New Zealand had failed to demonstrate irreparability. Australia and New Zealand rejected that such irreparability needed to be shown for the purposes of the LOSC.

ITLOS granted the provisional measures, stating that ‘measures should be taken as a matter of urgency to preserve the rights of the Parties and to avert further deterioration

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[115] These provisional orders were later overturned by the Arbitral Tribunal.
[116] Evans, above n 113, 7 (‘wording of the Order itself is Delphic to the point of being almost totally obscure, but thanks for the light shed by a number of separate and dissenting opinions, it is possible to identify the essence of its approach.’).
[117] ITLOS, Southern Bluefin Tuna Cases (Australia v Japan), Request for Provisional Measures (30 July 1999), para 20 [hereinafter ‘Australia’s Request for Provisional Measures’]; ITLOS, Southern Bluefin Tuna Cases (New Zealand v Japan), Request for Provisional Measures (30 July 1999), para 20 [hereinafter ‘New Zealand’s Request for Provisional Measures’].
[118] ITLOS, Southern Bluefin Tuna Cases (Australia v Japan; New Zealand v Japan), Response of the Government of Japan to Request for Provisional Measures and Counter-Request for Provisional Measures (6 August 1999), para 94, 95, 100, 105, 108 [hereinafter ‘Japan’s Response’].
of the [SBT] stock.'\textsuperscript{120} ITLOS did not refer to the concept of irreparability as a standard and thus did not take a stance on this point.\textsuperscript{121} However, in a separate opinion, Judge Laing stated his view was that ITLOS had decided not to use the irreparability standard found in other jurisprudence on the basis that ‘that “grave standard” is inapt for application in the wide and varied cases that, pursuant to [the LOSC], are likely to come before this Tribunal.’\textsuperscript{122} It appears that ITLOS relied upon the concept of appropriateness rather than irreparability which is found in ICJ jurisprudence.\textsuperscript{123} Although Article 290 of the LOSC is based upon Article 41 of the ICJ Statute, the use of the word ‘appropriate’ seems to indicate that the granting of provisional measures is more a discretionary matter for ITLOS.\textsuperscript{124}

Although ITLOS did not expressly refer to the precautionary principle, it appears that it indeed applied it to the dispute to prescribe the provisional measures.\textsuperscript{125} In particular, lack of full scientific certainty about the status of the SBT was not a reason to refuse to take action.\textsuperscript{126} However, ITLOS refused a request by Australia and New Zealand

\textsuperscript{120} Provisional Order, [80]. See LOSC, art 290(1): ‘prescribe any provisional measures which it considers appropriate under the circumstances to preserve the respective rights of the parties to the dispute or to prevent serious harm to the environment.’ ITLOS considered that Article 290(1) applied to the case: Provisional Order, [67].
\textsuperscript{121} Hayashi, above n 113, 382.
\textsuperscript{122} Provisional Order, Separate Opinion of Judge Laing, para 3.
\textsuperscript{124} Ibid, 818.
\textsuperscript{126} Freestone, above n 124, 29.
for a provisional order that the Parties must act consistently with the precautionary principle in fishing SBT pending the final outcome of the case.\footnote{127 Provisional Order, [34].}

(b) **MOX Plant Case**

In the MOX Plant Case (also discussed below), Ireland’s request for provisional measures was less successful. The MOX Plant Case concerned pollution of the Irish Sea by radioactive waste from the construction of a plant on the English coast. Ireland alleged that such activities by the United Kingdom breached Article 123, 197, 207 and 213 of the LOSC. Ireland sought provisional measures under Article 290(5) suspending construction of the proposed plant, which the UK opposed. ITLOS determined that \textit{prima facie} the conditions of Article 290(5) were met and on that basis decided that under Annex VII the arbitral tribunal had jurisdiction to determine the merits of the case.\footnote{128 ITLOS, \textit{MOX Plant, Request for Provisional Measures}, Order of 3 December 2001, available at \langle http://www.itlos.org\rangle. See Elizabeth Wall, ‘The Sellafield MOX Plant Case: An Analysis of the ITLOS’ Order on Ireland’s Request for Provisional Measures’ (2002) 5 \textit{Trinity College Law Review} 273; Chester Brown, ‘International Tribunal for the Law of the Sea: Provisional Measures Before the ITLOS: The MOX Plant Case’ (2002) 17 \textit{International Journal of Marine and Coastal Law} 267.} However, ITLOS rejected Ireland’s request on the basis that the matter was not urgent. It ruled that the United Kingdom had a duty to cooperate as a principle of marine pollution control under Part XII of the LOSC and general international law.\footnote{129 Joint Declaration of Judges Caminos, Yamamoto, Park, Akl, Marsit, Eiriksson and Jesus, para 82.}

(c) **Application to potential climate change disputes**

Thus, a claimant State seeking provisional measures as part of a climate dispute brought under the LOSC would need to demonstrate that the matter was urgent. This may be a difficult, if not impossible, task particularly in relation to impacts that are
gradual, such as ocean acidification and sea level rise. Therefore, it is unlikely that a State seeking provisional measures for a restriction on greenhouse gas emissions would be successful under the LOSC dispute settlement mechanisms. However, in order to issue provisional measures, ITLOS must consider whether there is *prima facie* jurisdiction. In particular, ITLOS may prescribe such measures in accordance with Article 290 ‘if it considers that *prima facie* the tribunal which is to be constituted would have jurisdiction and that the urgency of the situation so requires.’ The next section considers the question of jurisdiction, both in relation to preliminary and final proceedings.

4. **Jurisdiction**

Whether or not a claimant State seeks provisional measures, it will need to establish jurisdiction for the matter. The key issue facing climate litigation through the LOSC machinery is whether the possible application of other international law (especially the climate regime) precludes a finding of jurisdiction. Establishing jurisdiction under the LOSC dispute settlement processes requires consideration of past cases. Although these cases are not binding on future determinations, they are likely to be influential. There have been two cases that have dealt with this issue and again the applicant States have had mixed success. These cases are the *Southern Bluefin Tuna Case* and the *MOX Plant Case*.

(a) *Southern Bluefin Tuna Case*

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130 See generally A E Boyle, ‘Dispute Settlement and the Law of the Sea Convention: Problem of Fragmentation and Jurisdiction’ (1997) 46 *International and Comparative Law Quarterly* 37. Another environmental case where provisional measures were sought and granted is the *Nuclear Tests Cases. Nuclear Tests* (Australia v France) 1973 ICJ 99 (Interim Protection Order of 22 June) and *Nuclear Tests* (New Zealand v France) 1973 ICJ 135 (Interim Protection order of 22 June). The ICJ ordered that France should avoid atmospheric nuclear tests causing radioactive fallout in New Zealand and Australia.
Although it is rare for tribunals to decline jurisdiction, the *Southern Bluefin Tuna Case* provides a prominent example of such a declination.\(^{131}\) There were two rulings as to jurisdiction in this case, firstly by the ITLOS (‘Provisional Order’)\(^{132}\) and secondly by the Arbitral Tribunal established under Annex VII (‘Final Order’).\(^{133}\) The case concerned the CCSBT and Japan’s unilateral declaration of an ‘experimental fishing program’, which involved catches of Southern Bluefin Tuna beyond its national quota decided by the Commission of Southern Bluefin Tuna.\(^{134}\) The members of the Commission were Japan, Australia and New Zealand.\(^{135}\) New Zealand and Australia initiated proceedings under the LOSC dispute resolution procedures,\(^{136}\) and (as discussed in Section E) pending the constitution of the Arbitral Panel, sought provisional measures from ITLOS.\(^{137}\) New Zealand and Australia alleged that Japan had breached its commitments under the LOSC to conserve and manage SBT, specifically Articles 64 (highly migratory species), 116 (right to fish on the high seas) and 119 (conservation of the living resources of the high seas).\(^{138}\)

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\(^{132}\) *Southern Bluefin Tuna Cases (New Zealand v Japan; Australia v Japan) (Provisional Measures)* (1999) 38 ILM 1624 (Order of 27 August 1999) (‘Provisional Order’).


\(^{136}\) LOSC, Part XV.

\(^{137}\) Pursuant to LOSC, art 290(5).

\(^{138}\) LOSC, arts 64, 116-119.

The applicants argued that Japan had ‘failed to take required measures for the conservation and management of the living resources of the high seas, specifically SBT, and has thereby placed itself in
(i) ITLOS

Japan raised the issue of jurisdiction before ITLOS and took the position that the dispute arose under the CCSBT and not the LOSC.\textsuperscript{139} Japan argued that the dispute was a matter of science, not of law\textsuperscript{140} whereas Australia and New Zealand argued that the matter was at least partly a dispute over the interpretation and application of the LOSC commitments, and that they had both sought to reach agreement in good faith. Japan further argued that the applicants had not met the procedural requirements, provided in Article 286, for establishing jurisdiction under Part XV, section 2, of the LOSC, because they had not fully exhausted opportunities for amicable settlement procedures provided for in section 1 of that Part.\textsuperscript{141}

In its Provisional Order, ITLOS rejected Japan’s argument that the dispute was not a matter of law. ITLOS found that there was a legal dispute between the Parties on the basis that Australia and New Zealand alleged Japan was in violation of LOSC commitments and Japan denied this allegation.\textsuperscript{142} ITLOS considered that the conduct of the Parties to the CCSBT was a relevant factor to determine whether the Parties were meeting their LOSC obligations.\textsuperscript{143} ITLOS found a link between the conservation of fish stocks and the protection and preservation of the marine environment.\textsuperscript{144}

\textsuperscript{139}Japan’s Response, para 29-30.
\textsuperscript{140}Japan’s Response, para 44.
\textsuperscript{141}Japan’s Response, para 56.
\textsuperscript{142}Provisional Order, [44-45].
\textsuperscript{143}Provisional order, [48, 50].
\textsuperscript{144}Provisional Order, [70]. This was a link between Parts V and VII (fishing) with Part XII (protection and preservation of the marine environment).
ITLOS further found that the general commitments under Articles 64 and 116-199 of the LOSC appear to ‘afford a basis on which the jurisdiction of the arbitral panel might be founded.’\textsuperscript{145} ITLOS found that the commitments set out in the CSBT Convention did not exclude the rights and commitments provided in the LOSC,\textsuperscript{146} and that the CSBT Convention ‘does not preclude recourse to the procedures in Part XV, Section 2’ of the LOSC.\textsuperscript{147}

In relation to Japan’s argument that the applicants had not exhausted the amicable dispute settlement procedures under Part XV, section 1, of the LOSC, ITLOS was satisfied that Australia and New Zealand had engaged in negotiations and consultations with Japan.\textsuperscript{148} Furthermore, ITLOS held that ‘a State Party is not obliged to pursue procedures under Part XV, section 1, of the [LOSC] when it concludes that the possibilities of settlement have been exhausted.’\textsuperscript{149} Therefore, ITLOS found that the Annex VI ‘arbitral tribunal would prima facie have jurisdiction over the disputes.’\textsuperscript{150}

While ITLOS did not explicitly refer to the precautionary principle, it stated that ‘the Parties should … act with prudence and caution to ensure that effective conservation measures are taken to prevent serious harm to the stock of southern bluefin tuna.’\textsuperscript{151} Arguably, it would have been inappropriate and unnecessary for ITLOS to make any

\textsuperscript{145} Provisional Order, [52]. Article 290(5) provides that ITLOS ‘may prescribe … provisional measures … if it considers that prima facie the tribunal which is to be constituted would have jurisdiction and that the urgency of the situation so requires.’ Article 290(1) provides that ITLOS may ‘prescribe any provisional measures which is considers appropriate under the circumstances to preserve the respective rights of the parties to the dispute or to prevent serious harm to the marine environment, pending the final decision.’
\textsuperscript{146} Provisional Order, [51].
\textsuperscript{147} Provisional Order, [55].
\textsuperscript{148} Provisional Order, [56-57].
\textsuperscript{149} Provisional Order, [60].
\textsuperscript{150} Provisional Order, [62] (emphasis in original).
\textsuperscript{151} Provisional Order, [77].
finding as to the status of the precautionary principle in international law because it could not make any finding on the merits.\textsuperscript{152}

The provisional orders were imposed on all three Parties, not just Japan. The three orders were to cap the respective annual catches, a call for renewed and closer cooperation between the Parties and a call for improved relation with third States involved in order to join them in conservation efforts.\textsuperscript{153} It appears that the reason for ITLOS imposing the provisional orders on all three Parties was that, in response to a question by ITLOS, all three had stated their intention to open their respective fishing seasons on 1 September 1999 on the usual basis.\textsuperscript{154}

In accordance with Article 282, a later Arbitral Tribunal decision is acceptable if the Parties have agreed to another binding process. However, the ITLOS decision was criticised because the CCSBT does not provide for a binding decision.\textsuperscript{155} Furthermore, it may not always be clear whether a dispute settlement procedure is binding. For example, in the \textit{Qatar v Bahrain Case}, the ICJ found a binding dispute settlement procedure on very little evidence.\textsuperscript{156}

\textit{(ii) Arbitral Tribunal}

In the hearing on jurisdiction before the Arbitral Tribunal, the arguments centred on the interpretation and interaction of the dispute settlement procedures of the LOSC and


\textsuperscript{153} Provisional Order.

\textsuperscript{154} Provisional Order, Judge Treves, separate opinion, [75]. Evans argued that ITLOS’s ruling that it would allow the catch to occur ‘under agreed criteria’ (Provisional Order, [81]) conflicts with its finding of urgency. Evans, above n 113, 13.

\textsuperscript{155} Evans, above n 113, 10.

\textsuperscript{156} \textit{Maritime Delimitation and Territorial Questions Between Qatar and Bahrain (Qatar v Bahrain)} 1995 ICJ Reports 6 (15 February).
the CCSBT, particularly Article 281 of LOSC and Article 16 of the CCSBT.\textsuperscript{157} Japan was required to submit to arbitration under Article 287(3) of the LOSC as none of the Parties had accepted any specific dispute resolution procedure.

Japan argued that the dispute did not concern the interpretation or application of the LOSC and that the CCSBT was \textit{lex specialis}:

In accordance with generally accepted principles, the provisions of a \textit{lex specialis} not only specify and implement the principles of [LOSC]; they exhaust and supplant those principles as long as the implementing agreement remains in force.\textsuperscript{158}

The \textit{lex specialis} rule provides that where two treaties govern the same factual situation, the treaty governing a specific subject matter (\textit{lex specialis}) overrides the treaty which only governs general matters (\textit{lex generalis}). Japan argued that \textit{lex specialis} prevails ‘substantively and procedurally’, and that on that basis only Article 16 of the CCSBT should determine jurisdiction. In the alternative, Japan further argued that Australia and New Zealand had failed to exhaust the dispute settlement procedures provided in Article 16 of the CCSBT.\textsuperscript{159}

\textsuperscript{157} Article 281: Procedure where no settlement has been reached by the parties (LOSC):
‘If the States Parties which are parties to a dispute concerning the interpretation or application of this Convention have agreed to seek settlement of the dispute by a peaceful means of their own choice, the procedures provided for in this Part apply only where no settlement has been reached by recourse to such means and the agreement between the parties does not exclude any further procedure.’

\textsuperscript{158} Final Order, [38(a)].

\textsuperscript{159} Final Order, [39(b)].
Australia and New Zealand submitted that the LOSC dispute resolution procedures should apply alongside the CCSBT’s procedures on the basis that the dispute also concerned key commitments under the LOSC.\(^{160}\) Australia and New Zealand argued that the LOSC establishes an ‘overarching, mandatory regime for the regulation of, and resolution of disputes concerning, the law of the sea, which itself includes conservation and management of fisheries’.\(^{161}\) The applicants submitted that the CCSBT should not be held to have ‘exhausted and eclipsed the obligations’ of the LOSC\(^ {162}\) and that the principle of \textit{lex specialis} only applies where two applicable treaties appear to conflict. They further submitted that Article 311 of LOSC ‘asserts the primacy of [LOSC] over other treaties.’\(^ {163}\) The applicants argued that they had exhausted the dispute settlement procedures of the CCSBT and that any exclusion of alternative dispute settlement procedures by the CCSBT had to be express rather than

\(^{160}\) Final Order, [41(e)].
\(^{161}\) Final Order, [41(b)].
\(^{162}\) Final Order, [41(g)].
\(^{163}\) Final Order, [41(k)]. LOSC, art 311 (Relation to other conventions and international agreements):

1. This Convention shall prevail, as between States Parties, over the Geneva Conventions on the Law of the Sea of 29 April 1958.
2. This Convention shall not alter the rights and obligations of States Parties which arise from other agreements compatible with this Convention and which do not affect the enjoyment by other States Parties of their rights or the performance of their obligations under this Convention.
3. Two or more States Parties may conclude agreements modifying or suspending the operation of provisions of this Convention, applicable solely to the relations between them, provided that such agreements do not relate to a provision derogation from which is incompatible with the effective execution of the object and purpose of this Convention, and provided further that such agreements shall not affect the application of the basic principles embodied herein, and that the provisions of such agreements do not affect the enjoyment of other States Parties of their rights or the performance of their obligations under this Convention.
4. States Parties intending to conclude an agreement referred to in paragraph 3 shall notify the other States Parties through the depositary of this Convention of their intention to conclude the agreement and of the modification or suspension for which it provides.
5. This article does not affect international agreements expressly permitted or reserved by other articles of this Convention.
6. States Parties agree that there shall be no amendments to the basic principle relating to the common heritage of mankind set forth in article 136 and that they shall not be party to any agreement in derogation thereof.”
implied. Australia and New Zealand argued that Article 16 of the CCSBT did not exclude any dispute settlement procedures.\textsuperscript{164}

The decision of the Arbitral Panel identified one key issue at the centre of the dispute, that being ‘whether the dispute arises solely under the [CCSBT] or whether it also arises under the [LOSC].’\textsuperscript{165} The Arbitral Panel rejected Japan’s argument that the lex specialis principle should act to exclude the application of the LOSC, stating that there is ‘frequently a parallelism of treaties’ and that it is a ‘commonplace of international law and State practice for more than one treaty to bear upon a particular dispute.’\textsuperscript{166}

However, the Arbitral Tribunal held that wording of Article 16 of the CSBT (‘with the consent in each case of all Parties to the dispute’) acted to exclude further dispute settlement procedures on the basis that:

\begin{quote}
The intent of Article 16 is to remove dispute settlement proceedings under [the CCSBT] from the reach of the compulsory procedures of section 2 of Part XV of [LOSC], that is, to exclude the application to a specific dispute of any procedure of dispute resolution that is not accepted by all parties to the dispute.\textsuperscript{167}
\end{quote}

As there was no explicit exclusion of the LOSC dispute settlement procedures, the Arbitral Tribunal’s interpretation of the Parties’ intent was by implication. In contrast, Sir Kenneth Keith provided a separate opinion in the Arbitral Tribunal’s decision and did not find that Article 16 of the CCSBT included intention to exclude the compulsory dispute resolution procedures of the LOSC. Sir Kenneth Keith found that the LOSC

\textsuperscript{164} Final Order, [41(k)].
\textsuperscript{166} Final Order, [52].
\textsuperscript{167} Final Order, [57].
dispute resolution procedures exist ‘along with and distinct from the provisions of article 16’. Sir Keith’s opinion centred upon the wording of Article 16.1 which provides that it applies to disputes ‘concerning the interpretation or implementation of this Convention’ (emphasis added). Sir Keith argued that Article 16 does not ‘exclude means to which the parties have separately agreed in respect of disputes concerning the interpretation and application of other treaties.’ He stated that an exclusion of the LOSC dispute resolution procedures required an express wording and could not be found by implication only. Sir Keith’s reasoning offers a more restrictive interpretation of Article 16.

The decision of the Arbitral Panel has received substantial criticism. For example, Rothwell and Stephens argue that it is difficult to reconcile the object and purpose of Part XV (to establish a compulsory dispute settlement system) and the Arbitral Panel’s interpretation of Article 281 of the LOSC. Arguably, clear wording is required to exclude the LOSC procedures yet the CCSBT does not expressly provide for the exclusion of the LOSC procedures.

(b) MOX Plant Case

As discussed in Section E, the MOX Plant Case concerned a dispute between Ireland and the United Kingdom. Ireland had been concerned about radioactive discharges

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168 Final Order, [12].
169 Final Order, [16].
171 Rothwell and Stephens, above n 4, 446.
172 Ibid.
from the MOX Plant located in Sellafield, United Kingdom, being released into the Irish Sea. Ireland sought, unsuccessfully, to obtain information from the United Kingdom about the discharges. It then instituted proceedings against the United Kingdom under the LOSC. Ireland sought to obtain all information relating to the discharges by relying upon Article 9 of the Convention for the Protection of the Marine Environment of the North-East Atlantic (‘OSPAR Convention’). Article 9.2 provides that the Parties are to make available information ‘on the state of the maritime area, on activities or measures adversely affecting or likely to affect it.’ Further, Ireland alleged that the discharges contaminated its waters and therefore breached the LOSC. Ireland sought an award for the disclosure of information on the basis of the OSPAR Convention and a declaration that the United Kingdom had violated its LOSC obligations. Ireland also invoked the precautionary principle, arguing that the United Kingdom had the burden to show that no harm would eventuate from the discharges.

Ireland and the United Kingdom agreed to establish arbitral tribunals under both the LOSC and OSPAR Convention to resolve the dispute. The dispute also concerned European law, potentially triggering Article 292 of the EC Treaty and causing an overlap in jurisdiction between the two arbitral tribunals and the ECJ.

177 Ibid, 579.
In terms of the LOSC, the matter had to be submitted to an arbitration procedure in accordance with Annex VII Article 287.5 because the Parties had not commonly designated a specific dispute settlement forum. Pending the establishment of the arbitral tribunal, Ireland sought provisional measures from ITLOS under Article 290.5. As discussed in Section E, Ireland requested that the United Kingdom be ordered to suspend the authorisation of the MOX Plant or immediately take all measures to stop the operation of the MOX Plant.

(i) ITLOS

ITLOS considered jurisdiction provided under the LOSC compulsory provisional measures relating to an international dispute also covered by another international agreement (Part XV LOSC, Article 282 LOSC). It found that its jurisdiction was not prevented by Article 282 on the basis that Article 282 only applied to a dispute concerning interpretation or application of the LOSC itself, and not another agreement.\(^\text{178}\) ITLOS stated that:

\[
\text{…even if the OSPAR Convention, the EC Treaty or the Euratom Treaty contain rights or obligations similar to or identical with the rights and obligations set out in the Convention, the rights and obligations under those agreements have a separate existence from those under the Convention on the Law of the Sea.}\(^\text{179}\)
\]

Article 282 of the LOSC provides that where the Parties to a dispute concerning the LOSC are also Parties to another agreement under which they have access to binding dispute settlement procedure, that procedure shall apply, unless the Parties have agreed...
otherwise. ITLOS held that Article 282 did not apply to that dispute on the basis that it required that the dispute concerned the interpretation or application of the LOSC. ITLOS commented that ‘the dispute settlement procedures under the OSPAR Convention, the EC Treaty and the Euratom Treaty deal with disputes concerning the interpretation or application of those agreements, and not with disputes arising under the Convention’. Arguably, this more restrictive interpretation of a provision that could exclude jurisdiction is more consistent with the approach of Sir Keith than the Arbitral Tribunal’s majority decision in the Southern Bluefin Tuna Case. ITLOS made no finding regarding the precautionary principle, but stated that ‘prudence and caution require that Ireland and the United Kingdom cooperate in exchanging information concerning risks or effects of the operation of the MOX Plan…’

(ii) Arbitral Tribunal

The Arbitral Tribunal confirmed the finding of ITLOS that it had prima facie jurisdiction. However, the Arbitral Tribunal then considered whether it indeed had definite jurisdiction to solve the dispute, in the context of the United Kingdom’s objection that the European Court of Justice (ECJ) had jurisdiction in the case citing Article 292 of the EC Treaty. The Arbitral Tribunal accepted the United Kingdom’s objection and stayed the proceedings. Further, the Arbitral Tribunal requested that the

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180 Article 282 (Obligations under general, regional or bilateral agreements): ‘If the States Parties which are parties to a dispute concerning the interpretation or application of this Convention have agreed, through a general, regional or bilateral agreement or otherwise, that such dispute shall, at the request of any party to the dispute, be submitted to a procedure that entails a binding decision, that procedure shall apply in lieu of the procedures provided for in this Part, unless the parties to the dispute otherwise agree.’

181 At 49.

182 Para 89.

Parties find out whether or not the ECJ had jurisdiction before the Arbitral Tribunal would proceed with a decision on the merits.\textsuperscript{184} At about the same time, the European Commission (supported by the United Kingdom) initiated an Article 226 EC Treaty infringement procedure against Ireland for violating Article 292 of the EC Treaty and Article 193 of the Euratom Treaty.\textsuperscript{185} As a result, the LOSC proceedings of the \textit{MOX Plant Case} came to an end.

\textit{a) Application to potential climate change disputes}

Overall, the decisions in the \textit{MOX Plant Case} and \textit{Southern Bluefin Tuna Case} create uncertainty around the interpretation of Articles 281 and 282 of the LOSC. This indicates that there is a high chance of future problems for the interaction of other dispute settlement procedures and that of the LOSC.\textsuperscript{186} There are a number of ways in which these prior cases may impact determinations on jurisdiction in future climate litigation.\textsuperscript{187} Article 282 is unlikely to prevent jurisdiction. Firstly, the reasoning adopted in the \textit{MOX Plant Case} suggests that Article 282 will only exclude jurisdiction if the climate regime provided for disputes concerning the interpretation or application of the LOSC.\textsuperscript{188} Secondly, the dispute settlement procedures in the climate regime are

\textsuperscript{184} Ibid.
\textsuperscript{185} The European Commission argued that Ireland had brought the LOSC proceedings without taking due account of the fact that the EC was a party to the LOSC. The European Commission claimed that by bringing the dispute, Ireland had violated the exclusive jurisdiction of the ECJ as provided in Article 292 of the EC Treaty and Article 193 of the Euratom Treaty. It also alleged that Ireland had violated the obligation of loyal co-operation required under Article 10 of the EC Treaty and Article 192 of the Euratom Treaty. ECJ Case C-459/03, \textit{Commission v Ireland}, ECR I-4635 (2006). For an analysis of this case see C Romano, ‘Commission of the European Communities v. Ireland’ (2007) 101 \textit{American Journal of International Law} 171; N Lavranos, ‘The Scope of the Exclusive Jurisdiction of the Court of Justice’ (2007) 32 \textit{European Law Review} 83.
\textsuperscript{186} Rothwell and Stephens, above n 4, 448.
\textsuperscript{187} See generally B Mansfield, ‘Compulsory Dispute Settlement after the Southern Bluefin Tuna Award’ in A G Oude Elferink and D R Rothwell (eds), \textit{Oceans Management in the 21\textsuperscript{st} Century: Institutional Frameworks and Responses} (Leiden: Martinus Nijhoff, 2004).
not binding and so arguably Article 282 does not apply. It is likely that a respondent State would object that another institution had jurisdiction in the case citing articles of the UNFCCC or Kyoto Protocol. However, as discussed in Chapters 3 and 4, neither of these instruments provide compulsory jurisdiction of an international tribunal or court. A respondent State would not face the same opportunity that the United Kingdom had in citing the ECJ’s jurisdiction over the matter. On the other hand, if a reasonable objection could be made out, it is possible that even after *prima facie* jurisdiction is established in any preliminary proceedings, that the matter could be later stayed in a similar manner that occurred in the *MOX Plant Case*.

It is possible that if a claim was made under the LOSC process, a respondent Party may argue that the Parties have agreed to resolve their disputes with respect to climate change mitigation under the climate change regime’s dispute resolution processes. However, neither the UNFCCC nor the Kyoto Protocol contain commitments specifically related to prevention of harm to the marine environment. On the contrary, Article 4.1(d) of the UNFCCC encourages the uptake of CO₂ by oceans on the basis that they act as a greenhouse gas sink. Clearly, the UNFCCC fails to adequately deal with the threats posed by greenhouse gas emissions to the marine environment so it would be appropriate for the LOSC to apply.

Articles 13 and 14 of the UNFCCC set out the dispute resolution mechanisms for ‘the resolution of questions regarding implementation of the [UNFCCC]’ and the resolution of disputes ‘concerning the interpretation or application of the [UNFCCC]’ respectively. However, as discussed in Chapter 2, the multilateral consultative process

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described in Article 13 has not been established, none of the Parties to the UNFCCC have accepted jurisdiction of the ICJ under Article 14 and the COP has not established arbitration or conciliation procedures that were called for in Article 14. Therefore, it is evident that the Parties to the UNFCCC have not established dispute resolution mechanisms. On the other hand, it could be argued that the threat of damage to the marine environment is caused by the lack of implementation of the UNFCCC and that the UNFCCC remains *lex specialis*. On this basis, the overlap between the lack of implementation of UNFCCC and associated damage to the marine environment will provide a barrier to claimants in establishing jurisdiction.

Another issue is likely to be interpretation of Article 14 UNFCCC and its requirement that ‘Parties shall seek a settlement of the dispute by negotiation or any other peaceful means of their own choice’ (emphasis added). In particular, the LOSC dispute settlement mechanism provides for Parties to unilaterally initiate proceedings in a forum of their choosing, but not necessarily the choosing of all Parties to the dispute. However, the use of the word ‘their’ in Article 14 of the UNFCCC suggests that agreement is needed between the Parties if any other peaceful means of dispute resolution are to be utilised. Therefore, a unilateral initiation of proceedings in the LOSC would be inconsistent with Article 14 of the UNFCCC.

It is on this issue that the decision of the Arbitral Tribunal in the *Southern Bluefin Tuna Case* could come to bear. There is a similarity between Article 14 of the UNFCCC and Article 16 of the CCSBT. Neither of these articles explicitly excludes the LOSC dispute settlement procedures but arguably does so by implication. The majority’s view in the *Southern Bluefin Tuna Case* was that this implicit exclusion was sufficient to prevent jurisdiction, whereas in his separate opinion Sir Keith found that such
exclusion required express wording. There is no certainty as to which way a tribunal would decide on this issue. However, it is likely that jurisdiction would be refused on this basis.

A tribunal would need to consider whether the principle of *lex specialis* applied. If a tribunal accepted that the principle of *lex specialis* applies to the climate change regime, this may mean that it supplants and exhausts the principles of the LOSC. On this issue, Article 237 (discussed in Section D) provides that past and future agreements relating to the protection and preservation of the marine environment should be implemented in a manner that is consistent with the LOSC general principles and objectives.\(^{190}\) This means that the LOSC and climate regime should apply in parallel and conflict should be avoided.

However, it must be determined whether there is a conflict between the LOSC and the climate regime, either in terms of substance or procedure. A conflict refers to the incompatibility of two legal norms, whereby the fulfilment of one results in the breach of another.\(^{191}\) On one hand, the UNFCCC, the Kyoto Protocol and the LOSC are all designed to protect the environment from damage. Arguably, if the UNFCCC and Kyoto Protocol were fully implemented, damage to the marine environment would be reduced. Yet as was previously discussed, there is also an apparent conflict in the substance of the UNFCCC and the LOSC in so far as the UNFCCC classifies the oceans as carbon sinks that should be utilised to uptake greenhouse gas emissions (CO\(_2\) in particular). This issue provides one basis upon which to argue that there is in fact a conflict between the LOSC and the UNFCCC and that the *lex specialis* rule must

\(^{190}\) Carlane, above n 11, 288.

\(^{191}\) See Wolfrum and Matz, above n 15, 6.
apply. However, if the wording of obligations is vague, as is the case with the UNFCCC, a conflict is less likely because it is not clear whether the two legal norms are incompatible. Vagueness could allow the tribunal or court to interpret the UNFCCC in a way that ensures harmonisation. There is vagueness in Article 4.1(d) of the UNFCCC because it places an obligation upon States Parties to promote and cooperate in the conservation and enhancement of oceans as sinks ‘as appropriate’. This wording provides some scope for a tribunal or court to find that appropriateness would require harmonisation between the UNFCCC and LOSC. However, it is not clear that this would resolve the substantive conflict because the classification of the oceans in the UNFCCC would remain as ‘sinks’.

In addition, there is clearly a conflict between the procedures provided in the climate regime and the LOSC. As discussed above, Article 14 of the UNFCCC requires Parties to reach agreement as to what peaceful means of dispute resolution are to be utilised. In contrast, the LOSC provides compulsory binding dispute processes that can be utilised at the initiation of one Party only. This again creates a need to apply the lex specialis rule.

Nonetheless, there is some scope for a claimant to utilise the lex specialis rule to their advantage. In particular, a claimant State could focus upon the discrete issue of ocean acidification and frame this problem as primarily a problem of marine pollution. From this perspective, the LOSC is the more specialised treaty, through its general commitments and specific commitments dealing with the various sources of marine pollution. It may be argued that the UNFCCC is concerned with greenhouse gas concentrations in the atmosphere and not with the problem of ocean acidification. This

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192 Wolfrum and Matz, above n 15, 10.
approach, which is further considered in Chapter 7, may provide one way for claimants to establish jurisdiction under the LOSC dispute settlement procedures. However, such a matter is still likely to face exclusion due to the *lex specialis* rule and the problem that the UNFCCC classifies the oceans as a sink. The findings of Sections E and F in relation to legal exposure from the dispute settlement procedures of the LOSC are summarised in Table 5-8 below.

Table 5-8 Exposure to legal risk from dispute settlement procedures for the LOSC

<table>
<thead>
<tr>
<th>Avenue</th>
<th>Authority</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>ITLOS</td>
<td>Annex VI</td>
<td>Moderate exposure. Jurisdiction may be established <em>prima facie</em> for provisional measures. However, definite jurisdiction would be more difficult to establish because of the <em>lex specialis</em> rule and the substantive and procedural conflicts between the LOSC and climate regime.</td>
</tr>
<tr>
<td>ICJ</td>
<td>Section 2, Part XV</td>
<td>Low exposure. Jurisdiction would be difficult to establish because of the <em>lex specialis</em> rule and the substantive and procedural conflicts between the LOSC and climate regime.</td>
</tr>
<tr>
<td>Arbitral tribunal</td>
<td>Annex VII</td>
<td>Low exposure. Jurisdiction would be difficult to establish because of the <em>lex specialis</em> rule and the substantive and procedural conflicts between the LOSC and climate regime.</td>
</tr>
<tr>
<td>Special arbitral tribunal</td>
<td>Annex VIII</td>
<td>Low exposure. Jurisdiction would be difficult to establish because of the <em>lex specialis</em> rule and the substantive and procedural conflicts between the LOSC and climate regime.</td>
</tr>
</tbody>
</table>

G. Conclusion

There are advantages for potential claimant States in seeking to rely upon the obligations to protect and preserve the marine environment under the LOSC. The due regard provisions of the LOSC would allow a tribunal to look at the interests of all Parties in the dispute, including the interests of the claimant State in protecting the marine environment from greenhouse gas emissions. The obligations contained in the LOSC are relevant to the threats posed to oceans from greenhouse gas emissions, both in terms of the general obligations and the specific commitments related to marine pollution from land-based sources and atmospheric sources.
However, there are weaknesses in the LOSC commitments. The general obligation contained in Article 194 of the LOSC is heavily qualified and provides a high degree of flexibility and discretion for States in fulfilling it. The specific commitments relating to land-based sources and atmospheric sources would require proof that greenhouse gas emissions are somehow captured by these commitments. It is reasonable to conclude that greenhouse gas emissions are captured by Article 207 as a form of land-based pollution. However, the substance of Article 207 is undermined by its generality and lack of precision. It is not clear what rules and standards should be applied to land-based pollution and States are only required to ‘take account of’ these rules and standards. It appears that Article 212 could be extended to apply to greenhouse gas emissions as a form of pollution of the marine environment from or through the atmosphere. This article requires State Parties to adopt laws and regulations to prevent, reduce and control such pollution.

Finally, it will be difficult to establish jurisdiction in any litigation brought under the LOSC dispute settlement procedures. There are a number of conflicts between the LOSC and the climate regime, both in terms of substance and procedure. Respondent States will be able to rely upon the Southern Bluefin Tuna Case and the lex specialis rule to argue that the climate regime excludes application of the LOSC. There may be some scope for rebutting these arguments by focusing upon the discrete issue of ocean acidification which concerns the uptake of CO$_2$ by the oceans on the basis that ocean acidification falls outside of the scope of the UNFCCC. The prospects of such an approach are considered further in Chapter 7.
6. STATE RESPONSIBILITY

A. Overview

The previous chapters examined three treaties under which a claim for climate change damage may be brought, namely the UNFCCC, the Kyoto Protocol and the LOSC. These are the ‘primary’ standards of duty related to climate change under international treaty law. This chapter will analyse the secondary rules of attribution and responsibility under international law. These rules, which set out the legal consequences for breaches of international law, are the ‘secondary’ rules that flow from a breach responsibility relevant to climate change.¹

State responsibility was originally established in the 1925 Spanish Zone of Morocco Case where it was held that rights necessarily attract responsibility, and that all international rights involve international responsibility.² Responsibility refers to the establishment of answerability of a State for the breach of international law.³ Although

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² Spanish Zone of Morocco Claims (United Kingdom v Spain) (1925) 2 RIAA 615, 641: ‘Responsibility is the necessary corollary of a right. All rights of an international character involve international responsibility. If the obligation is not met, responsibility entails the duty to make reparations.’

international organisations and individuals have a limited amount of legal personality under international law, it is States who bear the primary responsibility for breaches of international legal rules.\textsuperscript{4} States are unable to act without the actions of individuals, such as politicians, military officers, police and judges. Thus, there are international legal rules for attributing the behaviour of individuals to the State.

States generally do not wish to bring cases against other States; as a result there are few cases that involve State responsibility.\textsuperscript{5} However, there are a number of prominent cases in which States have sought reparation or compensation for the breach of international law.\textsuperscript{6} Although this area of international law is particularly underdeveloped, the ICJ has repeatedly stated that the notion of State responsibility is integral to international law itself.\textsuperscript{7}

The key questions that this chapter seeks to examine in relation to legal exposure for climate change damage under international law are presented in Table 6-1 below.

\begin{flushleft}
\textsuperscript{5} See e.g. ICJ cases Gabčíkovo-Nagymaros Project (Hungary v Slovakia) [1997] ICJ Rep 7; La Grand, Land and Maritime Boundary (Cameroon and Nigeria) [1998] ICJ Rep 275; Aerial Incident of 10 Aug 1999 (Pakistan v India) [2000] ICJ Rep 1038.
\textsuperscript{6} Case concerning the Barcelona Traction Case, Light and Power Company (Belgium v Spain) [1970] ICJ Rep 4, 33, and Corfu Channel Case (United Kingdom v Albania) [1949] ICJ 4.
\end{flushleft}
Table 6-1 Key questions to determine legal exposure under the rules of attribution and responsibility

<table>
<thead>
<tr>
<th>Topic area</th>
<th>Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standing</td>
<td>Is there scope to establish standing in international climate litigation?</td>
</tr>
<tr>
<td>Attribution</td>
<td>Can the acts of private corporations and individuals be attributed to a respondent State?</td>
</tr>
<tr>
<td></td>
<td>Can individual States be allocated attribution for climate change damage when there is a responsibility for a collective failure?</td>
</tr>
<tr>
<td>Causation</td>
<td>Can factual causation be established for climate damage?</td>
</tr>
<tr>
<td></td>
<td>Can legal causation be established for climate damage?</td>
</tr>
<tr>
<td>Allocation of responsibility</td>
<td>On what basis can responsibility for climate change damage be allocated where there are multiple wrongdoers?</td>
</tr>
<tr>
<td>Defences</td>
<td>Are there any defences that may preclude liability?</td>
</tr>
<tr>
<td>Remedies</td>
<td>If a case is successful, what remedies may be available for a claimant State?</td>
</tr>
</tbody>
</table>

Part B of this chapter provides a definition and introduction of State responsibility. Part C examines international law as it pertains to standing. Part D considers the rules of attribution and imputability in international law and how these rules can be applied to the problem of climate change damage. Part E examines causation and considers how the two parts of causation could be applied to climate change damage (causation in fact and legal causation). Part F examines the standard of proof that should apply to international climate change cases. Part G assesses the various approaches to allocating responsibility when there are multiple wrongdoers. Part H examines possible defences and Part I assesses available remedies. Part J concludes and summarises the chapter.

The issues of attribution (Part D) and responsibility (Part G) are conceptually separate but remain linked. Attribution is concerned with the physical pathway or factual questions of State responsibility, whereas responsibility or liability is concerned with questions of legal allocation of responsibility to provide a remedy. Thus, these two linked topics are dealt with separately in this chapter.

B. State responsibility

The breach of an international legal obligation will generally lead to the establishment of State responsibility. State responsibility is a term of art which is equivalent to
international tort law.\(^8\) A prerequisite for bringing a claim based upon State responsibility is access to an international court or tribunal with compulsory jurisdiction,\(^9\) the prospects of which were discussed in Chapters 2 to 5. States have not developed the area of State responsibility,\(^10\) particularly in relation to international environmental law. The reason behind this appears to be because of the need of States to protect sovereign interests. It is impossible to avoid all transboundary impacts and States do not want to create precedents that will work against them.\(^11\)

However, the International Law Commission (ILC)\(^12\) has developed Draft Articles on State Responsibility (‘ILC Draft Articles’).\(^13\) While these are not binding\(^14\) the authority of the ILC Draft Articles has been confirmed by the ICJ.\(^15\) These secondary rules are only triggered once breach and harm have occurred.\(^16\) Draft Article 1 provides the key principle of State responsibility which arises in the event of an internationally wrongful act.\(^17\) The principle in Draft Article 1 is both a rule of customary international


\(^10\) Much of the law of State responsibility originated in disputes concerning the treatment of States to the nationals of other States. As a result, many of the rules require a bond of nationality. However the emergence of international human rights law has diminished the importance of nationality. Hall, above n 1, 164.

\(^11\) Guruswamy, above n 8, 835.

\(^12\) For a history of the ILC work on international environmental law see Roda Verheyen, Climate Change Damage and International Law: Prevention Duties and State Responsibility (Leiden: Martinus Nijhoff, 2005), 228 ff.

\(^13\) ILC Draft Articles.


\(^15\) Application of the Convention on the Prevention and Punishment of the Crime of Genocide (Bosnia and Herzegovina v Serbia and Montenegro) [2007] ICJ Rep 91, 233-35. The ICJ found that Draft Articles 4 and 8 were a codification of customary international law (at 283-84, 287).

\(^16\) Guruswamy, above n 8, 837.

\(^17\) ILC Draft Articles, art 1 (Responsibility of a State for its internationally wrongful acts): ‘Every internationally wrongful act of a State entails the international responsibility of that State.’
law and a general principle of law.\textsuperscript{18} States are responsible for breach of treaty or customary international law.\textsuperscript{19} Brownlie states that one can regard responsibility ‘as a general principle … a concomitant of substantive rules and of the supposition that acts and omissions may be categorised as illegal by reference to the rules establishing rights and duties.’\textsuperscript{20} In the 1980 Rainbow Warrior Case, the Arbitral Tribunal noted that ‘any violation by a State of any obligation, of whatever origin, gives rise to State responsibility.’\textsuperscript{21}

The phrase ‘internationally wrongful act’ refers to the breach of international law. Draft Article 2 defines the concept of internationally wrongful act as an action or omission that is attributable to the State under international law; and constitutes a breach of an international obligation of the State.\textsuperscript{22} There is no need to prove damage in the definition of an internationally wrongful act.\textsuperscript{23} Thus, the establishment of an internationally wrongful act requires two elements to be present. First, the conduct must be attributable to the State and second, there must be a breach of an international obligation. Draft Article 12 provides that ‘[t]here is a breach of an international obligation by a State when an act of that State is not in conformity with what is required of it by that obligation, regardless of its origin or character.’

\textsuperscript{18} Hall, above n 1, 165.
\textsuperscript{21} Rainbow Warrior Case (New Zealand v France) (1990) 20 RIAA 217.
\textsuperscript{22} ILC Draft Articles, art 2 (Elements of an internationally wrongful act of a State):
‘There is an internationally wrongful act of a State when conduct consisting of an action or omission:
(a) Is attributable to the State under international law; and
(b) Constitutes a breach of an international obligation of the State.’
\textsuperscript{23} Verdier, above n 3, 858.
The two elements of an internationally wrongful act are also identified in customary international law and the decisions of international tribunals. For example, in *United States Diplomatic and Consular Staff in Tehran*,\(^{24}\) the ICJ stated that to establish State responsibility in the case:

First, it must determine how far, legally, the acts in question may be regarded as imputable to the Iranian State. Secondly, it must consider their compatibility with the obligations of Iran under treaties in force or under any other rules of international law that may be applicable.\(^{25}\)

International courts and tribunals generally do not look at questions of intent by States.\(^{26}\) The ILC Draft Articles do not contain anything on the question of fault. There is some support for the idea that fault (intention or negligence) is required.\(^{27}\) The element of fault is especially found in cases relating to a failure to protect the interests of foreign States from the acts of private persons.\(^{28}\) It has been argued that the ICJ’s inquiry into Albania’s knowledge of the laying of mines in the *Corfu Channel Case* provides authority for the requirement of fault.\(^{29}\) Indeed, the dissenting judgments of Krylov and Ečer in this case clearly provide that there is a need to prove intention or negligence.\(^{30}\)

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\(^{25}\) At para 56.

\(^{26}\) Brownlie, *Principles of Public International Law*, above n 20, 251.

\(^{27}\) See *The Home Frontier and Foreign Ministry Society Case (United States v United Kingdom)* (1920) 6 RIAA 42, 44 (‘It is a well established principle of international law that no Government can be held responsible for the act of rebellious bodies of men committed in violation of its authority, where it is itself guilty of no breach of good faith, or of negligence in suppressing the insurrection.’)

\(^{28}\) See e.g. the *Iloilo Claims (United Kingdom v United States)* (1925) 6 RIAA 158. Also see *Mecham Case (United States v Mexico)* (1929) 4 RIAA 440, 443; *Neer Case (United States v Mexico)* (1926) 4 RIAA 60, 61.


\(^{30}\) *Corfu Channel Case (United Kingdom v Albania)* [1949] ICJ 4, 72 (Dissenting Opinion of Judge Krylov); 128 (Dissenting Opinion of Judge Ečer).
However, the dominant view is that there is no need to prove intention or negligence unless this is required by the primary rule.\textsuperscript{31} In the \textit{Corfu Channel Case} knowledge by Albania was required to determine the primary rule (that is, the duty to notify States of the existence of the mines).\textsuperscript{32} Similarly, Crawford has commented that ‘[i]f the primary rules require fault (of a particular character) or damage (of a particular kind) then they do; if not then not.’\textsuperscript{33} Thus, the need to examine knowledge is derived from the primary rule, not any secondary rule of State responsibility. Fault (intent or negligence) is not required unless the primary rule specifically requires fault.\textsuperscript{34}

In sum, the establishment of State responsibility requires proof of an internationally wrongful act. There are two elements to be established. First, that the conduct is an act or omission attributable to the respondent State under international law. Second, that the act or omission constitutes a breach of an international obligation. The second element requires consideration of the primary standards of duty, as are provided in the UNFCCC, Kyoto Protocol and the LOSC.

\textbf{C. Standing}

The establishment of standing is a necessary element of international litigation.\textsuperscript{35} The International Law Commission (ILC) has suggested that there are five categories of

\begin{itemize}
  \item\textsuperscript{32} Brownlie, \textit{System of the Law of Nations}, above n 14, 12.
  \item\textsuperscript{33} James Crawford, ‘Revising the Draft Articles on State Responsibility’ (1999) 10(2) \textit{European Journal of International Law} 435.
  \item\textsuperscript{35} See generally, René Lefeber, \textit{Transboundary Environmental Interference and the Origin of State Liability} (Martinus Nijhoff Publishers, 1996); Kathy Leigh, ‘Liability for Damage to the Global Commons’ (1992) 14 \textit{Australian Yearbook of International Law} 129, 148-49. See e.g., \textit{South West Africa Cases (Ethiopia v South Africa; Liberia v South Africa)} [1966] ICJ 6 (although the League of
\end{itemize}
standing. \(^{36}\) Firstly, an injured State has standing (i.e., when an obligation owed to a State is breached). \(^{37}\) Secondly, a specially affected State has standing where the obligation is owed to either to all States or a group of States including that State. \(^{38}\) Thirdly, a State has standing where it has been injured and the breach affects all States concerned. \(^{39}\) In all three of these categories, the complaining State is an injured State. The injured State must show that it has suffered a violation of its rights under international law \(^{40}\) and that it has an individualised interest in the matter such that it can bring its own case. \(^{41}\)

There are two other categories of standing recognised by the ILC, which are in essence forms of public interest standing. \(^{42}\) These are where the obligation concerns the protection of the collective interests of a group of States, including the claimant, \(^{43}\) or where the obligation is owed to all States (\textit{erga omnes}). \(^{44}\) These final two categories

\(^{36}\) ILC Draft Articles, arts 42, 48; See James Crawford, \textit{The International Law Commission’s Articles on State Responsibility} (2000), 254-60, 276-80.


\(^{38}\) ILC Draft Articles, art. 42(b)(i). The example given by the ILC is pollution of the high seas under Art 194 LOSC. Although the obligation is owed to Parties to the LOSC specific coastal States are especially impacted: ILC Commentary to art 42(b)(i) of the Articles on States Responsibility.

\(^{39}\) ILC Draft Articles, art. 42(b)(ii).

\(^{40}\) See \textit{South West Africa Case (Second Phase)} (Ethiopia v South Africa; Liberia v South Africa) [1966] ICJ 32-33, 47 (The ICJ did not recognise the legal rights of Ethiopia and Liberia).


\(^{42}\) They allow any state to bring a case \textit{actio popularis} or \textit{actio pro societate}. See Rüdiger Wolfrum, ‘Means of Ensuring Compliance With & Enforcement of International Environmental Law’ (1998) 272 \textit{Recueil des Cours} 9, 99.

\(^{43}\) Art. 48(1)(a).

are essentially forms of public interest standing. They allow any State to bring a case *actio popularis* or *actio pro societate*.\(^{45}\) It could be argued that in such cases, the claimant acts for both itself and States Parties to the subject instrument.\(^{46}\)

However, the ICJ was not open to allowing an *actio popularis* in the *Nuclear Tests Cases*\(^{47}\) for enforcement of high seas freedom.\(^{48}\) More recently the Seabed Disputes Chamber of ITLOS found that the obligations to protect the environment of the high seas are *erga omnes* or obligations held by all and owed to the whole world.\(^{49}\) The Chamber cited Article 48 of the Draft Articles and provided support for essentially an *action popularis* in international environmental law. This finding by the Seabed Disputes Chamber conflicts with the ICJ’s ruling in the *Nuclear Tests Case*, but is consistent with the ILC categories. The ILC has recognised these public interest categories may not be recognised by customary international law.\(^{50}\) Yet even if these categories exist under international law, standing established under one of the public interest categories would provide the claimant State with only limited access to

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\(^{45}\) See Rüdiger Wolfrum, ‘Means of ensuring compliance with and enforcement of international environmental law’(1998) 272 *Recueil des Cours* 9, 99: ‘[I]n multilateral environmental treaties the State Parties of the respective regimes have established a community with the intention to collectively achieve the objective of the said regime. Non-compliance with these commitments endangers the very existence of this community. A state party invoking non-compliance of another member of that community hence defends its own rights in the preservation of the said community and thus indirectly the community itself.’


remedies.\textsuperscript{51} It would be able to claim cessation\textsuperscript{52} but to have access to reparations the claimant State would need to show damage to its interests.\textsuperscript{53} States must also be injured in order to apply countermeasures.\textsuperscript{54}

D. Attribution and imputability in international law

According to the principle of sole responsibility, a State is only responsible for its own acts or omissions; it is not responsible for the acts or omissions of private persons.\textsuperscript{55} The rationale behind this rule is that the vast majority of private persons are not expressly or implicitly authorised to act on their State’s behalf\textsuperscript{56} and that States should not be responsible for the acts of other actors (e.g. other States). However, imputability in international law refers to the attribution of a particular act by a physical person, or a group of physical persons, to a State whereby that act is considered its own.\textsuperscript{57}

There are two principal aspects of attribution in the allocation of State responsibility in the context of climate change damage. First, can the acts of private corporations and individuals be attributed to a respondent State? Second, can individual States be


\textsuperscript{52} ILC Draft Articles, art 48(2).


\textsuperscript{54} ILC Draft Articles, art 49, Art 54. See also Martii Koskenniemi, ‘Solidarity Measures: State Responsibility as a New International Order?’ (2001) 72 \textit{British Yearbook of International Law} 337.

\textsuperscript{55} Janes Claim (US v Mexico) [1926] IV RIAA 82, 208 ff.

\textsuperscript{56} Hall, above n 1, 167.

\textsuperscript{57} Bin Cheng, \textit{General Principles of Law as Applied by International Courts and Tribunals} (Cambridge: Cambridge University Press, 2006), 180-181. Also see \textit{German Interests Case} (Merits) (1926), A. 7, 169: ‘under international law, apart from any convention, in order that a State may incur responsibility it is necessary that an unlawful international act be imputed to it, that is, that there exist a violation of a duty imposed by an international juridical standard.’
allocated attribution for climate change damage when there is a responsibility for a collective failure?

1. Attribution of the acts of private corporations and individuals to States

Generally, international law does not attribute the acts of non-State actors to a State. Draft Article 4 provides that only the acts or omissions of State organs or agents are attributable to the State. Draft Article 5 refers to the conduct of persons or entities exercising elements of government authority. There are some State owned entities (e.g. power companies, coal companies) that could fall within Draft Article 4. Some of these public entities may be primarily governed by private law with some public functions governed by public law. A functional assessment is required to determine whether the conduct of such entities is attributable to the State.

The issue for cases concerning climate change damage is that most of the acts are those of private corporations and individuals. Climate change is not the result of a deliberate act to cause harm, but is the cumulative effect of routine social and economic activities such as burning coal, having livestock and driving cars. It is a side effect of activities that are essential to modern life. None of those acts are international or domestic crimes. There is no prohibition on driving vehicles or operating factors and power

59 See Maffezini Award on Merits (Maffezini v Spain) [2000] ICSID Case No ARB/97/7.
plants. Generally these acts are not attributable to States. Further, it is virtually impossible to attribute the conduct of a transnational corporation to a State.\textsuperscript{62}

ILC Draft Article 8 provides that for an act to be attributed to a State, it must be shown that the State has exercised ‘effective control’ over the activities conducted by the private persons.\textsuperscript{63} Draft Article 8 implies that once an activity has been licensed, it is deemed to be under that State’s control. However, proving attribution under Draft Article 8 is difficult because it requires a direct agency relationship between the State and the private person.\textsuperscript{64} For instance, the ILC provided the example of a State owned and controlled enterprise and explained that \textit{prima facie} the conduct would not be attributable unless the enterprise was exercising elements of government authority within the meaning of Draft Article 5.\textsuperscript{65} Therefore, exceptional circumstances would be required for the conduct of a private corporation to be attributed to a State under Draft Article 8. It would be necessary to show explicit control and direction exercised by the State.\textsuperscript{66}

The \textit{Trail Smelter Arbitration} is sometimes cited as a decision in which attribution was established for a private corporation to a State. In the \textit{Trail Smelter Arbitration}, the matter concerned a company owning the smelters that had its place of business and

\begin{footnotes}
\item[62] See Guruswamy, above n 8.
\item[63] ILC Draft Articles, art 8. See also the \textit{Deep Seabed Advisory Opinion}; French, above n 55, 538-539. The Chamber noted that the ‘responsibility to ensure’ is relied upon in international law as a compromise between the two extremes of not attributing any State responsibility for private behaviour and holding a State responsible for all violations by private actors.
\item[64] Guruswamy, above n 8, 213.
\item[65] ILC Draft Articles.
\item[66] This view was confirmed in the \textit{Application of the Convention on the Prevention and Punishment of the Crime of Genocide (Bosnia and Herzegovina v Serbia and Montenegro)} [2007] ICJ Rep 91, 286, 287 (‘effective control’). Also see \textit{Military and Paramilitary Activities (Nicaragua v United States)} 1986 ICJ 14, 110. Also see \textit{Prosecutor v Dusko Tadic Case} No IT-94-1-A, ICTY App. Ch. 15 July 1999.
\end{footnotes}
was registered in Canada. The dispute was governed by a treaty between the US and Canada. The Tribunal ruled that the:

Dominion of Canada is responsible in international law for the conduct of the Trail Smelter. Apart from the undertakings in the Convention, it is therefore, the duty of the Government of the Dominion of Canada to see to it that this conduct should be in conformity with the obligation of the Dominion under international law as herein determined.

One interpretation of this ruling is that the Tribunal found attribution both through the Convention and under customary international law. However, it appears that the Tribunal’s reference to ‘undertakings in the Convention’ is in fact a reference to the undertakings relating to payment of certain sums of money and obligation to implement the Tribunal’s order. Thus, the Trail Smelter Arbitration does not provide support for the attribution of a private corporation’s conduct to a State.

Another approach is to examine whether the acts of private entities can be attributed to the State by its failure to exercise due diligence to prevent their commission of an internationally wrongful act. The law of State responsibility recognises that a State

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68 *Convention Between the United States of America and the Dominion of Canada Relative to the Establishment of a Tribunal to Decide Questions of Indemnity and Future Regime Arising from the Operation of Smelter at Trail, British Columbia, United States – Canada*, 15 April 1935, 49 Stat 3245.
70 Guruswamy, above n 8, 218.
has a duty to exercise due diligence in the control of private persons.\textsuperscript{72} If a State fails to exercise such due diligence, it will be responsible for the resulting acts.\textsuperscript{73} Furthermore, ILC Draft Article 11 provides that if a State acknowledges or adopts the conduct of private persons, those acts will be attributed to it.\textsuperscript{74}

While the ILC Draft Articles are not binding, Draft Articles 8 and 11 are reflective of international case law. The ICJ has considered attribution by omission in a number of cases, including the \textit{Corfu Channel Case},\textsuperscript{75} the \textit{Tehran Hostages Case}\textsuperscript{76} and the \textit{Nicaragua Case}.\textsuperscript{77} Furthermore, Judge Shahabuddeen (dissenting opinion) applied the principle of due diligence implicitly in the \textit{Nauru Case 1992}. The \textit{Nauru Case} concerned the exploitation of phosphate mines and the resulting destruction of Nauru’s land. The phosphor was exploited under the administration of Australia, the UK and New Zealand under the 1919 \textit{Nauru Island Agreement}.\textsuperscript{78} The \textit{Nauru Island Agreement} provided that the phosphate mines were to be exploited without government intervention or regulation. Judge Shahabuddeen argued that State responsibility should

\textsuperscript{72} See the findings in the \textit{Youmans Claim (US v Mexico)} \[1926\] IV RIAA 110; \textit{Jones Claim (US v Mexico)} \[1925\] IV RIAA 82; \textit{Massey Claim (US v Mexico)} \[1927\] IV RIAA 155. See also Brownlie, \textit{System of the Law of Nations}, above n 14, 162.
\textsuperscript{73} Brownlie, \textit{Principles of Public International Law}, above n 20, 436-8.
\textsuperscript{74} ILC Draft Articles, art 11.
\textsuperscript{75} The ICJ also confirmed the principle of due diligence in \textit{Legality of the Threat or Use of Nuclear Weapons (Advisory Opinion)} \[1996\] ICJ 226. However, it did not explicitly refer to due diligence.
\textsuperscript{76} \textit{Military and Paramilitary Activities in and Against Nicaragua (Nicaragua v United States) 1986 ICJ 14}, 62-65.
\textsuperscript{77} \textit{Nauru Island Agreement}, Australia-New Zealand-United Kingdom, signed 2 July 1919. Also see \textit{Agreement Between the Government of Australia, the Government of New Zealand and the Government of the United Kingdom of Great Britain and Northern Ireland to Terminate the Nauru Island Agreement of 2 July 1919}, Australia-New Zealand-United Kingdom, opened for signature 9 February 1987, PITSE 8 (entered into force 9 February 1987).
arise on the basis that it was not possible to imagine a major industry operating beyond the competence of the administrative and legislative powers of the State.\textsuperscript{79}

The Seabed Disputes Chamber of ITLOS also provided support due diligence in the \textit{Deep Seabed Advisory Opinion}.\textsuperscript{80} The main question considered by the Chamber was what obligations a sponsoring State had to ensure that a sponsored contractor meets its own commitments in relation to activities in the Area. The Chamber noted that the ‘responsibility to ensure’ is relied upon in international law as a compromise between the two extremes of not attributing any State responsibility for private behavior and holding a State responsible for all violations by private actors.\textsuperscript{81} While the Chamber acknowledged that there was not a precise definition of due diligence under international law, it provided guidance on the rule.\textsuperscript{82}

The Chamber identified a number of elements of the obligation of due diligence. First, it noted that ‘measures considered sufficiently diligent at a certain moment may become not diligent enough in light … of new scientific or technological knowledge.’\textsuperscript{83} Thus, the level of due diligence changes as the general state of knowledge changes. Upon this basis, an obligation of due diligence may have materialised over time as the science of climate change became clearer and more certain. Second, the nature of the obligation of due diligence also depends upon the nature of the risks and the nature of the activities undertaken.\textsuperscript{84} Thus, the very serious risks of climate change indicate that the standard of due diligence may be particularly

\textsuperscript{80} Responsibilities and Obligations of States Sponsoring Persons and Entities with Respect to Activities in the Area (Advisory Opinion) [2011] ITLOS 17.
\textsuperscript{81} See discussion in Duncan French, above n 55, 538-539.
\textsuperscript{82} At [117].
\textsuperscript{83} At [117].
\textsuperscript{84} At [117]: ‘[t]he standard of due diligence has to be more severe for the riskier activities.’
high for States. This element is consistent with the precautionary principle, which the Chamber stated ‘is an integral part of the due diligence of sponsoring states which is applicable even outside the scope of the regulations.’

Due diligence requires that the State prevent conduct which, if the State was the actor, would breach an international obligation it holds. ILC Special Rapporteur Rao noted that while it is not always possible to prohibit risky activities that are important for economic development, ‘States are under an obligation to authorise them only under controlled conditions and under strict monitoring while discharging their duty of prevention of transboundary harm.’ It is possible to look at several acts or omissions and view this conduct collectively as composite conduct.

The standard for due diligence is a subjective one, whereas the standard for positive acts is generally objective. The omission of the State must be willful and linked to the injury (a subjective standard). In the Trail Smelter Arbitration, strict liability was applied (an objective standard). Some commentators have argued for strict liability

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85 Also see David Freestone, ‘Advisory Opinion of the Seabed Disputes Chamber of International Tribunal for the Law of the Sea on “Responsibilities and Obligations of States Sponsoring Persons and Entities With Respect to Activities in the Area”’ (2011) 15(7) American Society of International Law Insights.
86 Smith, above n 19, 36.
88 Smith, above n 19, 10.
89 F V Garcia Amador, ‘State Responsibility: Some New Problems’ (1958) 94(2) Académie de Droit International de la Haye: Recueil des Cours 365, 388 (‘For instance, in cases of omissions relating to acts of private individuals, the subjective element is so closely linked to the wrong imputable to the organ or official that, if it would not exist, no imputation could be made. In this sense, malicious or culpable negligence constitutes by itself the wrongful omission. On the other hand, in cases of positive acts and even of some omissions which originate the direct responsibility of the State, the subjective elements (culpa or dolus) that might be found behind the conduct of the organ or official play, if any, a very small role; that is to say, fall into the background.’
90 Christenson, above n 71, 361.
to be applied to environmental harm.\textsuperscript{92} However, this is not accepted in international law.\textsuperscript{93} There is nothing to suggest that there is strict liability for environmental damage.\textsuperscript{94}

Importantly, under this approach the substance of the duty is left to the primary rules of international law. Furthermore, it is difficult to understand the concept of an omission without the primary rules.\textsuperscript{95} The primary rules cover many subjects and issues, including environmental law, the law of neutrality, security of foreign States and their representatives and the international protection of human rights.\textsuperscript{96} Due diligence is sometimes expressed as a principle\textsuperscript{97} but also as a standard. But through either formulation, due diligence establishes a general normative framework through which States are required to adopt affirmative measures to prevent and punish internationally wrongful conduct.\textsuperscript{98}

The success of attribution of an omission depends upon an explicit international obligation to act.\textsuperscript{99} States are required to implement laws and policies to meet their international obligations. However, there is no liability for conduct that complies with these obligations. In order to determine whether omission is attributable to a State, it

\textsuperscript{92} See e.g. Handl, above n 91, 525.
\textsuperscript{93} Ibid, 535-53.
\textsuperscript{95} Christenson, above n 71, 329.
\textsuperscript{98} Tzevelekos, above n 71, 179.
\textsuperscript{99} Christenson, above n 71, 360.
is necessary to ask: ‘Have those in control of the State objectively failed to take action required to meet an international obligation?’

In the *Deep Seabed Advisory Opinion*, the Chamber of ITLOS considered the question of legal responsibilities and obligations of a state sponsoring seabed exploration and mining in accordance with Article 139(1) and Article 4(4) of the LOSC. The text of this obligation contained the word ‘obligation to ensure’. The Chamber held that this is an obligation of conduct rather than result, meaning that States Parties are not required to obtain the contractor’s compliance in every case. The Chamber’s interpretation of this obligation is similar to the obligation of due diligence and conduct found by the ICJ in the *Pulp Mills Case*. The Chamber noted that although it is difficult to describe due diligence in precise terms there are a number of key elements. The Chamber noted that ‘measures considered sufficiently diligent at a certain moment may become not diligent enough in light … of new scientific or technological knowledge.’ Thus, the level of due diligence changes as the general state of knowledge changes. This is important in the context of climate change damage because the state of knowledge of the process and its associated affects have increased over time.

As was argued in Chapter 3, the UNFCCC does not provide any primary rules that could be relied upon by a claimant State. The obligations are too vague to provide the basis of a claim. Similarly, Chapter 5 argued that there is little scope for relying upon the obligations contained in the LOSC because of difficulties in applying these primary rules to greenhouse gas emissions. On the other hand, Chapter 4 found that the Kyoto

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100 Christenson, above n 71, 315.
102 Paragraph 117.
Protocol provides specific and clear obligations for Annex B Parties to reduce their greenhouse gas emissions in the period 2008-2012 (QELROs). Thus, the QELROs provide a primary rule requiring positive action by Annex B Parties that would be subject to due diligence. If emissions of a State exceed its specific QELRO target, it may be held liable for those additional emissions, even if they have been sourced from private persons. ¹⁰³

There are a range of factors for tribunals and courts to consider in such matters. First, the feasibility of effective State action needs to be determined. If no reasonable degree of diligence could have prevented the event, the State will not be responsible.¹⁰⁴ However, if effective action could have been undertaken the State will be held responsible.¹⁰⁵ This element could be a potential barrier for claimant States because arguably the occurrence of climate change damage could not have been prevented by one State reducing its emissions. On the other hand, it is within the control of a State to reduce its own emissions through regulation. Many of these activities are subject to government regulation and licensing, including the transport and electricity industries. Presumably, it is within the scope of Annex B Parties to reduce their greenhouse gas emissions to meet their QELRO targets.

¹⁰⁴ See e.g. The Kummerow, Redler and Co, Fulda, Fishbach, and Friedericky Cases (Germany v Venezuela) (1903) 10 RIAA 369, 400.
¹⁰⁵ See e.g. Corfu Channel Case (United Kingdom v Albania) [1949] ICJ 4; United States Diplomatic and Consular Staff in Tehran (United States v Iran) [1980] ICJ 3.
The second factor is the foreseeability of conduct by private persons. The test involves a hybrid of subjective and objective considerations. In the context of climate change damage, the conduct of private persons would generally be foreseeable through an understanding of economic projections and development approvals which are core government activities. Third, an examination of the interests at stake should be undertaken. The response needs to be proportional to the nature of the threat. The threat of climate damage is very high, with a high degree of scientific certainty of irreversible and catastrophic impacts predicted. Therefore, it is reasonable to conclude that a State that fails to meet its QELRO target could be held responsible for a failure of due diligence.

2. **Attribution to individual States with responsibility for a collective failure**

The principle of sovereignty implies that a State is not responsible for the acts of another State. An act is generally only attributed to one actor at a time. The Commentary to the ILC Draft Articles provides that in principle attribution is determined on an individual basis and is an exclusive operation. However, there are a number of scenarios in which a form of shared attribution could arise. In Ago’s Third Report, he gave the example of where the acts of the organ of a State have been put to

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106 See e.g. *Home Insurance Co Case (United States v Mexico)* (1926) 4 RIAA 48, 52 (suddenness of the revolt made protection impossible).

107 Smith, above n 19, 40 (‘the diligence of the State will be considered in light of its particular capacities and practices; if however, its conduct falls below an international standard, responsibility will nevertheless lie.’). Also see Pierre Dupuy, ‘Due Diligence in the International Law of Liability’ in OECD, *Legal Aspects of Transfrontier Pollution* (Paris: OECD, 1977), 375-6.

108 See e.g. *Spanish Zone of Morocco Claims (United Kingdom v Spain)* (1925) 2 RIAA 615, 644.


110 See e.g. *HN v Netherlands* (Ministry of Defence and Ministry of Foreign Affairs), First Instances Judgment of 10 December 2008, District Court of the Hague, ILDC 1092 (NL 2008), [47-49]. However, the Court of Appeal found that one act could both be attributed to the Netherlands and the United Nations. See *Nuhanović v Netherlands*, Gerechtshof, 5 July 2011, LJN BR 0133.

the disposal of another State. Mr Roberto Ago stated that such a situation would require the tribunal or court to ‘ascertain in each particular instance on whose behalf and by whose authority a specific act or omission has been committed.’

Thus, in Ago’s opinion the determination of individual attribution remains paramount.

On the other hand, the ILC explained that if two States set up a common organ then the conduct of that organ can be attributed to both of the States concurrently. The ILC has also recognised that two separate acts, attributable to different actors, can result in a single injury. Conduct can be attributed to two or more actors simultaneously.

It is also possible for separate conduct to result in a single injury.

In the Behrami Case, the European Court of Human Rights considered issues of multiple attribution and plural responsibility. However, it seemed to rule out the possibility of attribution to more than one entity. In this case, the responsible States were Parties to the European Convention on Human Rights and had human rights

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113 Ibid.
114 Report of the International Law Commission on the work of its forty-eight session (Draft Articles on State Responsibility with Commentaries thereto adopted by the ILC on its first reading) UN Doc. A/51/10 (1996), para 2 of the commentary to art 27 (‘the conduct of the common organ cannot be considered otherwise than as an act of each of the States whose common organ it is. If that conduct is not in conformity with an international obligation, then two or more States will concurrently have committed separate, although identical, internationally wrongful acts.’)
115 See e.g. ILC Draft Articles on Responsibility of International Organisations, UN Doc. A/CN.4/L.778 (2011), art 19 (‘This Chapter is without prejudice to the international responsibility of the State or international organisation which commits the act in question, or of any other State or international organisation.’).
118 Behrami and Behrami v France and Saramati v France, Germany and Norway (dec) nos 71412/01 and 78166/01 Eur. Ct. HR 2007 (joint admissibility decision).
obligations for the peace operation of the United Nations in Kosovo.\textsuperscript{121} The court found that the troops’ actions and omissions were attributable to the UN, not the respondent States.\textsuperscript{122} It stated that the UN Security Council ‘retained ultimate authority and control and that effective command of the relevant operational matters were retained by NATO.’\textsuperscript{123} Therefore, the court struck out the \textit{Behrami Case} for incompatibility \textit{ratione personae}, finding a lack of person jurisdiction over the UN because it was not a Party to the \textit{European Convention on Human Rights}. The court’s decision seemed to ‘imply that those same acts and omissions [were] not attributable to the member States themselves.’\textsuperscript{124}

It is difficult to reconcile the \textit{Behrami Case} with the \textit{ILC Draft Articles on Responsibility of International Organisations} which provides for findings of multiple attribution.\textsuperscript{125} However, the case occurred before Draft Article 47 of the \textit{ILC Draft Articles on Responsibility of International Organisations} was drafted and there may have been a different result if the court had the opportunity to consider Draft Article 47. Draft Article 47 explicitly allows for plurality of responsibility.\textsuperscript{126} Draft Article 6

\begin{itemize}
  \item \textsuperscript{121} The security presence was established by SC Res 1244, UN SCOR, 4011\textsuperscript{th} mtg, UN Doc S/RES/11244 (10 June 1999).
  \item \textsuperscript{122} \textit{Behrami and Behrami v France} and \textit{Saramati v France, Germany and Norway} (dec) nos 71412/01 and 78166/01 Eur. Ct. HR 2007 (joint admissibility decision), 141, 144.
  \item \textsuperscript{123} \textit{Behrami and Behrami v France} and \textit{Saramati v France, Germany and Norway} (dec) nos 71412/01 and 78166/01 Eur. Ct. HR 2007 (joint admissibility decision), 140.
  \item \textsuperscript{124} Pierre Bodeau-Livinec et al, ‘Agim Behrami and Bekir Behrami v France; Ruzhid Saramati v France, Germany and Norway’ (2008) 102 \textit{American Journal of International Law} 323, 326.
  \item \textsuperscript{125} Bell, above n 119, 527.
  \item \textsuperscript{126} \textit{ILC Draft Articles on Responsibility of International Organisations}, art 47 (Plurality of responsible States or international organisations):
  \begin{enumerate}
    \item Where an international organisation and one or more States or other organisations are responsible for the same internationally wrongful act, the responsibility of each State or international organisation may be invoked in relation to that act.
    \item Subsidiary responsibility, as in the case of draft article 61, may be invoked insofar as the invocation of the primary responsibility has not led to reparation.
    \item Paragraphs 1 and 2:
      \begin{enumerate}
        \item Do not permit any injured State or international organisation to recover, by way of compensation, more than the damage it has suffered;
        \item Are without prejudice to any right of recourse that the State or international organisation providing reparation may have against the other responsible States or international organisations.’
      \end{enumerate}
  \end{enumerate}
\end{itemize}
leaves open the possibility of multiple attribution. Furthermore, the ILC’s Commentary on Draft Articles 5 to 8 provides further recognition that multiple attribution may be found:

Although it may not frequently occur in practice, dual or even multiple attribution of conduct cannot be excluded. Thus, attribution of a certain conduct to an international organisation does not imply that the same conduct cannot be attributed to a State, nor does *vice versa* attribution of conduct to a State rule out attribution of the same conduct to an international organisation.

In addition, the European Court of Human Rights distinguished the *Al-Jedda Case* from the *Behrami Case* when faced with similar questions of attribution. In the *Al-Jedda Case*, Mr Al-Jedda alleged that he was detailed by British troops in Iraq in breach of Article 5.1 of the *European Convention on Human Rights*. The court found that the acts were attributable to the United Kingdom and distinguished the case on the basis that the United Kingdom had entered Iraq without a UN Security Council mandate whereas the international security presence in Kosovo had been established by UNSC Resolution 1244. The court held that the authorisations provided in UNSC Resolutions after the invasion by the United Kingdom did not preclude attribution.

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127 *ILC Draft Articles on Responsibility of International Organisations*, art 6 (Conduct of organs or agents placed at the disposal of an international organisation by a State or another international organisation):

‘The conduct of an organ of a state or an organ or agent of another international organisation shall be considered under international law an act of the latter organisation if the organisation exercises effective control over that conduct.’


129 *Al-Jedda v United Kingdom* [2011] ECHR 1092 (7 July 2011). See also *Al-Skeini & Ors v United Kingdom* [2011] ECHR 1093 (7 July 2011) where the United Kingdom was estopped from relying upon arguments of attribution because it did not raise these before the national court.


Thus, the status of the Behrami Case is not entirely clear and it may not be relied upon to prevent a finding of attribution where there are multiple actors.

While there is scope for multiple attribution to be found under international law, the most difficult scenario to establish attribution is where different conduct results in the commission of the same internationally wrongful act.\(^{133}\) This is the case for climate change damage whereby greenhouse gas emissions from across the world contribute to the occurrence or risk of climate change. The multilateral nature of climate change makes the pinpointing of States almost impossible.\(^{134}\) Furthermore, plaintiffs who bring cases with a multiplicity of wrongdoing actors are at risk of being unable to identify the specific acts of the States to establish attribution, as occurred in the Saddam Hussein Case.\(^{135}\) In this case, Hussein brought a case against 21 EU member States over the invasion of Iraq yet he was unable to identify the specific acts of the States to establish attribution (also discussed in Section G.1 below).

The problem of multiple attribution is likely to be a formidable barrier for any claims seeking to rely upon obligations of a shared nature in the UNFCCC and LOSC. For example, if a claimant State sought to rely upon Article 4.2 of the UNFCCC, arguing that the respondent State had failed to modify long term trends of greenhouse gas emissions, it would be virtually impossible to pinpoint individual State conduct that resulted in a breach. A similar problem relates to many of the LOSC commitments which in the context of climate change damage would be generic in application.

\(^{133}\) Nollkaemper and Jacobs, above n 115, 73.

\(^{134}\) See generally Guruswamy, above n 8, 834.

\(^{135}\) See e.g. Hussein v Albania, Bulgaria, Croatia, Czech Republic, Denmark, Estonia, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, The Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Turkey, Ukraine and the United Kingdom (dec), no. 23276/04. ECHR 2006.
On the other hand, a case alleging a breach by the respondent State of its QELRO target would likely be able to distinguish sufficiently the State’s relevant omission that has resulted in the excess emissions. Although Article 3.1 of the Kyoto Protocol is based upon collective action it also differentiates individual State responsibility which could form the basis of attribution in a case. Therefore, the problem of multiple attribution is dependent upon whether the primary rule provides scope for such attribution. The highest legal exposure in this regard is found in Article 3.1 of the Kyoto Protocol, which allocates individual State obligations as part of collective action. However, it is possible that the problems of multiple attribution may be overcome if an appropriate method of apportioning responsibility is identified and applied (see Section G below).

E. Causation

Causation is required for claims seeking reparations. Establishing causation under international law is a complex task.\(^{136}\) Causation requires the establishment of a causal link, which means that the injury results from and is ascribable to the wrongful act.\(^{137}\) Causation may be categorised into general and specific causation.\(^{138}\) General causation refers to the establishment of a causal link between an activity (i.e., GHG emissions) and a general outcome (i.e., climate change). In contrast, specific causation refers to establishing a causal link between a specific activity and a specific outcome.\(^{139}\)


\(^{137}\) Ibid.


Claimant States will face considerable obstacles in attempting to prove causation for climate change damage.\textsuperscript{140} Climate change is a complex process that is associated with both historical and current or recent factors. These factors include natural climate change processes, the general contribution of multiple actors (not all of which may be Party to the litigation) and the specific contribution of the respondent State. Furthermore, the process of climate change and its relationship to the resulting damage is generally not clearly understood. Although the science of climate change on a global scale is fairly certain, drawing conclusions about specific or even regional impacts is a more difficult task. Nonetheless, scientific models are less useful for establishing specific causation. These challenges manifest both in relation to causation in fact and legal causation.\textsuperscript{141}

\textit{a) Causation in fact}

Causation in fact refers to determining whether a defendant’s wrongful act is an actual cause of the plaintiff’s damage.\textsuperscript{142} There are two main approaches to factual causation: the deterministic approach\textsuperscript{143} (including the ‘but for’ test or \textit{sine qua non} test\textsuperscript{144}) and

\\[\text{References}\]

140 Joseph Smith and David Shearman, \textit{Climate Change Litigation: Analysis of the law, scientific evidence and impacts on the environment, health and property} (Adelaide: Presidian Legal Publications, 2006), 107 (‘Establishing legal causation in climate change actions – that is, proving that a defendant’s actions caused the harm suffered by the plaintiff – will pose the greatest obstacle for a majority of plaintiffs.’).

141 Ibid; Peter Cashman and Ross Abbs, ‘Liability in Tort for Damage Arising from Human-Induced Climate Change’ in Rosemary Lyster (ed), \textit{In the Wilds of Climate Law} (Bowen Hills: Australian Academic Press, 2010).

142 David Bederman, ‘Contributory Fault and State Responsibility’ (1990) 30 Vanderbilt Journal of International Law 335, 349 (Factual causation ‘requires a determination of whether the state’s wrongful act or omission constituted a necessary link in the chain of circumstances leading to the claimant’s injuries.’)


144 The act is an indispensable condition for the damage to have occurred (\textit{conditio sine qua non}).
probabilistic approach. Both approaches require proof of general and specific causation.

1. Deterministic approach

The ‘but for’ test or *sine qua non* test is a deterministic approach to factual causation commonly used by both domestic courts and international tribunals. The test emerges from common law tort jurisprudence. The ‘but for’ test asks ‘but for the defendant’s act, would the harm have occurred?’ Or alternatively: the act is an indispensable condition for the damage to have occurred (*conditio sine qua non*). The ‘but for’ test is best applied when all the facts relevant to the dispute are available and easily assessed.

Many authors have argued that it is virtually impossible to establish causation for climate change damage when the ‘but for’ test is applied particularly in relation to specific causation. Climate science has a reasonably high degree of certainty that *global* sea level rise and certain other impacts can be attributed to climate change. Similarly, there is strong evidence that anthropogenic CO₂ is driving *global* ocean acidification. Furthermore, climate change litigation at the national level indicates that courts are becoming increasingly receptive towards climate change science.

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In NSW, it must be determined whether the negligence was a ‘necessary condition of the occurrence of the harm’: *Civil Liability Act 2002* (NSW), see 5D(1)(a).


147 Ibid, 634.

148 See e.g. Grossman, above n 138, 24.


150 See e.g., *Massachussets v. E.P.A.*, 549 U.S. 497, 521 (2007). For example, the Court rejected the unscientific idea that other environmental pollutants do not share common ground with greenhouse gas emissions. Lisa Heinzerling, ‘Thrower Keynote Address: The Role of Science in *Massachusetts v. EPA*’
Establishing specific causation would be a more difficult task. However, it is possible that the problems associated with establishing specific causation may be overcome by the fact that, in international law before international tribunals, it would be States bringing the litigation rather than individuals. States have longer lifespan than individuals and their interests may cover large areas. This increased scope of time and space should allow the aggregation of effects and make the process of establishing causation easier. Specifically, it should be easier for a State to establish causation for a large number of extreme weather events over an extended period that have caused widespread damage to the State, rather than one farmer attempting to establish causation for a single extreme weather event that caused damage to his or her land.

However, the ‘but for’ test would also require proof that without the respondent State’s emissions, the damage that the claimant State suffered would not have occurred. This test is poorly suited to climate change because the processes are cumulative. No one State is responsible for the phenomenon. Thus, it would be difficult to satisfy a deterministic approach to causation for specific causation. In such situations it is generally necessary to consider an alternative test of factual causation to the ‘but for’ or the sine qua non test.

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2. Probabilistic approach

The ‘but for’ test is often replaced with more flexible tests in national courts for matters that concern mixed sources of causation.\textsuperscript{154} For example, in \textit{Fairchild v Glenhaven} (2002)\textsuperscript{155} the House of Lords held that if damage has been caused by one of two defendants and both have breached the duty of care owed to the plaintiff, but that the science was not sufficient to determine which defendant’s breach had caused the harm, both of the defendants will be liable. Such an approach requires consideration of whether the defendant’s conduct has caused a ‘material increase in risk’\textsuperscript{156} or made a ‘material contribution’ to the harm.\textsuperscript{157} Therefore, one approach to causation in international climate change litigation could be to consider whether the respondent State’s conduct has caused a material increase in risk for the occurrence of harm.\textsuperscript{158} This probabilistic approach to causation would be better suited to the problem of climate change because no one State’s greenhouse gas emissions are the cause.\textsuperscript{159}

There is also some support for such a probabilistic approach in international case law. Specifically, the \textit{Nuclear Tests Cases} concerned alleged damage caused to Australia


The \textit{Civil Liability Act 2002} (NSW) provides that in ‘determining an exceptional case, in accordance with established principles, whether negligence that cannot be established as a necessary condition of the occurrence of harm should be accepted as establishing factual causation, the court is to consider (amongst other relevant things) whether or not and why responsibility for the harm should be imposed on the negligent party.’: sec 5D(2).

\textsuperscript{155} [2002] UKHL 22.


\textsuperscript{156} \textit{Bonnington Castings Ltd v Wardlaw} [1956] UKHL 1; [1956] AC 613. Also see \textit{Strong v Woolworths Ltd} [2012] HCA 5.


\textsuperscript{158} See ibid; But see Smith and Shearman, above n 140, 112. See also, Miriam Haritz, \textit{An Inconvenient Deliberation: The Precautionary Principle’s Contribution to the Uncertainties Surrounding Climate Change Liability} (Alphen aan den Rijn, Kluwer Law International, 2011).
and New Zealand by France’s testing of nuclear weapons in the South Pacific.\textsuperscript{160} In its pleadings, Australia contended that any additional exposure to radioactive contamination, no matter how small, substantially contributed to the risk of radiation-related injuries.\textsuperscript{161} Although the ICJ did not decide on this point in the case, Australia’s reasoning is relevant to potential international climate litigation.\textsuperscript{162} According to this approach, the appropriate question is ‘Did the respondent State’s contribution cause additional exposure to the damage suffered?’\textsuperscript{163} This test could be adapted in light of domestic tort law to ask whether the respondent State’s acts have caused a ‘material increase in risk.’\textsuperscript{164}

On the other hand, the move to a probabilistic model of causation may not resolve the difficulties in proving causation for climate change. These probabilistic theories are complex and are at risk of creating a ‘viciously circular’ approach to causality.\textsuperscript{165} Furthermore, climate change has a multitude of contributing causes, rather than a handful or less that is typical of tort cases decided in national courts. It may be that no individual State’s conduct would meet a threshold of ‘material increase in risk’. For example, the obligation of Annex B Parties to meet their QELRO targets (Article 3.1 of the Kyoto Protocol) has been previously identified as the possible basis of a claim. However, the wrongful conduct in such a scenario would only be the excess emissions of the State beyond their QELRO target. The increased risk of harm created by these specific emissions is unlikely to be of a ‘material’ nature when viewed in the context

\begin{footnotesize}
\textsuperscript{160} Nuclear Tests Cases (Australia v France) [1974] ICJ 253; (New Zealand v. France) [1974] ICJ 457.
\textsuperscript{161} Nuclear Tests Cases (Australia v France) [1974] ICJ 253, 500 (Oral arguments on Jurisdiction and Admissibility).
\textsuperscript{162} This approach is also found in German criminal law (not civil law) where a person will be held ‘responsible for an increase in risk which then materialises into damage’. Verheyen, above n 12, 255.
\textsuperscript{164} See e.g., Fairchild v Glenhaven (2002) [2002] UKHL 22 at [12].
\textsuperscript{165} Smith and Shearman, above n 140, 113.
\end{footnotesize}
of world emissions or even the historic emissions of the respondent State itself. Therefore, while a probabilistic approach to causation is better suited to the problem of climate change, such an approach is unlikely to resolve issues of causation. This further reduces the legal exposure of respondent States to possible international climate litigation.

3. Legal causation

Legal causation refers to the notion that a causal relationship can be established between a particular wrongful act and a particular damage. Legal causation is focused upon the question of whether a person should be held responsible for a particular damage. In essence, legal causation asks ‘Is there any principle which precludes the treatment of Y as the consequence of X for legal purposes?’ It would be absurd to be responsible for every factual causally linked consequence indefinitely. In this sense, causation under the law is a social construct for attributing responsibility and is used to limit liability.

There is no explicit test for causation under the ILC Draft Articles. The Commentary to Draft Article 31 observes that ‘[i]n international as in national law, the question of remoteness of damage “is not a part of the law which can be satisfactorily solved by search of a single verbal formula.”’ However, the leading test of legal causation is

See e.g. Civil Liability Act 2002 (NSW), sec 5D(1): (“that it is appropriate for the scope of the negligent person’s liability to extend to the harm so caused (“scope of liability”).). Also see Civil Law (Wrongs) Act 2002 (ACT), s 45; Civil Liability Act 2003 (Qld), s 11; Civil Liability Act 1936 (SA), s 34; Wrongs Act 1958 (Vic), s 51; Civil Liability Act 2002 (WA), s 5C.
168 Hart and Honoré, above n 173, 110.
the proximate cause or foreseeability test\textsuperscript{171} which has been applied by a number of international tribunals.\textsuperscript{172} There are two elements in proximate causation, namely: natural sequence and foreseeability.\textsuperscript{173}

(a) Natural sequence

First, the consequences that flow from the wrongful conduct should be normal from an objective standpoint.\textsuperscript{174} The proximate cause test requires an objective consideration of whether there was a ‘natural sequence’ between the conduct and damage.\textsuperscript{175} To determine what is the normal consequence of an act, tribunals may refer to usage, customs and the laws of States. They may also look to science.\textsuperscript{176}

The current state of climate science would likely establish that the process of climate change is a natural and normal consequence of anthropogenic GHG emissions. It may

\textsuperscript{171} See Dix Case (US v Venezuela) [1903] 9 RIAA 119, 121; Brownlie, System of the Law of the Nations, above n 14, 224; Cheng, above n 63, 251. Other tests include the substantial factor test (See e.g., Restatement (Second) of Torts ss. 431, 432, 465 (1965); Woodyear v. Schaeffer, 57 MD 1, 9 (Md. 1881)) and the scope of the rule approach (Verheyen, above n 12, 302).

\textsuperscript{172} See Dix Case (US v Venezuela) [1903] 9 RIAA 119, 121, Garcia Amador, Yearbook ILC 1982, Vol II, 41; Brownlie, System of the Law of the Nations, above n 14, 224; Cheng, above n 63, 251 ff. The US-German Commission has explained the proximate cause rule as follows: ‘The proximate cause of the loss must have been in legal contemplation of the act by Germany. The proximate result or consequence of that act must have been the loss, damage, or injury suffered’ Administrative Decision No. II, VII RIAA 23 at 29 f. Also see David Bederman, ‘Contributory Fault and State Responsibility’ (1990) 30 Vanderbilt Journal of International Law 335, 349 (Proximate causation ‘involves analysis of whether the claimant’s injury was a foreseeable consequence of the state’s act or omission.’)

\textsuperscript{173} Also see Cheng, above n 63, 245; decision of the United States-Venezuelan Mixed Claims Commission in Frances Irene Roberts Case (US v Venezuela) (1903) Ven.Arb., 142.

\textsuperscript{174} Cheng, above n 63, 245. See, e.g. Provident Mutual Life Insurance Company and Others (United States v Germany) [1924] VII RIAA 91,103. Some tribunals have equated the principle of proximate causality with that of normal consequence. E.g. the Greco-German Mixed Arbitral Tribunal in the Antippa (The Spyros) Case (Greece v Germany) (1926) 7 TAM 23 stated that: ‘According to principles recognised both by municipal and by international law, the indemnity due from one who has caused injury to another comprises all loss which may be considered as the normal consequence of the act causing the damage’: 28. (Italics of the tribunal).

\textsuperscript{175} Cheng, above n 63, 245; Provident Mutual Life Insurance Company and Others (United States v Germany) [1924] VII RIAA 91, 113. Also see James A. Beha, Superintendent of Insurance of the State of New York, as Liquidator of Norske Lloyd Insurance Company Ltd, for American Policymakers (US v Germany) [1928] VIII RIAA 55, 56.

\textsuperscript{176} See e.g. Maninat Case (France v Venezuela) (1905) 10 RIAA 55, 77. The Commission relied upon medico-legal authority to determine the ‘natural and proximate cause’ of the injury.
be more difficult to show that the specific damages suffered by a claimant State are the natural and normal consequence of the respondent State’s greenhouse gas emissions. However, the fact that all greenhouse gas emissions contribute to climate change damage could be used to support a finding that there is a natural sequence between the wrongful conduct and the specific damage suffered by a claimant State.

(b) Foreseeability

Second, the element of foreseeability has been applied in a number of international cases. For example, when the proximate cause test was applied by the Eritrea-Ethiopia Claims Commission in relation to a conflict between Eritrea and Ethiopia in 1999-2000, the Commission focused upon the element of foreseeability. Applying foreseeability, the Commission found that it was ‘or clearly should have been foreseeable that these military operations would result in Ethiopian casualties and damage to Ethiopian civil property.’ Foreseeability has also been considered in a

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177 Hart and Honoré, above n 173, 230 ff. Samoan Claims Case (Germany v Great Britain and US) [1902] IX RIAA 1963, 15. This case concerned damages payable to German nationals due to activities by British and US officials. MS., U.S. Department of State, National Archives, 210 Despatches, Great Britain, Ambassador Choate to Secretary Hay, August 18, 1904, No. 1429, enclosure. Cited in Cheng, above n 63, 249-250.

In national jurisdictions see e.g. Overseas Tankship (UK) Ltd v Morts Dock & Engineering Co Ltd (The Wagon Mound No 1) [1961] AC 388; Beavis v Apthorpe (1962) 80 WN (NSW) 852.

178 Eritrea-Ethiopia Claims Commission, Decision No 7, Guidance Regarding Jus ad Bellum Liability, 27 July [herein ‘Eritrea-Ethiopia Claims’].

179 Eritrea-Ethiopia Claims, 2, para 8 (‘The Commission concludes that the necessary connection is best characterised through the commonly used nomen clature of “proximate cause.” In assessing whether this test is met, and whether the chain of causation is sufficiently close in a particular situation, the Commission will give weight to whether particular damage reasonable should have been foreseeable to an actor committing the international delict in question. The element of foreseeability, although not without its own difficulties, provides some discipline and predictability in assessing proximity. Accordingly, it will be given considerable weight in assessing whether particular damages are compensable.’)

180 Eritrea-Ethiopia Claims, Final Award (Ethiopia v Eritrea) Ethiopia’s Damages Claims, 17 August 2009, paras 293, 294.
number of other international cases and arbitrations.\textsuperscript{181} This element is related to the notion of whether the damage is too remote.\textsuperscript{182}

Under this component of the test, a claimant State would need to demonstrate that it was foreseeable to the respondent State that its wrongful conduct would result in the damage incurred by the claimant State. There exists a body of scientific evidence of the process of anthropogenic climate change. A brief history of climate change science is presented in Table 6-2 below.\textsuperscript{183}

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1824</td>
<td>Joseph Fourier described a ‘greenhouse effect’ in a paper presented to Paris’ Académie Royale des Sciences.</td>
</tr>
<tr>
<td>1896</td>
<td>Svante Arrhenius proposed the concept of a man-made greenhouse effect. Arrhenius hypothesised that the increase in the burning of coal since the Industrial Revolution could lead to an increase in atmospheric carbon dioxide and heat up the planet.</td>
</tr>
<tr>
<td>1938</td>
<td>Guy Steward Callendar compiled temperature statistics and found that over the previous century mean temperature and CO\textsubscript{2} levels had risen markedly. He concluded that the mean temperature rise was most likely caused by the increase in CO\textsubscript{2}.</td>
</tr>
<tr>
<td>1958</td>
<td>Charles Keeling began continuous monitoring of CO\textsubscript{2} levels in the atmosphere. The Keeling Curve was developed which continues to chart the year on year rise of CO\textsubscript{2} concentrations.</td>
</tr>
<tr>
<td>1990</td>
<td>The IPCC provided its First Assessment Report and predicted an increase of 0.3°C each decade in the 21\textsuperscript{st} Century.</td>
</tr>
<tr>
<td>1995</td>
<td>The IPCC provided its Second Assessment Report and reported that ‘the balance of evidence suggests a discernible human influence on global climate’.</td>
</tr>
<tr>
<td>2001</td>
<td>The IPCC provided its Third Assessment Report and found with 66-90% confidence that most of the observed warming over the prior 50 years was likely to have been due to the increase in greenhouse gas concentrations.</td>
</tr>
<tr>
<td>2007</td>
<td>The IPCC released its Fourth Assessment Report and found that ‘warming of the climate system is unequivocal’ and most of the increase in global average temperatures since the mid 20\textsuperscript{th} Century is the result of anthropogenic greenhouse gas emissions (greater than 90% certainty). The IPCC further stated that the level of temperature and sea rise in the 21\textsuperscript{st} Century would depend upon the extent or limit of emissions in coming years.</td>
</tr>
</tbody>
</table>

\textsuperscript{181} Samoan Claims (Germany, Great Britain, United States) [1902] RIAA 23, 26; Irene Roberts Case (United States v Venezuela) [1903-1905] IX RIAA 204; Naulilaa Case (Portugal v Germany) [1928] 2 RIAA 1011, 1031; Lighthouses Arbitration (France/Greece) [1956] XII RIAA 155, 217.

\textsuperscript{182} ILC Commentary on Art 31, 93, 94, para 10 (‘The notion of a sufficient causal link that is not too remote is embodied in the general requirement in art 31 that the injury should be in consequence of the wrongful act, but without the addition of any qualifying phrase.’ Also see generally Susan Bartie, ‘Ambition Versus Judicial Reality: Causation and Remoteness under Civil Liability Legislation’ (2006-2007) 33 University of Western Australia Law Review 415; Marc Stauch, ‘Risk and Remoteness of Damage in Negligence’ (2001) 64 The Modern Law Review 191.

Scientists first began exploring the concept of climate change in the 1820s. These early considerations of climate science could be relied upon to support the view that climate change was a foreseeable consequence of greenhouse gas emissions. However, the strongest evidence in this regard would be through reference to the work of the IPCC. The IPCC reports are endorsed as decisions of the COP (as discussed in Chapter 2) and provide a clear indication of foreseeability. Finally, at least from the time that the UNFCCC was agreed to in 1992, climate change was a foreseeable consequence for the Parties.

In addition, a determination of foreseeability will depend upon the primary rule relied upon and the type of injury suffered by the claimant State. National courts have generally held that it is not necessary for the specific injury to have been foreseen; it is sufficient for the type or kind of injury to be reasonably foreseeable. Furthermore, even if the claimant State is particularly vulnerable to the impacts of climate change, this vulnerability should not reduce the potential liability of the respondent State. This could be an important factor given that a number of States are very vulnerable to climate change due to their existing economic, social, political and environmental circumstances. All of these steps required to establish causation for climate change damage under international law are summarised in the following flowchart, Figure 6-1.

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185 In common law, this is called the ‘eggshell skull rule’. See e.g. Smith v Leech Brain & Co Ltd [1962] 2 QB 405; [1961] 3 All ER 1159.
Figure 6-1: Causation flow chart for climate change damage in international litigation

F. Standard of proof

The standard of proof in transnational and international environmental cases is ambiguous. In the Trail Smelter Arbitration, the tribunal required ‘clear and
convincing’ evidence.¹⁸⁷ In the Pulp Mills Case, Judge Greenwood stated that the standard of proof was on the balance of probabilities (otherwise described as the balance of the evidence).¹⁸⁸

In common law States, the standard of proof generally applied in relation to civil damages cases is on the balance of probabilities. Toxic tort and medical cases have been won in these courts on the basis that the statistical evidence provided a greater than a 51% likelihood that the act caused the injury.¹⁸⁹ In contrast, the German civil law system and some other jurisdictions require proof beyond reasonable doubt.¹⁹⁰

In relation to a serious allegation that a State had laid sea mines, the ICJ commented that ‘a charge of such exceptional gravity against a State would require a high degree of certainty’.¹⁹¹ However, in the same case (the Corfu Channel Case), the ICJ found causation between the mines and damage on a standard that was much less than 100%. The ICJ also allowed circumstantial evidence in this case. Cheng has assessed the case law of international tribunals and found that these tribunals ‘arrive at the moral conviction of the truth of the whole case’.¹⁹²

The precautionary principle, which is contained in the UNFCCC, may be used to influence the standard of proof.¹⁹³ ITLOS has adopted the view that the precautionary

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¹⁸⁷ *Trail Smelter Arbitration (United States v Canada)* (1949) 3 RIAA 1938.
¹⁹⁰ Verheyen, above n 12, 260.
¹⁹¹ *Corfu Channel Case (United Kingdom v Albania)* [1949] ICJ 4, 17.
¹⁹² Cheng, above n 63, 307
¹⁹³ It has also been argued that the precautionary principle could be used to argue that states need to show that their activities will not cause any harm. However there is no evidence to suggest that the precautionary principle applies to international environmental law in this way: Patricia Birnie, Alan Boyle and Catherine Redgwell, *International Law & The Environment* (New York: Oxford University Press, 2009), 340. For an economic perspective on the appropriate standard of proof in international climate litigation see Faure and Nollkaemper, above n 169, 162.
principle may be used to lower the standard of proof of environmental harm.\textsuperscript{194} However, in \textit{Pulp Mills}, the ICJ appeared to reject the idea of lowering the standard of proof.\textsuperscript{195} Due to these conflicting approaches, it is not entirely clear how the precautionary principle would be applied in an international climate change case. It may be that ITLOS would adopt a more progressive application, allowing the standard of proof to be lowered in such a case whereas the ICJ may not.\textsuperscript{196}

Without adequate international action, climate change threatens to cause irreversible harm to the atmosphere.\textsuperscript{197} While unlikely, international tribunals could use the precautionary principle to find that States are liable for the climate change impacts of their acts unless they are able to prove that their activities did not cause damage to the claimant State.\textsuperscript{198} Although it is unclear exactly what standard of proof would be applied in international climate litigation, the application of the precautionary principle adds weight to the view that it should be on the balance of probabilities and certainly less than 100%.


\textsuperscript{195} See Kazhdan, above n 200.

\textsuperscript{196} Also see statement by President Wolfrum of ITLOS in 2008: ‘The jurisprudence of the [ICJ] has hitherto not accepted the precautionary approach as a binding principle of international law. [ITLOS], when asked to prescribe provisional measures for the protection and conservation of southern bluefin tuna fish stocks, nevertheless relied upon such principle.’ ITLOS Statement by H. R. Judge Rudiger Wolfrum, President of ITLOS to the ILC 5-6 (2008) available at <http://www.itlos.org/start2_en.html>.

\textsuperscript{197} Birnie, Boyle and Redgwell, above n 199, 341.

G. Apportionment of responsibility

Multiple actors have contributed to the process of climate change and therefore to climate change damage. Generally, States are only responsible for the outcomes that can be attributed to their own actions (known as sole responsibility). As discussed above, climate change is an example of several States engaging in conduct which cumulatively results in damage to other States. There is no clear international law on how to allocate responsibility when there are multiple wrongdoers and there is a lack of literature on multiple State responsibility. However, multiple State responsibility appears to have no effect on determinations of remedies, except pecuniary compensation. All other remedies can be determined irrespective of sole responsibility. This section considers the possible approaches that international courts and tribunals may use to allocate responsibility. These are sole responsibility, joint or several responsibility, market share responsibility and common but differentiated responsibility.

1. Sole responsibility

The ordinary rule of international law is that States are only individually responsible. The ILC has stated a principle that if two States cause an injury, each State is responsible for its own wrong. Much of the case law that has considered

200 Smith, above n 19, 50. Also see discussion of the ‘indispensable party principle’ in Chapter 7 sections B(2), B(9), D(2) and D(9).
201 Sambiaggio Case (Italy v Venezuela) (1903) 10 RIAA 499. In this case, Venezuela was held not responsible for the acts of unsuccessful revolutionaries. The Commission upheld the principle of individual responsibility despite the fact that a literal interpretation of the applicable treaty would have justified a departure from it: Cheng, above n 63, 212. Also see J Brunnée, ‘International Legal Accountability through the Lens of State Responsibility’ (2005) 36 Netherlands Yearbook of International Law 21; A Nollkaemper, ‘Concurrence between Individual Responsibility and State Responsibility in International Law’ (2003) 52 International and Comparative Law Quarterly 615.
202 ILC Draft Articles, art 47; ILC Draft Articles on International Organisations, art 48.
situations with multiple actors has been based upon the concept of sole responsibility. An example of where shared responsibility could arise is where a State has been directed or controlled by another State. However, Dominicé argued that even in this scenario responsibility remains individual. The East Timor Case indicates that there is some scope for plurality of responsibility under the doctrine of sole responsibility. Therefore, there is some scope within the concept of sole responsibility to address cases with a multiplicity of wrongdoing actors.

However, there are many limitations with applying sole responsibility to such scenarios. It may be necessary to apportion responsibility where there is a multiplicity of wrongdoing actors but sole responsibility does not provide a basis for apportioning responsibility. Even the procedures of the ICJ assume and reinforce sole responsibility. A further disadvantage of sole responsibility is that the victim States would need to bring many individual cases at great expense. Sole responsibility

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204 See ILC Draft Articles, art 18.
205 C Dominicé, ‘Attribution of Conduct to Multiple States and the Implication of a State in the Act of Another State in the Law of International Responsibility’ in J Crawford, A Pellet and S Olleson (eds), The Law of International Responsibility (Oxford: Oxford University Press, 2010), 288 (‘for it is either that the State is responsible for the act of another carried out under its direction and control, or the dependent State maintains a certain degree of freedom, in which case it is responsible for its own conduct.’). But see Report of the International Law Commission on the Work of its fifty-third session (Draft Articles on the Responsibility of States for Internationally Wrongful Acts, with commentaries), UNDoc. A/56/10 (2001) commentary to art 17, para 9 (commenting that the directed State can also be responsible because the ‘mere fact it was directed to commit an internationally wrongful act does not constitute a circumstance precluding wrongfulness.’)
206 East Timor Case (Portugal v Australia) [1995] ICJ Rep 139, 172, [iii] Dissenting Opinion Judge Weeramantry (‘even if the responsibility of Indonesia is the prime source, from which Australia’s responsibility derives as a consequence, Australia cannot divert responsibility from itself by pointing to that primary responsibility.’)
209 See ICJ Statute, arts 44 / 41 (‘either party’), 43 (the ‘other party’) and 53 (‘the other party’).
requires that the injured State claim individually against each contributing State. As argued by Rauschning, requiring claimant States to bring claims against each polluting State would ‘make the concept of State responsibility a useless weapon against unlawful transfrontier pollution’.

A further problem is that international courts have simplified complex shared scenarios into ‘binary categories’ of States that are responsible and those that are not. The risk with such simplifications is that too much or too little responsibility may be allocated to one State or actor. One example of sole responsibility resulting in too little responsibility is found in the Saddam Hussein Case. Hussein brought a case in the European Court of Human Rights against 21 EU member States allegedly implicated in the invasion of Iraq and his capture. The ECHR held that no responsibility could be found provided Hussein could not identify the specific acts of the States.

Such cases are also at risk of leading to blame-shifting games between actors. For example, in the Srebrenica Cases, which concerned alleged acts and omissions of the Netherlands and the UN in relation to the protection of Srebrenica, both denied responsibility and shifted the blame to the other actor. Thus, there is a paradox in international law because ‘as the responsibility for any given instance of conduct is

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210 ILC Draft Articles, art 47.
212 Nollkaemper and Jacobs, above n 115. See Behrami and Behrami v France and Saramati v France, Germany and Norway (dec) nos 71412/01 and 78166/01 Eur. Ct. HR 2007 (joint admissibility decision).
213 Ibid.
214 Hussein v Albania, Bulgaria, Croatia, Czech Republic, Denmark, Estonia, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, The Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Turkey, Ukraine and the United Kingdom (dec), no. 23276/04. ECHR 2006.
215 Ibid.
scattered among more people, the discrete responsibility of every individual diminishes proportionately.'

On the other hand, sole responsibility can result in too much responsibility being allocated to one State. For instance, in the *Nauru Case* which concerned concerted action of Australia, New Zealand and the United Kingdom, Ago considered that it would be on ‘an extremely questionable basis if Australia was held fully responsible.’

Therefore, while there is some scope for sole responsibility to be applied to cases with a multiplicity of wrongdoing States, as in the case of climate change damage, there are a series of limitations that make such application inappropriate. It risks creating either too much or too little responsibility for wrongdoing States and may ultimately mean that no responsibility is found. Thus, it is necessary to consider alternative formulations of responsibility and their applicability under international law.

2. **Joint and several liability**

One alternative approach to cases with a multiplicity of wrongdoing States is joint and several liability. International tribunals do not generally consider the principle of joint and several liability. Brownlie argues that joint and several liability is not yet a part of international law on the basis that there is no State practice or literature to support it.

As Okowa has commented, international law ‘has not developed sophisticated rules

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and procedures for adjudicating and apportioning responsibility between States in the position of multiple tortfeasors’. 221

International law recognises that two or more States may take identical wrongful acts in concert or simultaneously. Draft Article 47 of the ILC Draft Articles states that where more than one State is responsible ‘the same wrongful act’ ‘responsibility of each State may be invoked in relation to that act’. The ILC provided no opinion of whether responsibility may be joint or joint and several. 222 However, the ILC stated that the principle in Draft Article 47 was similar to joint and several liability but that it made that analogy ‘with care’. 223 Furthermore, it should be noted that Draft Article 47 is in the section on implementation, not the section on breach of obligation and reparation (which may lessen its relevance for determining responsibility).

Some international treaties specifically refer to the principle of joint and several liability. 224 Liability is ‘joint’ in the sense that two or more States are held responsible for each other’s wrongful acts. Liability is ‘several’ to the extent that each State is held separately liable. However, it is unlikely that these treaties reflect customary international law.

On the other hand, joint and several liability could be applied by drawing upon past international cases. 225 There are a number of cases in which joint or several

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222 Nollkaemper and Jacobs, above n 115, 17.
responsibility has been considered. In the *Oil Platforms Case*, Judge Simma argued that joint and several liability is a general principle of law recognised by major domestic legal systems. Simma called for the principle to be included in international law. In the 1992 *Nauru v Australia Case*, the ICJ considered Nauru’s request for compensation from Australia for damage caused by phosphate mining. Judge Shahbuddeen (dissenting opinion) considered that the concept of joint and several liability exists in international law and that the principle should apply in the case due to the nexus between Australia, New Zealand and the UK (the Joint Authority). The International Seabed Authority has confirmed the possibility of joint responsibility between States that sponsor an entity that engages in the exploitation and exploration of the deep seabed.

However, perhaps the most important example is found in the *Corfu Channel Case*. Although no explicit reference was made to joint and several liability, the ICJ found that the actor who laid the mines was unknown and that Albania’s breach was in knowingly allowing its territory to be used to damage another State. This indicates that the ICJ relied upon a form of joint liability for these independent wrongdoers for the

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226 Also see Anglo-Chinese Shipping Co Ltd v United States, 130 Ct. Cl 361, 127 F. Supp. 553, cert. Den. 349 US 938, 986 (1955) (‘whether this rule should be applied to sovereign nations engaged in a joint enterprise has never been decided, and we do not decide it’). Also see Samoan Claims Arbitration (Germany v United States and United Kingdom) (1899) 9 RIAA 21 (lump sum payment made to Germany by the United States and United Kingdom. The arbitral decision found responsibility for the United Kingdom and United States for the consequences of their joint military activities in Samoa); Case of the Treatment in Hungary of Aircraft of United States of America (United States v Hungary) (United States v USSR) [1954] ICJ 99 (Order of 12 July 1954) and [1954] ICJ Pleadings 38, 58-9 (United States asserted joint and several responsibility).

227 Also see Okowa, above n 227, 198 citing Mitchie v Great Lakes Steel, 496 F.2D 213 (Sixth Circuit 1974). But there were only a few factories emitting.


229 At 276.

230 Responsibilities and Obligations of States Sponsoring Persons and Entities with Respect to Activities in the Area (Advisory Opinion) [2011] ITLOS 17.
entire amount of compensation. Furthermore, the Seabed Disputes Chamber of ITLOS recently provided strong support in an Advisory Opinion for what essentially amounted to *actio popularis* in international environmental law.

Thus, it is possible that an international court or tribunal could apportion responsibility for climate change damage on the basis of joint and several liability. One major weakness with such an approach is that there is no treaty relating to rights of recourse and there is nothing under customary international law to indicate a general right of recourse. Thus, joint liability is also at risk of creating too much responsibility for an individual State. However, if several liability is applied to the problem of climate change damage this would entail a division of liability between wrongdoing States and thus avoid imposing too much responsibility.

3. **Market share liability**

An alternative formulation is to adopt a market share liability approach which is found in the US. Market share liability originated out of the US in the context of diethylstilbestrol (DES) litigation. DES was a synthetic composite of estrogen used during 1938 to 1971 to prevent miscarriages and pre-term births. It was later found to cause vaginal and cervical cancer in females exposed in the womb.

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231 Smith, above n 19, 55. Also see *Convention on the International Liability for Damages caused by Space Objects* (opened for signature 29 March 1972) UNTS 961 (entered into force 1 September 1972). Articles v(1) and v(2) adopt joint and several liability with a right of recourse.


In *Sindell v Abbot Laboratories*\(^{235}\) the court held that where it was not possible to identify the specific producer of a fungible product and the plaintiff was not at fault for this failure of identification, liability should be based on the percentage of the product that the defendant sold on the market.\(^{236}\) The court justified its modification of the traditional tort rules on the basis of policy considerations, including the risk to innocent victims, the ability of the defendants to absorb the costs of harm and fairness.\(^{237}\) The court held that the defendant must contribute a ‘substantial percentage’ of the market but did not specify what percentage this would require.

Market share liability is generally applied as a form of several liability, meaning that if not all possible defendants are joined to the dispute then a plaintiff is at risk of recovering less than full compensation.\(^{238}\) However, a number of US courts rejected market share liability, primarily due to policy concerns.\(^{239}\) Courts have also been reluctant to expand market share liability to other types of cases.\(^{240}\) In fact, market share liability has been rarely used since the 1980s and is perhaps a ‘defunct doctrine’.\(^{241}\)

Nonetheless, commentators have argued for its application to climate litigation in the US context. For instance, Grimm argued that although no single product is responsible for climate change, greenhouse gas emissions from numerous non-fungible industries

\(^{235}\) 607 P.2d (Cal. 1980).
\(^{237}\) *Sindell v Abbott Laboratories*, 607 P.2d 924, 937 (Cal. 1980), 936.
\(^{238}\) *Brown v Superior Court* 751 P.2d 470 (Cal. 1988).
\(^{239}\) See e.g. *Mulcahy v Eli Lilly & Co* 386 N.W. 2d 67, 75 (Iowa, 1986); *Zafft v Eli Lilly & Co* 676 S.W. 2d 241, 246 (Mo. 1984).
\(^{241}\) Grimm, above n 240, 218.
‘combine to form a fungible cause of global warming.’ Further, once released greenhouse gas emissions are indivisible and so every greenhouse gas emitter contributes to the occurrence of harm. One of the challenges of domestic climate litigation is that there are absent causes. Even the US market is relatively limited when seen within the context of global emissions.

However, if a market share approach was adopted for international climate litigation, this could potentially encompass all or most of the ‘market’. Specifically, liability could be apportioned amongst States on the basis of each State’s share of total greenhouse gas emissions. On the other hand, it is unlikely that an international tribunal or court would adopt the market share approach to apportioning responsibility given that it is not found in international law and has little support in domestic legal systems. Furthermore, even if applied, the approach may be restricted to respondent States that have contributed a substantial percentage of greenhouse gas emissions. This restriction would severely limit application of the approach and may mean that only the major emitters (e.g. US and EU) could be held liable.

4. Common but differentiated responsibility

An alternative and potentially innovative approach to the problem of allocating responsibility would be to apply the principle of common but differentiated responsibility. When obligations are of a collective nature, shared responsibility may be implied if the obligation is breached. The climate regime provides the

243 Ibid, 221.
244 Ibid, 224.
245 Grossman, above n 138, 11.
246 See discussion of the principle of common but differentiated responsibility in Chapter 3, Section G(b).
The market share approach discussed above could be one possible application of common but differentiated responsibility, although the principle would not necessarily require such application. However, the principle of common but differentiated responsibility calls for a more considered approach that integrates questions of equity and justice, rather than simply considering the gross emissions or market share of a particular actor.

Applying common but differentiated responsibility, a court or tribunal could hold that wrongdoing States are liable in common for their emissions, but that their liability is differentiated by their historical contribution and their ability to act. This approach could provide a basis for apportioning liability to developed States in accordance with their contribution to global greenhouse gas emissions within the context of their ability to adopt a lower emissions pathway. Although such an approach would be novel, it would be grounded in the principles of the international climate change regime and ensure that no one State is given too much or too little responsibility for the problem of climate change damage. It also allows for the consideration of the wider context of a State’s behaviour, including their economic circumstances, scientific knowledge and understanding and other considerations relevant to its ability to act. However, it must

be noted that the issue of culpability remains particularly contentious amongst States.\footnote{Rachel Boyte, ‘Common but Differentiated Responsibilities: Adjusting the “Developing”/“Developed” Dichotomy in International Environmental Law’ (2010) 14 New Zealand Journal of Environmental Law 63, 70.}

Another possible view is that the Kyoto Protocol represents an \emph{ex ante} apportionment of responsibility in line with this principle.\footnote{Nollkaemper and Jacobs, above n 115, 21. Also see C Stone, ‘Common but Differentiated Responsibilities in International Law’ (2004) 98 The American Journal of International Law 276.} As discussed in Chapter 4, the differentiation of mitigation obligations both between developed and developing States, and between developed States, is a clear application of the principle of common but different responsibility. Therefore, the same approach could be used to apportion responsibility for climate change damage. Such an approach would be particularly justified in the context of a case brought under the climate regime and the Kyoto Protocol QELRO targets in particular. However, the Kyoto Protocol is only applicable to State Parties and would not encompass some of the larger emitters (most notably the US). Thus, apportioning responsibility according to the QELRO targets may not result in an appropriate application of the principle of common but differentiated responsibility.

Finally, the principle could also be used to ensure that no one State is overwhelmed with the responsibility to compensate victim States. In particular, joint liability without a right of recourse would appear to be inconsistent with the principle of common but differentiated responsibility. Such an approach would likely result in one State being burdened with too much responsibility for the resulting damage and be entirely inconsistent with common but differentiated responsibility.
Overall, joint and several liability has been applied by international tribunals and presents the most conservative approach to apportionment. However, the limitations of this approach, particularly its inability to reflect the complexities of a global problem such as climate change damage, may necessitate the adoption of novel formulations such as market share liability and the principle of common but differentiated responsibility. By apportioning liability on the basis of market share of global greenhouse gases, an international tribunal may be able to provide an equitable distribution of liability. Another advantage of this approach is that liability could be calculated with certainty. The principle of common but differentiated responsibility could be used to support apportionment by historical emissions but would also require further refinement in the apportionment of liability to account for ability to act, equity and justice. These considerations would give an international tribunal or court greater scope to apportion liability in a manner that is fair and reflective of the realities of international climate justice.

H. Defences

Assuming that a case for climate change damage could be made out, there are six defences listed in the ILC Draft Articles 20-27, which are described as ‘circumstances precluding wrongfulness’. These are: consent (Draft Article 20); self-defence (Draft Article 21); countermeasures (Draft Article 22); force majeure (Draft Article 23); distress (Draft Article 24) and necessity (Draft Article 25). This section considers two of these defences which are most relevant to climate damage: consent and necessity.

1. Consent

Draft Article 20 provides that it is a defence if the victim State consented to the act or omission, provided that the conduct would be within the limits of the consent. An issue
that may arise is whether victim States have consented to the relevant breaches or consented to having remedies provided through the climate regime. The question of whether a claimant State has consented to the respondent State’s conduct would dependent upon the individual circumstances of the case. For example, if the case concerned emissions by the respondent State in excess of its QELRO target, it is clear that consent has not been provided. On the other hand, a claim relying upon obligations in the UNFCCC or LOSC would face the problem of possible consent to emission levels set out in the Kyoto Protocol. In such a scenario, it would appear that the claimant State may have consented to a level of climate damage.

However, Fiji, Kiribati, Nauru, Papua New Guinea and Tuvalu entered declarations that their ratification of the UNFCCC shall not amount to a renunciation of any rights under international law concerning State responsibility for the adverse effects of climate change. Similar declarations were made by the Cook Islands, Kiribati, Nauru and Niue upon ratification of the Kyoto Protocol. These declarations would preclude application of the defence of consent in relation to these States.

2. Necessity

The defence of necessity has strict conditions and a negative formulation. ILC Draft Article 25 sets out the requirements for a State to rely upon this defence. The ICJ

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253 ILC Draft Articles, art 25:
‘1. Necessity may not be invoked by a State as a ground for precluding the wrongfulness of an act not in conformity with an international obligation of that State unless the act:
(a) Is the only way for the State to safeguard an essential interest against a grave and imminent peril; and
(b) Does not seriously impair an essential interest of the State or States towards which the obligation exists, or of the international community as a whole.’
recognised an earlier but essentially identical version of this article as codifying customary international law. The burden is upon the breaching State to demonstrate that the defence applies. According to Draft Article 25, the defence of necessity can be used to protect an ‘essential interest’ of the State. The ILC provided no examples. However, examples were provided in a report by Ago that cited ‘political or economic survival, the continued functioning of its essential services, the maintenance of internal peace, the survival of a sector of its population, [and] the preservation of the environment of its territory or a Party thereof.’

There are a number of limitations placed upon this defence. The respondent State that seeks to rely upon this defence must ensure that the act does not impair an essential interest of another State or towards the international community. Draft Article 25 provides further limitations, specifically where the obligation is a peremptory norm or nonderogable or where the State has contributed to the state of necessity.

An example of this defence in a case is the Gabčikovo Case. In this case, Hungary did not comply with its treaty obligations to divert the Danube River on the basis that diversion would cause considerable environmental damage. However, the ICJ held that Hungary had not met the burden of establishing a state of necessity.

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255 Verdier, above n 3, 858.
257 ILC Draft Articles, art 25:
‘2. In any case, a state of necessity may not be invoked by a State as a ground for precluding wrongfulness if:
(a) The international obligation in question excludes the possibility of invoking necessity; or
(b) The State has contributed to the situation of necessity.’
Nonetheless, the ICJ found that the threat of an ecological catastrophe would establish a state of necessity and provide a defence.\textsuperscript{261} The ICJ held that “‘imminence’ is synonymous with “immediacy” or “proximity” and goes far beyond the concept of “possibility”.”\textsuperscript{262} The ICJ’s interpretation of ‘peril’ was that it ‘evokes the idea of “risk” rather than “material damage”’.\textsuperscript{263} Hungary failed in demonstrating that the threat was imminent. In the \textit{Gabčíkovo Case}, the ICJ also held that cost was not a factor to be used in determining whether other options could have been used.\textsuperscript{264}

Respondent States could rely upon the defence of necessity to the extent that mitigation action would cause damage to their economy, environment or human rights. As was discussed in Chapter 4, Article 4.10 of the UNFCCC provides that in the process of implementing their commitments under the UNFCCC, that the Parties shall give ‘consideration’ to Parties that are vulnerable to the ‘adverse effects of implementation measures’, particularly those with economies that are highly dependent on fossil fuels. Thus, such Parties could argue that they were unable to comply with their commitments under the UNFCCC on the basis that this would cause considerable economic damage and that the defence of necessity applies. A significant limitation of this defence is that it is bilateral in nature and is generally poorly suited to global problems.\textsuperscript{265} Nonetheless, it is clear that the defence of necessity could reduce legal


\textsuperscript{262} \textit{Gabčíkovo-Nagymaros Project (Hungary v Slovakia)} [1997] ICJ Rep 7, para 54.

\textsuperscript{263} \textit{Gabčíkovo-Nagymaros Project (Hungary v Slovakia)} [1997] ICJ Rep 7, para 54.


exposure for climate damage, particularly for those States that are referred to in Article 4.10 of the UNFCCC.

On the other hand, utilisation of this defence would be limited by the requirement that the act of the respondent State does not impair an essential interest of another State. It is possible that this defence could apply to climate change damage, depending upon the circumstances.

I. Remedies

This section considers the law of remedies that international tribunals may apply to cases of climate change damage. The current international law of remedies is especially under-developed in relation to environmental damage. However, the Seabed Disputes Chamber of ITLOS strongly endorsed Draft Article 48 of the Articles on State Responsibility and the obligation of reparation under Draft Article 34 of the Articles on State Responsibility.

The ILC provides that the original obligation continues (Draft Article 29); that there is an obligation to cease wrongful conduct (Draft Article 30) and that there is an obligation to make full reparation for any injury caused (Draft Article 31). These obligations are owed by wrongdoing States to one or several States or the international community as a whole (Article 33.1). Legal consequences arise between the


267 The ILC Commentary on Article 33.1 refers to cases of damage beyond national jurisdictions including the high seas and the atmosphere. However, this does probably not represent international law.
wrongdoing State and persons or entities other than States (Article 33.2). Draft Article 34 states that ‘[f]ull reparation for the injury caused by the internationally wrongful act shall take the form of restitution, compensation and satisfaction, either singly or in combination.’

1. Cessation

Cessation is the mostly commonly sought remedy in international cases.268 Cessation, or non-repetition, provides a vital role in ensuring the effectiveness of an international ruling.269 The duty of cessation applies to both acts and omissions.270 In the case of climate change, immediate or even a quick cessation of the acts or omissions are not possible. In the *Trail Smelter Arbitration*, the cessation was gradual and was regulated over a period of time by the arbitral order.271 This is comparable with what may be applied in climate change cases. It is possible that claimant States could request an order for future action to prevent climate change damage from continuing. Although such an order would be a bold measure from an international tribunal, it would reflect that the primary consequence of a breach of an international obligation is the duty to mitigate or cease that breach.

It is sometimes difficult to distinguish between restitution (discussed below) and cessation. It is important to note that restitution is subject to a test of proportionality.

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268 See eg *Arrest Warrant (Congo v Belgium)* (2002) 41 ILM 536: Congo sought cancellation of arrest warrant issued by Belgium for Congo’s Foreign Minister for breach of international immunity laws.
269 Pablo de Greiff, ‘Repairing the Past: Compensation for Victims of Human Rights Violations’ in Pablo de Greiff (ed), *The Handbook of Reparations* (Oxford: Oxford University Press, 2006), 11 (commenting that ‘benefits in the absence of reforms that diminish the probability of non-repetition of violence are nothing more than payments, whose utility, and furthermore legitimacy, are questionable’).
270 *Rainbow Warrior Case (New Zealand v France)* (1990) 20 RIAA 217, 270 (‘there may be cessation consisting in abstaining from certain actions’).
271 *Trail Smelter Arbitration (United States v Canada)* (1949) 3 RIAA 1938.
whereas cessation is not.\textsuperscript{272} Furthermore, the remedy of cessation does not require proof of causation.\textsuperscript{273} Thus, obtaining the remedy of cessation would be an easier task than seeking reparations.

2. Reparation

States have an obligation to make reparation for the consequences of their internationally wrongful acts.\textsuperscript{274} There has been disagreement among commentators as to whether State liability actually exists on the basis that the lack of enforcement provisions makes the system inoperable.\textsuperscript{275} Nonetheless, the obligation to make reparations if an internationally wrongful act has been committed is found in case law, customary international law and the ILC Draft Articles.\textsuperscript{276} In the \textit{Chorzów Factory Case} of 1928, the Permanent Court of International Justice (PCIJ) stated that ‘reparation is the indispensable complement of a failure to apply a convention and there is no necessity for this to be stated in the convention itself.’\textsuperscript{277} Similar statements


\textsuperscript{273} See e.g. Report of the International Law Commission on the Work of its Fifty-Third Session, UN GAOR, 53\textsuperscript{rd} sess, Supp. No. 10, Doc. A/56/10 (2001), 226 (‘harm to the environment by emissions exceeding the prescribed limit’). This varies from domestic tort law which requires proof of damage to a protected right or interest.


\textsuperscript{277} Case concerning the factory at Chorzów (Germany v Poland) (Jurisdiction) [1927] PCIJ (ser A) No 9, 21 and (Merits) [1928] PCIJ (ser A) No 17, 29.

The PCIJ has also states that ‘This act being attributable to the State and described as contrary to the treaty right of another State, international responsibility would be established immediately as between the two States.’ \textit{Phosphates in Morocco Case} (Prel. Obj.) (1938), A/B/ 74, p. 28.
have been made by the Mexican-US General Claims Commission (1923).\(^{278}\) The role of reparation has also been recognised by the Inter-American Court of Human Rights and other arbitral tribunals as a fundamental customary law rule.\(^{279}\)

Although the meaning of reparations is unsettled under international law,\(^{280}\) Draft Article 31 of the ILC sets out the obligation for reparation.\(^{281}\) The key obligation contained in Draft Article 31 is to make ‘full reparation for the injury caused by the internationally wrongful act’. No States objected to the ILC’s view that there is a general obligation to make full reparation.\(^{282}\) The Draft Articles define injury as ‘including any damage, whether material or moral, caused by the internationally

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\(^{278}\) ‘It is a principle of international law, and even a general conception of law, that any breach of an engagement involves an obligation to make reparation.’ *Case concerning the factory at Chorzów (Germany v Poland) (Merits)* [1928] PCIJ (ser A) No 17, 29; Cf *Spanish Zone of Morocco Claims (United Kingdom v Spain)* (1925) 2 RIAA 615, 641.

\(^{279}\) ‘Under International Law, apart from any convention, in order that a State may incur responsibility it is necessary that an unlawful international act be imputed to it, that is, that there exist a violation of a duty imposed by an international juridical standard.’ *Dickson Car Wheel Co. Case* (1931). *Op. of Com.* 1931, p 175, at p 187.


\(^{281}\) ILC Draft Articles, art 31 (Reparation):

1. The responsible State is under an obligation to make full reparation for the injury caused by the internationally wrongful act.
2. Injury includes any damage, whether material or moral, caused by the internationally wrongful act of a State.’


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wrongful act’. The ILC Commentary provides that ‘material injury’ refers to damage which is ‘assessable in financial terms’.

The PCIJ formulated the principle of integral reparation, which refers to the concept that for every unlawful act there is an obligation to make integral reparation to the injured State so that the injured State may be ‘made whole again.’ The PCIJ stated in the Chorzów Factory Case that ‘reparation must, as far as possible, wipe out all the consequences of the illegal act’. In terms of climate damage, it is likely that claimant States will seek reparation for measures to prevent further damage (e.g. adaptation costs) and compensation for existing damage (if applicable). The ILC recognises ‘costs incurred in responding to pollution damage’ as a potential damage. Such costs are clearly applicable to climate damage because victim States are undertaking adaptation projects. Thus, the general definition of reparations under international law encompasses a requirement for wrongdoers to return victims to the status quo ante or, if not possible, provide compensation. Both of these forms of reparation are considered here.

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283 Note that some domestic legal systems do not include moral damage see e.g. German tort law, Verheyen, above n 12, 244.
286 PCIJ Rep (1928) Series A, No 17, at 46. ‘[I]t is a principle of international law, and even a general conception of law, that any breach of an engagement involves an obligation to make reparation…. [R]eparation therefore is the indispensable complement of a failure to apply a convention, and there is no necessity for this to be stated in the convention itself.’ ‘The essential principle contained in the notion of an illegal act – a principle which seems to be established by international practice and in particular by the decisions of arbitral tribunals – is that reparation 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 that act had not been committed. Restitution in kind, or, if this is not possible payment of a sum corresponding to the value which a restitution in kind would bear; the award … of damages for loss sustainable which would not be covered by restitution in kind or payment in the place of it.’
(a) Restitution

Restitution is the primary form of reparation under international law. Draft Article 35 sets out the key components of restitution.\(^{289}\) There has been a lack of consensus amongst publicists as to scope of the requirements of restitution.\(^{290}\) An example of restitution is provided in the case of *Temple of Preah Vihear*.\(^{291}\) In this case, the ICJ ordered Thailand to return to Cambodia artefacts which had been unlawfully taken from a temple and its surrounds. Examples of methods of restitution in an environmental context include clean up or repair of the environment.

Obviously, it is impossible to meet restitution if the object has ceased to exist. In the context of climate change damage, restitution is impossible because the impacts are generally irreversible.\(^{292}\) If this is the case, then international tribunals will consider compensation. Furthermore, there is an exception to providing restitution where ‘grave disproportionality between the burden which restitution would impose on the responsible State and the benefit which would be gained.’\(^{293}\) As discussed above, application of the principle of common but differentiated responsibility would require that no one State should be overwhelmed with responsibility to remedy climate damage. Whether or not this is a problem will depend upon what form of responsibility has been applied in the case.

\(^{289}\) ILC Draft Articles, art 35 (Restitution): ‘A State responsible for an internationally wrongful act is under an obligation to make restitution, that is, to re-establish the situation which existed before the wrongful act was committed, provided and to the extent that restitution:
(a) Is not materially impossible;
(b) Does not involve a burden out of all proportion to the benefit deriving from restitution instead of compensation.’

\(^{290}\) Hall, above n 1, 181.

\(^{291}\) *Cambodia v Thailand* (Merits) ICJ Reports 1962 at 6.


(b) Compensation

Compensation is a form of reparation that may be payable if restitution is not available, or is not sufficient to effect full reparation. Restitution is rarely sufficient to ‘wipe out all the consequences’ of an illegal act.294 In practice, compensation is a much more common remedy than restitution.295 Generally, if causation is proven, the wrongdoer State is ‘held responsible for all consequences, not being too remote, of its wrongful conduct.’ 296 Thus, compensation requires proof of causation.

Compensation is provided for in Draft Article 36.297 As Draft Article 36 provides, compensation covers ‘any financially assessable damage’. The term ‘damage’ refers to both material and moral damage.298 Compensation accrues interest from the date when the principal sum should have been paid until the date that it has been fully paid.299 However, the ILC noted that ‘tribunals have been reluctant to provide compensation for claims with inherently speculative elements’.300 The uncertainty around the current and future damage that climate change is or will be responsible for may undermine efforts to obtain compensation. Environmental harm must cause

294 See Case concerning the factory at Chorzów (Germany v Poland) (Merits) [1928] PCIJ (ser A) No 17, 47.
295 Hall, above n 1, 182.
297 ILC Draft Articles, art 36 (Compensation):
‘1. The State responsible for an internationally wrongful act is under an obligation to compensate for the damage caused thereby, insofar as such damage is not made good by restitution.
2. The compensation shall cover any financially assessable damage including loss of profits insofar as it is established.’
298 ILC Draft Article 31(2).
The ILC Commentaries provide the following explanation of material and moral damage: “Material” damage here refers to damage to property or other interests of the State and its nationals which is assessable in financial terms. “Moral” damage includes such items as individual pain and suffering, loss of loved ones or personal affront associated with an intrusion on one’s home or private life.’: ILC Commentaries, para (5) to Draft Art 31.
299 ILC Draft Articles, art 38.

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‘financially assessable damage’\textsuperscript{301} rather than ‘economically assessable’ damage.\textsuperscript{302} American, Italian and Russian law recognise the valuation of depleted natural resources as a form of financially assessable damage.\textsuperscript{303}

The decisions of the UN Compensation Commission (UNCC) regarding environmental damage caused by Iraq may provide important precedents for the problem of climate change damage. The UNCC examined issues of valuation, restoration and monitoring.\textsuperscript{304} The UN Security Council had previously determined that Iraq was liable for ‘any direct loss, [or] damage, including environmental damage and the depletion of natural resources … as a result of Iraq’s unlawful invasion and occupation of Kuwait.’\textsuperscript{305} The UNCC decided that this Security Council ruling covered, \textit{inter alia}, compensation for the clean up and restoration of the environment, compensation for reasonable measures used to assess and monitor environmental damage and damage to people, and finally reimbursement for the costs of clean up assistance.\textsuperscript{306} The UNCC required clear evidence linking the environmental damage to Iraq’s invasion.

To some extent, the UNCC provided for the reinstatement of the \textit{status quo ante} provided that the ‘primary emphasis must be placed on restoring the environment to

\begin{footnotesize}
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\item ILC Draft Articles, art 36.
\item ILC Report (2000) GAOR A/55/10, Ch. IV para 193.
\item SC Res 687, UN SCOR, 2981\textsuperscript{st} mtg, UN Doc S/RES/687 (3 April 1991).
\item UNCC Gov Council, Decision 7, revised 16 March 1992, para 35; UNCC F4 2\textsuperscript{nd} Decision (2002) paras 29 and 32-5.
\end{enumerate}
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pre-invasion conditions, in terms of its overall ecological functioning, rather than on
the removal of specific contaminants or restoration of the environmental to a particular
condition. Where restoration was impossible or unreasonable, the UNCC ordered
the cost of making an equivalent provision. The UNCC did not exclude
environmental damage with no commercial value.

However, the legal situation is unique as the UNCC’s mandate was provided by the
UN Security Council resolution holding Iraq liable. It would be more difficult for an
international court to adopt this approach to the problem of climate change damage.
Furthermore, international cases where compensation has been obtained are the
exceptions.

Past cases of environmental damage indicate that particular aspects of environmental
damage are recoverable. For example, compensation for the costs of clean up and
restoration are recoverable as well as compensation for damage to private property and
people. However, environmental damage (and climate change damage in particular)
is broader than these categories. For example, climate change threatens to cause the
collapse of ecosystems and loss of wildlife and biodiversity.

There are certain universal requirements established under the principles of
compensable damage. Under these principles, the damage must be (1) certain and
specific; (2) proven and (3) quantifiable. The first two elements are questions of
causation. The third element is generally hard to fulfil in environmental cases because

308 UNCC F4 Claims 5th Decision (2006) para 82.
309 UNCC F4 Claims 5th Decision (2006), para 57.
310 Guruswamy, above n 8, 212.
311 See e.g. Trail Smelter Arbitration (United States v Canada) 3 RIAA 1938 (1949).
312 Marie-Louise Larsson, The Law of Environmental Damage (Dordrecht: Kluwer Law International,
1999), 536.
methods of assessing environmental damage are under-developed. However, a court or tribunal could apply the tests developed by the UNCC to include the costs of clean up and restoration of the environment, compensation for reasonable measures used to assess and monitor environmental damage and damage to people.

As with restitution, there is risk that an order for compensation may place too much of a burden upon a wrongdoing State and be contrary to the principle of common but differentiated responsibility. However, if coupled with a fair form of apportionment of responsibility, compensation may provide an appropriate form of reparation. Furthermore, compensation could include insurance plans and technology transfers to aid the victim State in improving scientific and research capacities, and building infrastructure to adapt to climate damage.

3. Satisfaction

A further possible remedy is satisfaction. Draft Article 37 sets out this obligation and provides examples of satisfaction. As provided in Draft Article 37, satisfaction may consist of a formal apology or some other acknowledgement of the breach. In practice, satisfaction is only used as a remedy in situations where the damage is not financially assessable and constitutes an affront to the dignity of the victim State. It is unlikely that a claimant State would seek satisfaction as its first choice of remedy as restitution.

313 Ibid.
314 Burkett, above n 298, 531.
315 ILC Draft Articles, art 37 (Satisfaction):
   ‘1. The State responsible for an internationally wrongful act is under an obligation to give satisfaction for the injury caused by that act insofar as it cannot be made good by restitution or compensation.
   2. Satisfaction may consist in an acknowledgement of the breach, an expression of regret, a formal apology or another appropriate modality.
   3. Satisfaction shall not be out of proportion to the injury and may not take a form humiliating to the responsible State.’
316 Hall, above n 1, 183. See e.g. (New Zealand v France) (1990) RIAA, Vol XX, 217 at 272-3. In this case, the Secretary-General of the UN ruled that ‘the Prime Minister of France should convey to the Prime Minister of New Zealand a formal and unqualified apology for the attack’: at 516.
and/or compensation would provide a more useful outcome for remedying the situation.

However, satisfaction could provide an appropriate remedy for climate change damage. For instance, the wrongdoing State could provide an apology that fully accepts responsibility for their excess emissions.\footnote{Burkett, above n 298, 531; Minow, above n 282, 115.} As observed by Minow, ‘the methods for offering and accepting an apology ... both reflect and help to constitute a moral community. The apology reminds the wrongdoer of community norms because the apology admits to violating them.’\footnote{Minow, above n 282, 114.} Furthermore, a tribunal or court could order more creative forms of satisfaction. For instance, a wrongdoing State could be ordered to raise public awareness of climate change and its impacts.\footnote{Burkett, above n 298, 534.} The remedy of satisfaction would not require any apportionment of responsibility and would not overburden any wrongdoing State.

4. **Counter measures**

Articles 49-53 of the Draft Articles provide that the victim State is entitled to resort to countermeasures to induce compliance or may request reparations.\footnote{Note that the ILC Draft Articles do not encompass the entire corpus of international law on countermeasures. Rosemary Rayfuse, ‘Countermeasures and High Seas Fisheries’ (2004) 51(1) Netherlands International Law Review 41, 45.} Countermeasures refer to measures that a State may utilise which are technically in breach of an international obligation that the State holds in relation to the wrongdoing State, yet are justified on the basis that the wrongdoing State is itself in breach of an international obligation.\footnote{Rayfuse, above n 326; Hjörtur bragi Sverrisson, Countermeasures, the International Legal System and Environmental Violations: When Two Wrongs Make a Right for the Environment (Amherst: Cambria Press, 2008).}
Although countermeasures can damage the international legal system,\textsuperscript{322} they provide the only means of enforcing most of international environmental law.\textsuperscript{323} Enforcement of international environmental law is difficult and orders of the ICJ have previously been ignored by States.\textsuperscript{324} Furthermore, the UN has never taken enforcement action in relation to international environmental law and is unlikely to do so.\textsuperscript{325} Countermeasures work best where there is a clear international obligation but effective remedies are scarce.\textsuperscript{326}

There are a number of requirements that States must satisfy to utilise countermeasures. The State must have called upon the wrongdoing State to discontinue the wrongful conduct or provide reparations prior to commencing countermeasures. Although this requirement is not set out in the ILC Draft Articles it is implied in Draft Article 47.\textsuperscript{327} Furthermore, countermeasures be taken in response to an unlawful act; must be proportionate (‘commensurate with the injury suffered taking into account the rights in question’) and must have the purpose of inducing the ‘wrongdoing state to comply with its obligations under international law, and … must therefore be reversible’.\textsuperscript{328}

The meaning of proportionality has been debated by commentators.\textsuperscript{329} However, it appears that the countermeasures must be proportionate to the harm caused by the

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\item Sverrisson, above n 327, 8.
\item For example, the US refused to comply with the ICJ orders in Military and Paramilitary Activities in and Against Nicaragua (Nicaragua v United States) [1986] ICJ 14. See Mary Ellen O’Connell, ‘Enforcing Monetary Judgments of the International Court of Justice’ (1990) 30 Virginia Journal of International Law 891, 927.
\item Sverrisson, above n 327, 10.
\item Ibid, 150. Also see the Gabčíková-Nagymaros Project (Hungary v Slovakia) [1997] ICJ Rep. 7 (the injured State must have ‘called upon the State committing the wrongful act to discontinue its wrongful conduct or make reparation for it.’)
\item Gabčíková-Nagymaros Project (Hungary v Slovakia) [1997] ICJ Rep. 7, 55-57, [83-87].
\end{enumerate}
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breach of international law; the obligation infringed; and the amount of effort required to achieve the objectives of the countermeasures.\footnote{330} It is conceivable that countermeasures for climate change damage could meet the requirements of proportionality provided that a clear obligation can be identified. As was discussed in Chapters 4 to 6, it may be difficult to identify such an obligation.

One possible approach for victim States would be to use trade countermeasures to enforce an obligation relevant to climate change damage. For example, the US placed an embargo on imports of Tuna caught by Mexican fishers on the basis that Mexico was obliged to reform its tuna fishing techniques to reflect customary international law.\footnote{331} Mexico took the matter to the dispute resolution panel of the General Agreement on Tariffs and Trade (GATT)\footnote{332} and the panel held that the US embargo violated GATT.\footnote{333} As a result, the US withdrew its embargo. Thus, it may be difficult for a State to take trade countermeasures for the problem of climate change damage given that such action may be in breach of international trade law.\footnote{334}

However, in this example Mexico had not breached international law but instead was not meeting US best practice, which was not yet customary international law. If the climate change damage was wrongful under international law, there is no legal rule to

\footnote{331} Sverrisson, above n 327, 4.
\footnote{333} General Agreement on Tariffs and Trade, annex 1A to the Marrakesh Agreement Establishing the World Trade Organisation, concluded at Marrakesh, 15 April 1994, entered into force 1 January 1995, 1867 UNTS 3, reprinted in 33 ILM 15 (1994). GATT provides that States can restrict trade for the purpose of environmental protection: arts XX and XXI.
\footnote{334} But see critique of the GATT decision: O’Connell, ‘Using Trade to Enforce International Environmental Law’, above n 309.
\footnote{334} Also see Malgosia Fitzmaurice, ‘International Environmental Law as Special Field’ (1994) 25 Netherlands Yearbook of International Law 181, 216.

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prevent a claimant State from taking trade countermeasures. However, countermeasures (and particularly those that are trade-based) are more available to rich developed States as opposed to poor developing States. Therefore, the feasibility of victim States with existing vulnerabilities using countermeasures in the context of climate damage is doubtful.

J. Conclusion

This chapter has examined the rules of attribution and responsibility under international law, otherwise known as the ‘secondary rules’ of responsibility. In order to bring a case, the claimant State must establish standing, either as an injured State or under one of the public interest categories. The establishment of State responsibility requires proof of an internationally wrongful act. The first element is that the conduct is an act or omission attributable to the respondent State under international law. The second element is that the act or omission constitutes a breach of an international obligation.

The greenhouse gas emissions of private corporations and individuals may be attributed to a respondent State if it has failed to exercise due diligence to prevent the commission of an internationally wrongful act. The obligations contained in the UNFCCC and LOSC do not provide sufficiently clear positive obligations for such action. However, Article 3.1 of the Kyoto Protocol established specific and clear obligations for Annex B Parties to reduce their greenhouse gas emissions in the

336 Note that the reference to Annex B Parties is intentional here and elsewhere despite it being common practice by other authors to refer to the Annex I Parties in this context. The justification for this approach is that it is only the Annex B Parties for whom Article 3.1 of the Kyoto Protocol is applicable. The Annex I Parties of the UNFCCC are not bound by the Kyoto Protocol unless they are also Annex B Parties.
period 2008-2012 by their specific QELRO targets. A State that fails to meet its QELRO target could be held responsible for a failure of due diligence.

A further challenge in establishing attribution is that there is a multiplicity of States whose different conduct may result in the commission of the same internationally wrongful act. The multilateral nature of climate change makes pinpointing individual States virtually impossible. However, there is some scope for multiple attribution in accordance with Article 3.1 of the Kyoto Protocol which differentiates individual State obligations as part of collective mitigation action.

If a claimant State seeks reparations, it will face the difficult task of establishing causation. The traditional ‘but for’ test would require proof that without the respondent State’s emissions, the damage suffered would not have occurred. This will be a virtually impossible task. Probabilistic methods of establishing factual causation are better suited to the problem of climate change, but will not resolve all issues of causation. Most importantly, it may be difficult to show that the respondent State’s conduct has caused a ‘material’ increase in risk of the harm occurring.

Assuming that factual causation can be made out under the probabilistic approach, a claimant State would also need to prove legal causation. The fact that all greenhouse gas emissions contribute to climate change damage may support a finding that there is a natural sequence between a State’s wrongful conduct and the specific damage suffered by a claimant State. Given the long history of climate science and international action taken since 1992, a claimant State should be able to establish foreseeability.
The task of apportioning responsibility for climate change damage will not be an easy one. States are only responsible for the consequences that can be attributed to their own actions (sole responsibility). There is no clear international law on how to allocate responsibility when there are multiple wrongdoers. There is some case for allocating responsibility on the basis of joint and several liability. However, the lack of a right to recourse may prohibit such an approach.

Market share liability could be adopted by apportioning liability amongst States on the basis of each State’s share of total greenhouse gas emissions. However, this approach is not found in international law and has little support in domestic legal systems. Therefore, it is unlikely to be applied by an international court or tribunal.

An alternative approach would be to use the principle of common but differentiated responsibility by holding States liable in common for their emissions, but differentiated on the basis of historical contributions and ability to act. This principle could provide a persuasive basis to apportion liability to developed States in accordance with their contribution to global greenhouse gas emissions. Alternatively, the Kyoto Protocol may represent an ex ante apportionment of responsibility that could be used to apportion responsibility for climate change damage, particularly if claims are brought based on this instrument. However, the Kyoto Protocol is only applicable to State Parties and does not apply to some major emitters.

The defence of consent may apply to international climate litigation, particularly as it appears that State Parties to the Kyoto Protocol have consented to a level of climate damage. However, States that exceed their QELRO target would not have the benefit of this defence. Furthermore, this defence may not be applied where the claimant State has entered a reservation to protect its recourse to the rules of State responsibility for
the adverse effects of climate change. The defence of necessity would likely further reduce legal exposure because there is some case to argue that Parties that are dependent on fossil fuels could cite economic necessity.

There are a suite of possible remedies that could apply to climate change damage. Cessation could be ordered as a gradual process regulated over a period of time. However, such an order would be a bold measure from an international court or tribunal. Restitution would be virtually impossible because the impacts of climate change are generally irreversible. However, there may be some scope for clean up or repair of the environment as part of restitution. Compensation, coupled with an apportionment of responsibility, could provide an appropriate form of reparation. Satisfaction could come in the form of an apology or more creative measures such as orders for public awareness campaigns.

Finally, international law allows victim States to utilise countermeasures, provided that specific requirements are met. Although trade embargoes could provide an effective form of countermeasure, such initiatives are more available to rich developed States and relatively inaccessible for poor developing States. As a result, the States most vulnerable to climate damage are unlikely to use such countermeasures.

Overall, the analysis contained in this chapter has demonstrated that the rules of State responsibility provide some scope for international climate litigation. There are creative approaches that could be adopted in relation to attribution, causation and apportionment of responsibility. The overarching difficulty is that State responsibility is an under-developed area of international law that may not be able to adopt such creative formulations. A summary of the key findings of this chapter is presented in Table 6-3.
<table>
<thead>
<tr>
<th>Topic area</th>
<th>Questions</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standing</td>
<td>Is there scope to establish standing in international climate litigation?</td>
<td>An injured State would be able to establish standing. The establishment of public interest standing under international law is more controversial.</td>
</tr>
<tr>
<td>Attribution</td>
<td>Can the acts of private corporations and individuals be attributed to a respondent State?</td>
<td>The acts of private entities can be attributed to the State by its failure to exercise due diligence to prevent commission of an internationally wrongful act (e.g. Annex B Parties meeting their QELRO target under Article 3.1 of the Kyoto Protocol).</td>
</tr>
<tr>
<td></td>
<td>Can individual States be allocated attribution for climate change damage when there is a responsibility for a collective failure?</td>
<td>Multiple attribution is difficult to establish where different conduct of States results in the commission of the same internationally wrongful act. Attribution may be established for Article 3.1 of the Kyoto Protocol which allocates individual State obligations as part of collective action.</td>
</tr>
<tr>
<td>Causation</td>
<td>Can factual causation be established for climate damage?</td>
<td>Causation would be virtually impossible to establish under the ‘but for’ test because no one State is responsible for climate change. Probabilistic approaches are more suitable to climate change, but may not resolve issues of causation.</td>
</tr>
<tr>
<td></td>
<td>Can legal causation be established for climate damage?</td>
<td>Climate change is a normal consequence of anthropogenic greenhouse gas emissions. All greenhouse gas emissions contribute to climate change damage so there may also be a natural sequence between a State’s wrongful conduct and the specific damage suffered. From at least 1992, climate change was or should have been foreseeable.</td>
</tr>
<tr>
<td>Allocation of responsibility</td>
<td>On what basis can responsibility for climate change damage be allocated where there are multiple wrongdoers?</td>
<td>The ordinary rule is that States are only individually responsible. Individual responsibility would likely result in too much or too little responsibility for wrongdoing States. Alternative formulations, such as joint and several liability, market share liability and common but differentiated responsibility, could be applied to climate damage. The principle of common but differentiated responsibility could be used to apportion liability to developed States in accordance with their contribution to global greenhouse gas emissions.</td>
</tr>
<tr>
<td>Defences</td>
<td>Are there any defences that may preclude liability?</td>
<td>State Parties to the Kyoto Protocol have consented to a level of climate damage. However, States have not consented to emissions beyond the QELRO targets and some States have entered reservations. Respondent States may rely upon the defence of necessity, citing potential economic damage.</td>
</tr>
<tr>
<td>Remedies</td>
<td>If a case is successful, what remedies may be available for a claimant State?</td>
<td>Gradual cessation over a period of time could be ordered. Restitution is impossible because climate damage is generally irreversible. However, orders for clean up or repair of the environment could be ordered. Compensation, coupled with an apportionment of responsibility, could provide an appropriate form of reparation. Satisfaction could be ordered in the form of an apology or creative forms such as public awareness campaigns.</td>
</tr>
</tbody>
</table>
7. TUVALU V AUSTRALIA

This chapter seeks to consolidate and test the preliminary findings of the thesis through their application in an illustrative hypothetical case study of *Tuvalu v Australia*. The purpose of this chapter is to answer the second research question: ‘Would Tuvalu succeed in a claim regarding climate change damage against Australia under the UNFCCC, Kyoto Protocol and LOSC?’ This research question aims to investigate the application of the law, which is often a contentious aspect of doctrinal research. The aim of the chapter is to utilise a plausible and hypothetical case study to highlight the realities of potential international climate litigation. The use of this hypothetical case study provides an opportunity to evaluate the possible ‘real world’ application of the principles and issues previously discussed.

Section A provides an introduction of Tuvalu and Australia as Parties in the hypothetical case study. Section B contains the first scenario (Scenario 1) which concerns a claim by Tuvalu alleging Australia has breached Article 4.2 of the UNFCCC. This section examines Australia potential exposure to legal risk under Article 4.2 through consideration of a range of elements, namely: standing, jurisdiction, attribution, breach, causation, apportionment of responsibility, defences and remedies. This scenario concerns sea level rise and the alleged contamination of Tuvalu’s fresh water reserves. Section C discusses the option of Tuvalu bringing a case against Australia under Article 3.1 of the Kyoto Protocol. However, a full scenario is not developed in this section because Australia is on track to meet its obligation in Article 3.1. Section D presents the second hypothetical scenario (Scenario 2) where Tuvalu alleges that Australia has breached Article 194 of the LOSC. The same
elements are considered in this scenario as in Scenario 1. However, in this case the
damage alleged concerns ocean acidification. Finally, Section E concludes the findings
of this chapter.

A. Tuvalu v Australia

As discussed in Chapter 1, Tuvalu is one of the small island developing States (SIDS)
in the South Pacific that is comprised of coral atolls. The name ‘Tuvalu’ is traditional
and roughly translates to ‘eight islands.’ This name reflects the fact that although
Tuvalu is made up of nine islands, only eight of these are inhabited. The islands are
located between 4˚36’S and 10˚45’S of the Equator and longitude 176˚8˚E and
179˚52˚E of Greenwich.1 Tuvalu’s total land area is 26km2 and its highest point about
sea level is about 4.5m.2

Most of the population is Polynesian (96%) and a small number are Micronesian
(4%).3 Indigenous people own about 90% of the land while the State owns the
remainder.4 There is a maxim in the South Pacific which says: ‘land is life, without
land there is no life.’5 Tuvaluans have utilised the land and sea using traditional
practices and knowledge handed down through generations. Tuvaluans have an
intricate relationship with the environment of Tuvalu, including its biodiversity. Their
traditional knowledge and practices are expressed through customary rites and dances

1 I M Madaleno, ‘Climate Change in the Pacific: Tuvalu Case-study’ in Y Villacampa Esteve and C. A.
International Review; H Yamano, et al, ‘Atoll Island Vulnerability to Flooding and Inundation Revealed
by Historical Reconstruction: Fongafale Islet, Funafuti Atoll, Tuvalu’ (2007) 57 Global & Planetary
Change 407.
3 Central Intelligence Agency, The World Factbook: Tuvalu
4 Eric L Kwa, ‘Climate Change and Indigenous People in the South Pacific’, IUCN Academy of
Environmental Law Conference on “Climate Law in Developing Countries post-2012: North and South
Perspectives” (2008).
5 Ibid, 1.
that celebrate their environment. The preamble of the Tuvalu Constitution provides that custom and tradition are a guiding legal principle and source of law.\(^6\)

Tuvalu could eventually become uninhabitable due to the effects of climate change.\(^7\)

For Tuvaluans, climate change threatens their land, natural resources, livelihoods and State.\(^8\) The loss of land and natural resources will affect their cultural and social identity. If forced to migrate, Tuvaluans will need to adopt new and unfamiliar customs and practices of their receiving States.\(^9\) It is likely that relocation would cause substantial loss of traditional knowledge and customs. In 2002, Tuvalu announced its intention to bring an interstate dispute against Australia and the U.S. over climate change.\(^10\) To date, Tuvalu has not brought the threatened litigation but it remains a possibility.

Australia has been selected as the respondent State because of its close geographical, social, and political relationship with Tuvalu and its historical failure to mitigate greenhouse gas emissions.\(^11\) International litigation could provide an important means

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\(^6\) The Constitution of Tuvalu (1 October 1978) (‘WHEREAS the people of Tuvalu desire to constitute themselves as an independent State based on Christian principles, the Rule of Law, and Tuvalu custom and tradition’).


\(^9\) Kwa, above n 4, 7.


\(^11\) N Bita, ‘Island Evacuation a Greenhouse Solution’ The Weekend Australian, 8 June 1996, 8; C Farbotko, ‘Tuvalu & Climate Change: Construction of Environmental Displacement in the Sydney Morning Herald’ (2005) 87B(4) *Geografiska Annaler. Series B, Human Geography* 279. Canada is another possible defendant. Canada’s potential liability to SIDS has been previously examined. See Phillip Barton, ‘State Responsibility and Climate Change: Could Canada be Liable to Small Island States?’ (2002) 11 *Dalhousie Journal of Legal Studies* 63. However, this was before Canada had failed to meet its Kyoto target and withdrew from the Kyoto Protocol so there could be a case to re-examine its potential liability.
for Tuvalu to seek redress for climate damage. A favourable ruling by an international court or tribunal for Tuvalu could help to clarify the obligations of greenhouse gas intensive States and may provide the impetus for a strong international agreement on climate change.

B. **UNFCCC**

In Scenario 1, Tuvalu files a case in the International Court of Justice (ICJ) alleging that Australia has breached its obligations under the United Nations Framework Convention on Climate Change (UNFCCC). The UNFCCC has been established by the international community to respond to the threat of climate change and concerns mitigation of greenhouse gas emissions. It entered into force on 21 March 1994.

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13 Tribunals can consider the interpretation and application of treaties, including issues around breach and non-compliance. See, Case concerning the factory at Chorzów (Germany v Poland) (Jurisdiction) [1927] PCJ (ser A) No 9, 20-25. See also, German Interests in Polish Upper Silesia Case (Germany v Poland) [1925] PCJ (ser A) No 6, 24-5; Interpretation of the Peace Treaties Case with Bulgaria, Hungary and Romania (Advisory Opinion) [1950] ICJ 75; Case Concerning Oil Platforms (Iran v US) [1996] ICJ 803.
15 United Nations Framework Convention on Climate Change, opened for signature 9 May 1992, 1771 U.N.T.S. 107, 165 (entered into force 21 March 1994) [hereinafter ‘UNFCCC’]. Some commentators have argued that the UNFCCC does not contain any rights or obligations (see e.g. Akiko Okamatsu, ‘Problems and Prospects of International Legal Disputes on Climate Change’, Berlin Conference on the Human Rights Dimensions of Global Environmental Change (2005)). On the other hand, the UNFCCC is a legally binding instrument and many commentators have argued that it created substantive commitments (see e.g. Philippe Sands, *Principles of International Environmental Law* (Cambridge University Press, 2nd ed, 2003)). See discussion in Chapters 2 and 3.
16 UNFCCC, preamble paragraphs 1 & 2.
Tuvalu contends that Australia failed to reduce its emissions to 1990 levels by the year 2000 (Article 4.2 of the UNFCCC).\textsuperscript{17}

In October 2011, Tuvalu declared an emergency due to a severe shortage of fresh water.\textsuperscript{18} Tuvalu alleges that its fresh water crisis is partly due to the effects of climate change. Tuvalu claims that although the low level of rainfall was due to the La Niña weather pattern, underground reserves of fresh water have been contaminated by salt water from rising sea levels as a result of climate change. Tuvalu seeks (1) an order of cessation of the breach; and (2) an order for compensation for the costs of installing additional water desalinisation plants.

\textsuperscript{17} UNFCCC, art 4.2 provides: ‘The developed country Parties and other Parties included in Annex I commit themselves specifically as provided for in the following:
(a) Each of these Parties shall adopt national policies and take corresponding measures on the mitigation of climate change, by limiting its anthropogenic emissions of greenhouse gases and protecting and enhancing its greenhouse gas sinks and reservoirs. These policies and measures will demonstrate that developed countries are taking the lead in modifying longer-term trends in anthropogenic emissions consistent with the objective of the Convention, recognising that the return by the end of the present decade to earlier levels of anthropogenic emissions of carbon dioxide and other greenhouse gases not controlled by the Montreal Protocol would contribute to such modification, and taking into account the differences in these Parties’ starting points and approaches, economic structures and resource bases, the need to maintain strong and sustainable economic growth, available technologies and other individual circumstances, as well as the need for equitable and appropriate contributions by each of these Parties to the global effort regarding that objective. These Parties may implement such policies and measures jointly with other Parties and may assist other Parties in contributing to the achievement of the objective of the Convention and, in particular, that of this subparagraph;
(b) In order to promote progress to this end, each of these Parties shall communicate, within six months of the entry into force of the Convention for it and periodically thereafter, and in accordance with Article 12, detailed information on its policies and measures referred to in subparagraph (a) above, as well as on its resulting projected anthropogenic emissions by sources and removals by sinks of greenhouse gases not controlled by the Montreal Protocol for the period referred to in subparagraph (a), with the aim of returning individually or jointly to their 1990 levels these anthropogenic emissions of carbon dioxide and other greenhouse gases not controlled by the Montreal Protocol. This information will be reviewed by the Conference of the Parties, at its first session and periodically thereafter, in accordance with Article 7.’ (emphasis added)

1. Standing

Tuvalu would need to show that it has standing to bring the case. As discussed in Chapter 6, there are five categories of standing under international law. The categories are summarised in Table 7-1 below.

<table>
<thead>
<tr>
<th>Interest</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Injured State</td>
<td>(1) The obligation is owed to the injured State.</td>
</tr>
<tr>
<td></td>
<td>(2) The obligation is owed to either the international community or a group of States including the injured State.</td>
</tr>
<tr>
<td></td>
<td>(3) The State has been injured and the breach affects all States concerned.</td>
</tr>
<tr>
<td>Public interest standing</td>
<td>(4) The obligation concerns the protection of the collective interests of a group of States, including the claimant State.</td>
</tr>
<tr>
<td></td>
<td>(5) Where the obligation is owed to the international community as a whole (<em>erga omnes</em>).</td>
</tr>
</tbody>
</table>

Tuvalu would likely contend that the matter falls within the second category because the obligations are owed to the Parties to the UNFCCC, yet Tuvalu is specially affected. Furthermore, Tuvalu should be able to establish an individualised interest on the basis that it is extremely vulnerable to the impacts of climate change. Tuvalu is vulnerable due to its small size, geographical isolation, limited natural resources, ecological uniqueness and fragility, small economy with little diversification, high dependence on marine resources, susceptibility to sea level rise, economic openness, and poorly developed infrastructure. In recognition of this vulnerability, SIDS receive special consideration in the UNFCCC and have been recognised by the IPCC

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21 Ibid.

22 UNFCCC, at Preamble; Art. 4(8).
as more vulnerable to climate change than any other group of States.\textsuperscript{23} Thus, Tuvalu should be able to establish standing to bring its case.

Within the context of climate change, the atmosphere is the ‘common concern of mankind.’\textsuperscript{24} This means that there is a common legal interest amongst all States to protect and enforce the obligations for the protection of the atmosphere.\textsuperscript{25} The ‘common concern’ language used in the UNFCCC reflects the notion that all States have an individual and collective interest in its enforcement.\textsuperscript{26} Tuvalu could reason that climate change damage is damage to the commons and so should be subject to public interest claims.\textsuperscript{27}

However, as was discussed in Chapter 6, the public interest categories of standing are controversial under international law and conflict with the ICJ’s ruling in the Nuclear

\begin{itemize}
\item \textsuperscript{24} UN G.A. Resolution 43/53; \textit{Noordwijk Declaration of the Conference on Atmospheric Pollution and Climate Change}; UNFCCC, pmbl; UNEP/GC 15/36 (1989).
\item \textsuperscript{25} See also the legal status of the ozone layer in the \textit{Vienna Convention for the Protection of the Ozone Layer}, opened for signature 22 March 1985, 1513 UNTS 324 (entered into force 22 September 1988) [herein ‘Ozone Convention’] sec 3.2: (‘the layer of atmospheric ozone above the planetary boundary layer’). This definition indicates that the entire stratospheric layer is one global unity, without mentioning sovereignty, shared resources or common property.
\item \textsuperscript{26} Binnie, Boyle and Redgwell, 338. Also see the cases relating to atmospheric nuclear tests. These indicate that states can only use the atmosphere with reasonable regard for the rights of other states. However, this may only apply to nuclear testing and may not apply to the emission of greenhouse gas emissions.
\end{itemize}
Tests Cases. Furthermore, even if Tuvalu established standing under one of the public interest categories it would have only restricted access to remedies. Tuvalu would be able to claim cessation but to have access to reparations it would need to show damage to its interests. Therefore, it is in Tuvalu’s interest to establish standing as an injured State, most likely in the second category.

2. Jurisdiction

In this scenario, Tuvalu seeks to bring its case before the ICJ. The ICJ has the authority to decide treaty interpretation questions. The jurisdiction of the ICJ in contentious matters is established through the consent of States that are Parties to the dispute. There are a number of ways to establish ICJ jurisdiction, including: (a) through special agreement between the Parties (Article 36.1 of the ICJ Statute); (b) through treaties and conventions that specifically provide for the ICJ jurisdiction (Article 36.1 of the ICJ Statute); or (c) where the Parties have accepted the jurisdiction of the ICJ as compulsory ipso facto and without special agreement (Article 36.2-5 of the ICJ Statute).

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30 ILC Draft Articles, art 48(2).
33 ICJ Statute, art. 36(2)(a).
34 The Nauru Case was brought under the optional clause Art 36(1). Certain Phosphate Lands in Nauru (Nauru v Australia) [1992] ICJ Rep 240.
It is unlikely that Australia would accept a special agreement for the ICJ to have jurisdiction over the case (option (a)).\(^{35}\) Almost all of the cases in which the ICJ jurisdiction has been mutually agreed under Article 36(1)\(^{36}\) have related to boundary disputes in which both Parties sought an independent ruling.\(^{37}\) However, Tuvalu’s claim does not relate to a boundary dispute and it would not be in Australia’s interest to take the matter to the ICJ. The lack of viability of a special agreement is not unique to Tuvalu’s scenario, but reflects a shortcoming of the whole process. Arguably, it would not be in any potential respondent State’s national interest to accept jurisdiction in a case concerning climate change damage and thus it is unlikely that jurisdiction would be accepted.

In relation to option (b), Article 14 of the UNFCCC provides that States Parties may accept the jurisdiction of the ICJ as compulsory *ipso facto* and without special agreement, in relation to any Party accepting the same obligation. However, none of the Parties to the UNFCCC have accepted the ICJ jurisdiction under Article 14. Thus, neither of these options is currently viable for Tuvalu’s case.

In terms of option (c), Tuvalu has not accepted the jurisdiction of the ICJ as compulsory under Article 36.2-5 of the ICJ Statute, whereas Australia has done so

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\(^{35}\) Andrew Strauss, ‘Climate Change Litigation: Opening the Door to the ICJ’ in William C G Burns and Hari M Osofsky (Cambridge: Cambridge University Press, eds), *Adjudicating Climate Change* (2009), 339.

\(^{36}\) Cases in which the parties have mutually agreed to the ICJ’s jurisdiction under Article 36(1) include: *Minquiers and Ecrehos (France v. United Kingdom)* [1953] ICJ 47; *Sovereignty over Certain Frontier Land (Belgium v. Netherlands)* 1959 ICJ 209; *North Sea Continental Shelf (Germany v Netherlands)* [1969] ICJ 3; *Continental Shelf (Libya v Malta)* [1984] ICJ 3; *Frontier Dispute (Burkina Faso v Mali)* [1986] ICJ 554; *Land, Island and Maritime Frontier Dispute (El Salvador v Honduras, Nicaragua intervening)* [1992] ICJ 351; *Territorial Dispute (Libya v Chad)* [1994] ICJ 6; *Grabčikovo-Nagymaros Project (Hungary v Slovakia)*, [1997] ICJ 90.

Tuvalu would need to make a declaration accepting the ICJ’s compulsory jurisdiction if it were to bring its case, but would also need to be mindful of Australia’s reservation.

Australia’s reservation provides that ICJ jurisdiction does not apply to ‘any dispute in regard to which the Parties have thereto agreed or shall agree to have recourse to some other method of peaceful settlement.’ As was discussed in Chapter 3, the fact that Article 14 of the UNFCCC has not been implemented may mean that it does not provide an agreement constituting other means of peaceful settlement. On the other hand, Article 14.1 also provides for negotiation as a means of peaceful settlement. This may be sufficient to preclude jurisdiction.

The Kyoto Protocol compliance system could also constitute ‘some other means of peaceful settlement.’ The Marrakesh Accords established a compliance system for the Kyoto Protocol made up of a Compliance Committee with an Enforcement Branch and Facilitative Branch to hear matters of non-compliance. However, the Kyoto

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38. This declaration does not apply to: (a) any dispute in regard to which the parties thereto have agreed or shall agree to have recourse to some other method of peaceful settlement; (b) any dispute concerning or relating to the delimitation of maritime zones, including the territorial sea, the exclusive economic zone and the continental shelf, or arising out of, concerning, or relating to the exploitation of any disputed area of or adjacent to any such maritime zone pending its delimitation; (c) any dispute in respect of which any other Party to the dispute has accepted the compulsory jurisdiction of the Court only in relation to or for the purpose of the dispute; or where the acceptance of the Court’s compulsory jurisdiction on behalf of any other Party to the dispute was deposited less than 12 months prior to the filing of the application bringing the dispute before the Court.’ See generally, Gary L Scott and Craig L Carr, ‘The ICJ & Compulsory Jurisdiction: the Case for Closing the Clause’ (1987) 81 American Journal of International Law 57. Other Annex I Parties accepting ICJ jurisdiction include Austria, Belgium, Canada, Denmark, Japan, the Netherlands, New Zealand, Norway, Sweden, Switzerland and the United Kingdom. See Chapter 3.


41. See Jacob Werksman, ‘The Negotiation of a Kyoto Compliance System’ in Jon Hovi, Olav Stokke and Geir Ulfstein (eds), Implementing the Climate Regime: International Compliance (London:
Protocol compliance system is focused on compliance with the Kyoto Protocol obligations rather than issues of dispute settlement concerning the UNFCCC obligations. It does not appear to constitute another method of peaceful settlement for Tuvalu’s complaint in Scenario 1.

Applying Australia’s next reservation, if Tuvalu made a declaration accepting the ICJ’s compulsory jurisdiction, it would need to wait at least 12 months before bringing its case and it would need to show that it had not made the declaration ‘only in relation to or for the purpose of the dispute.’ It is beyond the scope of this chapter to consider what other purposes Tuvalu may have for accepting the ICJ compulsory jurisdiction. However, there would presumably be a range of other purposes for which Tuvalu would accept the ICJ compulsory jurisdiction.

Finally, Australia’s reservation provides that it does not apply to any dispute concerning or relating to the delimitation of the maritime zones. It could be argued that Tuvalu’s case under the UNFCCC is a matter that concerns or relates to the delimitation of maritime zones. In particular, it is not clear under the LOSC whether sea level rise will cause loss of territory or whether baselines could be frozen to ensure that States like Tuvalu will not lose territory. However, Tuvalu’s claim concerns

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42 Strauss, above n 35, 343-344.


44 The reservation provides that Australia’s declaration does not apply to ‘any dispute concerning or relating to the delimitation of maritime zones, including the territorial sea, the exclusive economic zone and the continental shelf, or arising out of, concerning, or relating to the exploitation of any disputed area of or adjacent to any such maritime zone pending its delimitation.’

ocean acidification and the intrusion of salt water into its freshwater supplies. Therefore, it does not concern or relate to the delimitation of maritime zones. Therefore, it would be difficult although not impossible for Tuvalu to establish jurisdiction in Scenario 1 through option (c), paying careful consideration to the reservations that apply to Australia’s acceptance of ICJ jurisdiction.

However, a further challenge is that Australia is likely to contend that the interests of other States will be affected by the outcome and that according to the indispensable Party principle, jurisdiction must be refused. Australia could reason that the interests of all other States would be the very subject matter of any decision as all States have emitted greenhouse gas emissions and that they are all ‘indispensable Parties.’ At a minimum, Australia could argue that all of the major emitters should be included in the dispute.

On the other hand, the indispensable Party principle represents the limits of the power of international tribunals to refuse jurisdiction. The ICJ has taken decisions on jurisdiction that demonstrate that it will generally accept jurisdiction even when the interests of other States may be affected. For example, the ICJ accepted jurisdiction in the Nauru Case against Australia even though Australia, the United Kingdom and New Zealand were all members of the Administering Authority of Nauru whose actions...

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46 Ibid.

47 Military and Paramilitary Activities (Nicaragua v United States) (Jurisdiction and Admissibility) [1984] ICJ 392, 431. See also Case concerning Land, Island and Maritime Frontier Dispute (El Salvador v Honduras) [1990] ICJ 3, 122.
were the subject of the dispute. On the other hand, the ICJ declined jurisdiction in the *East Timor Case* on the basis that Australia’s alleged responsibility to Portugal over agreements with Indonesia could not be determined in the absence of Indonesia. It appears that the difference between these two cases is that an assessment of the legality of Indonesia’s behaviour was a precondition to determining Australia’s responsibility in the *East Timor Case*, whereas questions of Australia’s responsibility the *Nauru Case* did not depend upon the legality of New Zealand the United Kingdom’s behaviour.

In Tuvalu’s hypothetical case, establishing jurisdiction in a case that potentially affects every State in the international community will present a significant hurdle. Therefore, Tuvalu may choose to bring its case against a group of major emitters rather than just Australia. However, this issue also depends upon the legal obligations under consideration.

The UNFCCC has been almost universally adopted so there is a multitude of possible respondent States. A particular difficulty with regard to Article 4.2 is that industrialised States are obliged to ‘individually or jointly’ reduce their emissions to 1990s levels. Although the ICJ could determine whether Australia has ‘individually’ met this target, a determination of whether Annex I Parties have ‘jointly’ met the target would make the acts of other Annex I Parties the subject matter of the court’s decision. This would

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49 *East Timor Case (Portugal v Australia)* [1995] ICJ 90, 102.
make it difficult for Tuvalu to establish jurisdiction at the ICJ unless the other Parties are joined.

3. **Attribution**

If jurisdiction is established, Tuvalu must specify and attribute acts of Australia that have allegedly breached Article 4.2 of the UNFCCC. As discussed in Chapter 6, there are two major issues likely to arise. First, can the acts of private entities be attributed to Australia? Second, can Australia be allocated attribution for climate change damage when there is responsibility for collective failure?

_(a) Attribution of the acts of private corporations and individuals to Australia_

Tuvalu may seek to attribute the acts of private entities to Australia on the basis that Australia has failed to exercise due diligence to prevent acts that breach Article 4.2 of the UNFCCC. The success of such an approach depends upon the existence of an explicit international obligation to act. Tuvalu claims that Article 4.2 of the UNFCCC required Australia to reduce its emissions to 1990 levels by the year 2000. However, in Chapter 3 it was found that Article 4.2 does not provide a concrete commitment for Annex I Parties to reduce greenhouse gas emissions. Although a timeline is provided in Article 4.2(a) and a target is provided in Article 4.2(b), there is no justification for reading these two elements together to create a commitment. Therefore, Article 4.2 does not provide a clear enough obligation to establish attribution by a failure to exercise due diligence. If Article 4.2 had been more clearly worded, such attribution may have been possible.

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An alternative for Tuvalu would be to seek attribution of acts by Australia’s State-owned corporations that are high greenhouse gas producers or emitters. For example, corporations owned by the state of Queensland have a stake of about 65% of that state’s electricity generation capacity.\(^53\) ILC Draft Article 4 provides that the acts or omissions of State organs or agents are attributable to the State.\(^54\) Tuvalu would need to demonstrate that these State-owned corporations are exercising elements of government authority. A functional assessment\(^55\) of these State-owned corporations may ultimately preclude attribution of their conduct to Australia because the relevant activities are not clearly within the scope of government authority. On the other hand, it could be argued that the provision of electricity is a core government activity for many States and that those acts should be attributed to the State. Overall, attribution of emissions by private and public entities to Australia will be a difficult challenge for Tuvalu.

\(b\) Allocation of attribution to Australia for a problem of collective failure

Attribution under international law is determined on an individual basis and is generally an exclusive process. Nonetheless, there is scope for multiple attribution where the primary rules provide scope for such attribution.\(^56\) Article 4.2 of the UNFCCC is ambiguous in many respects, including the question of whether individual conduct can be identified. Although paragraph (a) implies individual attribution (‘Each of these Parties shall’), paragraph (b) provides for individual or joint attribution (‘aim

\(^{54}\) ILD Draft Articles, art 4.
\(^{56}\) See e.g. Eurotunnel Arbitration (The Channel Tunnel Group Ltd and France –Machne S.A. v United Kingdom and France) [2007] 132 ILR 1.
of returning individually or jointly to their 1990 levels’). The combination of individual and multiple attribution in Article 4.2 would make it difficult to determine whether the obligation requires specific individual conduct by a State. However, the challenges associated with attribution may be overcome if an appropriate method of apportioning responsibility is applied (see Section B.6 below).

4. Breach

Assuming that Article 4.2 is applied individually, Australia failed to reduce its emissions to 1990 levels by the year 2000. In fact, Australia’s greenhouse gas emissions increased by 14.5% from 1990 to 1998. Even if Australia sought to rely upon the joint reductions made by Annex I Parties, it would likely still be in breach of this obligation. On the other hand, Article 4.2 provides differential treatment of Annex I Parties on the basis of a variety of factors. These are their different ‘starting points and approaches,’ their ‘economic structures and resource bases’, their need to ‘maintain strong and sustainable economic growth,’ the ‘available technologies’ and ‘other individual circumstances.’ Differential treatment is also provided for on the basis of the ‘need for equitable and appropriate contributions’ by each of the Annex I Parties. These differential elements create uncertainty regarding what is required by States such as Australia. However, they do not mean that there is no obligation.

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58 Other States individual greenhouse gas emissions rose from 1990-8 as follows: Canada +13.2%; Japan +9.7%; New Zealand +2.5%; and United States +11.2%.
60 Differential norms such as that found in Article 4.2 may be contrasted with the certainty found in absolute norms which provide for identical treatment to all parties without variation. See e.g. *International Covenant on Civil and Political Rights*, opened for signature 6 December 1966, 999 UNTS 171 (entered into force 23 March 1976) art 2(1): (‘[e]ach State Party to the present Covenant undertakes to respect and to ensure to all individuals within its territory and subject to its jurisdiction the rights recognised in the present Covenant.’) See Daniel Barstow Magraw, ‘Legal Treatment of Developing Countries: Differential, Contextual & Absolute Norms’ (1989) 1 *Colorado Journal of International Environmental Law and Policy* 69, 76.
Tuvalu could reason that the central obligation contained in Article 4.2 is not altered by these differential elements but that only the process of implementation is varied.\textsuperscript{61} Australia would likely contend that its individual circumstances require a flexible application of Article 4.2, particularly as its economy depends heavily on emissions-intensive export industries. Australia may claim that the international community has recognised this reliance and that this is why it is one of the few Parties to the Kyoto Protocol allowed to increase its emissions in the first commitment period.\textsuperscript{62} In response, Tuvalu could argue that the first commitment period in the Kyoto Protocol applies to 2008 to 2012 and should not be used to negate Australia’s individual obligation under Article 4.2. Even so, the ambiguity and differential treatment allowed in Article 4.2 is likely to further undermine Tuvalu’s case in Scenario 1.\textsuperscript{63} Furthermore, Australia is likely to persuasively argue that its quantitative emission limitation and reduction obligation (‘QELRO’) target in the Kyoto Protocol has superseded its obligation to mitigate emissions under Article 4.2 (see Chapter 3).

5. \textit{Causation}

In this scenario, Tuvalu alleges that greenhouse gas emissions by Australia have caused climate change, resulting in sea level rise and the contamination of its underground freshwater reserves. In order to prove causation, Tuvalu would need to

\begin{footnotesize}
\begin{itemize}
\item[62] Australia’s target for the first commitment period is 108\%. The only other Parties allowed to increase their emissions are Iceland (110\%) and Norway (101\%). The European Community accepted a target of 92\%. Kyoto Protocol, Annex B.
\item[63] An alternative possible interpretation of Article 4.2 is that it creates an obligation for industrial States to modify their long-term trends of greenhouse gas emissions. Verheyen, above n 51, 82. However, this interpretation makes the obligation contained in Article 4.2 even more ambiguous and uncertain. See Chapter 3.
\end{itemize}
\end{footnotesize}
satisfy both factual and legal causation. For the purposes of this chapter, only the questions of specific causation are considered (on general causation see Chapter 6).

(a) Factual causation

(i) But for Australia’s greenhouse gas emissions, would Tuvalu’s climate damage have occurred?

In order to prove specific factual causation, Tuvalu would need to demonstrate that its underground water supplies have been contaminated by sea water. Tuvalu would also need to show that this contamination has been as a result of sea level rise. Monthly averaged sea level data is available from 1977 at Funafuti (1977-2001 and 1993-present). Satellite data is available from 1993 and in situ sea level data is available for 1950 to 2009 (reconstructed sea level). Satellite data reveals that Tuvalu has experienced sea level rise of about 5mm per year since 1993, totalling 9cm. This rate of sea level rise is higher than the global average of 2.8-3.6mm per year. The higher rate may be partly due to natural sea level fluctuations caused by El Niño Southern Oscillation (ENSO). This indicates that the sea level rise experienced by Tuvalu is not solely due to climate change but also a result of ENSO.

Sea level rise threatens fresh water supplies because many islands rely upon freshwater lenses for their water supplies. These freshwater lenses ‘float’ on seawater providing drinking water and contributing to the agricultural productivity of the land above it.

65 Ibid.
68 Ibid.
Figure 7-1 below portrays an idealised cross-section of a typical coral atoll and shows the main features of a freshwater lens.69 As sea water contaminates the fresh water lens, the quality and quantity of drinking water as well as agricultural output deteriorate. The IPCC has concluded with very high confidence that there is strong evidence that ‘under most climate change scenarios, water resources in small islands are likely to be seriously compromised.’70 There is evidence that this process of increased salinity is occurring in Tuvalu.71

The fact that Tuvalu may have experienced a higher rate of sea level rise due to ENSO indicates that sea level rise and salt water intrusion may have occurred even without the factor of anthropogenic climate change. Expert evidence would be required to establish that the salt water contamination was as a result of this sea level rise and not

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In most cases, the thickest part of the freshwater lens is displaced towards the lagoon side rather than in the centre as shown in the image. This is attributed to the lower permability sediments on the lagoon side slowing down the mixing of seawater and freshwater which enable a thicker freshwater zone to develop.

70 Ibid.

due to ENSO or some other stressor (such as poor water management). It may be that the ICJ would conclude that the added stress of ENSO means that the ‘but for’ test cannot be satisfied in this scenario.

In addition, to satisfy the ‘but for’ test, Tuvalu must also establish that if it was not for Australia’s wrongful emissions, the damage would not have occurred. Australia is the world’s ninth largest emitter in absolute terms, producing about 1.8% of the world’s greenhouse gas emissions. Climate change is a cumulative process and even if all of Australia’s emissions were removed, climate change and associated sea level rise would still occur. Thus, it would be difficult for Tuvalu to establish causation under the deterministic approach because if it were not for Australia’s emissions, it would likely still have suffered salt water intrusion as a result of other anthropogenic greenhouse gas emissions.

(ii) Did Australia’s greenhouse gas emission cause a material increase in risk for Tuvalu’s climate damage?

In such a context, it is possible that the ICJ may adopt a probabilistic approach to factual causation. As discussed in Chapter 6, the probabilistic approach has been adopted in many national jurisdictions and was argued for by Australia and New Zealand in the Nuclear Tests Cases. In order to satisfy this test, Tuvalu would probably need to show that Australia’s greenhouse gas emissions have caused a

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73 New South Wales Department of Primary Industries, Climate Change Research Priorities for NSW Primary Industries (October 2007).
The first aspect of applying the test would be to establish that anthropogenic emissions have caused a material increase in risk for the salt water intrusion. As discussed above, there is recent evidence of sea level rise in Tuvalu since 1993 as a result of anthropogenic climate change. Furthermore, science has established a strong connection between sea level rise and contamination of the fresh water lens of coral atolls. Thus, it is reasonable to conclude that even if ENSO is a significant factor in the damage, anthropogenic greenhouse gas emissions have caused a material increase in risk for the damage claimed.

However, Tuvalu would also need to prove that Australia’s emissions have caused a material increase in risk for the salt water intrusion. As discussed above, Australia produces about 1.8% of the world’s greenhouse gas emissions, with a multitude of other States and other entities also contributing to the problem. This contrasts to tort cases in national jurisdictions where only a handful of actors are typical. This may prevent a court or tribunal from finding that Australia’s conduct meets the threshold of a material increase in risk. However, if Australia’s conduct is seen as one part of collective wrongful conduct by a group of emitting States, then the ICJ may conclude that this behaviour has resulted in a material increase in risk for the salt water intrusion.

Tuvalu could also satisfy factual causation if the ICJ does not require a threshold for the respondent State’s contribution. The arguments made by Australia and New Zealand in the Nuclear Tests Cases did not rely upon a threshold and indeed indicated that a threshold should not be applied. In its pleadings, Australia contended that any additional exposure to radioactive contamination, no matter how small, substantially

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contributed to the risk of radiation-related injuries. It is uncertain whether the ICJ would adopt such an approach because of the importance of thresholds in national jurisprudence.

(c) Legal causation

(i) From an objective standpoint, is Tuvalu’s climate damage a natural and normal consequence of Australia’s greenhouse gas emissions?

The proximate cause test requires an objective consideration of whether there was a ‘natural sequence’ between the conduct and damage. It is by no means clear that the alleged damage suffered by Tuvalu is the natural and normal consequence of Australia’s greenhouse gas emissions. It could be argued that the relatively small contribution by Australia indicates that a clear sequence cannot be established between its specific emissions and Tuvalu’s damage. On the other hand, all past anthropogenic greenhouse gas emissions have contributed to the sea level rise experienced by Tuvalu because these emissions are indivisible. Thus, although Australia’s relative contribution is small, it may be reasonable to conclude that there is a natural sequence between its emissions and sea level rise suffered by Tuvalu. Tuvalu would also need to show that there is a natural sequence between these emissions and the resulting intrusion of salt water into its fresh water reserves.

(ii) Was it or should it have been foreseeable to Australia that its wrongful conduct would result in the damage suffered?

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76 Nuclear Tests Cases (Australia v France) [1974] ICJ 253, 500 (Oral arguments on Jurisdiction and Admissibility).
One basis for determining foreseeability would be to consider the state of science over the legally relevant period of time. In Australia’s case, there is a strong community of scientists working on climate change. For example, Australia’s First National Communication under the UNFCCC provides subjective evidence of foreseeability and knowledge of climate change damage.\(^{78}\) Thus, at least from 1994, there is evidence that it was or should have been foreseeable to Australia that its greenhouse gas emissions would result in climate change. The strength of Australia’s scientific community would support the view that foreseeability may be established from at least 1994. In addition, Australian scientists have taken a leading role in researching sea level rise and evidence of the same in the Pacific region.\(^{79}\) Thus, it is reasonable to conclude that foreseeability would be proven.

However, the past 15 to 20 years form only around 10% of the past 150 years of greenhouse gas emissions that have caused the damage. If the period of foreseeability is limited to 1994 to 2000, then only 6 years of 150 years worth of emissions are legally relevant.

6. Apportionment of responsibility

If causation can be made out, a further challenge for Tuvalu’s case would be the question of how to apportion responsibility when there are multiple wrongdoers. As was discussed in Chapter 6, sole responsibility is the ordinary rule under international law.\(^{80}\) There is no clear method for apportionment. In these circumstances, it is likely

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\(^{78}\) Australia’s First National Communication under the UNFCCC, 1994, 1 (‘Australia recognises that while accurate scientific data on the potential regional impacts of climate change are not yet available, there are particular vulnerabilities that warrant action in line with the precautionary principle.’)


\(^{80}\) *Sambiaggio Case (Italy v Venezuela)* [1903] 10 RIAA 499. In this case, Venezuela was held not responsible for the acts of unsuccessful revolutionaries. The Commission upheld the principle of
that Australia will seek to shift the blame for climate change damage to other, higher emitting States, arguing that it has contributed too little to the problem to be held responsible. Furthermore, if Australia was held fully responsible for the damage suffered by Tuvalu, this would arguably be an unjust outcome and may be contrary to the principle of common but differentiated responsibility (depending upon interpretation).

It is difficult to determine whether joint and several liability is a part of international law. There is no right of recourse in treaties or under customary international law.\textsuperscript{81} Thus, holding Australia liable under the principle of joint and several liability would again risk placing too much responsibility upon the respondent and result in a situation that is contrary to common but differentiated responsibility.

Under the approach of market share liability, Australia could be held liable for its share of total greenhouse gas emissions.\textsuperscript{82} This would amount to 1.8\% of the cost of the damage suffered by Tuvalu. However, the approach of market share liability is not found in international law and has little support in domestic jurisdictions.\textsuperscript{83} Thus, it is unlikely that the ICJ would apportion responsibility under market share liability.

An alternative and creative method of apportioning responsibility would be to base it upon the principle of common but differentiated responsibility.\textsuperscript{84} In particular, this

\textsuperscript{84} UNFCCC, art 3.1:
principle could be used to allocate responsibility to Australia on the basis of its share of global emissions (i.e. 1.8%). Such an approach would hold Australia and other emitting States liable in common but differentiated on the basis of their historical contributions to the occurrence of climate change damage. This approach offers the fairest basis for allocating responsibility for climate change damage because it would result in a level of responsibility that should not overwhelm any one State but would result in reparations being available for victim States.

Another possible application of the principle of common but differentiated responsibility would be to hold that the Kyoto Protocol amounts to an *ex ante* apportionment of responsibility. However, the Kyoto Protocol actually allows Australia to *increase* its emissions in the period 2008 to 2012, which suggests that Australia’s liability should be little, if anything. Thus, apportioning responsibility for climate change damage according to the Kyoto Protocol may result in too little responsibility for Australia. Overall, the rules of apportioning responsibility are under-developed in international law and poorly suited to the complexity of climate change damage. The greatest potential for allocating responsibility rests with a creative application of the principle of common but differentiated responsibility.

‘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.’ (emphasis added).

7. Defences

Australia would likely rely upon the two defences of consent and necessity. The defence of consent, set out in Draft Article 20, provides that it is a defence if the victim State consented to the act or omission, provided that the conduct remains within the limits of the consent. Tuvalu and Australia are both Parties to the Kyoto Protocol. This may suggest that Tuvalu has consented to a level of climate damage, and has specifically consented to Australia increasing its greenhouse gas emissions in the period of 2008 to 2012. Tuvalu did not enter a reservation in its ratification of the Kyoto Protocol.\(^{86}\) However, Tuvalu’s declaration to the UNFCCC provides that its ratification does not amount to ‘a renunciation of any rights under international law concerning State responsibility for the adverse effects of climate change’.\(^{87}\) Tuvalu’s declaration to the UNFCCC may be sufficient to prevent the defence of consent being applied to its claim against Australia.

The defence of necessity, as provided in Draft Article 25, could be relied upon by Australia to preclude wrongfulness. In particular, Australia could cite Article 4.10 of the UNFCCC and argue that it is vulnerable to the impacts of mitigation measures because of its economy’s reliance upon fossil fuels. Thus, Australia could contend that it did not reduce its emissions to 1990 levels by 2000 because of economic necessity. On the other hand, this defence may not apply because Australia’s greenhouse gas emissions threaten the continued habitability of Tuvalu and the preservation of its


environment. There are essential interests held by Tuvalu threatened by Australia’s emissions which may negate use of this defence.

8. Remedies

The first remedy sought by Tuvalu is cessation, or non-repetition, of the wrongful act. In this scenario, the conduct relates to alleged behaviour by Australia prior to the year 2000. Thus, it is not clear whether cessation is possible. However, it could be alleged that cessation requires Australia to reduce and keep its emissions at 1990 levels. It would not be possible for cessation to occur immediately. However, the ICJ could order gradual cessation and regulate it over time. The advantage of this remedy is that it would not require proof of causation. However, it is unlikely that the ICJ would make such an order, particularly given that there are ongoing negotiations through the UNFCCC process to determine future mitigation action.

Compensation may be payable if restitution is not available, or insufficient to effect full reparation. Sea level rise and the intrusion of salt water into Tuvalu’s fresh water reserves appears to be an irreversible form of damage. Thus, restitution is not applicable. To access causation, Tuvalu must have proven causation which, as highlighted above, would be a difficult task. However, if causation is proven, the damage must be quantifiable. Arguably, the damage caused by contamination of Tuvalu’s fresh water reserves would be quantifiable (though quantification is beyond the scope of this thesis). Furthermore, the cost of additional desalination plants could be independently valued.
9. Conclusion

Overall, this hypothetical scenario has shown that Australia’s exposure to legal risk under the UNFCCC for climate change damage suffered by Tuvalu is low. Although Australia failed to reduce its emissions to 1990 levels by the year 2000, the obligation in Article 4.2 is unclear because of the differential elements it incorporates. Establishing causation would present a difficult task. However, recent advances in scientific study of climate change damage in Tuvalu suggest that exposure to legal risk has grown. A court or tribunal could apply the principle of common but differentiated responsibility to allocate responsibility to Australia according to its share of global emissions (1.8%). A summary of the findings is provided in Table 7-2 below.

Table 7-2 Summary of findings: Australia’s exposure to legal risk under the UNFCCC

<table>
<thead>
<tr>
<th>Element</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standing</td>
<td>Tuvalu would likely be able to establish standing for its case as an injured State.</td>
</tr>
<tr>
<td>Jurisdiction</td>
<td>Australia has accepted the compulsory jurisdiction of the ICJ under Article 36.2-5 of the ICJ Statute (with reservation) which exposes it to international litigation. However, a determination of Australia’s compliance with Article 4.2 of the UNFCCC would require consideration of the acts of other Annex I Parties, perhaps making them indispensable Parties to the litigation.</td>
</tr>
<tr>
<td>Attribution</td>
<td>Attribution of conduct to Australia will be a formidable challenge, both because the acts have primarily been made by private entities and it is unclear how attribution can be allocated to Australia when the conduct of other States is also implicated. Attribution may depend upon apportionment of responsibility.</td>
</tr>
<tr>
<td>Breach</td>
<td>Australia failed to reduce its emissions to 1990 levels by the year 2000. However, the differential treatment allowed in Article 4.2 creates uncertainty as to what is required. Furthermore, it appears that Australia’s QELRO target has superseded its obligation to mitigate emissions under Article 4.2.</td>
</tr>
<tr>
<td>Factual causation</td>
<td>Satellite data reveals that Tuvalu has experienced sea level rise of about 5mm per year since 1993, totalling 9cm. Tuvalu may be able to satisfy factual causation under the probabilistic approach if Australia’s conduct is seen as one part of collective wrongful conduct by a group of emitting States.</td>
</tr>
<tr>
<td>Legal causation</td>
<td>There appears to be a natural sequence between Australia’s greenhouse gas emissions and the damage suffered by Tuvalu. The strength of Australia’s scientific community and the long history of study of climate change suggest that it was or should have been foreseeable to Australia from at least 1994 that its wrongful conduct would result in the damage suffered.</td>
</tr>
<tr>
<td>Apportionment of</td>
<td>Individual responsibility and joint and several responsibility would both result in far too much responsibility being allocated to Australia, contrary to the principle of common but differentiated responsibility. Application of the principle of common but differentiated responsibility as a method of apportioning responsibility offers an alternative and could result in Australia being held liable for its share of global emissions (1.8%).</td>
</tr>
<tr>
<td>responsibility</td>
<td></td>
</tr>
</tbody>
</table>
Defences

The defence of consent may apply because Tuvalu and Australia are both Parties to the Kyoto Protocol. However, Tuvalu’s declaration to the UNFCCC may be sufficient to prevent the defence of consent from applying. Whether the defence of necessity applies is more uncertain. Australia could argue that did not reduce its emissions due to economic necessity. However, this defence does not apply where an essential interest (e.g. the continued habitability of Tuvalu) is threatened.

Remedies

An order of absolute or gradual cessation of wrongful conduct is an unlikely remedy in this scenario because of the ongoing UNFCCC negotiations regarding implementation in which both Tuvalu and Australia are participants. The damage cited by Tuvalu appears to be quantifiable and thus amenable to compensation.

C. Kyoto Protocol

Under the Kyoto Protocol, the Annex I Parties accepted QELROs (see Chapter 4). These commitments are meant to provide a 5% reduction in aggregate greenhouse gas emissions compared with 1990 levels in the period 2008-2012 (the ‘first commitment period’). Annex B of the Kyoto Protocol provides differentiated targets for the individual States and regional economic organisations. The Kyoto Protocol is supported by a complex and thoroughly regulated compliance system.88

While the Kyoto Protocol provides a specific target for Australia’s emission reductions, it appears unlikely that a claim concerning mitigation of emissions would be brought under the Kyoto Protocol against Australia. Australia is on track to meet its commitment under Article 3.1 (QELRO) to limit emissions to 108% of their level in 1990 during the first commitment period 2008-2012.89

In Chapter 6, it was found that the Kyoto Protocol provided a stronger source of exposure to legal risk because of the rules of State responsibility. In particular, if a State has failed to meet its QELRO target, the acts of private entities may be attributed

to it by its failure to exercise due diligence to prevent commission of an internationally wrongful act. A case brought under the Kyoto Protocol could also simplify the tasks of allocating multiple attribution and multiple responsibility through its allocation of individual State obligations as part of collective action on climate change. However, an analysis of the ‘real world’ reveals that such litigation would be unfeasible against Australia because it is on track to meet its QELRO target. A summary of these findings is provided in Table 7-3 below.

Table 7-3 Summary of findings: Australia’s exposure to legal risk under the Kyoto Protocol

<table>
<thead>
<tr>
<th>Element</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breach</td>
<td>A breach cannot yet be made out because Australia may or may not meet its commitment under Article 3.1 (QELRO) to limit its emissions to 108% of their 1990 levels during the commitment period 2008-2012. This question is not determinable until sometime after 2012. However, Australia is on track to meet its obligations at the time of writing.</td>
</tr>
</tbody>
</table>

**D. LOSC**

In Scenario 2, Tuvalu submits a complaint alleging that Australia has breached Article 194 of the United Nations Convention on the Law of the Sea (LOSC). 90 As discussed in Chapter 5, the LOSC is the key international instrument designed to protect the marine environment from pollution. 91 The aim of the LOSC was to establish a comprehensive regime for the law of the sea, with 320 articles and nine additional annexes. Aside from issues of protection from pollution, the LOSC also establishes rights and duties for coastal, flag and port States, the right of innocent passage and

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other matters.\textsuperscript{92} The LOSC is indirectly related to climate change damage to the extent that these impacts affect the marine environment.

Tuvalu argues that under Article 194, Australia has an obligation to prevent, reduce, and control pollution of the marine environment by taking all necessary measures to reduce greenhouse gas emissions.\textsuperscript{93} Tuvalu claims that it will suffer future damage due to the acidification of its ocean, with accompanying devastating impacts upon the marine environment, its fishing industry and food security. Tuvalu seeks to have the matter heard by the International Tribunal for the Law of the Sea (ITLOS). Tuvalu requests two remedies: (1) that a declaration is made that Australia is in breach of

\begin{quote}
93 LOSC, art 194:
\textquote{Measures to prevent, reduce and control pollution of the marine environment provides: ‘1. States shall take, individually or jointly as appropriate, all measures consistent with this Convention that are necessary to prevent, reduce and control pollution of the marine environment from any source, using for this purpose the best practicable means at their disposal and in accordance with their capabilities, and shall endeavour to harmonise their policies in this connection.
2. States shall take all measures necessary to ensure that activities under their jurisdiction or control are so conducted as not to cause damage by pollution to other States and their environment, and that pollution arising from incidents or activities under their jurisdiction or control does not spread beyond the areas where they exercise sovereign rights in accordance with this Convention.
3. The measures taken pursuant to this Part shall deal with all sources of pollution of the marine environment. These measures shall include, inter alia, those designed to minimise to the fullest possible extent:
a. the release of toxic, harmful or noxious substances, especially those which are persistent, from land-based sources, from or through the atmosphere or by dumping;
b. pollution from vessels, in particular measures for preventing accidents and dealing with emergencies, ensuring the safety of operations at sea, preventing intentional and unintentional discharges, and regulating the design, construction, equipment, operation and manning of vessels;
c. pollution from installations and devices used in exploration or exploitation of the natural resources of the sea-bed and subsoil, in particular measures for preventing accidents and dealing with emergencies, ensuring the safety of operations at sea, and regulating the design, construction, equipment, operation and manning of such installations or devices;
d. pollution from other installations and devices operating in the marine environment, in particular measures for preventing accidents and dealing with emergencies, ensuring the safety of operations at sea, and regulating the design, construction, equipment, operation and manning of such installations or devices.
4. In taking measures to prevent, reduce or control pollution of the marine environment, States shall refrain from unjustifiable interference with activities carried out by other States in the exercise of their rights and in pursuance of their duties in conformity with this Convention.
5. The measures taken in accordance with this Part shall include those necessary to protect and preserve rare or fragile ecosystems as well as the habitat of depleted, threatened or endangered species and other forms of marine life.’ (emphasis added).}
\end{quote}
Article 194; and (2) that an insurance scheme is established whereby Australia would compensate it for economic loss and ecological damage resulting from future ocean acidification. Tuvalu’s existing assets and interests are to be valued and registered, as well as the ‘option values’ of assets, or the potential value of an asset in the context of future development.\(^94\)

1. **Standing**

As in Scenario 1, Tuvalu would probably argue that the matter falls within the second ILC category of standing. That is, Article 194 is owed to either the international community or a group of States (i.e. Parties to the LOSC) including the injured State. Tuvalu is vulnerable to climate change and ocean acidification because of a range of factors, including its small size, geographic isolation and ecological fragility. It is less clear whether Article 194 of the LOSC could be open to public interest claims (the fourth and fifth categories set out by the ILC). Unlike the UNFCCC, the LOSC does not rely upon ‘common concern’ language.

However, it is arguable that the protection of the marine environment is a common legal interest of all LOSC Parties and perhaps the international community more broadly. Particularly in light of the *Deep Seabed Advisory Opinion*, public interest claims are in principle possible for violations of Article 194 of the LOSC.\(^95\) The Chamber found that the obligations for protection of the environment of the high seas are *erga omnes* or obligations held by all and owed to the whole world. This finding by the Chamber is notable because such a view has been very rarely stated in judicial

\(^94\) See AOSIS’s proposed International Insurance Pool discussed in Chapter 2.

\(^95\) *Responsibilities and Obligations of States Sponsoring Persons and Entities with Respect to Activities in the Area (Advisory Opinion)* [2011] ITLOS 17. The Deep Seabed Advisory Opinion was principally focused upon governance of the deep seabed beyond national jurisdiction (‘the Area’) but is of general relevance for international environmental law and general international law.
proceedings. Nonetheless, these public interest categories are controversial and such standing would risk Tuvalu’s access to reparations.

2. Jurisdiction

The LOSC is unusual because of its compulsory jurisdiction, which provides access to four possible forums for the binding resolution of disputes. These are the International Tribunal on the Law of the Sea (ITLOS) established under Annex VI, the International Court of Justice (ICJ), an arbitral tribunal established under Annex VII, or a special arbitral tribunal established under Annex VIII. If all States that are Parties to the dispute are subject to the jurisdiction of a particular tribunal or court under Article 281 and the matter concerns the interpretation or application of provisions of the LOSC regarding the marine environment, that court or tribunal will


However, it is possible for states to make alternative agreements on dispute resolution which will prevail. Arts 281-2. See discussion in Chapter 5.
100 LOSC, art 287(1)(c).
101 LOSC, art 287(1)(d).
be competent to deal with the matter.\textsuperscript{102} If there is no election of forum or the Parties have different choices, the Parties have the opportunity to agree on the dispute resolution mechanism. If no mechanism has been selected, the arbitral tribunal procedure under Annex VII is chosen by default.\textsuperscript{103}

Australia has elected both ITLOS and the ICJ for disputes under the LOSC processes, with no preference between these forums. Tuvalu has not elected any preference for method of dispute resolution under the LOSC process. Thus, Tuvalu may seek to have the matter heard by ITLOS, which is one of Australia’s preferred forums.

As with Scenario 1, Australia would probably maintain that all of the other Parties to the LOSC are indispensable Parties. Article 194 provides that the obligation is held ‘individually or jointly as appropriate.’ Such language echoes that found in Article 4.2 of the UNFCCC and raises the same barrier to jurisdiction. In light of this barrier, Tuvalu may need to include other respondents to establish jurisdiction. This may not include every potential State in breach, but at least other States with a similar level of culpability. Nonetheless, in light of the Deep Seabed Advisory Opinion, public interest claims are in principle possible for violations of Article 194 of the LOSC. Although the Deep Seabed Advisory Opinion was principally focused upon governance of the deep seabed beyond national jurisdiction, the case is of general relevance for international environmental law and general international law.\textsuperscript{104}


\textsuperscript{103} LOSC, art 287(5).

\textsuperscript{104} For a discussion of the wider implications of the Advisory Opinion, see David Freestone, ‘Advisory Opinion of the Seabed Disputes Chamber of International Tribunal for the Law of the Sea on “Responsibilities and Obligations of States Sponsoring Persons and Entities With Respect to Activities in the Area”’ (2011) 15(7) \textit{American Society of International Law Insights}. 332
The LOSC claim in Scenario 2 presents further hurdles for Tuvalu in establishing jurisdiction in ITLOS. As was discussed in Chapter 5, there are jurisdictional hurdles specifically associated with the LOSC. Most importantly, the principle of *lex specialis* may apply to the climate regime, meaning that it supplants and exhausts the principles of the LOSC. The *lex specialis* rule provides that where two treaties govern the same factual situation, the treaty governing a specific subject matter (*lex specialis*) overrides the treaty which only governs general matters (*lex generalis*).

Although the UNFCCC, Kyoto Protocol and LOSC all seek to protect the environment from damage, there is an apparent conflict in the substance of the UNFCCC and the LOSC in so far as the UNFCCC classifies the oceans as carbon sinks that should be utilised to uptake greenhouse gas emissions.\(^\text{105}\) Such uptake will cause pollution of the marine environment, in the form of ocean acidification. This is one ground to argue that there is a conflict between the LOSC and the UNFCCC and that the *lex specialis* rule must apply. However, the wording of Article 4.1(d) may not be sufficiently clear to conclude that there are two incompatible legal norms.

In addition, there is a clear conflict between the procedures provided in the climate regime and the LOSC. Article 14 of the UNFCCC requires Parties to reach agreement as to what peaceful means of dispute resolution are to be utilised. In contrast, the LOSC provides compulsory binding dispute processes that can be unilaterally initiated. This again supports the view that the *lex specialis* rule should exclude ITLOS’s jurisdiction in this scenario.

\(^{105}\) UNFCCC, art 4.1(d).
On the other hand, it could be argued that the LOSC is more applicable to the problem of uptake of CO$_2$ by the oceans and ocean acidification. The UNFCCC is focused upon atmospheric concentrations of greenhouse gases and is not specifically concerned with marine pollution. Based upon this approach, the LOSC may be the more specialised treaty, meaning that the *lex specialis* rule could act to secure its application to the problem of ocean acidification rather than exclude it. On the other hand, it could be argued that the oceans form part of the climate system and are thus within the UNFCCC’s special focus. Therefore, the principle of *lex specialis* may act to prevent jurisdiction of the LOSC dispute settlement forums and the ITLOS in particular.

3. **Attribution**

Tuvalu would face similar issues in establishing attribution in this scenario as it faced in Scenario 1. These issues relate to whether the acts of private entities can be attributed to Australia and whether attribution can be established when there are multiple actors. A further issue arises in this scenario because Tuvalu’s claim relates to future damage and thus seems to implicate future conduct by Australia. Projections of ocean acidification that are likely to occur in the future not only depend upon historical and current emissions of greenhouse gases but also include emissions by Australia and other States that are yet to occur.

*(a) Attribution of the acts of private corporations and individuals to Australia*

Article 194 of the LOSC obliges Parties to take all measures to prevent, reduce and control pollution of the marine environment from any source. Potentially, the acts of private entities could be attributed to Australia on the basis that it has failed to exercise due diligence to prevent acts that breach Article 194. However, paragraph 1 of Article
194 provides that this obligation is to be met by States using the ‘best practice means at their disposal’ and ‘in accordance with their capabilities’.\textsuperscript{106} Paragraph 2 of Article 194 incorporates the no harm principle, providing that States are obliged to take all measures necessary to ensure that activities under their jurisdiction or control do not cause damage by pollution to other States. Together, paragraphs 1 and 2 of Article 194 moderate the conventional approach to the concept of due diligence.\textsuperscript{107}

The qualifications (‘best practice means at their disposal’ and ‘in accordance with the capabilities’) particularly indicate that there is a high degree of flexibility and discretion for States in fulfilling this obligation.\textsuperscript{108} Nonetheless, Article 194 appears to provide a clearer example of a positive international obligation to act than does Article 4.2 of the UNFCCC. While it does not provide any target or timeline, it does require positive regulatory action by the State. Therefore, there is greater scope for establishing attribution for private actors under the LOSC than the UNFCCC. Furthermore, Tuvalu could also seek to attribute the acts of State-owned corporations that are high greenhouse gas producers or emitters (as discussed in Scenario 1).

\textbf{(b) Allocation of attribution to Australia for a problem of collective failure}

As with Article 4.2 of the UNFCCC, the obligation contained in Article 194 of the LOSC provides for individual or joint attribution (‘individually or jointly as appropriate’). As in Scenario 1, this combination of individual and multiple attribution would make it difficult to determine whether the obligation requires specific individual conduct by Australia. In a problem such as climate change, where the success of any

\textsuperscript{106} On the need for differential treatment in the law of the sea, see e.g. Douglas Johnston, ‘Functionalism in the Theory of International Law’ (1988) 26 \textit{Canadian Yearbook of International Law} 3, 33.
\textsuperscript{107} Patricia Birnie, Alan Boyle and Catherine Redgwell, \textit{International Law and the Environmental} (3\textsuperscript{rd} edition, Oxford University Press, 2009), 389.
\textsuperscript{108} Ibid.
mitigation is dependent upon global action being taken, it is arguable that attribution to any one State cannot be established. However, a method of attribution may flow from the identification of a method to apportion responsibility (see Section D.6 below).

(c) Attribution of future conduct by Australia

There is no method to attribute potential future conduct by a State for the purposes of State responsibility. Despite the fact that scientists can make predictions about likely future emissions based upon emissions trajectories, there are too many uncertainties to attribute future conduct. Australia may have a change of policy, or suffer a strong economic downturn, or have some other unforeseen factor arise that significantly reduces its greenhouse gas emissions. Therefore, projections of future conduct by Australia cannot be attributed to it for the purposes of State responsibility.

4. Breach

Assuming that Article 194 is applied individually, Australia has taken some measures to prevent and reduce anthropogenic CO\textsubscript{2} emissions, especially in relation to land clearing.\textsuperscript{109} However, these are certainly not ‘all’ of the measures that Australia has at its disposal. A study by McKinsey & Company found that Australia has the capacity to achieve a 30% reduction by 2020 on 1990 levels without major technological breakthroughs or lifestyle changes.\textsuperscript{110} Until recently, Australia’s response to climate change has focused on voluntary initiatives and policies based upon a ‘no regrets’ approach. These policies were measures that the Australian Government decided had


no net costs.\textsuperscript{111} Australia’s ‘no regrets’ approach was ineffective in changing corporate behaviour or achieving reductions in emissions.\textsuperscript{112}

Australia’s policy shifted in 2008 toward a carbon tax, which culminated in 2011 with the passing of the \textit{Clean Energy Legislative Package}.\textsuperscript{113} As a result, a carbon price was introduced in July 2012 and a cap on emissions will be introduced in 2015. However, this recent action does not negate the absence of effective regulatory, market, and liability mechanisms to control CO\textsubscript{2} emissions. As mentioned above, Article 194 provides for differential and flexible treatment (‘best practice means at their disposal’ and ‘in accordance with their capabilities’). This flexibility may preclude finding a breach by Australia because these differential elements may justify the ‘no regrets’ approach adopted by Australia. Despite these problems, there is some scope for a breach by Australia to be found.

5. \textit{Causation}

In order to establish causation, Tuvalu would first need to demonstrate that the damage suffered is a form of damage captured by Article 194 of the LOSC. Article 194 refers to the prevention, reduction and control of pollution of the marine environment. The definition of ‘pollution of the marine environment’ provided in Article 1 of the LOSC states that it includes the introduction of substances or energy that ‘results or is likely to result in’ deleterious effects to the marine environment. Thus, the type of damage captured by the LOSC includes substances or energy that have not actually caused

\begin{footnotesize}
\begin{enumerate}
\item Durrant, above n 41, 102.
\item \textit{Clean Energy Act 2011} (Cth); \textit{Climate Change Authority Act 2011} (Cth); \textit{Clean Energy Regulator Act 2011} (Cth).
\end{enumerate}
\end{footnotesize}
harm but based upon the available scientific evidence are likely to do so.\textsuperscript{114} This means that Article 194 may include the risk of ocean acidification as a form of damage.

Compensation for future damage is unusual under international law. However, Tuvalu may rely upon the precautionary principle to argue that it is not necessary for damage to have actually occurred. This argument was raised by Hungary in the\textit{ Gabčíkovo Case} where it argued that consideration of future damage caused by Slovakia’s unilateral damming of the Danube River was a ‘logical application of the precautionary principle.’\textsuperscript{115} The ICJ did not rule on this issue but instead asked the Parties to negotiate the legal consequences of Slovakia’s breaches.

However, there is a difference between the\textit{ Gabčíkovo Case} and Tuvalu’s claim. In the\textit{ Gabčíkovo Case} the damming had already occurred and it was only that the precise ecological impacts of this wrongful conduct were uncertain. In contrast, the risk of ocean acidification for Tuvalu is not only due to existing emissions but also due to emissions that are yet to occur. Thus, not all of the potentially wrongful activity has taken place. This distinguishing feature may preclude consideration of the risk of future ocean acidification as a form of damage under international law.\textsuperscript{116}

(a) Factual causation

(i) But for Australia’s greenhouse gas emissions, would Tuvalu’s climate damage have occurred?

\textsuperscript{114} Michael M’Gonigle, “‘Developing Sustainability” and the Emerging Norms of International Environmental Law: The Case of Land-Based Marine Pollution Control’ (1990) 28 Canadian Yearbook of International Law 169, 193.


Factual causation in this scenario would require proof that Australia’s greenhouse gas emissions are likely to result in ocean acidification to Tuvalu’s marine environment with associated impacts upon the marine environment, its fishing industry and food security. Recent research has revealed that there is evidence of ocean acidification in Tuvalu. The aragonite saturation state in Tuvalu has fallen from approximately 4.5 in the late 18th Century to approximately 4.0 ±0.1 by 2000. Sea water aragonite saturation states above 4 are optimal for coral growth and development of healthy coral reef ecosystems while coral reef systems are not found if the aragonite saturation state is below 3. It is predicted that ocean acidification in Tuvalu’s waters will continue in the 21st Century with change being primarily due to the increasing uptake of CO₂ by oceans (very high confidence). Projections show that the annual maximum aragonite saturation state in Tuvalu’s waters will reach values below 3.5 by 2060 and continue to decline thereafter. Thus, there is ample scientific evidence to prove that Tuvalu is likely to suffer ocean acidification in the future as a result of anthropogenic greenhouse gas emissions.

Nonetheless, Tuvalu would face the challenge of proving that without Australia’s wrongful emissions, the risk of deleterious effects to its marine environment would not have occurred. Ocean acidification is a cumulative process and even without Australia’s emissions, the problem would still exist. The problem is that Australia is a

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117 Aragonite is a soluble form of calcium carbonate that is found in corals, molluscs, pteropods and some algae. The aragonite saturation state refers to the degree to which seawater is saturated with aragonite. See C Langdon and M J Atkinson, ‘Effect of elevated pCO₂ on photosynthesis and calcification of corals and interactions with seasonal change in temperature/irradiance and nutrient enrichment’ (2005) 110 Journal of Geophysical Research.


119 Ibid.

120 Ibid, 235.

121 Ibid.
relatively small emitter (1.8% of the world’s emissions). On the other hand, Australia’s emissions have arguably increased the risk of ocean acidification and in light of the Article 1 definition (‘likely to result in’) it may be possible for Tuvalu to satisfy causation.

(ii) Did Australia’s greenhouse gas emission cause a material increase in risk for Tuvalu’s climate damage?

As an alternative, the ITLOS may consider a probabilistic approach to factual causation. A probabilistic approach would require proof that Australia’s greenhouse gas emissions have caused a material increase in risk for the risk that Tuvalu will suffer ocean acidification in the future. As with Scenario 1, Tuvalu may be able to establish factual causation on the basis that the collective wrongful conduct of a group of emitting States has resulted in a material increase in risk for ocean acidification.

(b) Legal causation

(i) From an objective standpoint, is Tuvalu’s climate damage a natural and normal consequence of Australia’s greenhouse gas emissions?

Arguably, the process of ocean acidification, or changes in the pH of the oceans, is part of a natural sequence originating with anthropogenic CO₂ emissions. Although forming a small part of global emissions (1.8%), Australia’s greenhouse gas emissions are indivisible from the emissions of other actors. Thus, there may be a natural sequence between these emissions and the threat of ocean acidification.

(ii) Was it or should it have been foreseeable to Australia that its wrongful conduct would result in the damage suffered?

The question of determining foreseeability for ocean acidification would again depend upon the state of science. The problem of ocean acidification has only been studied by
scientists over the last 10 years or so.\textsuperscript{122} Therefore, it was or should have been foreseeable that Australia’s emissions would result in ocean acidification from about 2002. This means that the legally relevant period of time for causation would be from 2002 onwards. Given the strong role that Australian scientists have had in studying ocean acidification, it is reasonable to conclude that ocean acidification was or should have been a foreseeable consequence to Australia.\textsuperscript{123}

Tuvalu would also need to establish foreseeability for the localised ocean acidification it has suffered. Again, Australian scientists have taken a major role in the development of science around ocean acidification. The most recent research on ocean acidification in Tuvalu was an Australian Government and AusAID project.\textsuperscript{124} Therefore, it is reasonable to conclude that the risk of harm posed to Tuvalu from ocean acidification was or should have been foreseeable to Australia.

6. \textit{Apportionment of responsibility}

The same problems of apportionment of responsibility would arise in this scenario as in Scenario 1. It is clear that Australia should not be held fully liable for the damage suffered by Tuvalu because this would result in an unjust outcome. The most reasonable option for apportioning responsibility would be to apply the principle of common but differentiated responsibility and hold Australia responsible for 1.8\% of the resulting damage.

\begin{footnotesize}
\begin{itemize}
\item \textsuperscript{122} OCB, FAQs about Ocean Acidification, \url{http://www.whoi.edu/OCB-OA/FAQs/} accessed 1 July 2012.
\item \textsuperscript{124} Ibid.
\end{itemize}
\end{footnotesize}
7. **Defences**

The defences of consent and necessity are again relevant. As with Scenario 1, the defence of consent particularly reduces exposure to legal risk because it appears that Tuvalu has consented to a level of damage through being Party to the Kyoto Protocol. However, Tuvalu’s declaration to the UNFCCC may be sufficient to prevent the application of the defence of consent to its case. The defence of necessity is unlikely to apply due to the threat posed by Australia’s conduct to essential interests of Tuvalu.

8. **Remedies**

In this case, Tuvalu has requested two forms of compensation: one a declaration that Australia is in breach of Article 194 and the other an insurance scheme for future damage resulting from ocean acidification. As discussed above, compensation for future damage is unusual under international law and generally would require that the wrongful conduct has already occurred. This makes it unlikely that compensation will be ordered. On the other hand, one option is that ITLOS could estimate Australia’s contribution to the current level of risk faced by Tuvalu and award partial damages.

However, in the event that future damage is compensable and that causation can be made out, the form of compensation requested is novel. As was discussed in Section 6 above, the most feasible option for apportioning responsibility would be to order Australia to pay 1.8% of the total damage value. In addition, ITLOS could further order that the Parties negotiate the consequences of the breach, which could include elements suitable to both Parties.
9. Conclusion

This hypothetical scenario has revealed that Australia faces a low level of exposure to legal risk under the LOSC for climate change damage. The differential treatment available under Article 194 can be used to Australia’s advantage to avoid a finding of a breach. The main challenges for Tuvalu are the *lex specialis* rule which may prevent jurisdiction, the problem of multiple attribution, and apportioning responsibility where there are multiple potential respondents. Tuvalu’s focus upon the risk of future ocean acidification is of mixed consequence. There is scope within the LOSC to deal with risk as a form of damage, which would aid the task of proving causation. However, compensation would be difficult to obtain because not all of the wrongful conduct has occurred. The findings of this section are summarised in Table 7-4 below.

Table 7-4 Summary of findings: Australia’s exposure to legal risk under the LOSC

<table>
<thead>
<tr>
<th>Element</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standing</td>
<td>Tuvalu would likely be able to establish standing for its case as an injured State.</td>
</tr>
<tr>
<td>Jurisdiction</td>
<td>Australia has elected both ITLOS and the ICJ for disputes under the LOSC processes. Tuvalu has not elected any preference. Tuvalu may seek to have the matter heard by ITLOS. Other Parties to the LOSC would be indispensable Parties to the dispute and must be joined. The <em>lex specialis</em> rule may act to prevent jurisdiction because there are apparent conflicts in substance and procedure between the UNFCCC and the LOSC.</td>
</tr>
<tr>
<td>Attribution</td>
<td>There is some scope to attribute conduct of private entities to Australia on the basis that it has failed to exercise due diligence to prevent acts that breach Article 194. However, attribution will be difficult because Article 194 calls for both individual and joint action by States. Attribution may depend upon apportionment of responsibility. Projections of future conduct by Australia cannot be attributed to it.</td>
</tr>
<tr>
<td>Breach</td>
<td>Australia has not taken ‘all’ of the measures at its disposal to prevent, reduce and control greenhouse gas emissions. However, Article 194 allows for differential treatment and thus may preclude the finding of a breach.</td>
</tr>
<tr>
<td>Factual causation</td>
<td>Recent science reveals that there is evidence of ocean acidification in Tuvalu and it is predicted that this process will continue in the 21st century. Tuvalu may be able to establish factual causation under the probabilistic approach on the basis that the collective wrongful conduct has resulted in a material increase in risk for ocean acidification.</td>
</tr>
<tr>
<td>Legal causation</td>
<td>It was or should have been foreseeable to Australia from about 2002 that its emissions would result in ocean acidification because this is when scientists began studying the problem.</td>
</tr>
<tr>
<td>Apportionment of responsibility</td>
<td>Individual responsibility and joint and several responsibility would both result in far too much responsibility being allocated to Australia, contrary to the principle of common but differentiated responsibility. Application of the principle of common but differentiated responsibility as a method of apportioning responsibility offers an alternative and could be used to hold Australia liable for its share of global emissions.</td>
</tr>
</tbody>
</table>
Defences  | The defence of consent may be available because Tuvalu has consented to a level of climate change damage by being Party to the Kyoto Protocol. However, Tuvalu’s declaration to the UNFCCC may be sufficient to prevent its application. Whether the defence of necessity applies is uncertain. There is an argument that Australia did not reduce its emissions due to economic necessity. However, this defence does not apply where an essential interest (e.g. the continued habitability of Tuvalu) is threatened.  

Remedies  | Compensation for future ocean acidification would be difficult to obtain because generally international law would require that the wrongful conduct has already occurred. A declaration of breach is a more feasible remedy.

### E. Conclusion

This chapter has found that Australia has a mixed level of exposure to legal risk for climate change damage suffered by Tuvalu. Tuvalu is one of the most vulnerable States in the world to the impacts of climate change, and would thus establish standing as an injured State. Overall, international law is poorly developed to provide access to remedies for damage suffered. Part of the problem is that the legal instruments do not provide any clear obligations for mitigation action. This is the case for the UNFCCC and the LOSC, which only contain relatively vague obligations that incorporate differential treatment making it difficult to establish a breach. While the Kyoto Protocol provides a specific obligation for Australia to limit its greenhouse gas emissions in the period 2008-2012, Australia is on track to meet its target. Thus, the Kyoto Protocol QELRO target does not pose a source of legal risk for Australia although may for other States.

But beyond the limitations of the primary rules, this chapter has found that the secondary rules of State responsibility present insurmountable problems for Tuvalu’s claims. Although the acts of private actors could theoretically be attributed to Australia on the basis of due diligence, such attribution depends upon a clear primary obligation to act. Such clarity is not found in either Article 4.2 of the UNFCCC nor Article 194 of the LOSC.
A key issue is how responsibility for climate change damage can be apportioned. Individual responsibility is the general rule under international law. However, if applied, sole responsibility and its alternative joint and several liability would result in too much responsibility being allocated to Australia. One novel approach would be to apportion responsibility upon the basis of the principle of common but differentiated responsibility. This approach could support the apportionment of responsibility to Australia on the basis of its share of global greenhouse gas emissions.

As with climate litigation in national courts, the task of establishing causation would be difficult. The problem is amplified under international law because the rules of causation are undeveloped and relatively unclear. Nonetheless, recent advances in scientific proof of sea level rise and ocean acidification in Tuvalu may support a finding of legal causation, particularly if a probabilistic approach is adopted. It is also conceivable that Tuvalu could satisfy the tests of legal causation, although the period of foreseeability may be relatively short.

Another common theme is that the defence of consent may apply because Tuvalu is a Party to the Kyoto Protocol. This suggests that Tuvalu has consented to a level of climate damage, making access to remedies for such damage impossible. However, Tuvalu’s declaration to the UNFCCC may prevent the application of this defence to Australia’s case.

Finally, the law of remedies is markedly under-developed in international law (with the exception of the law of remedies in international investment law). Again, this makes creative remedies, such as compensation for future damage, a distant prospect. However, financially assessable damage suffered by Tuvalu could be compensable. Overall, there are many potential impediments to international climate litigation,
particularly when a relatively small emitter such as Australia is targeted. Nonetheless, even a Party such as Australia faces some exposure to legal risk for climate change damage, particularly as the scientific proof of such damage advances.
8. CONCLUSION

This thesis has sought to answer two research questions. The primary research question was ‘What exposure is there to legal risk for climate change damage under the UNFCCC, Kyoto Protocol and LOSC?’ The secondary research question was ‘Would Tuvalu succeed in a claim regarding climate change damage against Australia under the UNFCCC, Kyoto Protocol and LOSC?’ Thus, the thesis has sought to provide a doctrinal analysis of international law that could be relied upon by States suffering climate damage.

Positivism and its associated doctrinal methodology are part of the accepted legal research paradigm,1 or ‘unifying rationale’ that gives direction within the discipline of law.2 Legal positivism refers to a body of theories that focus on understanding the law as it is, with reference to formal criteria, independently of ethical or moral considerations.3 The researcher’s task is to identify and interpret the rules that States have agreed to be bound by, primarily through treaties and custom.4 These choices of methodology and approach have shaped the thesis, both in terms of structure and content.

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1 See generally P. Ziegler, ‘A general theory of law as a paradigm for legal research’ (1988) 51 September The Modern Law Review 569. However, note that the dominant legal paradigm may be changing.
However, as was highlighted in Chapter 1, one of the problems with the positivist approach is that pure doctrinal research in international law is at risk of reaching outcomes that may seem irrelevant.\(^5\) The thesis has sought to overcome this risk by utilising a hypothetical case study based upon the ‘real world’ circumstances of Tuvalu and Australia. Nonetheless, the research has only sought to examine whether exposure to legal risk arises for climate change damage. It has not sought to assess whether legal risk ‘should’ arise which would require consideration of moral and ethical questions. It has also not considered the political issues that surround international litigation. Clearly, these are all matters that are important but beyond the scope of this work. Bearing these restrictions in mind, the thesis has reached the following conclusions.

A. Exposure to legal risk for climate change damage under the climate regime

Overall, there is low exposure to legal risk for climate change damage under the climate regime. Article 2 of the UNFCCC provides that its ultimate objective is to stabilise greenhouse gas concentrations at a level that would prevent dangerous anthropogenic interference with the climate system. Climate change damage is the manifestation of dangerous anthropogenic interference with the climate system, or any deleterious effect or risk of deleterious effect to the environment caused by anthropogenic climate change.

1. UNFCCC

While preventing such damage is the objective of the climate regime, Chapter 3 revealed that the UNFCCC lacks substantive obligations for Parties to mitigate greenhouse gas emissions. The elastic commitment contained in Article 4.2 does not

require Annex I Parties to return emissions to 1990 levels by the year 2000 or for Annex I Parties to modify their long-term trends of greenhouse gas emissions. It simply requires Annex I Parties to take the lead in modifying long term trends of greenhouse gas emissions.

This preliminary conclusion was further tested in Chapter 7 through the use of a hypothetical case study. The case study involved a claim filed by Tuvalu in the International Court of Justice (ICJ) claiming that Australia failed to reduce its emissions to 1990 levels by the year 2000 (Article 4.2 of the UNFCCC). For the purposes of the case study, it was assumed that such an obligation could be made out under the UNFCCC. Chapter 7 revealed that Australia failed to reduce its emissions to 1990 levels by the year 2000 (its emissions increased by 14.5% from 1990 to 1998). However, Article 4.2 allows for differential treatment (their different ‘starting points and approaches,’ their ‘economic structures and resource bases’, their need to ‘maintain strong and sustainable economic growth,’ the ‘available technologies’ and ‘other individual circumstances’) and creates uncertainty regarding what is required by States such as Australia. Thus, it would be difficult to establish a breach of the obligation contained in Article 4.2.

In terms of adaptation obligations, Article 4.3 establishes an obligation for Annex I Parties to provide financial resources to meet the agreed full incremental cost of preparing for adaptation. Article 4.3 provides some scope for a developing State to bring a case to recover funds for adaptation costs. The establishment of ‘incremental costs’ associated with a project would be a challenging but not insurmountable hurdle.

Article 4.4 requires Annex I Parties to assist in adaptation to the adverse effects of climate change. It appears that a breach would only occur where no assistance has been
provided. Lastly, the vague commitment in Article 4.8 simply requires the COP to provide ‘full consideration’ to the concerns of developing State Parties. This obligation could not form the basis of a claim.

The thesis has also examined the dispute settlement procedures associated with these obligations, which help inform potential exposure to legal risk. The only opportunity for a case to be heard over the UNFCCC would be if jurisdiction of the ICJ can be established under Article 36 of the ICJ Statute. There is some exposure under Article 36.2 for States that have accepted the ICJ’s jurisdiction under the optional clause. However, if a State has entered a reservation (e.g. disputes to which the Parties have agreed to settle by other means of peaceful settlement) this could prevent jurisdiction. Another avenue would be through Article 36.1 where the Parties have accepted the jurisdiction of the ICJ through some other arrangement.

The hypothetical case study confirmed that there is some scope for Tuvalu to establish jurisdiction under the optional clause. Australia has entered reservations to its acceptance of ICJ jurisdiction. One of its reservations is that the declaration does not apply where the claimant State has made its own declaration accepting ICJ jurisdiction less than 12 months before bringing its case or where the declaration was made ‘only in relation to or for the purpose of the dispute.’ Tuvalu has not yet made a declaration accepting ICJ jurisdiction under the optional clause and thus would need to wait at least 12 months from acceptance and ensure that it has other purposes for such acceptance.

The case study revealed additional difficulties with establishing the ICJ’s jurisdiction for a matter on climate change damage. International law requires all of the ‘indispensable’ parties to a dispute are joined for a matter to be heard. A particular
difficulty with regard to Article 4.2 is that industrialised States are obliged to ‘individually or jointly’ reduce their emissions to 1990s levels. Although the ICJ could determine whether Australia has ‘individually’ met this target, a determination of whether Annex I Parties have ‘jointly’ met the target would make the acts of other Annex I Parties the subject matter of the court’s decision. Thus, difficulties around establishing jurisdiction further reduce exposure to legal risk for climate change damage under the UNFCCC.

2. Kyoto Protocol

Article 3.1 of the Kyoto Protocol provides potentially high exposure to legal risk for climate change damage. Article 3.1 of the Kyoto Protocol provides that Annex B Parties are bound by the QELRO targets which are specific limitations set for each Party for the period 2008-2012. These are meant to add up to an aggregate reduction of 5% compared to 1990 levels. A potentially high degree of exposure is attached to this obligation because it is specific and bound by a particular timeline. Compliance with 2008-2012 commitments will not be determinable until 2015.

However, the hypothetical case study revealed that Australia is not exposed to legal risk under Article 3.1 of the Kyoto Protocol. Australia is on track to meet its commitment under Article 3.1 to limit its emissions to 108% of their level in 1990 during the first commitment period 2008-2012. The potential exposure of other Annex B States will depend upon whether they are also on track to meet their targets.

In terms of the question of whether an interstate claim could be brought alleging a breach by an Annex B party of its QELRO target, it is not entirely clear how the Kyoto Protocol compliance system will interact with the law of State responsibility in the event of breach of the treaty. Although the Kyoto Protocol compliance system is very
close to a traditional judicial process, it does have some key differences to State responsibility. However, it does not appear that the Kyoto Protocol compliance system operates as *lex specialis* because it only applies to entities established as part of this system. Thus, it should not preclude application of the rules of State responsibility.

B. *Exposure to legal risk for climate change damage under the LOSC*

There is limited exposure to legal risk for climate change damage under the LOSC. A general obligation to protect, reduce and control pollution of the marine environment is found in Article 194. However, this obligation is heavily qualified and provides a high degree of flexibility and discretion for States in fulfilling it. The hypothetical case study confirmed that there would be low exposure under Article 194. Although Australia has not taken ‘all’ measures at its disposal to prevent and reduce anthropogenic CO₂ emissions, the differential and flexible treatment (‘best practice means at their disposal’ and ‘in accordance with their capabilities’) provided for in Article 194 may prevent finding a breach by Australia.

Furthermore, the specific commitments contained in the LOSC that relate to land-based sources and atmospheric sources of marine pollution presents a mixture of exposure. Greenhouse gases may be captured by Article 207 as a form of land-based pollution of the marine environment. However, the substance of Article 207 is undermined by its generality and lack of precision. It is not clear what rules and standards should be applied to land-based pollution and States are only required to ‘take account of’ these rules and standards. Article 212 presents moderate exposure because atmospheric sources of marine pollution could include greenhouse gas emissions. A breach may be established where a State Party has failed to adopt laws and regulations to prevent, reduce and control such pollution.
Chapter 5 argued that it would be difficult to establish jurisdiction in any litigation brought under the LOSC dispute settlement procedures. There are a number of conflicts between the LOSC and the climate regime, both in terms of substance and procedure. Respondent States will be able to rely upon the *Southern Bluefin Tuna Case* and the *lex specialis* rule to argue that the climate regime excludes application of the LOSC. This chapter identified the discrete issue of ocean acidification as a potential focus point to attempt to overcome these jurisdictional difficulties.

The hypothetical case study explored this option of focusing upon ocean acidification. Under this approach, it may be possible to contend that the LOSC is the more specialised treaty, meaning that the *lex specialis* rule could act to secure its application to the problem of ocean acidification rather than exclude it. However, it could also be argued that the oceans form part of the climate system and are thus within the UNFCCC’s special focus. Thus, focusing upon the problem of ocean acidification will not necessarily resolve the problem of *lex specialis*.

**C. Exposure to legal risk for climate change damage under the rules of state responsibility**

Chapter 6 examined the rules of attribution and responsibility under international law. This chapter revealed that claimant States would face a number of challenges in attempting to establish State responsibility for climate change damage. First, a claimant must find some way to attribute the acts of private corporations and individuals to a respondent State. One approach identified was if the respondent State had failed to exercise due diligence to prevent the commission of an internationally wrongful act. However, the obligations in the UNFCCC and LOSC may not be sufficiently clear to require such action. On the other hand, a State that fails to meet its
QELRO target under Article 3.1 of the Kyoto Protocol could be held responsible for a failure of due diligence.

A further problem is that it is not clear how attribution can be established when there is multiplicity of States whose different conducts may result in the commission of the same internationally wrongful act. The hypothetical case study revealed that Article 4.2 of the UNFCCC and Article 194 of the LOSC both provide for action by States to mitigate greenhouse gas emissions and to prevent, control and reduce marine pollution. However, the UNFCCC and LOSC obligations are joint in nature and do not provide any clear basis to differentiate obligations among States. This would make it difficult to establish attribution of cause of harm. In contrast, there is some scope for multiple attribution in accordance with Article 3.1 of the Kyoto Protocol which differentiates individual State obligations as part of collective mitigation action. However, the challenges of attribution may be resolved by the identification and application of an appropriate method of apportioning responsibility.

Chapters 6 revealed that the rules of causation are under-developed in international law and thus ill-suited to a complex problem such as climate change. The traditional ‘but for’ test would require proof that without the respondent State’s emissions, the damage suffered would not have occurred. The probabilistic approach would be better suited to climate change. Chapter 7 concluded that if Australia’s conduct is seen as part of a collective failure, it may be possible to show that it has caused a material increase in risk of the harm occurring.

Chapter 6 argued that foreseeability should be an easier task because of the long history of climate science and international action since 1992. This finding was confirmed in Chapter 7 where it was argued that the strength of Australia’s scientific community
and the long history of climate science mean that it was or should have been foreseeable to Australia that its wrongful conduct would result in the damage suffered. However, the second hypothetical revealed that the period of foreseeability for ocean acidification is fairly short because scientists have only studied the problem since around 2002.

A major challenge was identified in relation to the task of apportioning responsibility. States are only responsible for the consequences that can be attributed to their own actions (individual responsibility). There is no clear international law on how to allocate responsibility when there are multiple wrongdoers. Joint and several liability could be applied. However, such apportionment would risk placing too much responsibility upon a respondent State with no right to recourse. Such an outcome would be contrary to the principle of common but differentiated responsibility.

Market share liability could be adopted by apportioning liability amongst States on the basis of each State’s share of total greenhouse gas emissions. However, this approach is not found in international law and has little support in domestic legal systems. Therefore, it is unlikely to be applied by an international court or tribunal.

An alternative approach would be to use the principle of common but differentiated responsibility. The principle of common but differentiated responsibility could be used to apportion liability to developed States in accordance with their contribution to global greenhouse gas emissions. In Australia’s case, this liability would amount to 1.8% of global emissions.

Chapters 6 and 7 both revealed that the defence of consent may apply to international climate litigation. If the claimant State and respondent States are Parties to the Kyoto
Protocol, then arguably the claimant State has consented to a level of climate change damage. Provided that the respondent State complies with their QELRO target, they may be protected from exposure to legal risk for climate damage. However, a number of States, including Tuvalu, entered a reservation to the UNFCCC and/or Kyoto Protocol to protect their rights under the law of State responsibility. These declarations may act to prevent application of the defence of consent.

Finally, the law of remedies is also undeveloped in international law. Cessation could be ordered as a gradual process regulated over a period of time. However, the case study revealed that such an order is unlikely because of the ongoing UNFCCC negotiations regarding implementation. Restitution would be virtually impossible because the impacts of climate change are generally irreversible. Compensation, coupled with an appropriate form of apportionment of responsibility, could provide an appropriate form of reparation. In Chapter 7 it was argued that the contamination of Tuvalu’s underground freshwater reserves by salt water as a result of sea level rise would be quantifiable. In contrast, compensation for future ocean acidification would be difficult to obtain because in general international law requires that the wrongful conduct has already occurred. Thus, the secondary rules of State responsibility present many challenges for potential claimant States seeking recourse for climate change damage.

D. The way forward

There are three key problems facing international climate litigation. The first is that the rules of international law are under-developed and poorly designed to respond to a problem as complex as climate change damage. The lack of clarity around the rules of attribution, causation and apportionment of responsibility act as a significant barrier
for claimant States. Therefore, one avenue would be for States to seek an advisory opinion from the ICJ clarifying these aspects of international law – an option being explored by Palau and other States.\textsuperscript{6} Such guidance would not only help the development of international law but it would also provide greater clarity to the international community as to whether international law can respond to the problem of climate change damage. However, it must be noted that it can be very challenging for States to actually be successful in even obtaining an advisory opinion as the request often must come from the General Assembly. The full extent of these challenges is beyond the scope of this thesis.

The second problem is that climate science has primarily focused upon establishing general and global trends of climate change. There has been very little work done on the local manifestations of climate change, making the task of establishing causation for specific impacts very difficult. Although the case study revealed that such evidence has recently become available for Tuvalu, more research is needed. Over time the impacts of climate change will worsen and presumably the science attributing such impacts to climate change will become more prominent. Thus, it is likely that exposure to legal risk for climate change damage under international law will gradually increase over time as the impacts worsen and science develops.

The third problem is that the international community has failed to negotiate concrete obligations for the mitigation of greenhouse gas emissions, with the exception of the QELROs. Thus, the international climate negotiations remain central to the future

prospects of international climate litigation. The establishment of a clear positive obligation for States to mitigate greenhouse gas emissions will be accompanied by a duty to exercise due diligence to prevent the breach of that obligation.

However, beyond these problems it may be that the international community needs to formulate alternative methods of responding to climate change damage. Additional research could be done on the prospects of bilateral or multilateral negotiated solutions between States. Such negotiated solutions could take account of the individual concerns of States like Tuvalu, including maintaining sovereignty and territory even if it is necessary to relocate. This thesis has revealed that there is very little exposure to legal risk for climate change damage under international law. However, the problem of climate change damage will only become increasingly prominent as time proceeds.
**GLOSSARY**

**Absolute norms** – norms that provide identical treatment to all countries. These norms do not require or permit the consideration of differential factors between States.

**Actio popularis** – action (*actio*) of the people (*popularis*). A legal action taken in the name of the collective interest.

**Actio pro societate** – action (*actio*) for society (*pro societate*).

**Adaptation** – actions taken to reduce vulnerability to climate change.

**Adverse effects of climate change** – changes in the physical environment or biota resulting from climate change which have significant deleterious effects on the composition, resilience, or productivity of natural or managed ecosystems or on the operation of socio-economic systems or on human health and welfare.

**Air space** – the spatial dimension subject to the sovereignty of the subjacent states.

**Anthropogenic** – originating in human activity.

**Attribution** – the establishment of a factual link between an actor and specific conduct.

**Bilateral** – involving two States.

**But for test** – a deterministic approach to factual causation that asks ‘but for the defendant’s act, would the harm have occurred?’ (also *sine qua non* test).

**Carbon dioxide** – colourless, odorless gas that is present in the atmosphere obtained from a range of sources including the combustion of fossil fuels.
Carbon sink – a natural environment that is able to absorb carbon dioxide from the atmosphere.

Causation – the establishment of a causal link, which means that the injury results from and is ascribable to the wrongful act.

Cessation – non-repetition of the wrongful conduct.

Circumstances precluding wrongfulness – defences under international law.

Climate change – a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods.

Climate change damage – any deleterious effect or risk of deleterious effect to the environment caused by anthropogenic climate change.

Commitment (or obligation) – rules under international law that may be binding or not binding. Although some authors have suggested that commitments are specific to treaties and that obligations arise through other means (e.g. through customary international law),¹ treaties use both the terms commitments and obligations to describe rules to which the States have agreed. For example, Article 4 of the UNFCCC contains ‘commitments’, whereas the LOSC uses the term ‘obligations’.² To avoid confusion, the terms commitment and obligation will be used interchangeably within this thesis.

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² See e.g. LOSC, arts 192, 237, 279, 282 and 283.
**Common but differentiated responsibility** – a principle of international law that provides that all States have responsibility but that greater responsibility is held by developed States than developing States. There are two rationales for differentiation. First, that the differentiation is based upon different levels of economic capacity not on different contributions to climate change (and other global environmental problems). Second, that the differentiation is based upon different contributions to climate change and not on different levels of economic development.

**Common concern of humankind** (or **common concern of mankind**) – a principle of international law that provides that States share the burden and responsibilities of protecting certain areas or elements of the Earth.

**Compensable damage** – a loss that is or will be compensated.

**Compensation** – an amount or received as recompense for a loss suffered.

**Compliance** – the act of complying with rules or standards.

**Compliance system** – a body of rules and standards accompanied by institutions that ensure compliance and impose consequences for non-compliance.

**Contextual norms** – norms that appear to provide identical treatment to all States but the application of which requires or permits consideration of differential factors that may vary from State to State.

**Coral atolls** – islands of corals that encircle a lagoon partially or completely.

**Customary international law** – rules that result from consistent and general practice of States that follow them out of a sense of legal obligation.

**Desalination** – a process that removes salt from saline water for the purpose of creating potable water.
**Deterministic approach** – an approach to causation that is based upon identifying the necessary conditions for a particular occurrence.

**Differential norms** - norms that explicitly provide for different, presumably more advantages, standards for one group of States compared with another group.

**Due diligence** – reasonable steps taken by a person to satisfy a legal obligation.

**Economies in transition** – an economy that is changing from a centrally controlled economy to a market economy.

**Environmental damage** – all of the adverse effects on human beings, property and the environment caused by human activities.

**Erga omnes** – owed toward all.

**Ex ante** – before the event.

**Factual causation** – the question of whether a defendant’s wrongful conduct is the factual cause of the plaintiff’s loss.

**Forcing** – the influence that a factor has on the atmosphere.

**Foreseeability** – the ability of a person to know in advance of the possible results of that person’s wrongful behaviour.

**Fossil fuels** – hydrocarbons formed from the remains of dead plants and animals (primarily coal, oil or natural gas).

**Freshwater lenses** – a convex layer of fresh groundwater found on coral atolls that floats on denser seawater.

**General causation** – the establishment of a causal link between an activity and a general outcome.
**Greenhouse gas** – a gas in the atmosphere that absorbs infrared radiation and trap heat. Carbon dioxide (CO2), Methane (CH4), Nitrous oxide (N20), Hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs), and Sulphur hexafluoride (SF6) are the greenhouse gases which are listed in Annex A of the Kyoto Protocol.

**International climate change regime** – the body of international law that deals with climate change.

**Internationally wrongful act** – a breach of international law.

**Interpretative declarations** – a declaration by a State concerning its understanding or interpretation of a provision of a treaty. Interpretative declarations do not seek to exclude or modify the legal effect of a treaty but instead attempt to clarify a State’s position.

**Ipso facto** – by that very fact or act.

**Isotopes** – atoms of elements with different numbers of neutrons.

**Joint responsibility** – where liability is held by two or more persons responsible for the injury of the plaintiff.

**Legal causation** – the question of whether the defendant should be held liable for the loss.

**Legally binding** – rules which are of such a nature that their breach will lead to legal responsibility and a duty to provide remedy through compensation or some other measure. It may be compared with rules which are political in nature, for which there is no legal responsibility to honour. International law does not contain an enforcement system similar to that of domestic legal systems. However, States can and do seek remedies for breaches of legally binding commitments.
**Lex generalis** – a law that governs general matters only.

**Lex specialis** – a law governing a specific subject matter. Also a doctrine of treaty interpretation that holds that a law governing a specific subject matter (*les specialis*) will prevail over a law that only governs general matters (*lex generalis*).

**Liability** – the duty to pay compensation for damage caused by a wrongful act.

**Market share responsibility** – a rule that liability should be based on the percentage of the product that the defendant sold on the market.

**Mitigation** – the reduction of greenhouse gas emissions especially by the international community or a specific country.

**No harm rule** – a rule of customary international law that provides that a State has a duty to prevent, reduce and control the risk of environmental harm to other States.

**Non-derogable** – a rule that cannot be suspended under any circumstances.

**Objective** – the reasons for why a treaty exists.

**Ocean acidification** – the continuing reduction in the pH and corresponding rise in acidity of the world’s oceans caused by the absorption of carbon dioxide.

**Parties** – States that have signed up to a specific treaty and agreed to be bound by its commitments, such as by ratification or accession. The commitments in treaties are generally of a reciprocal nature thus it is important for States to explicitly provide their agreement to be bound.

**Peremptory norm** – a norm of international law from which no derogation is permitted.
PgC – petagrams of carbon. 1 PgC equates to 1015 grams of carbon.

Preamble – an introductory statement upon which a treaty is based.

Precautionary principle – a principle that provides for persons to take precautionary measures even where there is lack of full scientific certainty.

Prima facie – based on first impression.

Principles – provide general statements of law that must be taken into account and guide the processes of interpretation and application of rules of law.

Probabilistic approach – an approach to causation that examines whether the defendant’s wrongful conduct was a probable cause of the loss.

Ratione personae – personal immunity.

Reparation – the act or process of making amends.

Reservations – a statement by a State by which it seeks to exclude or alter the legal effect of certain provisions of a treaty in their application.

Responsibility – encompasses liability but also includes other remedies (such as cessation and satisfaction).

Restitution – the act of restoring the situation to that which existed before the wrongful act was committed.

Satisfaction – a remedy that may consist of an acknowledgement of the breach, an expression of regret, a formal apology or another appropriate modality.

Several responsibility – a form of liability which is distinct and separate to the liability of others.
*Sine qua non* – the act is an indispensable condition for the damage to have occurred (also the but for test).

*Sole responsibility* – States are only responsible for the outcomes that can be attributed to their own actions.

*Specific causation* – establishing a causal link between a specific activity and a specific outcome.

*Standing* – the entitlement of a person to bring a case.

*State* – a sovereign country.

*State responsibility* – a term of art which is equivalent of international tort law.

*State sovereignty* – the supreme power held by a State which entitles it to non-interference in its domestic affairs.

*Status quo ante* – the way things were before.

*Strict liability* – liability for which it is not necessary to show intention or negligence.

*Sustainable development* – a level of economic development that meets the needs of the present generation without comprising the needs of future generations.

*Transboundary pollution* – air pollution that travels from one jurisdiction to another.

*Treaty* – any instrument that is binding under international law that is reached between two or more international juridical persons.
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The Parties to this Convention,

Acknowledging that change in the Earth's climate and its adverse effects are a common concern of humankind,

Concerned that human activities have been substantially increasing the atmospheric concentrations of greenhouse gases, that these increases enhance the natural greenhouse effect, and that this will result on average in an additional warming of the Earth's surface and atmosphere and may adversely affect natural ecosystems and humankind,

Noting that the largest share of historical and current global emissions of greenhouse gases has originated in developed countries, that per capita emissions in developing countries are still relatively low and that the share of global emissions originating in developing countries will grow to meet their social and development needs,

Aware of the role and importance in terrestrial and marine ecosystems of sinks and reservoirs of greenhouse gases,

Noting that there are many uncertainties in predictions of climate change, particularly with regard to the timing, magnitude and regional patterns thereof,

Acknowledging that the global nature of climate change calls for the widest possible cooperation by all countries and their participation in an effective and appropriate international response, in accordance with their common but differentiated responsibilities and respective capabilities and their social and economic conditions,

Recalling the pertinent provisions of the Declaration of the United Nations Conference on the Human Environment, adopted at Stockholm on 16 June 1972,

Recalling also that States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental and developmental policies, and 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,

Reaffirming the principle of sovereignty of States in international cooperation to address climate change,

Recognizing that States should enact effective environmental legislation, that environmental standards, management objectives and priorities should reflect the
environmental and developmental context to which they apply, and that standards applied by some countries may be inappropriate and of unwarranted economic and social cost to other countries, in particular developing countries,


**Recalling also** the provisions of General Assembly resolution 44/206 of 22 December 1989 on the possible adverse effects of sea-level rise on islands and coastal areas, particularly low-lying coastal areas and the pertinent provisions of General Assembly resolution 44/172 of 19 December 1989 on the implementation of the Plan of Action to Combat Desertification,

**Recalling further** the Vienna Convention for the Protection of the Ozone Layer, 1985, and the Montreal Protocol on Substances that Deplete the Ozone Layer, 1987, as adjusted and amended on 29 June 1990,

**Noting** the Ministerial Declaration of the Second World Climate Conference adopted on 7 November 1990,

**Conscious** of the valuable analytical work being conducted by many States on climate change and of the important contributions of the World Meteorological Organization, the United Nations Environment Programme and other organs, organizations and bodies of the United Nations system, as well as other international and intergovernmental bodies, to the exchange of results of scientific research and the coordination of research,

**Recognizing** that steps required to understand and address climate change will be environmentally, socially and economically most effective if they are based on relevant scientific, technical and economic considerations and continually re-evaluated in the light of new findings in these areas,

**Recognizing** that various actions to address climate change can be justified economically in their own right and can also help in solving other environmental problems,

**Recognizing also** the need for developed countries to take immediate action in a flexible manner on the basis of clear priorities, as a first step towards comprehensive response strategies at the global, national and, where agreed, regional levels that take into account all greenhouse gases, with due consideration of their relative contributions to the enhancement of the greenhouse effect,

**Recognizing further** that low-lying and other small island countries, countries with low-lying coastal, arid and semi-arid areas or areas liable to floods, drought and desertification, and developing countries with fragile mountainous ecosystems are particularly vulnerable to the adverse effects of climate change,
Recognizing the special difficulties of those countries, especially developing countries, whose economies are particularly dependent on fossil fuel production, use and exportation, as a consequence of action taken on limiting greenhouse gas emissions,

Affirming that responses to climate change should be coordinated with social and economic development in an integrated manner with a view to avoiding adverse impacts on the latter, taking into full account the legitimate priority needs of developing countries for the achievement of sustained economic growth and the eradication of poverty,

Recognizing that all countries, especially developing countries, need access to resources required to achieve sustainable social and economic development and that, in order for developing countries to progress towards that goal, their energy consumption will need to grow taking into account the possibilities for achieving greater energy efficiency and for controlling greenhouse gas emissions in general, including through the application of new technologies on terms which make such an application economically and socially beneficial,

Determined to protect the climate system for present and future generations,

Have agreed as follows:

ARTICLE 1
DEFINITIONS*

For the purposes of this Convention:

1. "Adverse effects of climate change" means changes in the physical environment or biota resulting from climate change which have significant deleterious effects on the composition, resilience or productivity of natural and managed ecosystems or on the operation of socio-economic systems or on human health and welfare.

2. "Climate change" means a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods.

3. "Climate system" means the totality of the atmosphere, hydrosphere, biosphere and geosphere and their interactions.

4. "Emissions" means the release of greenhouse gases and/or their precursors into the atmosphere over a specified area and period of time.

5. "Greenhouse gases" means those gaseous constituents of the atmosphere, both natural and anthropogenic, that absorb and re-emit infrared radiation.
6. "Regional economic integration organization" means an organization constituted by sovereign States of a given region which has competence in respect of matters governed by this Convention or its protocols and has been duly authorized, in accordance with its internal procedures, to sign, ratify, accept, approve or accede to the instruments concerned.

7. "Reservoir" means a component or components of the climate system where a greenhouse gas or a precursor of a greenhouse gas is stored.

8. "Sink" means any process, activity or mechanism which removes a greenhouse gas, an aerosol or a precursor of a greenhouse gas from the atmosphere.

9. "Source" means any process or activity which releases a greenhouse gas, an aerosol or a precursor of a greenhouse gas into the atmosphere.

* Titles of articles are included solely to assist the reader.

ARTICLE 2
OBJECTIVE

The ultimate objective of this Convention and any related legal instruments that the Conference of the Parties may adopt is to achieve, in accordance with the relevant provisions of the Convention, stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Such a level should be achieved within a time-frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner.

ARTICLE 3
PRINCIPLES

In their actions to achieve the objective of the Convention and to implement its provisions, the Parties shall be guided, INTER ALIA, by the following:

1. 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.
2. The specific needs and special circumstances of developing country Parties, especially those that are particularly vulnerable to the adverse effects of climate change, and of those Parties, especially developing country Parties, that would have to bear a disproportionate or abnormal burden under the Convention, should be given full consideration.

3. The Parties should take precautionary measures to anticipate, prevent or minimize the causes of climate change and mitigate its adverse effects. Where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing such measures, taking into account that policies and measures to deal with climate change should be cost-effective so as to ensure global benefits at the lowest possible cost. To achieve this, such policies and measures should take into account different socio-economic contexts, be comprehensive, cover all relevant sources, sinks and reservoirs of greenhouse gases and adaptation, and comprise all economic sectors. Efforts to address climate change may be carried out cooperatively by interested Parties.

4. The Parties have a right to, and should, promote sustainable development. Policies and measures to protect the climate system against human-induced change should be appropriate for the specific conditions of each Party and should be integrated with national development programmes, taking into account that economic development is essential for adopting measures to address climate change.

5. The Parties should cooperate to promote a supportive and open international economic system that would lead to sustainable economic growth and development in all Parties, particularly developing country Parties, thus enabling them better to address the problems of climate change. Measures taken to combat climate change, including unilateral ones, should not constitute a means of arbitrary or unjustifiable discrimination or a disguised restriction on international trade.

ARTICLE 4
COMMITMENTS

1. All Parties, taking into account their common but differentiated responsibilities and their specific national and regional development priorities, objectives and circumstances, shall:

(a) Develop, periodically update, publish and make available to the Conference of the Parties, in accordance with Article 12, national inventories of anthropogenic emissions by sources and removals by sinks of all greenhouse gases not controlled by the Montreal Protocol, using comparable methodologies to be agreed upon by the Conference of the Parties;

(b) Formulate, implement, publish and regularly update national and, where appropriate, regional programmes containing measures to mitigate climate change by addressing anthropogenic emissions by sources and removals by sinks of all
greenhouse gases not controlled by the Montreal Protocol, and measures to facilitate adequate adaptation to climate change;

(c) Promote and cooperate in the development, application and diffusion, including transfer, of technologies, practices and processes that control, reduce or prevent anthropogenic emissions of greenhouse gases not controlled by the Montreal Protocol in all relevant sectors, including the energy, transport, industry, agriculture, forestry and waste management sectors;

(d) Promote sustainable management, and promote and cooperate in the conservation and enhancement, as appropriate, of sinks and reservoirs of all greenhouse gases not controlled by the Montreal Protocol, including biomass, forests and oceans as well as other terrestrial, coastal and marine ecosystems;

(e) Cooperate in preparing for adaptation to the impacts of climate change; develop and elaborate appropriate and integrated plans for coastal zone management, water resources and agriculture, and for the protection and rehabilitation of areas, particularly in Africa, affected by drought and desertification, as well as floods;

(f) Take climate change considerations into account, to the extent feasible, in their relevant social, economic and environmental policies and actions, and employ appropriate methods, for example impact assessments, formulated and determined nationally, with a view to minimizing adverse effects on the economy, on public health and on the quality of the environment, of projects or measures undertaken by them to mitigate or adapt to climate change;

(g) Promote and cooperate in scientific, technological, technical, socio-economic and other research, systematic observation and development of data archives related to the climate system and intended to further the understanding and to reduce or eliminate the remaining uncertainties regarding the causes, effects, magnitude and timing of climate change and the economic and social consequences of various response strategies;

(h) Promote and cooperate in the full, open and prompt exchange of relevant scientific, technological, technical, socio-economic and legal information related to the climate system and climate change, and to the economic and social consequences of various response strategies;

(i) Promote and cooperate in education, training and public awareness related to climate change and encourage the widest participation in this process, including that of non-governmental organizations; and

(j) Communicate to the Conference of the Parties information related to implementation, in accordance with Article 12.

2. The developed country Parties and other Parties included in Annex I commit themselves specifically as provided for in the following:

(a) Each of these Parties shall adopt national policies and take corresponding measures on the mitigation of climate change, by limiting its anthropogenic
emissions of greenhouse gases and protecting and enhancing its greenhouse gas sinks and reservoirs. These policies and measures will demonstrate that developed countries are taking the lead in modifying longer-term trends in anthropogenic emissions consistent with the objective of the Convention, recognizing that the return by the end of the present decade to earlier levels of anthropogenic emissions of carbon dioxide and other greenhouse gases not controlled by the Montreal Protocol would contribute to such modification, and taking into account the differences in these Parties' starting points and approaches, economic structures and resource bases, the need to maintain strong and sustainable economic growth, available technologies and other individual circumstances, as well as the need for equitable and appropriate contributions by each of these Parties to the global effort regarding that objective. These Parties may implement such policies and measures jointly with other Parties and may assist other Parties in contributing to the achievement of the objective of the Convention and, in particular, that of this subparagraph;

(b) In order to promote progress to this end, each of these Parties shall communicate, within six months of the entry into force of the Convention for it and periodically thereafter, and in accordance with Article 12, detailed information on its policies and measures referred to in subparagraph (a) above, as well as on its resulting projected anthropogenic emissions by sources and removals by sinks of greenhouse gases not controlled by the Montreal Protocol for the period referred to in subparagraph (a), with the aim of returning individually or jointly to their 1990 levels these anthropogenic emissions of carbon dioxide and other greenhouse gases not controlled by the Montreal Protocol. This information will be reviewed by the Conference of the Parties, at its first session and periodically thereafter, in accordance with Article 7;

(c) Calculations of emissions by sources and removals by sinks of greenhouse gases for the purposes of subparagraph (b) above should take into account the best available scientific knowledge, including of the effective capacity of sinks and the respective contributions of such gases to climate change. The Conference of the Parties shall consider and agree on methodologies for these calculations at its first session and review them regularly thereafter;

(d) The Conference of the Parties shall, at its first session, review the adequacy of subparagraphs (a) and (b) above. Such review shall be carried out in the light of the best available scientific information and assessment on climate change and its impacts, as well as relevant technical, social and economic information. Based on this review, the Conference of the Parties shall take appropriate action, which may include the adoption of amendments to the commitments in subparagraphs (a) and (b) above. The Conference of the Parties, at its first session, shall also take decisions regarding criteria for joint implementation as indicated in subparagraph (a) above. A second review of subparagraphs (a) and (b) shall take place not later than 31 December 1998, and thereafter at regular intervals determined by the Conference of the Parties, until the objective of the Convention is met;

(e) Each of these Parties shall:

i) Coordinate as appropriate with other such Parties, relevant economic and administrative instruments developed to achieve the objective of the Convention; and
(ii) Identify and periodically review its own policies and practices which encourage activities that lead to greater levels of anthropogenic emissions of greenhouse gases not controlled by the Montreal Protocol than would otherwise occur;

(f) The Conference of the Parties shall review, not later than 31 December 1998, available information with a view to taking decisions regarding such amendments to the lists in Annexes I and II as may be appropriate, with the approval of the Party concerned;

(g) Any Party not included in Annex I may, in its instrument of ratification, acceptance, approval or accession, or at any time thereafter, notify the Depositary that it intends to be bound by subparagraphs (a) and (b) above. The Depositary shall inform the other signatories and Parties of any such notification.

3. The developed country Parties and other developed Parties included in Annex II shall provide new and additional financial resources to meet the agreed full costs incurred by developing country Parties in complying with their obligations under Article 12, paragraph 1. They shall also provide such financial resources, including for the transfer of technology, needed by the developing country Parties to meet the agreed full incremental costs of implementing measures that are covered by paragraph 1 of this Article and that are agreed between a developing country Party and the international entity or entities referred to in Article 11, in accordance with that Article. The implementation of these commitments shall take into account the need for adequacy and predictability in the flow of funds and the importance of appropriate burden sharing among the developed country Parties.

4. The developed country Parties and other developed Parties included in Annex II shall also assist the developing country Parties that are particularly vulnerable to the adverse effects of climate change in meeting costs of adaptation to those adverse effects.

5. The developed country Parties and other developed Parties included in Annex II shall take all practicable steps to promote, facilitate and finance, as appropriate, the transfer of, or access to, environmentally sound technologies and know-how to other Parties, particularly developing country Parties, to enable them to implement the provisions of the Convention. In this process, the developed country Parties shall support the development and enhancement of endogenous capacities and technologies of developing country Parties. Other Parties and organizations in a position to do so may also assist in facilitating the transfer of such technologies.

6. In the implementation of their commitments under paragraph 2 above, a certain degree of flexibility shall be allowed by the Conference of the Parties to the Parties included in Annex I undergoing the process of transition to a market economy, in order to enhance the ability of these Parties to address climate change, including with regard to the historical level of anthropogenic emissions of greenhouse gases not controlled by the Montreal Protocol chosen as a reference.

7. The 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.

8. In the implementation of the commitments in this Article, the Parties shall give full consideration to what actions are necessary under the Convention, including actions related to funding, insurance and the transfer of technology, to meet the specific needs and concerns of developing country Parties arising from the adverse effects of climate change and/or the impact of the implementation of response measures, especially on:

(a) Small island countries;

(b) Countries with low-lying coastal areas;

(c) Countries with arid and semi-arid areas, forested areas and areas liable to forest decay;

(d) Countries with areas prone to natural disasters;

(e) Countries with areas liable to drought and desertification;

(f) Countries with areas of high urban atmospheric pollution;

(g) Countries with areas with fragile ecosystems, including mountainous ecosystems;

(h) Countries whose economies are highly dependent on income generated from the production, processing and export, and/or on consumption of fossil fuels and associated energy-intensive products; and

(i) Land-locked and transit countries.

Further, the Conference of the Parties may take actions, as appropriate, with respect to this paragraph.

9. The Parties shall take full account of the specific needs and special situations of the least developed countries in their actions with regard to funding and transfer of technology.

10. The Parties shall, in accordance with Article 10, take into consideration in the implementation of the commitments of the Convention the situation of Parties, particularly developing country Parties, with economies that are vulnerable to the adverse effects of the implementation of measures to respond to climate change. This applies notably to Parties with economies that are highly dependent on income generated from the production, processing and export, and/or consumption of fossil fuels and associated energy-intensive products and/or the use of fossil fuels for which such Parties have serious difficulties in switching to alternatives.
ARTICLE 5
RESEARCH AND SYSTEMATIC OBSERVATION

In carrying out their commitments under Article 4, paragraph 1(g), the Parties shall:

(a) Support and further develop, as appropriate, international and intergovernmental programmes and networks or organizations aimed at defining, conducting, assessing and financing research, data collection and systematic observation, taking into account the need to minimize duplication of effort;

(b) Support international and intergovernmental efforts to strengthen systematic observation and national scientific and technical research capacities and capabilities, particularly in developing countries, and to promote access to, and the exchange of, data and analyses thereof obtained from areas beyond national jurisdiction; and

(c) Take into account the particular concerns and needs of developing countries and cooperate in improving their endogenous capacities and capabilities to participate in the efforts referred to in subparagraphs (a) and (b) above.

ARTICLE 6
EDUCATION, TRAINING AND PUBLIC AWARENESS

In carrying out their commitments under Article 4, paragraph 1(i), the Parties shall:

(a) Promote and facilitate at the national and, as appropriate, subregional and regional levels, and in accordance with national laws and regulations, and within their respective capacities:

(i) The development and implementation of educational and public awareness programmes on climate change and its effects;

(ii) Public access to information on climate change and its effects;

(iii) Public participation in addressing climate change and its effects and developing adequate responses; and

(iv) Training of scientific, technical and managerial personnel.

(b) Cooperate in and promote, at the international level, and, where appropriate, using existing bodies:

(i) The development and exchange of educational and public awareness material on climate change and its effects; and
(ii) The development and implementation of education and training programmes, including the strengthening of national institutions and the exchange or secondment of personnel to train experts in this field, in particular for developing countries.

ARTICLE 7
CONFERENCE OF THE PARTIES

1. A Conference of the Parties is hereby established.

2. The Conference of the Parties, as the supreme body of this Convention, shall keep under regular review the implementation of the Convention and any related legal instruments that the Conference of the Parties may adopt, and shall make, within its mandate, the decisions necessary to promote the effective implementation of the Convention. To this end, it shall:

(a) Periodically examine the obligations of the Parties and the institutional arrangements under the Convention, in the light of the objective of the Convention, the experience gained in its implementation and the evolution of scientific and technological knowledge;

(b) Promote and facilitate the exchange of information on measures adopted by the Parties to address climate change and its effects, taking into account the differing circumstances, responsibilities and capabilities of the Parties and their respective commitments under the Convention;

(c) Facilitate, at the request of two or more Parties, the coordination of measures adopted by them to address climate change and its effects, taking into account the differing circumstances, responsibilities and capabilities of the Parties and their respective commitments under the Convention;

(d) Promote and guide, in accordance with the objective and provisions of the Convention, the development and periodic refinement of comparable methodologies, to be agreed on by the Conference of the Parties, inter alia, for preparing inventories of greenhouse gas emissions by sources and removals by sinks, and for evaluating the effectiveness of measures to limit the emissions and enhance the removals of these gases;

(e) Assess, on the basis of all information made available to it in accordance with the provisions of the Convention, the implementation of the Convention by the Parties, the overall effects of the measures taken pursuant to the Convention, in particular environmental, economic and social effects as well as their cumulative impacts and the extent to which progress towards the objective of the Convention is being achieved;

(f) Consider and adopt regular reports on the implementation of the Convention and ensure their publication;
(g) Make recommendations on any matters necessary for the implementation of the Convention;

(h) Seek to mobilize financial resources in accordance with Article 4, paragraphs 3, 4 and 5, and Article 11;

(i) Establish such subsidiary bodies as are deemed necessary for the implementation of the Convention;

(j) Review reports submitted by its subsidiary bodies and provide guidance to them;

(k) Agree upon and adopt, by consensus, rules of procedure and financial rules for itself and for any subsidiary bodies;

(l) Seek and utilize, where appropriate, the services and cooperation of, and information provided by, competent international organizations and intergovernmental and non-governmental bodies; and

(m) Exercise such other functions as are required for the achievement of the objective of the Convention as well as all other functions assigned to it under the Convention.

3. The Conference of the Parties shall, at its first session, adopt its own rules of procedure as well as those of the subsidiary bodies established by the Convention, which shall include decision-making procedures for matters not already covered by decision-making procedures stipulated in the Convention. Such procedures may include specified majorities required for the adoption of particular decisions.

4. The first session of the Conference of the Parties shall be convened by the interim secretariat referred to in Article 21 and shall take place not later than one year after the date of entry into force of the Convention. Thereafter, ordinary sessions of the Conference of the Parties shall be held every year unless otherwise decided by the Conference of the Parties.

5. Extraordinary sessions of the Conference of the Parties shall be held at such other times as may be deemed necessary by the Conference, or at the written request of any Party, provided that, within six months of the request being communicated to the Parties by the secretariat, it is supported by at least one third of the Parties.

6. The United Nations, its specialized agencies and the International Atomic Energy Agency, as well as any State member thereof or observers thereto not Party to the Convention, may be represented at sessions of the Conference of the Parties as observers. Any body or agency, whether national or international, governmental or non-governmental, which is qualified in matters covered by the Convention, and which has informed the secretariat of its wish to be represented at a session of the Conference of the Parties as an observer, may be so admitted unless at least one third of the Parties present object. The admission and participation of observers shall be subject to the rules of procedure adopted by the Conference of the Parties.
ARTICLE 8
SECRETARIAT

1. A secretariat is hereby established.

2. The functions of the secretariat shall be:

(a) To make arrangements for sessions of the Conference of the Parties and its subsidiary bodies established under the Convention and to provide them with services as required;

(b) To compile and transmit reports submitted to it;

(c) To facilitate assistance to the Parties, particularly developing country Parties, on request, in the compilation and communication of information required in accordance with the provisions of the Convention;

(d) To prepare reports on its activities and present them to the Conference of the Parties;

(e) To ensure the necessary coordination with the secretariats of other relevant international bodies;

(f) To enter, under the overall guidance of the Conference of the Parties, into such administrative and contractual arrangements as may be required for the effective discharge of its functions; and

(g) To perform the other secretariat functions specified in the Convention and in any of its protocols and such other functions as may be determined by the Conference of the Parties.

3. The Conference of the Parties, at its first session, shall designate a permanent secretariat and make arrangements for its functioning.

ARTICLE 9
SUBSIDIARY BODY FOR SCIENTIFIC AND TECHNOLOGICAL ADVICE

1. A subsidiary body for scientific and technological advice is hereby established to provide the Conference of the Parties and, as appropriate, its other subsidiary bodies with timely information and advice on scientific and technological matters relating to the Convention. This body shall be open to participation by all Parties and shall be multidisciplinary. It shall comprise government representatives competent in the relevant field of expertise. It shall report regularly to the Conference of the Parties on all aspects of its work.
2. Under the guidance of the Conference of the Parties, and drawing upon existing competent international bodies, this body shall:

(a) Provide assessments of the state of scientific knowledge relating to climate change and its effects;

(b) Prepare scientific assessments on the effects of measures taken in the implementation of the Convention;

(c) Identify innovative, efficient and state-of-the-art technologies and know-how and advise on the ways and means of promoting development and/or transferring such technologies;

(d) Provide advice on scientific programmes, international cooperation in research and development related to climate change, as well as on ways and means of supporting endogenous capacity-building in developing countries; and

(e) Respond to scientific, technological and methodological questions that the Conference of the Parties and its subsidiary bodies may put to the body.

3. The functions and terms of reference of this body may be further elaborated by the Conference of the Parties.

ARTICLE 10
SUBSIDIARY BODY FOR IMPLEMENTATION

1. A subsidiary body for implementation is hereby established to assist the Conference of the Parties in the assessment and review of the effective implementation of the Convention. This body shall be open to participation by all Parties and comprise government representatives who are experts on matters related to climate change. It shall report regularly to the Conference of the Parties on all aspects of its work.

2. Under the guidance of the Conference of the Parties, this body shall:

(a) Consider the information communicated in accordance with Article 12, paragraph 1, to assess the overall aggregated effect of the steps taken by the Parties in the light of the latest scientific assessments concerning climate change;

(b) Consider the information communicated in accordance with Article 12, paragraph 2, in order to assist the Conference of the Parties in carrying out the reviews required by Article 4, paragraph 2(d); and

(c) Assist the Conference of the Parties, as appropriate, in the preparation and implementation of its decisions.
ARTICLE 11
FINANCIAL MECHANISM

1. A mechanism for the provision of financial resources on a grant or concessional basis, including for the transfer of technology, is hereby defined. It shall function under the guidance of and be accountable to the Conference of the Parties, which shall decide on its policies, programme priorities and eligibility criteria related to this Convention. Its operation shall be entrusted to one or more existing international entities.

2. The financial mechanism shall have an equitable and balanced representation of all Parties within a transparent system of governance.

3. The Conference of the Parties and the entity or entities entrusted with the operation of the financial mechanism shall agree upon arrangements to give effect to the above paragraphs, which shall include the following:

   (a) Modalities to ensure that the funded projects to address climate change are in conformity with the policies, programme priorities and eligibility criteria established by the Conference of the Parties;

   (b) Modalities by which a particular funding decision may be reconsidered in light of these policies, programme priorities and eligibility criteria;

   (c) Provision by the entity or entities of regular reports to the Conference of the Parties on its funding operations, which is consistent with the requirement for accountability set out in paragraph 1 above; and

   (d) Determination in a predictable and identifiable manner of the amount of funding necessary and available for the implementation of this Convention and the conditions under which that amount shall be periodically reviewed.

4. The Conference of the Parties shall make arrangements to implement the above-mentioned provisions at its first session, reviewing and taking into account the interim arrangements referred to in Article 21, paragraph 3, and shall decide whether these interim arrangements shall be maintained. Within four years thereafter, the Conference of the Parties shall review the financial mechanism and take appropriate measures.

5. The developed country Parties may also provide and developing country Parties avail themselves of, financial resources related to the implementation of the Convention through bilateral, regional and other multilateral channels.
ARTICLE 12
COMMUNICATION OF INFORMATION RELATED TO IMPLEMENTATION

1. In accordance with Article 4, paragraph 1, each Party shall communicate to the Conference of the Parties, through the secretariat, the following elements of information:

(a) A national inventory of anthropogenic emissions by sources and removals by sinks of all greenhouse gases not controlled by the Montreal Protocol, to the extent its capacities permit, using comparable methodologies to be promoted and agreed upon by the Conference of the Parties;

(b) A general description of steps taken or envisaged by the Party to implement the Convention; and

(c) Any other information that the Party considers relevant to the achievement of the objective of the Convention and suitable for inclusion in its communication, including, if feasible, material relevant for calculations of global emission trends.

2. Each developed country Party and each other Party included in Annex I shall incorporate in its communication the following elements of information:

(a) A detailed description of the policies and measures that it has adopted to implement its commitment under Article 4, paragraphs 2(a) and 2(b); and

(b) A specific estimate of the effects that the policies and measures referred to in subparagraph (a) immediately above will have on anthropogenic emissions by its sources and removals by its sinks of greenhouse gases during the period referred to in Article 4, paragraph 2(a).

3. In addition, each developed country Party and each other developed Party included in Annex II shall incorporate details of measures taken in accordance with Article 4, paragraphs 3, 4 and 5.

4. Developing country Parties may, on a voluntary basis, propose projects for financing, including specific technologies, materials, equipment, techniques or practices that would be needed to implement such projects, along with, if possible, an estimate of all incremental costs, of the reductions of emissions and increments of removals of greenhouse gases, as well as an estimate of the consequent benefits.

5. Each developed country Party and each other Party included in Annex I shall make its initial communication within six months of the entry into force of the Convention for that Party. Each Party not so listed shall make its initial communication within three years of the entry into force of the Convention for that Party, or of the availability of financial resources in accordance with Article 4, paragraph 3. Parties that are least developed countries may make their initial communication at their discretion. The frequency of subsequent communications by all Parties shall be
determined by the Conference of the Parties, taking into account the differentiated timetable set by this paragraph.

6. Information communicated by Parties under this Article shall be transmitted by the secretariat as soon as possible to the Conference of the Parties and to any subsidiary bodies concerned. If necessary, the procedures for the communication of information may be further considered by the Conference of the Parties.

7. From its first session, the Conference of the Parties shall arrange for the provision to developing country Parties of technical and financial support, on request, in compiling and communicating information under this Article, as well as in identifying the technical and financial needs associated with proposed projects and response measures under Article 4. Such support may be provided by other Parties, by competent international organizations and by the secretariat, as appropriate.

8. Any group of Parties may, subject to guidelines adopted by the Conference of the Parties, and to prior notification to the Conference of the Parties, make a joint communication in fulfilment of their obligations under this Article, provided that such a communication includes information on the fulfilment by each of these Parties of its individual obligations under the Convention.

9. Information received by the secretariat that is designated by a Party as confidential, in accordance with criteria to be established by the Conference of the Parties, shall be aggregated by the secretariat to protect its confidentiality before being made available to any of the bodies involved in the communication and review of information.

10. Subject to paragraph 9 above, and without prejudice to the ability of any Party to make public its communication at any time, the secretariat shall make communications by Parties under this Article publicly available at the time they are submitted to the Conference of the Parties.

ARTICLE 13
RESOLUTION OF QUESTIONS REGARDING IMPLEMENTATION

The Conference of the Parties shall, at its first session, consider the establishment of a multilateral consultative process, available to Parties on their request, for the resolution of questions regarding the implementation of the Convention.

ARTICLE 14
SETTLEMENT OF DISPUTES
1. In the event of a dispute between any two or more Parties concerning the interpretation or application of the Convention, the Parties concerned shall seek a settlement of the dispute through negotiation or any other peaceful means of their own choice.

2. When ratifying, accepting, approving or acceding to the Convention, or at any time thereafter, a Party which is not a regional economic integration organization may declare in a written instrument submitted to the Depositary that, in respect of any dispute concerning the interpretation or application of the Convention, it recognizes as compulsory ipso facto and without special agreement, in relation to any Party accepting the same obligation:

(a) Submission of the dispute to the International Court of Justice, and/or

(b) Arbitration in accordance with procedures to be adopted by the Conference of the Parties as soon as practicable, in an annex on arbitration.

A Party which is a regional economic integration organization may make a declaration with like effect in relation to arbitration in accordance with the procedures referred to in subparagraph (b) above.

3. A declaration made under paragraph 2 above shall remain in force until it expires in accordance with its terms or until three months after written notice of its revocation has been deposited with the Depositary.

4. A new declaration, a notice of revocation or the expiry of a declaration shall not in any way affect proceedings pending before the International Court of Justice or the arbitral tribunal, unless the parties to the dispute otherwise agree.

5. Subject to the operation of paragraph 2 above, if after twelve months following notification by one Party to another that a dispute exists between them, the Parties concerned have not been able to settle their dispute through the means mentioned in paragraph 1 above, the dispute shall be submitted, at the request of any of the parties to the dispute, to conciliation.

6. A conciliation commission shall be created upon the request of one of the parties to the dispute. The commission shall be composed of an equal number of members appointed by each party concerned and a chairman chosen jointly by the members appointed by each party. The commission shall render a recommendatory award, which the parties shall consider in good faith.

7. Additional procedures relating to conciliation shall be adopted by the Conference of the Parties, as soon as practicable, in an annex on conciliation.

8. The provisions of this Article shall apply to any related legal instrument which the Conference of the Parties may adopt, unless the instrument provides otherwise.
ARTICLE 15
AMENDMENTS TO THE CONVENTION

1. Any Party may propose amendments to the Convention.

2. Amendments to the Convention shall be adopted at an ordinary session of the Conference of the Parties. The text of any proposed amendment to the Convention shall be communicated to the Parties by the secretariat at least six months before the meeting at which it is proposed for adoption. The secretariat shall also communicate proposed amendments to the signatories to the Convention and, for information, to the Depositary.

3. The Parties shall make every effort to reach agreement on any proposed amendment to the Convention by consensus. If all efforts at consensus have been exhausted, and no agreement reached, the amendment shall as a last resort be adopted by a three-fourths majority vote of the Parties present and voting at the meeting. The adopted amendment shall be communicated by the secretariat to the Depositary, who shall circulate it to all Parties for their acceptance.

4. Instruments of acceptance in respect of an amendment shall be deposited with the Depositary. An amendment adopted in accordance with paragraph 3 above shall enter into force for those Parties having accepted it on the ninetieth day after the date of receipt by the Depositary of an instrument of acceptance by at least three fourths of the Parties to the Convention.

5. The amendment shall enter into force for any other Party on the ninetieth day after the date on which that Party deposits with the Depositary its instrument of acceptance of the said amendment.

6. For the purposes of this Article, "Parties present and voting" means Parties present and casting an affirmative or negative vote.

ARTICLE 16
ADOPTION AND AMENDMENT OF ANNEXES TO THE CONVENTION

1. Annexes to the Convention shall form an integral part thereof and, unless otherwise expressly provided, a reference to the Convention constitutes at the same time a reference to any annexes thereto. Without prejudice to the provisions of Article 14, paragraphs 2(b) and 7, such annexes shall be restricted to lists, forms and any other material of a descriptive nature that is of a scientific, technical, procedural or administrative character.

2. Annexes to the Convention shall be proposed and adopted in accordance with the procedure set forth in Article 15, paragraphs 2, 3 and 4.
3. An annex that has been adopted in accordance with paragraph 2 above shall enter into force for all Parties to the Convention six months after the date of the communication by the Depositary to such Parties of the adoption of the annex, except for those Parties that have notified the Depositary, in writing, within that period of their non-acceptance of the annex. The annex shall enter into force for Parties which withdraw their notification of non-acceptance on the ninetieth day after the date on which withdrawal of such notification has been received by the Depositary.

4. The proposal, adoption and entry into force of amendments to annexes to the Convention shall be subject to the same procedure as that for the proposal, adoption and entry into force of annexes to the Convention in accordance with paragraphs 2 and 3 above.

5. If the adoption of an annex or an amendment to an annex involves an amendment to the Convention, that annex or amendment to an annex shall not enter into force until such time as the amendment to the Convention enters into force.

ARTICLE 17
PROTOCOLS

1. The Conference of the Parties may, at any ordinary session, adopt protocols to the Convention.

2. The text of any proposed protocol shall be communicated to the Parties by the secretariat at least six months before such a session.

3. The requirements for the entry into force of any protocol shall be established by that instrument.

4. Only Parties to the Convention may be Parties to a protocol.

5. Decisions under any protocol shall be taken only by the Parties to the protocol concerned.

ARTICLE 18
RIGHT TO VOTE

1. Each Party to the Convention shall have one vote, except as provided for in paragraph 2 below.
2. Regional economic integration organizations, in matters within their competence, shall exercise their right to vote with a number of votes equal to the number of their member States that are Parties to the Convention. Such an organization shall not exercise its right to vote if any of its member States exercises its right, and vice versa.

ARTICLE 19
DEPOSITARY

The Secretary-General of the United Nations shall be the Depositary of the Convention and of protocols adopted in accordance with Article 17.

ARTICLE 20
SIGNATURE

This Convention shall be open for signature by States Members of the United Nations or of any of its specialized agencies or that are Parties to the Statute of the International Court of Justice and by regional economic integration organizations at Rio de Janeiro, during the United Nations Conference on Environment and Development, and thereafter at United Nations Headquarters in New York from 20 June 1992 to 19 June 1993.

ARTICLE 21
INTERIM ARRANGEMENTS

1. The secretariat functions referred to in Article 8 will be carried out on an interim basis by the secretariat established by the General Assembly of the United Nations in its resolution 45/212 of 21 December 1990, until the completion of the first session of the Conference of the Parties.

2. The head of the interim secretariat referred to in paragraph 1 above will cooperate closely with the Intergovernmental Panel on Climate Change to ensure that the Panel can respond to the need for objective scientific and technical advice. Other relevant scientific bodies could also be consulted.

3. The Global Environment Facility of the United Nations Development Programme, the United Nations Environment Programme and the International Bank for Reconstruction and Development shall be the international entity entrusted with the
operation of the financial mechanism referred to in Article 11 on an interim basis. In this connection, the Global Environment Facility should be appropriately restructured and its membership made universal to enable it to fulfil the requirements of Article 11.

ARTICLE 22
RATIFICATION, ACCEPTANCE, APPROVAL OR ACCESSION

1. The Convention shall be subject to ratification, acceptance, approval or accession by States and by regional economic integration organizations. It shall be open for accession from the day after the date on which the Convention is closed for signature. Instruments of ratification, acceptance, approval or accession shall be deposited with the Depositary.

2. Any regional economic integration organization which becomes a Party to the Convention without any of its member States being a Party shall be bound by all the obligations under the Convention. In the case of such organizations, one or more of whose member States is a Party to the Convention, the organization and its member States shall decide on their respective responsibilities for the performance of their obligations under the Convention. In such cases, the organization and the member States shall not be entitled to exercise rights under the Convention concurrently.

3. In their instruments of ratification, acceptance, approval or accession, regional economic integration organizations shall declare the extent of their competence with respect to the matters governed by the Convention. These organizations shall also inform the Depositary, who shall in turn inform the Parties, of any substantial modification in the extent of their competence.

ARTICLE 23
ENTRY INTO FORCE

1. The Convention shall enter into force on the ninetieth day after the date of deposit of the fiftieth instrument of ratification, acceptance, approval or accession.

2. For each State or regional economic integration organization that ratifies, accepts or approves the Convention or accedes thereto after the deposit of the fiftieth instrument of ratification, acceptance, approval or accession, the Convention shall enter into force on the ninetieth day after the date of deposit by such State or regional economic integration organization of its instrument of ratification, acceptance, approval or accession.
3. For the purposes of paragraphs 1 and 2 above, any instrument deposited by a regional economic integration organization shall not be counted as additional to those deposited by States members of the organization.

ARTICLE 24
RESERVATIONS

No reservations may be made to the Convention.

ARTICLE 25
WITHDRAWAL

1. At any time after three years from the date on which the Convention has entered into force for a Party, that Party may withdraw from the Convention by giving written notification to the Depositary.

2. Any such 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.

3. Any Party that withdraws from the Convention shall be considered as also having withdrawn from any protocol to which it is a Party.

ARTICLE 26
AUTHENTIC TEXTS

The original of this Convention, of which the Arabic, Chinese, English, French, Russian and Spanish texts are equally authentic, shall be deposited with the Secretary-General of the United Nations.

IN WITNESS WHEREOF the undersigned, being duly authorized to that effect, have signed this Convention.

DONE at New York this ninth day of May one thousand nine hundred and ninety-two.
ANNEX I AND ANNEX II COUNTRIES

Annex I

- Australia
- Austria
- Belarus*
- Belgium
- Bulgaria*
- Canada
- Czechoslovakia*
- Denmark
- European Economic Community
- Estonia*
- Finland
- France
- Germany
- Greece
- Hungary*
- Iceland
- Ireland
- Italy
- Japan
- Latvia*
- Lithuania*
- Luxembourg
- Netherlands
- New Zealand
- Norway
- Poland*
- Portugal
- Romania*
- Russian Federation*
- Spain
- Sweden
- Switzerland
- Turkey
- Ukraine*
- United Kingdom of Great Britain and Northern Ireland
- United States of America

*Countries that are undergoing the process of transition to a market economy.

Annex II

- Australia
- Austria
- Belgium
- Canada
- Denmark
- European Economic Community
- Finland
- France
- Germany
- Greece
- Iceland
- Ireland
- Italy
- Japan
- Luxembourg
- Netherlands
- New Zealand
- Norway
- Portugal
- Spain
- Sweden
- Switzerland
- United Kingdom of Great Britain and Northern Ireland
- United States of America

Publisher’s note: Turkey was deleted from Annex II by an amendment that entered into force 28 June 2002, pursuant to decision 26/CP.7 adopted at COP.7.
The Parties to this Protocol,

Being Parties to the United Nations Framework Convention on Climate Change, hereinafter referred to as "the Convention",

In pursuit of the ultimate objective of the Convention as stated in its Article 2,

Recalling the provisions of the Convention,

Being guided by Article 3 of the Convention,

Pursuant to the Berlin Mandate adopted by decision 1/CP.1 of the Conference of the Parties to the Convention at its first session,

Have agreed as follows:

Article 1

For the purposes of this Protocol, the definitions contained in Article 1 of the Convention shall apply. In addition:

1. "Conference of the Parties" means the Conference of the Parties to the Convention.


5. "Parties present and voting" means Parties present and casting an affirmative or negative vote.

6. "Party" means, unless the context otherwise indicates, a Party to this Protocol.
7. "Party included in Annex I" means a Party included in Annex I to the Convention, as may be amended, or a Party which has made a notification under Article 4, paragraph 2(g), of the Convention.

Article 2

1. Each Party included in Annex I, in achieving its quantified emission limitation and reduction commitments under Article 3, in order to promote sustainable development, shall:

(a) Implement and/or further elaborate policies and measures in accordance with its national circumstances, such as:

(i) Enhancement of energy efficiency in relevant sectors of the national economy;

(ii) Protection and enhancement of sinks and reservoirs of greenhouse gases not controlled by the Montreal Protocol, taking into account its commitments under relevant international environmental agreements; promotion of sustainable forest management practices, afforestation and reforestation;

(iii) Promotion of sustainable forms of agriculture in light of climate change considerations;

(iv) Research on, and promotion, development and increased use of, new and renewable forms of energy, of carbon dioxide sequestration technologies and of advanced and innovative environmentally sound technologies;

(v) Progressive reduction or phasing out of market imperfections, fiscal incentives, tax and duty exemptions and subsidies in all greenhouse gas emitting sectors that run counter to the objective of the Convention and application of market instruments;

(vi) Encouragement of appropriate reforms in relevant sectors aimed at promoting policies and measures which limit or reduce emissions of greenhouse gases not controlled by the Montreal Protocol;

(vii) Measures to limit and/or reduce emissions of greenhouse gases not controlled by the Montreal Protocol in the transport sector;

(viii) Limitation and/or reduction of methane emissions through recovery and use in waste management, as well as in the production, transport and distribution of energy;

(b) Cooperate with other such Parties to enhance the individual and combined effectiveness of their policies and measures adopted under this Article, pursuant to Article 4, paragraph 2(e)(i), of the Convention. To this end, these Parties shall take steps to share their experience and exchange information on such policies and measures, including developing ways of improving their comparability, transparency and effectiveness. The Conference of the Parties serving as the meeting of the Parties to this Protocol shall, at its first session or as soon as practicable thereafter, consider ways to facilitate such cooperation, taking into account all relevant information.
2. The Parties included in Annex I shall pursue limitation or reduction of emissions of greenhouse gases not controlled by the Montreal Protocol from aviation and marine bunker fuels, working through the International Civil Aviation Organization and the International Maritime Organization, respectively.

3. The Parties included in Annex I shall strive to implement policies and measures under this Article in such a way as to minimize adverse effects, including the adverse effects of climate change, effects on international trade, and social, environmental and economic impacts on other Parties, especially developing country Parties and in particular those identified in Article 4, paragraphs 8 and 9, of the Convention, taking into account Article 3 of the Convention. The Conference of the Parties serving as the meeting of the Parties to this Protocol may take further action, as appropriate, to promote the implementation of the provisions of this paragraph.

4. The Conference of the Parties serving as the meeting of the Parties to this Protocol, if it decides that it would be beneficial to coordinate any of the policies and measures in paragraph 1(a) above, taking into account different national circumstances and potential effects, shall consider ways and means to elaborate the coordination of such policies and measures.

Article 3

1. The Parties included in Annex I shall, individually or jointly, ensure that their aggregate anthropogenic carbon dioxide equivalent emissions of the greenhouse gases listed in Annex A do not exceed their assigned amounts, calculated pursuant to their quantified emission limitation and reduction commitments inscribed in Annex B and in accordance with the provisions of this Article, with a view to reducing their overall emissions of such gases by at least 5 per cent below 1990 levels in the commitment period 2008 to 2012.

2. Each Party included in Annex I shall, by 2005, have made demonstrable progress in achieving its commitments under this Protocol.

3. The net changes in greenhouse gas emissions by sources and removals by sinks resulting from direct human-induced land-use change and forestry activities, limited to afforestation, reforestation and deforestation since 1990, measured as verifiable changes in carbon stocks in each commitment period, shall be used to meet the commitments under this Article of each Party included in Annex I. The greenhouse gas emissions by sources and removals by sinks associated with those activities shall be reported in a transparent and verifiable manner and reviewed in accordance with Articles 7 and 8.

4. Prior to the first session of the Conference of the Parties serving as the meeting of the Parties to this Protocol, each Party included in Annex I shall provide, for consideration by the Subsidiary Body for Scientific and Technological Advice, data to establish its level of carbon stocks in 1990 and to enable an estimate to be made of its changes in carbon stocks in subsequent years. The Conference of the Parties serving as the meeting of the Parties to this Protocol shall, at its first session or as soon as practicable thereafter, decide upon modalities, rules and guidelines as to how, and which, additional human-induced activities related to changes in
greenhouse gas emissions by sources and removals by sinks in the agricultural soils and the land-use change and forestry categories shall be added to, or subtracted from, the assigned amounts for Parties included in Annex I, taking into account uncertainties, transparency in reporting, verifiability, the methodological work of the Intergovernmental Panel on Climate Change, the advice provided by the Subsidiary Body for Scientific and Technological Advice in accordance with Article 5 and the decisions of the Conference of the Parties. Such a decision shall apply in the second and subsequent commitment periods. A Party may choose to apply such a decision on these additional human-induced activities for its first commitment period, provided that these activities have taken place since 1990.

5. The Parties included in Annex I undergoing the process of transition to a market economy whose base year or period was established pursuant to decision 9/CP.2 of the Conference of the Parties at its second session shall use that base year or period for the implementation of their commitments under this Article. Any other Party included in Annex I undergoing the process of transition to a market economy which has not yet submitted its first national communication under Article 12 of the Convention may also notify the Conference of the Parties serving as the meeting of the Parties to this Protocol that it intends to use an historical base year or period other than 1990 for the implementation of its commitments under this Article. The Conference of the Parties serving as the meeting of the Parties to this Protocol shall decide on the acceptance of such notification.

6. Taking into account Article 4, paragraph 6, of the Convention, in the implementation of their commitments under this Protocol other than those under this Article, a certain degree of flexibility shall be allowed by the Conference of the Parties serving as the meeting of the Parties to this Protocol to the Parties included in Annex I undergoing the process of transition to a market economy.

7. In the first quantified emission limitation and reduction commitment period, from 2008 to 2012, the assigned amount for each Party included in Annex I shall be equal to the percentage inscribed for it in Annex B of its aggregate anthropogenic carbon dioxide equivalent emissions of the greenhouse gases listed in Annex A in 1990, or the base year or period determined in accordance with paragraph 5 above, multiplied by five. Those Parties included in Annex I for whom land-use change and forestry constituted a net source of greenhouse gas emissions in 1990 shall include in their 1990 emissions base year or period the aggregate anthropogenic carbon dioxide equivalent emissions by sources minus removals by sinks in 1990 from land-use change for the purposes of calculating their assigned amount.

8. Any Party included in Annex I may use 1995 as its base year for hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride, for the purposes of the calculation referred to in paragraph 7 above.

9. Commitments for subsequent periods for Parties included in Annex I shall be established in amendments to Annex B to this Protocol, which shall be adopted in accordance with the provisions of Article 21, paragraph 7. The Conference of the Parties serving as the meeting of the Parties to this Protocol shall initiate the consideration of such commitments at least seven years before the end of the first commitment period referred to in paragraph 1 above.
10. Any emission reduction units, or any part of an assigned amount, which a Party acquires from another Party in accordance with the provisions of Article 6 or of Article 17 shall be added to the assigned amount for the acquiring Party.

11. Any emission reduction units, or any part of an assigned amount, which a Party transfers to another Party in accordance with the provisions of Article 6 or of Article 17 shall be subtracted from the assigned amount for the transferring Party.

12. Any certified emission reductions which a Party acquires from another Party in accordance with the provisions of Article 12 shall be added to the assigned amount for the acquiring Party.

13. If the emissions of a Party included in Annex I in a commitment period are less than its assigned amount under this Article, this difference shall, on request of that Party, be added to the assigned amount for that Party for subsequent commitment periods.

14. Each Party included in Annex I shall strive to implement the commitments mentioned in paragraph 1 above in such a way as to minimize adverse social, environmental and economic impacts on developing country Parties, particularly those identified in Article 4, paragraphs 8 and 9, of the Convention. In line with relevant decisions of the Conference of the Parties on the implementation of those paragraphs, the Conference of the Parties serving as the meeting of the Parties to this Protocol shall, at its first session, consider what actions are necessary to minimize the adverse effects of climate change and/or the impacts of response measures on Parties referred to in those paragraphs. Among the issues to be considered shall be the establishment of funding, insurance and transfer of technology.

Article 4

1. Any Parties included in Annex I that have reached an agreement to fulfil their commitments under Article 3 jointly, shall be deemed to have met those commitments provided that their total combined aggregate anthropogenic carbon dioxide equivalent emissions of the greenhouse gases listed in Annex A do not exceed their assigned amounts calculated pursuant to their quantified emission limitation and reduction commitments inscribed in Annex B and in accordance with the provisions of Article 3. The respective emission level allocated to each of the Parties to the agreement shall be set out in that agreement.

2. The Parties to any such agreement shall notify the secretariat of the terms of the agreement on the date of deposit of their instruments of ratification, acceptance or approval of this Protocol, or accession thereto. The secretariat shall in turn inform the Parties and signatories to the Convention of the terms of the agreement.

3. Any such agreement shall remain in operation for the duration of the commitment period specified in Article 3, paragraph 7.

4. If Parties acting jointly do so in the framework of, and together with, a regional economic integration organization, any alteration in the composition of the organization after adoption of this Protocol shall not affect existing commitments.
under this Protocol. Any alteration in the composition of the organization shall only apply for the purposes of those commitments under Article 3 that are adopted subsequent to that alteration.

5. In the event of failure by the Parties to such an agreement to achieve their total combined level of emission reductions, each Party to that agreement shall be responsible for its own level of emissions set out in the agreement.

6. If Parties acting jointly do so in the framework of, and together with, a regional economic integration organization which is itself a Party to this Protocol, each member State of that regional economic integration organization individually, and together with the regional economic integration organization acting in accordance with Article 24, shall, in the event of failure to achieve the total combined level of emission reductions, be responsible for its level of emissions as notified in accordance with this Article.

Article 5

1. Each Party included in Annex I shall have in place, no later than one year prior to the start of the first commitment period, a national system for the estimation of anthropogenic emissions by sources and removals by sinks of all greenhouse gases not controlled by the Montreal Protocol. Guidelines for such national systems, which shall incorporate the methodologies specified in paragraph 2 below, shall be decided upon by the Conference of the Parties serving as the meeting of the Parties to this Protocol at its first session.

2. Methodologies for estimating anthropogenic emissions by sources and removals by sinks of all greenhouse gases not controlled by the Montreal Protocol shall be those accepted by the Intergovernmental Panel on Climate Change and agreed upon by the Conference of the Parties at its third session. Where such methodologies are not used, appropriate adjustments shall be applied according to methodologies agreed upon by the Conference of the Parties serving as the meeting of the Parties to this Protocol at its first session. Based on the work of, inter alia, the Intergovernmental Panel on Climate Change and advice provided by the Subsidiary Body for Scientific and Technological Advice, the Conference of the Parties serving as the meeting of the Parties to this Protocol shall regularly review and, as appropriate, revise such methodologies and adjustments, taking fully into account any relevant decisions by the Conference of the Parties. Any revision to methodologies or adjustments shall be used only for the purposes of ascertaining compliance with commitments under Article 3 in respect of any commitment period adopted subsequent to that revision.

3. The global warming potentials used to calculate the carbon dioxide equivalence of anthropogenic emissions by sources and removals by sinks of greenhouse gases listed in Annex A shall be those accepted by the Intergovernmental Panel on Climate Change and agreed upon by the Conference of the Parties at its third session. Based on the work of, inter alia, the Intergovernmental Panel on Climate Change and advice provided by the Subsidiary Body for Scientific and Technological Advice, the Conference of the Parties serving as the meeting of the Parties to this Protocol shall regularly review and, as appropriate, revise the global warming potential of each such greenhouse gas, taking fully into account any relevant decisions by the
Conference of the Parties. Any revision to a global warming potential shall apply only to commitments under Article 3 in respect of any commitment period adopted subsequent to that revision.

**Article 6**

1. For the purpose of meeting its commitments under Article 3, any Party included in Annex I may transfer to, or acquire from, any other such Party emission reduction units resulting from projects aimed at reducing anthropogenic emissions by sources or enhancing anthropogenic removals by sinks of greenhouse gases in any sector of the economy, provided that:

(a) Any such project has the approval of the Parties involved;

(b) Any such project provides a reduction in emissions by sources, or an enhancement of removals by sinks, that is additional to any that would otherwise occur;

(c) It does not acquire any emission reduction units if it is not in compliance with its obligations under Articles 5 and 7; and

(d) The acquisition of emission reduction units shall be supplemental to domestic actions for the purposes of meeting commitments under Article 3.

2. The Conference of the Parties serving as the meeting of the Parties to this Protocol may, at its first session or as soon as practicable thereafter, further elaborate guidelines for the implementation of this Article, including for verification and reporting.

3. A Party included in Annex I may authorize legal entities to participate, under its responsibility, in actions leading to the generation, transfer or acquisition under this Article of emission reduction units.

4. If a question of implementation by a Party included in Annex I of the requirements referred to in this Article is identified in accordance with the relevant provisions of Article 8, transfers and acquisitions of emission reduction units may continue to be made after the question has been identified, provided that any such units may not be used by a Party to meet its commitments under Article 3 until any issue of compliance is resolved.

**Article 7**

1. Each Party included in Annex I shall incorporate in its annual inventory of anthropogenic emissions by sources and removals by sinks of greenhouse gases not controlled by the Montreal Protocol, submitted in accordance with the relevant decisions of the Conference of the Parties, the necessary supplementary information for the purposes of ensuring compliance with Article 3, to be determined in accordance with paragraph 4 below.
2. Each Party included in Annex I shall incorporate in its national communication, submitted under Article 12 of the Convention, the supplementary information necessary to demonstrate compliance with its commitments under this Protocol, to be determined in accordance with paragraph 4 below.

3. Each Party included in Annex I shall submit the information required under paragraph 1 above annually, beginning with the first inventory due under the Convention for the first year of the commitment period after this Protocol has entered into force for that Party. Each such Party shall submit the information required under paragraph 2 above as part of the first national communication due under the Convention after this Protocol has entered into force for it and after the adoption of guidelines as provided for in paragraph 4 below. The frequency of subsequent submission of information required under this Article shall be determined by the Conference of the Parties serving as the meeting of the Parties to this Protocol, taking into account any timetable for the submission of national communications decided upon by the Conference of the Parties.

4. The Conference of the Parties serving as the meeting of the Parties to this Protocol shall adopt at its first session, and review periodically thereafter, guidelines for the preparation of the information required under this Article, taking into account guidelines for the preparation of national communications by Parties included in Annex I adopted by the Conference of the Parties. The Conference of the Parties serving as the meeting of the Parties to this Protocol shall also, prior to the first commitment period, decide upon modalities for the accounting of assigned amounts.

Article 8

1. The information submitted under Article 7 by each Party included in Annex I shall be reviewed by expert review teams pursuant to the relevant decisions of the Conference of the Parties and in accordance with guidelines adopted for this purpose by the Conference of the Parties serving as the meeting of the Parties to this Protocol under paragraph 4 below. The information submitted under Article 7, paragraph 1, by each Party included in Annex I shall be reviewed as part of the annual compilation and accounting of emissions inventories and assigned amounts. Additionally, the information submitted under Article 7, paragraph 2, by each Party included in Annex I shall be reviewed as part of the review of communications.

2. Expert review teams shall be coordinated by the secretariat and shall be composed of experts selected from those nominated by Parties to the Convention and, as appropriate, by intergovernmental organizations, in accordance with guidance provided for this purpose by the Conference of the Parties.

3. The review process shall provide a thorough and comprehensive technical assessment of all aspects of the implementation by a Party of this Protocol. The expert review teams shall prepare a report to the Conference of the Parties serving as the meeting of the Parties to this Protocol, assessing the implementation of the commitments of the Party and identifying any potential problems in, and factors influencing, the fulfilment of commitments. Such reports shall be circulated by the secretariat to all Parties to the Convention. The secretariat shall list those questions
of implementation indicated in such reports for further consideration by the Conference of the Parties serving as the meeting of the Parties to this Protocol.

4. The Conference of the Parties serving as the meeting of the Parties to this Protocol shall adopt at its first session, and review periodically thereafter, guidelines for the review of implementation of this Protocol by expert review teams taking into account the relevant decisions of the Conference of the Parties.

5. The Conference of the Parties serving as the meeting of the Parties to this Protocol shall, with the assistance of the Subsidiary Body for Implementation and, as appropriate, the Subsidiary Body for Scientific and Technological Advice, consider:

(a) The information submitted by Parties under Article 7 and the reports of the expert reviews thereon conducted under this Article; and

(b) Those questions of implementation listed by the secretariat under paragraph 3 above, as well as any questions raised by Parties.

6. Pursuant to its consideration of the information referred to in paragraph 5 above, the Conference of the Parties serving as the meeting of the Parties to this Protocol shall take decisions on any matter required for the implementation of this Protocol.

Article 9

1. The Conference of the Parties serving as the meeting of the Parties to this Protocol shall periodically review this Protocol in the light of the best available scientific information and assessments on climate change and its impacts, as well as relevant technical, social and economic information. Such reviews shall be coordinated with pertinent reviews under the Convention, in particular those required by Article 4, paragraph 2(d), and Article 7, paragraph 2(a), of the Convention. Based on these reviews, the Conference of the Parties serving as the meeting of the Parties to this Protocol shall take appropriate action.

2. The first review shall take place at the second session of the Conference of the Parties serving as the meeting of the Parties to this Protocol. Further reviews shall take place at regular intervals and in a timely manner.

Article 10

All Parties, taking into account their common but differentiated responsibilities and their specific national and regional development priorities, objectives and circumstances, without introducing any new commitments for Parties not included in Annex I, but reaffirming existing commitments under Article 4, paragraph 1, of the Convention, and continuing to advance the implementation of these commitments in order to achieve sustainable development, taking into account Article 4, paragraphs 3, 5 and 7, of the Convention, shall:

(a) Formulate, where relevant and to the extent possible, cost-effective national and, where appropriate, regional programmes to improve the quality of local emission factors, activity data and/or models which reflect the socio-economic conditions of
each Party for the preparation and periodic updating of national inventories of
anthropogenic emissions by sources and removals by sinks of all greenhouse gases
not controlled by the Montreal Protocol, using comparable methodologies to be
agreed upon by the Conference of the Parties, and consistent with the guidelines for
the preparation of national communications adopted by the Conference of the Parties;

(b) Formulate, implement, publish and regularly update national and, where
appropriate, regional programmes containing measures to mitigate climate change
and measures to facilitate adequate adaptation to climate change:

(i) Such programmes would, inter alia, concern the energy, transport and industry
sectors as well as agriculture, forestry and waste management. Furthermore,
adaptation technologies and methods for improving spatial planning would improve
adaptation to climate change; and

(ii) Parties included in Annex I shall submit information on action under this
Protocol, including national programmes, in accordance with Article 7; and other
Parties shall seek to include in their national communications, as appropriate,
information on programmes which contain measures that the Party believes
contribute to addressing climate change and its adverse impacts, including the
abatement of increases in greenhouse gas emissions, and enhancement of and
removals by sinks, capacity building and adaptation measures;

(c) Cooperate in the promotion of effective modalities for the development,
application and diffusion of, and take all practicable steps to promote, facilitate and
finance, as appropriate, the transfer of, or access to, environmentally sound
technologies, know-how, practices and processes pertinent to climate change, in
particular to developing countries, including the formulation of policies and
programmes for the effective transfer of environmentally sound technologies that are
publicly owned or in the public domain and the creation of an enabling environment
for the private sector, to promote and enhance the transfer of, and access to,
environmentally sound technologies;

(d) Cooperate in scientific and technical research and promote the maintenance
and the development of systematic observation systems and development of data
archives to reduce uncertainties related to the climate system, the adverse impacts of
climate change and the economic and social consequences of various response
strategies, and promote the development and strengthening of endogenous capacities
and capabilities to participate in international and intergovernmental efforts,
programmes and networks on research and systematic observation, taking into
account Article 5 of the Convention;

(e) Cooperate in and promote at the international level, and, where appropriate, using
existing bodies, the development and implementation of education and training
programmes, including the strengthening of national capacity building, in particular
human and institutional capacities and the exchange or secondment of personnel to
train experts in this field, in particular for developing countries, and facilitate at the
national level public awareness of, and public access to information on, climate
change. Suitable modalities should be developed to implement these activities.
through the relevant bodies of the Convention, taking into account Article 6 of the Convention;

(f) Include in their national communications information on programmes and activities undertaken pursuant to this Article in accordance with relevant decisions of the Conference of the Parties; and

(g) Give full consideration, in implementing the commitments under this Article, to Article 4, paragraph 8, of the Convention.

Article 11

1. In the implementation of Article 10, Parties shall take into account the provisions of Article 4, paragraphs 4, 5, 7, 8 and 9, of the Convention.

2. In the context of the implementation of Article 4, paragraph 1, of the Convention, in accordance with the provisions of Article 4, paragraph 3, and Article 11 of the Convention, and through the entity or entities entrusted with the operation of the financial mechanism of the Convention, the developed country Parties and other developed Parties included in Annex II to the Convention shall:

(a) Provide new and additional financial resources to meet the agreed full costs incurred by developing country Parties in advancing the implementation of existing commitments under Article 4, paragraph 1(a), of the Convention that are covered in Article 10, subparagraph (a); and

(b) Also provide such financial resources, including for the transfer of technology, needed by the developing country Parties to meet the agreed full incremental costs of advancing the implementation of existing commitments under Article 4, paragraph 1, of the Convention that are covered by Article 10 and that are agreed between a developing country Party and the international entity or entities referred to in Article 11 of the Convention, in accordance with that Article.

The implementation of these existing commitments shall take into account the need for adequacy and predictability in the flow of funds and the importance of appropriate burden sharing among developed country Parties. The guidance to the entity or entities entrusted with the operation of the financial mechanism of the Convention in relevant decisions of the Conference of the Parties, including those agreed before the adoption of this Protocol, shall apply mutatis mutandis to the provisions of this paragraph.

3. The developed country Parties and other developed Parties in Annex II to the Convention may also provide, and developing country Parties avail themselves of, financial resources for the implementation of Article 10, through bilateral, regional and other multilateral channels.

Article 12

1. A clean development mechanism is hereby defined.
2. The purpose of the clean development mechanism shall be to assist Parties not included in Annex I in achieving sustainable development and in contributing to the ultimate objective of the Convention, and to assist Parties included in Annex I in achieving compliance with their quantified emission limitation and reduction commitments under Article 3.

3. Under the clean development mechanism:

(a) Parties not included in Annex I will benefit from project activities resulting in certified emission reductions; and

(b) Parties included in Annex I may use the certified emission reductions accruing from such project activities to contribute to compliance with part of their quantified emission limitation and reduction commitments under Article 3, as determined by the Conference of the Parties serving as the meeting of the Parties to this Protocol.

4. The clean development mechanism shall be subject to the authority and guidance of the Conference of the Parties serving as the meeting of the Parties to this Protocol and be supervised by an executive board of the clean development mechanism.

5. Emission reductions resulting from each project activity shall be certified by operational entities to be designated by the Conference of the Parties serving as the meeting of the Parties to this Protocol, on the basis of:

(a) Voluntary participation approved by each Party involved;

(b) Real, measurable, and long-term benefits related to the mitigation of climate change; and

(c) Reductions in emissions that are additional to any that would occur in the absence of the certified project activity.

6. The clean development mechanism shall assist in arranging funding of certified project activities as necessary.

7. The Conference of the Parties serving as the meeting of the Parties to this Protocol shall, at its first session, elaborate modalities and procedures with the objective of ensuring transparency, efficiency and accountability through independent auditing and verification of project activities.

8. The Conference of the Parties serving as the meeting of the Parties to this Protocol shall ensure that a share of the proceeds from certified project activities is used to cover administrative expenses as well as to assist developing country Parties that are particularly vulnerable to the adverse effects of climate change to meet the costs of adaptation.

9. Participation under the clean development mechanism, including in activities mentioned in paragraph 3(a) above and in the acquisition of certified emission reductions, may involve private and/or public entities, and is to be subject to
whatever guidance may be provided by the executive board of the clean development mechanism.

10. Certified emission reductions obtained during the period from the year 2000 up to the beginning of the first commitment period can be used to assist in achieving compliance in the first commitment period.

**Article 13**

1. The Conference of the Parties, the supreme body of the Convention, shall serve as the meeting of the Parties to this Protocol.

2. Parties to the Convention that are not Parties to this Protocol may participate as observers in the proceedings of any session of the Conference of the Parties serving as the meeting of the Parties to this Protocol. When the Conference of the Parties serves as the meeting of the Parties to this Protocol, decisions under this Protocol shall be taken only by those that are Parties to this Protocol.

3. When the Conference of the Parties serves as the meeting of the Parties to this Protocol, any member of the Bureau of the Conference of the Parties representing a Party to the Convention but, at that time, not a Party to this Protocol, shall be replaced by an additional member to be elected by and from amongst the Parties to this Protocol.

4. The Conference of the Parties serving as the meeting of the Parties to this Protocol shall keep under regular review the implementation of this Protocol and shall make, within its mandate, the decisions necessary to promote its effective implementation. It shall perform the functions assigned to it by this Protocol and shall:

   (a) Assess, on the basis of all information made available to it in accordance with the provisions of this Protocol, the implementation of this Protocol by the Parties, the overall effects of the measures taken pursuant to this Protocol, in particular environmental, economic and social effects as well as their cumulative impacts and the extent to which progress towards the objective of the Convention is being achieved;

   (b) Periodically examine the obligations of the Parties under this Protocol, giving due consideration to any reviews required by Article 4, paragraph 2(d), and Article 7, paragraph 2, of the Convention, in the light of the objective of the Convention, the experience gained in its implementation and the evolution of scientific and technological knowledge, and in this respect consider and adopt regular reports on the implementation of this Protocol;

   (c) Promote and facilitate the exchange of information on measures adopted by the Parties to address climate change and its effects, taking into account the differing circumstances, responsibilities and capabilities of the Parties and their respective commitments under this Protocol;

   (d) Facilitate, at the request of two or more Parties, the coordination of measures adopted by them to address climate change and its effects, taking into account the
differing circumstances, responsibilities and capabilities of the Parties and their respective commitments under this Protocol;

(e) Promote and guide, in accordance with the objective of the Convention and the provisions of this Protocol, and taking fully into account the relevant decisions by the Conference of the Parties, the development and periodic refinement of comparable methodologies for the effective implementation of this Protocol, to be agreed on by the Conference of the Parties serving as the meeting of the Parties to this Protocol;

(f) Make recommendations on any matters necessary for the implementation of this Protocol;

(g) Seek to mobilize additional financial resources in accordance with Article 11, paragraph 2;

(h) Establish such subsidiary bodies as are deemed necessary for the implementation of this Protocol;

(i) Seek and utilize, where appropriate, the services and cooperation of, and information provided by, competent international organizations and intergovernmental and non-governmental bodies; and

(j) Exercise such other functions as may be required for the implementation of this Protocol, and consider any assignment resulting from a decision by the Conference of the Parties.

5. The rules of procedure of the Conference of the Parties and financial procedures applied under the Convention shall be applied *mutatis mutandis* under this Protocol, except as may be otherwise decided by consensus by the Conference of the Parties serving as the meeting of the Parties to this Protocol.

6. The first session of the Conference of the Parties serving as the meeting of the Parties to this Protocol shall be convened by the secretariat in conjunction with the first session of the Conference of the Parties that is scheduled after the date of the entry into force of this Protocol. Subsequent ordinary sessions of the Conference of the Parties serving as the meeting of the Parties to this Protocol shall be held every year and in conjunction with ordinary sessions of the Conference of the Parties, unless otherwise decided by the Conference of the Parties serving as the meeting of the Parties to this Protocol.

7. Extraordinary sessions of the Conference of the Parties serving as the meeting of the Parties to this Protocol shall be held at such other times as may be deemed necessary by the Conference of the Parties serving as the meeting of the Parties to this Protocol, or at the written request of any Party, provided that, within six months of the request being communicated to the Parties by the secretariat, it is supported by at least one third of the Parties.

8. The United Nations, its specialized agencies and the International Atomic Energy
Agency, as well as any State member thereof or observers thereto not party to the Convention, may be represented at sessions of the Conference of the Parties serving as the meeting of the Parties to this Protocol as observers. Any body or agency, whether national or international, governmental or non-governmental, which is qualified in matters covered by this Protocol and which has informed the secretariat of its wish to be represented at a session of the Conference of the Parties serving as the meeting of the Parties to this Protocol as an observer, may be so admitted unless at least one third of the Parties present object. The admission and participation of observers shall be subject to the rules of procedure, as referred to in paragraph 5 above.

Article 14

1. The secretariat established by Article 8 of the Convention shall serve as the secretariat of this Protocol.

2. Article 8, paragraph 2, of the Convention on the functions of the secretariat, and Article 8, paragraph 3, of the Convention on arrangements made for the functioning of the secretariat, shall apply mutatis mutandis to this Protocol. The secretariat shall, in addition, exercise the functions assigned to it under this Protocol.

Article 15

1. The Subsidiary Body for Scientific and Technological Advice and the Subsidiary Body for Implementation established by Articles 9 and 10 of the Convention shall serve as, respectively, the Subsidiary Body for Scientific and Technological Advice and the Subsidiary Body for Implementation of this Protocol. The provisions relating to the functioning of these two bodies under the Convention shall apply mutatis mutandis to this Protocol. Sessions of the meetings of the Subsidiary Body for Scientific and Technological Advice and the Subsidiary Body for Implementation of this Protocol shall be held in conjunction with the meetings of, respectively, the Subsidiary Body for Scientific and Technological Advice and the Subsidiary Body for Implementation of the Convention.

2. Parties to the Convention that are not Parties to this Protocol may participate as observers in the proceedings of any session of the subsidiary bodies. When the subsidiary bodies serve as the subsidiary bodies of this Protocol, decisions under this Protocol shall be taken only by those that are Parties to this Protocol.

3. When the subsidiary bodies established by Articles 9 and 10 of the Convention exercise their functions with regard to matters concerning this Protocol, any member of the Bureaux of those subsidiary bodies representing a Party to the Convention but, at that time, not a party to this Protocol, shall be replaced by an additional member to be elected by and from amongst the Parties to this Protocol.

Article 16

The Conference of the Parties serving as the meeting of the Parties to this Protocol shall, as soon as practicable, consider the application to this Protocol of, and modify
as appropriate, the multilateral consultative process referred to in Article 13 of the Convention, in the light of any relevant decisions that may be taken by the Conference of the Parties. Any multilateral consultative process that may be applied to this Protocol shall operate without prejudice to the procedures and mechanisms established in accordance with Article 18.

Article 17

The Conference of the Parties shall define the relevant principles, modalities, rules and guidelines, in particular for verification, reporting and accountability for emissions trading. The Parties included in Annex B may participate in emissions trading for the purposes of fulfilling their commitments under Article 3. Any such trading shall be supplemental to domestic actions for the purpose of meeting quantified emission limitation and reduction commitments under that Article.

Article 18

The Conference of the Parties serving as the meeting of the Parties to this Protocol shall, at its first session, approve appropriate and effective procedures and mechanisms to determine and to address cases of non-compliance with the provisions of this Protocol, including through the development of an indicative list of consequences, taking into account the cause, type, degree and frequency of non-compliance. Any procedures and mechanisms under this Article entailing binding consequences shall be adopted by means of an amendment to this Protocol.

Article 19

The provisions of Article 14 of the Convention on settlement of disputes shall apply mutatis mutandis to this Protocol.

Article 20

1. Any Party may propose amendments to this Protocol.

2. Amendments to this Protocol shall be adopted at an ordinary session of the Conference of the Parties serving as the meeting of the Parties to this Protocol. The text of any proposed amendment to this Protocol shall be communicated to the Parties by the secretariat at least six months before the meeting at which it is proposed for adoption. The secretariat shall also communicate the text of any proposed amendments to the Parties and signatories to the Convention and, for information, to the Depositary.

3. The Parties shall make every effort to reach agreement on any proposed amendment to this Protocol by consensus. If all efforts at consensus have been exhausted, and no agreement reached, the amendment shall as a last resort be adopted by a three-fourths majority vote of the Parties present and voting at the meeting. The adopted amendment shall be communicated by the secretariat to the Depositary, who shall circulate it to all Parties for their acceptance.
4. Instruments of acceptance in respect of an amendment shall be deposited with the Depositary. An amendment adopted in accordance with paragraph 3 above shall enter into force for those Parties having accepted it on the ninetieth day after the date of receipt by the Depositary of an instrument of acceptance by at least three fourths of the Parties to this Protocol.

5. The amendment shall enter into force for any other Party on the ninetieth day after the date on which that Party deposits with the Depositary its instrument of acceptance of the said amendment.

Article 21

1. Annexes to this Protocol shall form an integral part thereof and, unless otherwise expressly provided, a reference to this Protocol constitutes at the same time a reference to any annexes thereto. Any annexes adopted after the entry into force of this Protocol shall be restricted to lists, forms and any other material of a descriptive nature that is of a scientific, technical, procedural or administrative character.

2. Any Party may make proposals for an annex to this Protocol and may propose amendments to annexes to this Protocol.

3. Annexes to this Protocol and amendments to annexes to this Protocol shall be adopted at an ordinary session of the Conference of the Parties serving as the meeting of the Parties to this Protocol. The text of any proposed annex or amendment to an annex shall be communicated to the Parties by the secretariat at least six months before the meeting at which it is proposed for adoption. The secretariat shall also communicate the text of any proposed annex or amendment to an annex to the Parties and signatories to the Convention and, for information, to the Depositary.

4. The Parties shall make every effort to reach agreement on any proposed annex or amendment to an annex by consensus. If all efforts at consensus have been exhausted, and no agreement reached, the annex or amendment to an annex shall as a last resort be adopted by a three-fourths majority vote of the Parties present and voting at the meeting. The adopted annex or amendment to an annex shall be communicated by the secretariat to the Depositary, who shall circulate it to all Parties for their acceptance.

5. An annex, or amendment to an annex other than Annex A or B, that has been adopted in accordance with paragraphs 3 and 4 above shall enter into force for all Parties to this Protocol six months after the date of the communication by the Depositary to such Parties of the adoption of the annex or adoption of the amendment to the annex, except for those Parties that have notified the Depositary, in writing, within that period of their non-acceptance of the annex or amendment to the annex. The annex or amendment to an annex shall enter into force for Parties which withdraw their notification of non-acceptance on the ninetieth day after the date on which withdrawal of such notification has been received by the Depositary.

6. If the adoption of an annex or an amendment to an annex involves an amendment to this Protocol, that annex or amendment to an annex shall not enter into force until such time as the amendment to this Protocol enters into force.
7. Amendments to Annexes A and B to this Protocol shall be adopted and enter into force in accordance with the procedure set out in Article 20, provided that any amendment to Annex B shall be adopted only with the written consent of the Party concerned.

Article 22

1. Each Party shall have one vote, except as provided for in paragraph 2 below.

2. Regional economic integration organizations, in matters within their competence, shall exercise their right to vote with a number of votes equal to the number of their member States that are Parties to this Protocol. Such an organization shall not exercise its right to vote if any of its member States exercises its right, and vice versa.

Article 23

The Secretary-General of the United Nations shall be the Depositary of this Protocol.

Article 24

1. This Protocol shall be open for signature and subject to ratification, acceptance or approval by States and regional economic integration organizations which are Parties to the Convention. It shall be open for signature at United Nations Headquarters in New York from 16 March 1998 to 15 March 1999. This Protocol shall be open for accession from the day after the date on which it is closed for signature. Instruments of ratification, acceptance, approval or accession shall be deposited with the Depositary.

2. Any regional economic integration organization which becomes a Party to this Protocol without any of its member States being a Party shall be bound by all the obligations under this Protocol. In the case of such organizations, one or more of whose member States is a Party to this Protocol, the organization and its member States shall decide on their respective responsibilities for the performance of their obligations under this Protocol. In such cases, the organization and the member States shall not be entitled to exercise rights under this Protocol concurrently.

3. In their instruments of ratification, acceptance, approval or accession, regional economic integration organizations shall declare the extent of their competence with respect to the matters governed by this Protocol. These organizations shall also inform the Depositary, who shall in turn inform the Parties, of any substantial modification in the extent of their competence.

Article 25

1. This Protocol shall enter into force on the ninetieth day after the date on which not less than 55 Parties to the Convention, incorporating Parties included in Annex I which accounted in total for at least 55 per cent of the total carbon dioxide emissions
for 1990 of the Parties included in Annex I, have deposited their instruments of ratification, acceptance, approval or accession.

2. For the purposes of this Article, "the total carbon dioxide emissions for 1990 of the Parties included in Annex I" means the amount communicated on or before the date of adoption of this Protocol by the Parties included in Annex I in their first national communications submitted in accordance with Article 12 of the Convention.

3. For each State or regional economic integration organization that ratifies, accepts or approves this Protocol or accedes thereto after the conditions set out in paragraph 1 above for entry into force have been fulfilled, this Protocol shall enter into force on the ninetieth day following the date of deposit of its instrument of ratification, acceptance, approval or accession.

4. For the purposes of this Article, any instrument deposited by a regional economic integration organization shall not be counted as additional to those deposited by States members of the organization.

Article 26

No reservations may be made to this Protocol.

Article 27

1. At any time after three years from the date on which this Protocol has entered into force for a Party, that Party may withdraw from this Protocol by giving written notification to the Depositary.

2. Any such 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.

3. Any Party that withdraws from the Convention shall be considered as also having withdrawn from this Protocol.

Article 28

The original of this Protocol, of which the Arabic, Chinese, English, French, Russian and Spanish texts are equally authentic, shall be deposited with the Secretary-General of the United Nations.

DONE at Kyoto this eleventh day of December one thousand nine hundred and ninety-seven.

IN WITNESS WHEREOF the undersigned, being duly authorized to that effect, have affixed their signatures to this Protocol on the dates indicated.

Annex A

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**Greenhouse gases**

Carbon dioxide (CO\(_2\))

Methane (CH\(_4\))

Nitrous oxide (N\(_2\)O)

Hydrofluorocarbons (HFCs)

Perfluorocarbons (PFCs)

Sulphur hexafluoride (SF\(_6\))

**Sectors/source categories**

Energy

Fuel combustion

Energy industries

Manufacturing industries and construction

Transport

Other sectors

Other

Fugitive emissions from fuels

Solid fuels

Oil and natural gas

Other

Industrial processes

Mineral products

Chemical industry

Metal production

Other production

Production of halocarbons and sulphur hexafluoride
Consumption of halocarbons and sulphur hexafluoride
Other
Solvent and other product use
Agriculture
Enteric fermentation
Manure management
Rice cultivation
Agricultural soils
Prescribed burning of savannas
Field burning of agricultural residues
Other
Waste
Solid waste disposal on land
Wastewater handling
Waste incineration
Other

Annex B

**Party Quantified emission limitation or reduction commitment**

(percentage of base year or period)

Australia 108
Austria 92
Belgium 92
Bulgaria* 92
Canada 94
Croatia* 95
Czech Republic* 92
Denmark 92
Estonia* 92
European Community 92
Finland 92
France 92
Germany 92
Greece 92
Hungary* 94
Iceland 110
Ireland 92
Italy 92
Japan 94
Latvia* 92
Liechtenstein 92
Lithuania* 92
Luxembourg 92
Monaco 92
Netherlands 92
New Zealand 100
Norway 101
Poland* 94
Portugal 92
Romania* 92
Russian Federation* 100
Slovakia* 92
Slovenia* 92
Spain 92
Sweden 92
Switzerland 92
Ukraine* 100
United Kingdom of Great Britain and Northern Ireland 92
United States of America 93

* Countries that are undergoing the process of transition to a market economy.
APPENDIX C: UNITED NATIONS CONVENTION ON THE LAW
OF THE SEA

Selection of Articles

PREAMBLE

The States Parties to this Convention,

> Prompted by the desire to settle, in a spirit of mutual understanding and cooperation, all issues relating to the law of the sea and aware of the historic significance of this Convention as an important contribution to the maintenance of peace, justice and progress for all peoples of the world,

> Noting that developments since the United Nations Conferences on the Law of the Sea held at Geneva in 1958 and 1960 have accentuated the need for a new and generally acceptable Convention on the law of the sea,

> Conscious that the problems of ocean space are closely interrelated and need to be considered as a whole,

> Recognizing the desirability of establishing through this Convention, with due regard for the sovereignty of all States, a legal order for the seas and oceans which will facilitate international communication, and will promote the peaceful uses of the seas and oceans, the equitable and efficient utilization of their resources, the conservation of their living resources, and the study, protection and preservation of the marine environment,

> Bearing in mind that the achievement of these goals will contribute to the realization of a just and equitable international economic order which takes into account the interests and needs of mankind as a whole and, in particular, the special interests and needs of developing countries, whether coastal or land-locked,

> Desiring by this Convention to develop the principles embodied in resolution 2749 (XXV) of 17 December 1970 in which the General Assembly of the United Nations solemnly declared inter alia that the area of the seabed and ocean floor and the subsoil thereof, beyond the limits of national jurisdiction, as well as its resources, are the common heritage of mankind, the exploration and exploitation of which shall be carried out for the benefit of mankind as a whole, irrespective of the geographical location of States,

> Believing that the codification and progressive development of the law of the sea achieved in this Convention will contribute to the strengthening of peace, security,
cooperation and friendly relations among all nations in conformity with the principles of justice and equal rights and will promote the economic and social advancement of all peoples of the world, in accordance with the Purposes and Principles of the United Nations as set forth in the Charter,

- **Affirming** that matters not regulated by this Convention continue to be governed by the rules and principles of general international law,

- **Have agreed** as follows:

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**PART I**

**INTRODUCTION**

**Article 1**

*Use of terms and scope*

1. For the purposes of this Convention:

   (1) "Area" means the seabed and ocean floor and subsoil thereof, beyond the limits of national jurisdiction;

   (2) "Authority" means the International Seabed Authority;

   (3) "activities in the Area" means all activities of exploration for, and exploitation of, the resources of the Area;

   (4) "pollution of the marine environment" means the introduction by man, directly or indirectly, of substances or energy into the marine environment, including estuaries, which results or is likely to result in such deleterious effects as harm to living resources and marine life, hazards to human health, hindrance to marine activities, including fishing and other legitimate uses of the sea, impairment of quality for use of sea water and reduction of amenities;

   (5) (a) "dumping" means:

   - (i) any deliberate disposal of wastes or other matter from vessels, aircraft, platforms or other man-made structures at sea;

   - (ii) any deliberate disposal of vessels, aircraft, platforms or other man-made structures at sea;

   (b) "dumping" does not include:
(i) the disposal of wastes or other matter incidental to, or derived from the normal operations of vessels, aircraft, platforms or other man-made structures at sea and their equipment, other than wastes or other matter transported by or to vessels, aircraft, platforms or other man-made structures at sea, operating for the purpose of disposal of such matter or derived from the treatment of such wastes or other matter on such vessels, aircraft, platforms or structures;

(ii) placement of matter for a purpose other than the mere disposal thereof, provided that such placement is not contrary to the aims of this Convention.

2. (1) "States Parties" means States which have consented to be bound by this Convention and for which this Convention is in force.

(2) This Convention applies mutatis mutandis to the entities referred to in article 305, paragraph 1(b), (c), (d), (e) and (f), which become Parties to this Convention in accordance with the conditions relevant to each, and to that extent "States Parties" refers to those entities.

PART V
EXCLUSIVE ECONOMIC ZONE

Article 55
Specific legal regime of the exclusive economic zone

The exclusive economic zone is an area beyond and adjacent to the territorial sea, subject to the specific legal regime established in this Part, under which the rights and jurisdiction of the coastal State and the rights and freedoms of other States are governed by the relevant provisions of this Convention.

Article 56
Rights, jurisdiction and duties of the coastal State in the exclusive economic zone

1. In the exclusive economic zone, the coastal State has:

(a) sovereign rights for the purpose of exploring and exploiting, conserving and managing the natural resources, whether living or non-living, of the waters superjacent to the seabed and of the seabed and its subsoil, and with regard to other activities for the
economic exploitation and exploration of the zone, such as the production of energy from the water, currents and winds;

(b) jurisdiction as provided for in the relevant provisions of this Convention with regard to:

(i) the establishment and use of artificial islands, installations and structures;

(ii) marine scientific research;

(iii) the protection and preservation of the marine environment;

(c) other rights and duties provided for in this Convention.

2. In exercising its rights and performing its duties under this Convention in the exclusive economic zone, the coastal State shall have due regard to the rights and duties of other States and shall act in a manner compatible with the provisions of this Convention.

3. The rights set out in this article with respect to the seabed and subsoil shall be exercised in accordance with Part VI.

Article 57

Breadth of the exclusive economic zone

The exclusive economic zone shall not extend beyond 200 nautical miles from the baselines from which the breadth of the territorial sea is measured.

Article 58

Rights and duties of other States in the exclusive economic zone

1. In the exclusive economic zone, all States, whether coastal or land-locked, enjoy, subject to the relevant provisions of this Convention, the freedoms referred to in article 87 of navigation and overflight and of the laying of submarine cables and pipelines, and other internationally lawful uses of the sea related to these freedoms, such as those associated with the operation of ships, aircraft and submarine cables and pipelines, and compatible with the other provisions of this Convention.

2. Articles 88 to 115 and other pertinent rules of international law apply to the exclusive economic zone in so far as they are not incompatible with this Part.
3. In exercising their rights and performing their duties under this Convention in the exclusive economic zone, States shall have due regard to the rights and duties of the coastal State and shall comply with the laws and regulations adopted by the coastal State in accordance with the provisions of this Convention and other rules of international law in so far as they are not incompatible with this Part.

Article 59

Basis for the resolution of conflicts regarding the attribution of rights and jurisdiction in the exclusive economic zone

In cases where this Convention does not attribute rights or jurisdiction to the coastal State or to other States within the exclusive economic zone, and a conflict arises between the interests of the coastal State and any other State or States, the conflict should be resolved on the basis of equity and in the light of all the relevant circumstances, taking into account the respective importance of the interests involved to the parties as well as to the international community as a whole.

Article 60

Artificial islands, installations and structures in the exclusive economic zone

1. In the exclusive economic zone, the coastal State shall have the exclusive right to construct and to authorize and regulate the construction, operation and use of:

(a) artificial islands;

(b) installations and structures for the purposes provided for in article 56 and other economic purposes;

(c) installations and structures which may interfere with the exercise of the rights of the coastal State in the zone.

2. The coastal State shall have exclusive jurisdiction over such artificial islands, installations and structures, including jurisdiction with regard to customs, fiscal, health, safety and immigration laws and regulations.

3. Due notice must be given of the construction of such artificial islands, installations or structures, and permanent means for giving warning of their presence must be maintained. Any installations or structures which are abandoned or disused shall be
removed to ensure safety of navigation, taking into account any generally accepted international standards established in this regard by the competent international organization. Such removal shall also have due regard to fishing, the protection of the marine environment and the rights and duties of other States. Appropriate publicity shall be given to the depth, position and dimensions of any installations or structures not entirely removed.

4. The coastal State may, where necessary, establish reasonable safety zones around such artificial islands, installations and structures in which it may take appropriate measures to ensure the safety both of navigation and of the artificial islands, installations and structures.

5. The breadth of the safety zones shall be determined by the coastal State, taking into account applicable international standards. Such zones shall be designed to ensure that they are reasonably related to the nature and function of the artificial islands, installations or structures, and shall not exceed a distance of 500 metres around them, measured from each point of their outer edge, except as authorized by generally accepted international standards or as recommended by the competent international organization. Due notice shall be given of the extent of safety zones.

6. All ships must respect these safety zones and shall comply with generally accepted international standards regarding navigation in the vicinity of artificial islands, installations, structures and safety zones.

7. Artificial islands, installations and structures and the safety zones around them may not be established where interference may be caused to the use of recognized sea lanes essential to international navigation.

8. Artificial islands, installations and structures do not possess the status of islands. They have no territorial sea of their own, and their presence does not affect the delimitation of the territorial sea, the exclusive economic zone or the continental shelf.

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Article 61

Conservation of the living resources

1. The coastal State shall determine the allowable catch of the living resources in its exclusive economic zone.

2. The coastal State, taking into account the best scientific evidence available to it, shall ensure through proper conservation and management measures that the maintenance of the living resources in the exclusive economic zone is not endangered by over-exploitation. As appropriate, the coastal State and competent international organizations, whether subregional, regional or global, shall cooperate to this end.

3. Such measures shall also be designed to maintain or restore populations of harvested species at levels which can produce the maximum sustainable yield, as qualified by relevant environmental and economic factors, including the economic needs of coastal
fishing communities and the special requirements of developing States, and taking into account fishing patterns, the interdependence of stocks and any generally recommended international minimum standards, whether subregional, regional or global.

4. In taking such measures the coastal State shall take into consideration the effects on species associated with or dependent upon harvested species with a view to maintaining or restoring populations of such associated or dependent species above levels at which their reproduction may become seriously threatened.

5. Available scientific information, catch and fishing effort statistics, and other data relevant to the conservation of fish stocks shall be contributed and exchanged on a regular basis through competent international organizations, whether subregional, regional or global, where appropriate and with participation by all States concerned, including States whose nationals are allowed to fish in the exclusive economic zone.

Article 62

Utilization of the living resources

1. The coastal State shall promote the objective of optimum utilization of the living resources in the exclusive economic zone without prejudice to article 61.

2. The coastal State shall determine its capacity to harvest the living resources of the exclusive economic zone. Where the coastal State does not have the capacity to harvest the entire allowable catch, it shall, through agreements or other arrangements and pursuant to the terms, conditions, laws and regulations referred to in paragraph 4, give other States access to the surplus of the allowable catch, having particular regard to the provisions of articles 69 and 70, especially in relation to the developing States mentioned therein.

3. In giving access to other States to its exclusive economic zone under this article, the coastal State shall take into account all relevant factors, including, inter alia, the significance of the living resources of the area to the economy of the coastal State concerned and its other national interests, the provisions of articles 69 and 70, the requirements of developing States in the subregion or region in harvesting part of the surplus and the need to minimize economic dislocation in States whose nationals have habitually fished in the zone or which have made substantial efforts in research and identification of stocks.

4. Nationals of other States fishing in the exclusive economic zone shall comply with the conservation measures and with the other terms and conditions established in the laws and regulations of the coastal State. These laws and regulations shall be consistent with this Convention and may relate, inter alia, to the following:

(a) licensing of fishermen, fishing vessels and equipment, including payment of fees and other forms of remuneration, which, in the case of developing coastal States, may consist of
adequate compensation in the field of financing, equipment and technology relating to the fishing industry;

(b) determining the species which may be caught, and fixing quotas of catch, whether in relation to particular stocks or groups of stocks or catch per vessel over a period of time or to the catch by nationals of any State during a specified period;

(c) regulating seasons and areas of fishing, the types, sizes and amount of gear, and the types, sizes and number of fishing vessels that may be used;

(d) fixing the age and size of fish and other species that may be caught;

(e) specifying information required of fishing vessels, including catch and effort statistics and vessel position reports;

(f) requiring, under the authorization and control of the coastal State, the conduct of specified fisheries research programmes and regulating the conduct of such research, including the sampling of catches, disposition of samples and reporting of associated scientific data;

(g) the placing of observers or trainees on board such vessels by the coastal State;

(h) the landing of all or any part of the catch by such vessels in the ports of the coastal State;

(i) terms and conditions relating to joint ventures or other cooperative arrangements;

(j) requirements for the training of personnel and the transfer of fisheries technology, including enhancement of the coastal State's capability of undertaking fisheries research;

(k) enforcement procedures.

5. Coastal States shall give due notice of conservation and management laws and regulations.

Article 63

Stocks occurring within the exclusive economic zones of two or more coastal States or both within the exclusive economic zone
and in an area beyond and adjacent to it

1. Where the same stock or stocks of associated species occur within the exclusive economic zones of two or more coastal States, these States shall seek, either directly or through appropriate subregional or regional organizations, to agree upon the measures necessary to coordinate and ensure the conservation and development of such stocks without prejudice to the other provisions of this Part.

2. Where the same stock or stocks of associated species occur both within the exclusive economic zone and in an area beyond and adjacent to the zone, the coastal State and the States fishing for such stocks in the adjacent area shall seek, either directly or through appropriate subregional or regional organizations, to agree upon the measures necessary for the conservation of these stocks in the adjacent area.

Article 64

Highly migratory species

1. The coastal State and other States whose nationals fish in the region for the highly migratory species listed in Annex I shall cooperate directly or through appropriate international organizations with a view to ensuring conservation and promoting the objective of optimum utilization of such species throughout the region, both within and beyond the exclusive economic zone. In regions for which no appropriate international organization exists, the coastal State and other States whose nationals harvest these species in the region shall cooperate to establish such an organization and participate in its work.

2. The provisions of paragraph 1 apply in addition to the other provisions of this Part.

Article 65

Marine mammals

Nothing in this Part restricts the right of a coastal State or the competence of an international organization, as appropriate, to prohibit, limit or regulate the exploitation of marine mammals more strictly than provided for in this Part. States shall cooperate with a view to the conservation of marine mammals and in the case of cetaceans shall in particular work through the appropriate international organizations for their conservation, management and study.

Article 66

Anadromous stocks

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1. States in whose rivers anadromous stocks originate shall have the primary interest in and responsibility for such stocks.

2. The State of origin of anadromous stocks shall ensure their conservation by the establishment of appropriate regulatory measures for fishing in all waters landward of the outer limits of its exclusive economic zone and for fishing provided for in paragraph 3(b). The State of origin may, after consultations with the other States referred to in paragraphs 3 and 4 fishing these stocks, establish total allowable catches for stocks originating in its rivers.

3. (a) Fisheries for anadromous stocks shall be conducted only in waters landward of the outer limits of exclusive economic zones, except in cases where this provision would result in economic dislocation for a State other than the State of origin. With respect to such fishing beyond the outer limits of the exclusive economic zone, States concerned shall maintain consultations with a view to achieving agreement on terms and conditions of such fishing giving due regard to the conservation requirements and the needs of the State of origin in respect of these stocks.

(b) The State of origin shall cooperate in minimizing economic dislocation in such other States fishing these stocks, taking into account the normal catch and the mode of operations of such States, and all the areas in which such fishing has occurred.

(c) States referred to in subparagraph (b), participating by agreement with the State of origin in measures to renew anadromous stocks, particularly by expenditures for that purpose, shall be given special consideration by the State of origin in the harvesting of stocks originating in its rivers.

(d) Enforcement of regulations regarding anadromous stocks beyond the exclusive economic zone shall be by agreement between the State of origin and the other States concerned.

4. In cases where anadromous stocks migrate into or through the waters landward of the outer limits of the exclusive economic zone of a State other than the State of origin, such State shall cooperate with the State of origin with regard to the conservation and management of such stocks.

5. The State of origin of anadromous stocks and other States fishing these stocks shall make arrangements for the implementation of the provisions of this article, where appropriate, through regional organizations.

Article67

Catadromous species

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1. A coastal State in whose waters catadromous species spend the greater part of their life cycle shall have responsibility for the management of these species and shall ensure the ingress and egress of migrating fish.

2. Harvesting of catadromous species shall be conducted only in waters landward of the outer limits of exclusive economic zones. When conducted in exclusive economic zones, harvesting shall be subject to this article and the other provisions of this Convention concerning fishing in these zones.

3. In cases where catadromous fish migrate through the exclusive economic zone of another State, whether as juvenile or maturing fish, the management, including harvesting, of such fish shall be regulated by agreement between the State mentioned in paragraph 1 and the other State concerned. Such agreement shall ensure the rational management of the species and take into account the responsibilities of the State mentioned in paragraph 1 for the maintenance of these species.

Article 68

Sedentary species

This Part does not apply to sedentary species as defined in article 77, paragraph 4.

Article 69

Right of land-locked States

1. Land-locked States shall have the right to participate, on an equitable basis, in the exploitation of an appropriate part of the surplus of the living resources of the exclusive economic zones of coastal States of the same subregion or region, taking into account the relevant economic and geographical circumstances of all the States concerned and in conformity with the provisions of this article and of articles 61 and 62.

2. The terms and modalities of such participation shall be established by the States concerned through bilateral, subregional or regional agreements taking into account, inter alia:

(a) the need to avoid effects detrimental to fishing communities or fishing industries of the coastal State;

(b) the extent to which the land-locked State, in accordance with the provisions of this article, is participating or is entitled to participate under existing bilateral, subregional or regional agreements in the exploitation of living resources of the exclusive economic zones of other coastal States;
(c) the extent to which other land-locked States and geographically disadvantaged States are participating in the exploitation of the living resources of the exclusive economic zone of the coastal State and the consequent need to avoid a particular burden for any single coastal State or a part of it;

(d) the nutritional needs of the populations of the respective States.

3. When the harvesting capacity of a coastal State approaches a point which would enable it to harvest the entire allowable catch of the living resources in its exclusive economic zone, the coastal State and other States concerned shall cooperate in the establishment of equitable arrangements on a bilateral, subregional or regional basis to allow for participation of developing land-locked States of the same subregion or region in the exploitation of the living resources of the exclusive economic zones of coastal States of the subregion or region, as may be appropriate in the circumstances and on terms satisfactory to all parties. In the implementation of this provision the factors mentioned in paragraph 2 shall also be taken into account.

4. Developed land-locked States shall, under the provisions of this article, be entitled to participate in the exploitation of living resources only in the exclusive economic zones of developed coastal States of the same subregion or region having regard to the extent to which the coastal State, in giving access to other States to the living resources of its exclusive economic zone, has taken into account the need to minimize detrimental effects on fishing communities and economic dislocation in States whose nationals have habitually fished in the zone.

5. The above provisions are without prejudice to arrangements agreed upon in subregions or regions where the coastal States may grant to land-locked States of the same subregion or region equal or preferential rights for the exploitation of the living resources in the exclusive economic zones.

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Article 70

Right of geographically disadvantaged States

1. Geographically disadvantaged States shall have the right to participate, on an equitable basis, in the exploitation of an appropriate part of the surplus of the living resources of the exclusive economic zones of coastal States of the same subregion or region, taking into account the relevant economic and geographical circumstances of all the States concerned and in conformity with the provisions of this article and of articles 61 and 62.

2. For the purposes of this Part, "geographically disadvantaged States" means coastal States, including States bordering enclosed or semi-enclosed seas, whose geographical situation makes them dependent upon the exploitation of the living resources of the exclusive economic zones of other States in the subregion or region for adequate
supplies of fish for the nutritional purposes of their populations or parts thereof, and coastal States which can claim no exclusive economic zones of their own.

3. The terms and modalities of such participation shall be established by the States concerned through bilateral, subregional or regional agreements taking into account, *inter alia*:

(a) the need to avoid effects detrimental to fishing communities or fishing industries of the coastal State;

(b) the extent to which the geographically disadvantaged State, in accordance with the provisions of this article, is participating or is entitled to participate under existing bilateral, subregional or regional agreements in the exploitation of living resources of the exclusive economic zones of other coastal States;

(c) the extent to which other geographically disadvantaged States and land-locked States are participating in the exploitation of the living resources of the exclusive economic zone of the coastal State and the consequent need to avoid a particular burden for any single coastal State or a part of it;

(d) the nutritional needs of the populations of the respective States.

4. When the harvesting capacity of a coastal State approaches a point which would enable it to harvest the entire allowable catch of the living resources in its exclusive economic zone, the coastal State and other States concerned shall cooperate in the establishment of equitable arrangements on a bilateral, subregional or regional basis to allow for participation of developing geographically disadvantaged States of the same subregion or region in the exploitation of the living resources of the exclusive economic zones of coastal States of the subregion or region, as may be appropriate in the circumstances and on terms satisfactory to all parties. In the implementation of this provision the factors mentioned in paragraph 3 shall also be taken into account.

5. Developed geographically disadvantaged States shall, under the provisions of this article, be entitled to participate in the exploitation of living resources only in the exclusive economic zones of developed coastal States of the same subregion or region having regard to the extent to which the coastal State, in giving access to other States to the living resources of its exclusive economic zone, has taken into account the need to minimize detrimental effects on fishing communities and economic dislocation in States whose nationals have habitually fished in the zone.

6. The above provisions are without prejudice to arrangements agreed upon in subregions or regions where the coastal States may grant to geographically disadvantaged States of the same subregion or region equal or preferential rights for the exploitation of the living resources in the exclusive economic zones.
**Article 71**

**Non-applicability of articles 69 and 70**

The provisions of articles 69 and 70 do not apply in the case of a coastal State whose economy is overwhelmingly dependent on the exploitation of the living resources of its exclusive economic zone.

**Article 72**

**Restrictions on transfer of rights**

1. Rights provided under articles 69 and 70 to exploit living resources shall not be directly or indirectly transferred to third States or their nationals by lease or licence, by establishing joint ventures or in any other manner which has the effect of such transfer unless otherwise agreed by the States concerned.

2. The foregoing provision does not preclude the States concerned from obtaining technical or financial assistance from third States or international organizations in order to facilitate the exercise of the rights pursuant to articles 69 and 70, provided that it does not have the effect referred to in paragraph 1.

**Article 73**

**Enforcement of laws and regulations of the coastal State**

1. The coastal State may, in the exercise of its sovereign rights to explore, exploit, conserve and manage the living resources in the exclusive economic zone, take such measures, including boarding, inspection, arrest and judicial proceedings, as may be necessary to ensure compliance with the laws and regulations adopted by it in conformity with this Convention.

2. Arrested vessels and their crews shall be promptly released upon the posting of reasonable bond or other security.

3. Coastal State penalties for violations of fisheries laws and regulations in the exclusive economic zone may not include imprisonment, in the absence of agreements to the contrary by the States concerned, or any other form of corporal punishment.

4. In cases of arrest or detention of foreign vessels the coastal State shall promptly notify the flag State, through appropriate channels, of the action taken and of any penalties subsequently imposed.
**Article 74**

*Delimitation of the exclusive economic zone between States with opposite or adjacent coasts*

1. The delimitation of the exclusive economic zone between States with opposite or adjacent coasts shall be effected by agreement on the basis of international law, as referred to in Article 38 of the Statute of the International Court of Justice, in order to achieve an equitable solution.

2. If no agreement can be reached within a reasonable period of time, the States concerned shall resort to the procedures provided for in Part XV.

3. Pending agreement as provided for in paragraph 1, the States concerned, in a spirit of understanding and cooperation, shall make every effort to enter into provisional arrangements of a practical nature and, during this transitional period, not to jeopardize or hamper the reaching of the final agreement. Such arrangements shall be without prejudice to the final delimitation.

4. Where there is an agreement in force between the States concerned, questions relating to the delimitation of the exclusive economic zone shall be determined in accordance with the provisions of that agreement.

**Article 75**

*Charts and lists of geographical coordinates*

1. Subject to this Part, the outer limit lines of the exclusive economic zone and the lines of delimitation drawn in accordance with article 74 shall be shown on charts of a scale or scales adequate for ascertaining their position. Where appropriate, lists of geographical coordinates of points, specifying the geodetic datum, may be substituted for such outer limit lines or lines of delimitation.

2. The coastal State shall give due publicity to such charts or lists of geographical coordinates and shall deposit a copy of each such chart or list with the Secretary-General of the United Nations.

**PART VII**

**HIGH SEAS**

**SECTION 1. GENERAL PROVISIONS**

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Article 87

Freedom of the high seas

1. The high seas are open to all States, whether coastal or land-locked. Freedom of the high seas is exercised under the conditions laid down by this Convention and by other rules of international law. It comprises, *inter alia*, both for coastal and land-locked States:

   (a) freedom of navigation;

   (b) freedom of overflight;

   (c) freedom to lay submarine cables and pipelines, subject to Part VI;

   (d) freedom to construct artificial islands and other installations permitted under international law, subject to Part VI;

   (e) freedom of fishing, subject to the conditions laid down in section 2;

   (f) freedom of scientific research, subject to Parts VI and XIII.

2. These freedoms shall be exercised by all States with due regard for the interests of other States in their exercise of the freedom of the high seas, and also with due regard for the rights under this Convention with respect to activities in the Area.

PART XI

THE AREA

Article 145

Protection of the marine environment

Necessary measures shall be taken in accordance with this Convention with respect to activities in the Area to ensure effective protection for the marine environment from harmful effects which may arise from such activities. To this end the Authority shall adopt appropriate rules, regulations and procedures for *inter alia*:

   (a) the prevention, reduction and control of pollution and other hazards to the marine environment, including the coastline, and of interference with the ecological balance of the marine environment, particular attention being paid to the need for protection from harmful effects of such activities as drilling, dredging, excavation, disposal of
waste, construction and operation or maintenance of installations, pipelines and other devices related to such activities;

(b) the protection and conservation of the natural resources of the Area and the prevention of damage to the flora and fauna of the marine environment.

SECTION 5. SETTLEMENT OF DISPUTES AND ADVISORY OPINIONS

Article 186

Seabed Disputes Chamber of the
International Tribunal for the Law of the Sea

The establishment of the Seabed Disputes Chamber and the manner in which it shall exercise its jurisdiction shall be governed by the provisions of this section, of Part XV and of Annex VI.

Article 187

Jurisdiction of the Seabed Disputes Chamber

The Seabed Disputes Chamber shall have jurisdiction under this Part and the Annexes relating thereto in disputes with respect to activities in the Area falling within the following categories:

(a) disputes between States Parties concerning the interpretation or application of this Part and the Annexes relating thereto;

(b) disputes between a State Party and the Authority concerning:

   (i) acts or omissions of the Authority or of a State Party alleged to be in violation of this Part or the Annexes relating thereto or of rules, regulations and procedures of the Authority adopted in accordance therewith; or

   (ii) acts of the Authority alleged to be in excess of jurisdiction or a misuse of power;

(c) disputes between parties to a contract, being States Parties, the Authority or the Enterprise, state enterprises and natural or juridical persons referred to in article 153, paragraph 2(b), concerning:
(i) the interpretation or application of a relevant contract or a plan of work; or

(ii) acts or omissions of a party to the contract relating to activities in the Area and directed to the other party or directly affecting its legitimate interests;

(d) disputes between the Authority and a prospective contractor who has been sponsored by a State as provided in article 153, paragraph 2(b), and has duly fulfilled the conditions referred to in Annex III, article 4, paragraph 6, and article 13, paragraph 2, concerning the refusal of a contract or a legal issue arising in the negotiation of the contract;

(e) disputes between the Authority and a State Party, a state enterprise or a natural or juridical person sponsored by a State Party as provided for in article 153, paragraph 2(b), where it is alleged that the Authority has incurred liability as provided in Annex III, article 22;

(f) any other disputes for which the jurisdiction of the Chamber is specifically provided in this Convention.

Article 188

Submission of disputes to a special chamber of the International Tribunal for the Law of the Sea or an ad hoc chamber of the Seabed Disputes Chamber or to binding commercial arbitration

1. Disputes between States Parties referred to in article 187, subparagraph (a), may be submitted:

(a) at the request of the parties to the dispute, to a special chamber of the International Tribunal for the Law of the Sea to be formed in accordance with Annex VI, articles 15 and 17; or

(b) at the request of any party to the dispute, to an ad hoc chamber of the Seabed Disputes Chamber to be formed in accordance with Annex VI, article 36.

2. (a) Disputes concerning the interpretation or application of a contract referred to in article 187, subparagraph (c)(i), shall be submitted, at the request of any party to the dispute, to binding commercial arbitration, unless the parties otherwise agree. A commercial arbitral tribunal to which the dispute is submitted
shall have no jurisdiction to decide any question of interpretation of this Convention. When the dispute also involves a question of the interpretation of Part XI and the Annexes relating thereto, with respect to activities in the Area, that question shall be referred to the Seabed Disputes Chamber for a ruling.

(b) If, at the commencement of or in the course of such arbitration, the arbitral tribunal determines, either at the request of any party to the dispute or \textit{propr\textipa{io motu}}, that its decision depends upon a ruling of the Seabed Disputes Chamber, the arbitral tribunal shall refer such question to the Seabed Disputes Chamber for such ruling. The arbitral tribunal shall then proceed to render its award in conformity with the ruling of the Seabed Disputes Chamber.

(c) In the absence of a provision in the contract on the arbitration procedure to be applied in the dispute, the arbitration shall be conducted in accordance with the UNCITRAL Arbitration Rules or such other arbitration rules as may be prescribed in the rules, regulations and procedures of the Authority, unless the parties to the dispute otherwise agree.

\textbf{Article 189}

\textit{Limitation on jurisdiction with regard to decisions of the Authority}

The Seabed Disputes Chamber shall have no jurisdiction with regard to the exercise by the Authority of its discretionary powers in accordance with this Part; in no case shall it substitute its discretion for that of the Authority. Without prejudice to article 191, in exercising its jurisdiction pursuant to article 187, the Seabed Disputes Chamber shall not pronounce itself on the question of whether any rules, regulations and procedures of the Authority are in conformity with this Convention, nor declare invalid any such rules, regulations and procedures. Its jurisdiction in this regard shall be confined to deciding claims that the application of any rules, regulations and procedures of the Authority in individual cases would be in conflict with the contractual obligations of the parties to the dispute or their obligations under this Convention, claims concerning excess of jurisdiction or misuse of power, and to claims for damages to be paid or other remedy to be given to the party concerned for the failure of the other party to comply with its contractual obligations or its obligations under this Convention.
Participation and appearance
of sponsoring States Parties in proceedings

1. If a natural or juridical person is a party to a dispute referred to in article 187, the sponsoring State shall be given notice thereof and shall have the right to participate in the proceedings by submitting written or oral statements.

2. If an action is brought against a State Party by a natural or juridical person sponsored by another State Party in a dispute referred to in article 187, subparagraph (c), the respondent State may request the State sponsoring that person to appear in the proceedings on behalf of that person. Failing such appearance, the respondent State may arrange to be represented by a juridical person of its nationality.

Article 191
Advisory opinions

The Seabed Disputes Chamber shall give advisory opinions at the request of the Assembly or the Council on legal questions arising within the scope of their activities. Such opinions shall be given as a matter of urgency.

PART XII
PROTECTION AND PRESERVATION
OF THE MARINE ENVIRONMENT

SECTION 1. GENERAL PROVISIONS

Article 192
General obligation

States have the obligation to protect and preserve the marine environment.

Article 193

Sovereign right of States to exploit their natural resources
States have the sovereign right to exploit their natural resources pursuant to their environmental policies and in accordance with their duty to protect and preserve the marine environment.

Article 194

Measures to prevent, reduce and control pollution of the marine environment

1. States shall take, individually or jointly as appropriate, all measures consistent with this Convention that are necessary to prevent, reduce and control pollution of the marine environment from any source, using for this purpose the best practicable means at their disposal and in accordance with their capabilities, and they shall endeavour to harmonize their policies in this connection.

2. States shall take all measures necessary to ensure that activities under their jurisdiction or control are so conducted as not to cause damage by pollution to other States and their environment, and that pollution arising from incidents or activities under their jurisdiction or control does not spread beyond the areas where they exercise sovereign rights in accordance with this Convention.

3. The measures taken pursuant to this Part shall deal with all sources of pollution of the marine environment. These measures shall include, inter alia, those designed to minimize to the fullest possible extent:

   (a) the release of toxic, harmful or noxious substances, especially those which are persistent, from land-based sources, from or through the atmosphere or by dumping;

   (b) pollution from vessels, in particular measures for preventing accidents and dealing with emergencies, ensuring the safety of operations at sea, preventing intentional and unintentional discharges, and regulating the design, construction, equipment, operation and manning of vessels;

   (c) pollution from installations and devices used in exploration or exploitation of the natural resources of the seabed and subsoil, in particular measures for preventing accidents and dealing with emergencies, ensuring the safety of operations at sea, and regulating the design, construction, equipment, operation and manning of such installations or devices;

   (d) pollution from other installations and devices operating in the marine environment, in particular measures for preventing accidents and dealing with emergencies, ensuring the safety of operations at sea, and regulating the design, construction,
equipment, operation and manning of such installations or devices.

4. In taking measures to prevent, reduce or control pollution of the marine environment, States shall refrain from unjustifiable interference with activities carried out by other States in the exercise of their rights and in pursuance of their duties in conformity with this Convention.

5. The measures taken in accordance with this Part shall include those necessary to protect and preserve rare or fragile ecosystems as well as the habitat of depleted, threatened or endangered species and other forms of marine life.

Article 195

_Duty not to transfer damage or hazards or transform one type of pollution into another_

In taking measures to prevent, reduce and control pollution of the marine environment, States shall act so as not to transfer, directly or indirectly, damage or hazards from one area to another or transform one type of pollution into another.

Article 196

_Use of technologies or introduction of alien or new species_

1. States shall take all measures necessary to prevent, reduce and control pollution of the marine environment resulting from the use of technologies under their jurisdiction or control, or the intentional or accidental introduction of species, alien or new, to a particular part of the marine environment, which may cause significant and harmful changes thereto.

2. This article does not affect the application of this Convention regarding the prevention, reduction and control of pollution of the marine environment.

SECTION 2. GLOBAL AND REGIONAL COOPERATION

Article 197

_Cooperation on a global or regional basis_

States shall cooperate on a global basis and, as appropriate, on a regional basis, directly or through competent international organizations, in formulating and elaborating...
international rules, standards and recommended practices and procedures consistent with this Convention, for the protection and preservation of the marine environment, taking into account characteristic regional features.

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Article 198

Notification of imminent or actual damage

When a State becomes aware of cases in which the marine environment is in imminent danger of being damaged or has been damaged by pollution, it shall immediately notify other States it deems likely to be affected by such damage, as well as the competent international organizations.

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Article 199

Contingency plans against pollution

In the cases referred to in article 198, States in the area affected, in accordance with their capabilities, and the competent international organizations shall cooperate, to the extent possible, in eliminating the effects of pollution and preventing or minimizing the damage. To this end, States shall jointly develop and promote contingency plans for responding to pollution incidents in the marine environment.

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Article 200

Studies, research programmes and exchange of information and data

States shall cooperate, directly or through competent international organizations, for the purpose of promoting studies, undertaking programmes of scientific research and encouraging the exchange of information and data acquired about pollution of the marine environment. They shall endeavour to participate actively in regional and global programmes to acquire knowledge for the assessment of the nature and extent of pollution, exposure to it, and its pathways, risks and remedies.

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Article 201

Scientific criteria for regulations

In the light of the information and data acquired pursuant to article 200, States shall cooperate, directly or through competent international organizations, in establishing appropriate scientific criteria for the formulation and elaboration of rules, standards
SECTION 5. INTERNATIONAL RULES AND NATIONAL LEGISLATION

TO PREVENT, REDUCE AND CONTROL

POLLUTION OF THE MARINE ENVIRONMENT

Article 207

Pollution from land-based sources

1. States shall adopt laws and regulations to prevent, reduce and control pollution of the marine environment from land-based sources, including rivers, estuaries, pipelines and outfall structures, taking into account internationally agreed rules, standards and recommended practices and procedures.

2. States shall take other measures as may be necessary to prevent, reduce and control such pollution.

3. States shall endeavour to harmonize their policies in this connection at the appropriate regional level.

4. States, acting especially through competent international organizations or diplomatic conference, shall endeavour to establish global and regional rules, standards and recommended practices and procedures to prevent, reduce and control pollution of the marine environment from land-based sources, taking into account characteristic regional features, the economic capacity of developing States and their need for economic development. Such rules, standards and recommended practices and procedures shall be re-examined from time to time as necessary.

5. Laws, regulations, measures, rules, standards and recommended practices and procedures referred to in paragraphs 1, 2 and 4 shall include those designed to minimize, to the fullest extent possible, the release of toxic, harmful or noxious substances, especially those which are persistent, into the marine environment.

Article 212

Pollution from or through the atmosphere

1. States shall adopt laws and regulations to prevent, reduce and control pollution of the marine environment from or through the atmosphere, applicable to the air space under their sovereignty and to vessels flying their flag or vessels or aircraft of their registry, taking into account internationally agreed rules, standards and recommended practices and procedures and the safety of air navigation.
2. States shall take other measures as may be necessary to prevent, reduce and control such pollution.

3. States, acting especially through competent international organizations or diplomatic conference, shall endeavour to establish global and regional rules, standards and recommended practices and procedures to prevent, reduce and control such pollution.

SECTION 6. ENFORCEMENT

Article 213

Enforcement with respect to pollution from land-based sources

States shall enforce their laws and regulations adopted in accordance with article 207 and shall adopt laws and regulations and take other measures necessary to implement applicable international rules and standards established through competent international organizations or diplomatic conference to prevent, reduce and control pollution of the marine environment from land-based sources.

SECTION 9. RESPONSIBILITY AND LIABILITY

Article 235

Responsibility and liability

1. States are responsible for the fulfilment of their international obligations concerning the protection and preservation of the marine environment. They shall be liable in accordance with international law.

2. States shall ensure that recourse is available in accordance with their legal systems for prompt and adequate compensation or other relief in respect of damage caused by pollution of the marine environment by natural or juridical persons under their jurisdiction.

3. With the objective of assuring prompt and adequate compensation in respect of all damage caused by pollution of the marine environment, States shall cooperate in the implementation of existing international law and the further development of international law relating to responsibility and liability for the assessment of and compensation for damage and the settlement of related disputes, as well as, where appropriate, development of criteria and procedures for payment of adequate compensation, such as compulsory insurance or compensation funds.

SECTION 11. OBLIGATIONS UNDER OTHER CONVENTIONS

ON THE PROTECTION AND PRESERVATION
Article 237

Obligations under other conventions on the protection and preservation of the marine environment

1. The provisions of this Part are without prejudice to the specific obligations assumed by States under special conventions and agreements concluded previously which relate to the protection and preservation of the marine environment and to agreements which may be concluded in furtherance of the general principles set forth in this Convention.

2. Specific obligations assumed by States under special conventions, with respect to the protection and preservation of the marine environment, should be carried out in a manner consistent with the general principles and objectives of this Convention.

PART XV

SETTLEMENT OF DISPUTES

SECTION 1. GENERAL PROVISIONS

Article 279

Obligation to settle disputes by peaceful means

States Parties shall settle any dispute between them concerning the interpretation or application of this Convention by peaceful means in accordance with Article 2, paragraph 3, of the Charter of the United Nations and, to this end, shall seek a solution by the means indicated in Article 33, paragraph 1, of the Charter.

Article 280

Settlement of disputes by any peaceful means chosen by the parties

Nothing in this Part impairs the right of any States Parties to agree at any time to settle a dispute between them concerning the interpretation or application of this Convention by any peaceful means of their own choice.
Article 281

Procedure where no settlement has been reached by the parties

1. If the States Parties which are parties to a dispute concerning the interpretation or application of this Convention have agreed to seek settlement of the dispute by a peaceful means of their own choice, the procedures provided for in this Part apply only where no settlement has been reached by recourse to such means and the agreement between the parties does not exclude any further procedure.

2. If the parties have also agreed on a time-limit, paragraph 1 applies only upon the expiration of that time-limit.

Article 282

Obligations under general, regional or bilateral agreements

If the States Parties which are parties to a dispute concerning the interpretation or application of this Convention have agreed, through a general, regional or bilateral agreement or otherwise, that such dispute shall, at the request of any party to the dispute, be submitted to a procedure that entails a binding decision, that procedure shall apply in lieu of the procedures provided for in this Part, unless the parties to the dispute otherwise agree.

Article 283

Obligation to exchange views

1. When a dispute arises between States Parties concerning the interpretation or application of this Convention, the parties to the dispute shall proceed expeditiously to an exchange of views regarding its settlement by negotiation or other peaceful means.

2. The parties shall also proceed expeditiously to an exchange of views where a procedure for the settlement of such a dispute has been terminated without a settlement or where a settlement has been reached and the circumstances require consultation regarding the manner of implementing the settlement.

Article 284

Conciliation
1. A State Party which is a party to a dispute concerning the interpretation or application of this Convention may invite the other party or parties to submit the dispute to conciliation in accordance with the procedure under Annex V, section 1, or another conciliation procedure.

2. If the invitation is accepted and if the parties agree upon the conciliation procedure to be applied, any party may submit the dispute to that procedure.

3. If the invitation is not accepted or the parties do not agree upon the procedure, the conciliation proceedings shall be deemed to be terminated.

4. Unless the parties otherwise agree, when a dispute has been submitted to conciliation, the proceedings may be terminated only in accordance with the agreed conciliation procedure.

Article 285

Application of this section to disputes submitted pursuant to Part XI

This section applies to any dispute which pursuant to Part XI, section 5, is to be settled in accordance with procedures provided for in this Part. If an entity other than a State Party is a party to such a dispute, this section applies mutatis mutandis.

SECTION 2. COMPULSORY PROCEDURES ENTAILING BINDING DECISIONS

Article 286

Application of procedures under this section

Subject to section 3, any dispute concerning the interpretation or application of this Convention shall, where no settlement has been reached by recourse to section 1, be submitted at the request of any party to the dispute to the court or tribunal having jurisdiction under this section.

Article 287

Choice of procedure

1. When signing, ratifying or acceding to this Convention or at any time thereafter, a State shall be free to choose, by means of a written declaration, one or more of the following means for the settlement of disputes concerning the interpretation or application of this Convention:
(a) the International Tribunal for the Law of the Sea established in accordance with Annex VI;

(b) the International Court of Justice;

(c) an arbitral tribunal constituted in accordance with Annex VII;

(d) a special arbitral tribunal constituted in accordance with Annex VIII for one or more of the categories of disputes specified therein.

2. A declaration made under paragraph 1 shall not affect or be affected by the obligation of a State Party to accept the jurisdiction of the Seabed Disputes Chamber of the International Tribunal for the Law of the Sea to the extent and in the manner provided for in Part XI, section 5.

3. A State Party, which is a party to a dispute not covered by a declaration in force, shall be deemed to have accepted arbitration in accordance with Annex VII.

4. If the parties to a dispute have accepted the same procedure for the settlement of the dispute, it may be submitted only to that procedure, unless the parties otherwise agree.

5. If the parties to a dispute have not accepted the same procedure for the settlement of the dispute, it may be submitted only to arbitration in accordance with Annex VII, unless the parties otherwise agree.

6. A declaration made under paragraph 1 shall remain in force until three months after notice of revocation has been deposited with the Secretary-General of the United Nations.

7. A new declaration, a notice of revocation or the expiry of a declaration does not in any way affect proceedings pending before a court or tribunal having jurisdiction under this article, unless the parties otherwise agree.

8. Declarations and notices referred to in this article shall be deposited with the Secretary-General of the United Nations, who shall transmit copies thereof to the States Parties.

Article 288

Jurisdiction

1. A court or tribunal referred to in article 287 shall have jurisdiction over any dispute concerning the interpretation or application of this Convention which is submitted to it in accordance with this Part.
2. A court or tribunal referred to in article 287 shall also have jurisdiction over any dispute concerning the interpretation or application of an international agreement related to the purposes of this Convention, which is submitted to it in accordance with the agreement.

3. The Seabed Disputes Chamber of the International Tribunal for the Law of the Sea established in accordance with Annex VI, and any other chamber or arbitral tribunal referred to in Part XI, section 5, shall have jurisdiction in any matter which is submitted to it in accordance therewith.

4. In the event of a dispute as to whether a court or tribunal has jurisdiction, the matter shall be settled by decision of that court or tribunal.

Article 289

Experts

In any dispute involving scientific or technical matters, a court or tribunal exercising jurisdiction under this section may, at the request of a party or proprio motu, select in consultation with the parties no fewer than two scientific or technical experts chosen preferably from the relevant list prepared in accordance with Annex VIII, article 2, to sit with the court or tribunal but without the right to vote.

Article 290

Provisional measures

1. If a dispute has been duly submitted to a court or tribunal which considers that prima facie it has jurisdiction under this Part or Part XI, section 5, the court or tribunal may prescribe any provisional measures which it considers appropriate under the circumstances to preserve the respective rights of the parties to the dispute or to prevent serious harm to the marine environment, pending the final decision.

2. Provisional measures may be modified or revoked as soon as the circumstances justifying them have changed or ceased to exist.

3. Provisional measures may be prescribed, modified or revoked under this article only at the request of a party to the dispute and after the parties have been given an opportunity to be heard.

4. The court or tribunal shall forthwith give notice to the parties to the dispute, and to such other States Parties as it considers appropriate, of the prescription, modification or revocation of provisional measures.

5. Pending the constitution of an arbitral tribunal to which a dispute is being submitted under this section, any court or tribunal agreed upon by the parties or, failing such
agreement within two weeks from the date of the request for provisional measures, the International Tribunal for the Law of the Sea or, with respect to activities in the Area, the Seabed Disputes Chamber, may prescribe, modify or revoke provisional measures in accordance with this article if it considers that prima facie the tribunal which is to be constituted would have jurisdiction and that the urgency of the situation so requires. Once constituted, the tribunal to which the dispute has been submitted may modify, revoke or affirm those provisional measures, acting in conformity with paragraphs 1 to 4.

6. The parties to the dispute shall comply promptly with any provisional measures prescribed under this article.

Article 291

Access

1. All the dispute settlement procedures specified in this Part shall be open to States Parties.

2. The dispute settlement procedures specified in this Part shall be open to entities other than States Parties only as specifically provided for in this Convention.

Article 292

Prompt release of vessels and crews

1. Where the authorities of a State Party have detained a vessel flying the flag of another State Party and it is alleged that the detaining State has not complied with the provisions of this Convention for the prompt release of the vessel or its crew upon the posting of a reasonable bond or other financial security, the question of release from detention may be submitted to any court or tribunal agreed upon by the parties or, failing such agreement within 10 days from the time of detention, to a court or tribunal accepted by the detaining State under article 287 or to the International Tribunal for the Law of the Sea, unless the parties otherwise agree.

2. The application for release may be made only by or on behalf of the flag State of the vessel.

3. The court or tribunal shall deal without delay with the application for release and shall deal only with the question of release, without prejudice to the merits of any case before the appropriate domestic forum against the vessel, its owner or its crew. The authorities of the detaining State remain competent to release the vessel or its crew at any time.
4. Upon the posting of the bond or other financial security determined by the court or tribunal, the authorities of the detaining State shall comply promptly with the decision of the court or tribunal concerning the release of the vessel or its crew.

Article 293

Applicable law

1. A court or tribunal having jurisdiction under this section shall apply this Convention and other rules of international law not incompatible with this Convention.

2. Paragraph 1 does not prejudice the power of the court or tribunal having jurisdiction under this section to decide a case *ex aequo et bono*, if the parties so agree.

Article 294

Preliminary proceedings

1. A court or tribunal provided for in article 287 to which an application is made in respect of a dispute referred to in article 297 shall determine at the request of a party, or may determine *proprio motu*, whether the claim constitutes an abuse of legal process or whether *prima facie* it is well founded. If the court or tribunal determines that the claim constitutes an abuse of legal process or is *prima facie* unfounded, it shall take no further action in the case.

2. Upon receipt of the application, the court or tribunal shall immediately notify the other party or parties of the application, and shall fix a reasonable time-limit within which they may request it to make a determination in accordance with paragraph 1.

3. Nothing in this article affects the right of any party to a dispute to make preliminary objections in accordance with the applicable rules of procedure.

Article 295

Exhaustion of local remedies

Any dispute between States Parties concerning the interpretation or application of this Convention may be submitted to the procedures provided for in this section only after local remedies have been exhausted where this is required by international law.

Article 296
Finality and binding force of decisions

1. Any decision rendered by a court or tribunal having jurisdiction under this section shall be final and shall be complied with by all the parties to the dispute.

2. Any such decision shall have no binding force except between the parties and in respect of that particular dispute.

SECTION 3. LIMITATIONS AND EXCEPTIONS

TO APPLICABILITY OF SECTION 2

Article 297

Limitations on applicability of section 2

1. Disputes concerning the interpretation or application of this Convention with regard to the exercise by a coastal State of its sovereign rights or jurisdiction provided for in this Convention shall be subject to the procedures provided for in section 2 in the following cases:

(a) when it is alleged that a coastal State has acted in contravention of the provisions of this Convention in regard to the freedoms and rights of navigation, overflight or the laying of submarine cables and pipelines, or in regard to other internationally lawful uses of the sea specified in article 58;

(b) when it is alleged that a State in exercising the aforementioned freedoms, rights or uses has acted in contravention of this Convention or of laws or regulations adopted by the coastal State in conformity with this Convention and other rules of international law not incompatible with this Convention; or

(c) when it is alleged that a coastal State has acted in contravention of specified international rules and standards for the protection and preservation of the marine environment which are applicable to the coastal State and which have been established by this Convention or through a competent international organization or diplomatic conference in accordance with this Convention.

2. (a) Disputes concerning the interpretation or application of the provisions of this Convention with regard to marine scientific research shall be settled in accordance with section 2, except that the coastal State shall not be obliged to accept the submission to such settlement of any dispute arising out of:
(i) the exercise by the coastal State of a right or discretion in accordance with article 246; or

(ii) a decision by the coastal State to order suspension or cessation of a research project in accordance with article 253.

(b) A dispute arising from an allegation by the researching State that with respect to a specific project the coastal State is not exercising its rights under articles 246 and 253 in a manner compatible with this Convention shall be submitted, at the request of either party, to conciliation under Annex V, section 2, provided that the conciliation commission shall not call in question the exercise by the coastal State of its discretion to designate specific areas as referred to in article 246, paragraph 6, or of its discretion to withhold consent in accordance with article 246, paragraph 5.

3. (a) Disputes concerning the interpretation or application of the provisions of this Convention with regard to fisheries shall be settled in accordance with section 2, except that the coastal State shall not be obliged to accept the submission to such settlement of any dispute relating to its sovereign rights with respect to the living resources in the exclusive economic zone or their exercise, including its discretionary powers for determining the allowable catch, its harvesting capacity, the allocation of surpluses to other States and the terms and conditions established in its conservation and management laws and regulations.

(b) Where no settlement has been reached by recourse to section 1 of this Part, a dispute shall be submitted to conciliation under Annex V, section 2, at the request of any party to the dispute, when it is alleged that:

(i) a coastal State has manifestly failed to comply with its obligations to ensure through proper conservation and management measures that the maintenance of the living resources in the exclusive economic zone is not seriously endangered;

(ii) a coastal State has arbitrarily refused to determine, at the request of another State, the allowable catch and its capacity to harvest living resources with respect to stocks which that other State is interested in fishing; or

(iii) a coastal State has arbitrarily refused to allocate to any State, under articles 62, 69 and 70 and under the terms and conditions established by the coastal State.
consistent with this Convention, the whole or part of the
surplus it has declared to exist.

(c) In no case shall the conciliation commission substitute its
discretion for that of the coastal State.

(d) The report of the conciliation commission shall be
communicated to the appropriate international organizations.

(e) In negotiating agreements pursuant to articles 69 and 70,
States Parties, unless they otherwise agree, shall include a
clause on measures which they shall take in order to minimize
the possibility of a disagreement concerning the interpretation
or application of the agreement, and on how they should
proceed if a disagreement nevertheless arises.

Article 298

Optional exceptions to applicability of section 2

1. When signing, ratifying or acceding to this Convention or at any time thereafter, a
State may, without prejudice to the obligations arising under section 1, declare in
writing that it does not accept any one or more of the procedures provided for in
section 2 with respect to one or more of the following categories of disputes:

(a) (i) disputes concerning the interpretation or
application of articles 15, 74 and 83 relating to sea
boundary delimitations, or those involving historic bays
or titles, provided that a State having made such a
declaration shall, when such a dispute arises subsequent
to the entry into force of this Convention and where no
agreement within a reasonable period of time is reached
in negotiations between the parties, at the request of any
party to the dispute, accept submission of the matter to
conciliation under Annex V, section 2; and provided
further that any dispute that necessarily involves the
concurrent consideration of any unsettled dispute
concerning sovereignty or other rights over continental
or insular land territory shall be excluded from such
submission;

(ii) after the conciliation commission has presented its
report, which shall state the reasons on which it is based,
the parties shall negotiate an agreement on the basis of
that report; if these negotiations do not result in an
agreement, the parties shall, by mutual consent, submit
the question to one of the procedures provided for in
section 2, unless the parties otherwise agree;
(iii) this subparagraph does not apply to any sea boundary dispute finally settled by an arrangement between the parties, or to any such dispute which is to be settled in accordance with a bilateral or multilateral agreement binding upon those parties;

(b) disputes concerning military activities, including military activities by government vessels and aircraft engaged in non-commercial service, and disputes concerning law enforcement activities in regard to the exercise of sovereign rights or jurisdiction excluded from the jurisdiction of a court or tribunal under article 297, paragraph 2 or 3;

(c) disputes in respect of which the Security Council of the United Nations is exercising the functions assigned to it by the Charter of the United Nations, unless the Security Council decides to remove the matter from its agenda or calls upon the parties to settle it by the means provided for in this Convention.

2. A State Party which has made a declaration under paragraph 1 may at any time withdraw it, or agree to submit a dispute excluded by such declaration to any procedure specified in this Convention.

3. A State Party which has made a declaration under paragraph 1 shall not be entitled to submit any dispute falling within the excepted category of disputes to any procedure in this Convention as against another State Party, without the consent of that party.

4. If one of the States Parties has made a declaration under paragraph 1(a), any other State Party may submit any dispute falling within an excepted category against the declarant party to the procedure specified in such declaration.

5. A new declaration, or the withdrawal of a declaration, does not in any way affect proceedings pending before a court or tribunal in accordance with this article, unless the parties otherwise agree.

6. Declarations and notices of withdrawal of declarations under this article shall be deposited with the Secretary-General of the United Nations, who shall transmit copies thereof to the States Parties.

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Article 299

Right of the parties to agree upon a procedure

1. A dispute excluded under article 297 or excepted by a declaration made under article 298 from the dispute settlement procedures provided for in section 2 may be submitted to such procedures only by agreement of the parties to the dispute.
2. Nothing in this section impairs the right of the parties to the dispute to agree to some other procedure for the settlement of such dispute or to reach an amicable settlement.

PART XVII

FINAL PROVISIONS

Article 311

Relation to other conventions and international agreements

1. This Convention shall prevail, as between States Parties, over the Geneva Conventions on the Law of the Sea of 29 April 1958.

2. This Convention shall not alter the rights and obligations of States Parties which arise from other agreements compatible with this Convention and which do not affect the enjoyment by other States Parties of their rights or the performance of their obligations under this Convention.

3. Two or more States Parties may conclude agreements modifying or suspending the operation of provisions of this Convention, applicable solely to the relations between them, provided that such agreements do not relate to a provision derogation from which is incompatible with the effective execution of the object and purpose of this Convention, and provided further that such agreements shall not affect the application of the basic principles embodied herein, and that the provisions of such agreements do not affect the enjoyment by other States Parties of their rights or the performance of their obligations under this Convention.

4. States Parties intending to conclude an agreement referred to in paragraph 3 shall notify the other States Parties through the depositary of this Convention of their intention to conclude the agreement and of the modification or suspension for which it provides.

5. This article does not affect international agreements expressly permitted or preserved by other articles of this Convention.

6. States Parties agree that there shall be no amendments to the basic principle relating to the common heritage of mankind set forth in article 136 and that they shall not be party to any agreement in derogation thereof.