

Achieving Justice and Human Rights in an Era of Climate Disruption

International Bar Association
Climate Change Justice and Human Rights Task Force Report

July 2014



INTERNATIONAL
BAR
ASSOCIATION®
the global voice of
the legal profession

Achieving Justice and Human Rights in an Era of Climate Disruption

**International Bar Association
Climate Change Justice and Human Rights Task Force Report**

2014



the global voice of
the legal profession®

International Bar Association

4th Floor, 10 St Bride Street
London EC4A 4AD

T: +44 (0)20 7842 0090

F: +44 (2)20 7842 0091

editor@int-bar.org

www.ibanet.org

ISBN 978-0-948711-35-0

British Library Catalogue in Publication Data.

A catalogue record for this book is available from the British Library.

© International Bar Association July 2014

All rights reserved. No part of this publication may be reproduced or transmitted in any form or by any means, or stored in any retrieval system of any nature without the prior written permission of the copyright holder. Application for permission should be made to the Content Department at the IBA address. Selling without prior written consent prohibited.

The views expressed in this publication are those of the contributors, and not necessarily those of the International Bar Association.

**CLIMATE CHANGE JUSTICE
AND HUMAN RIGHTS TASK FORCE CO-CHAIRS**

David Estrin and Baroness Helena Kennedy, QC

IBA LEADERSHIP

President Michael Reynolds

Vice President David W Rivkin

Secretary-General Martin Šolc

Executive Director Mark Ellis

EDITORIAL AND DESIGN

Creative Director Tim Licence

Content Editor Hannah Caddick

Typesetter Will Fox

Indexer Pauline Fothergill

Contents

Task Force Members	xii
Acknowledgements	xiv
Foreword by Mary Robinson, UN Secretary-General's Special Envoy for Climate Change	xvii
Glossary of Acronyms	xix
<hr/>	
Executive Summary and Recommendations	1
Recommendations	8
Action Matrix	25
Introduction	33
Chapter 1. Understanding Climate Change and Climate Change Justice	37
1.1 The science of climate change	38
1.2 The impact of climate change on natural resources	40
1.3 The impact on individuals, communities and states	41
1.3.1 <i>Individuals</i>	42
1.3.2 <i>Communities and cultures</i>	43
1.3.3 <i>States</i>	43
1.4 The UN Framework Convention on Climate Change	44
1.5 The importance of climate change justice	45
1.6 Justice implications of mitigation and adaptation measures	48
1.6.1 <i>Justice implications of mitigation</i>	48
1.6.2 <i>Justice implications of adaptation</i>	51
1.7 Moving from understanding to action	52

Chapter 2. Current Legal Challenges in Climate Change Justice	61
2.1 Environmental law regimes	62
2.1.1 <i>International environmental law framework</i>	62
2.1.2 <i>Constraints of international environmental treaties</i>	63
2.1.3 <i>Constraints of customary international law</i>	65
2.2 Human rights law regimes	66
2.2.1 <i>Framework of human rights treaties and customary international law</i>	66
2.2.2 <i>Constraints of human rights law</i>	67
2.3 Trade law regimes	69
2.3.1 <i>Framework of international trade law</i>	69
(i) WTO non-discrimination disciplines under GATT and the TBT	71
(ii) Process and production methods (PPMs) under WTO Law	72
(iii) General exceptions to WTO obligations	73
(iv) Constraints of Subsidies and Countervailing Measures Agreement	74
(v) Summary: constraints of WTO Law	75
2.3.2 <i>Framework of regional trade and bilateral investment law</i>	75
2.4 State responsibility and climate change liability	76
2.4.1 <i>Domestic climate change litigation</i>	76
(i) United States	77
Federal regulatory litigation	77
Public trust litigation	78
Public nuisance litigation	78
(ii) Canada	78
(iii) South America	79
(iv) Australia	80
(v) Asia	81
(vi) Europe	82
(vii) Africa and the Middle East	83

2.4.2 State responsibility in international law	84
2.4.3 Constraints of the International Court of Justice	84
2.4.4 Constraints of an International Court for the Environment	85
2.5 International law on climate change adaptation	87
2.5.1 Framework of international law relating to climate change adaption	87
2.5.2 Constraints for climate-change related migration	88
2.5.3 Constraints for food security	92
2.5.4 Constraints on technology transfer and access to information	94
Chapter 3. Enhancing Legal Regimes to Achieve Climate Change Justice	115
3.1 Legal measures	116
3.1.1 Climate change justice measures for individuals and communities	117
(i) What rights are available for individuals and communities?	117
(ii) Clarification of human rights obligations relating to climate change	118
'Greening' existing human rights obligations	119
Developing a minimum core of rights and duties	120
Recognising a freestanding right to a safe, clean, healthy and sustainable environment	124
Adopting optional protocols to incorporate a free-standing right into human rights treaties	125
Adopting optional protocols to enhance access to justice	125
Strengthening regional human rights bodies	126
(iii) Model Statute on Legal Remedies for Climate Change	127
Enhancing litigation rights and remedies	127
Substantive and procedural issues	128
Actionable rights	128
Standing	129

Causation	130
Knowledge	132
Relief	133
Liability	134
Interrelationship of claims	135
Limitation periods	135
Disclosure and discovery	135
Costs awards	136
Jurisdictional reach	136
<i>3.1.2 Climate change justice measures for states: international dispute resolution</i>	<i>137</i>
(i) What rights are available for states?	137
(ii) Applicable fora to determine international claims against states	138
(iii) The Permanent Court of Arbitration	139
PCA reach and expertise in environmental litigation	140
Drawing on the PCA in existing treaty frameworks	142
Adoption of the PCA model arbitration clauses	144
(iv) Other international arbitral fora	144
(v) Transparency and precedent in international arbitration	145
(vi) International Tribunal for the Environment	145
<i>3.1.3 Climate change justice and corporate responsibility</i>	<i>147</i>
(i) Implementation of UN Framework on Corporate Responsibility to Respect Human Rights in the context of climate change	148
(ii) Reporting by corporations	149
Incorporation of ISO technical specification	149
Promoting access to information through mandatory requirements	149
Institutional monitoring of corporate actors	151
(iii) Regulation of corporations, at home and abroad	152
(iv) Sector-specific initiatives: finance and banking	153

3.2 Capacity building and transparency	155
<i>3.2.1 Knowledge and skills transfer</i>	<i>155</i>
(i) IBA and IBAHRI climate change initiatives and network of climate change counsel	155
(ii) Increase technical assistance in UPR Reports	156
(iii) Use UPR Reports to highlight climate change justice issues	157
<i>3.2.2 Transparency</i>	<i>158</i>
(i) The Aarhus Convention	159
(ii) Encouraging the adoption of international and regional instruments guaranteeing environmental procedural rights	160
(iii) Enforcing the duty to promote the principles of transparency in international negotiation	161
(iv) Environmental impact assessments	161
(v) Transparency in international arbitrations	162
3.3 Institutional measures	163
<i>3.3.1 WTO reforms</i>	<i>163</i>
(i) Enhancing the WTO's Committee on Trade and Environment	163
(ii) Greening the WTO disciplines: reconciling existing provisions with climate change measures	164
Appellate Body jurisprudence	165
Clarification of the scope of Article XX exceptions	166
(iii) Amending the WTO agreements	166
Clarify the definition of a subsidy and facilitate the procedure for challenging subsidies	167
Establish a category of 'non-actionable' subsidies	167
Adopt an agreement on climate change, the environment or sustainable energy	167
<i>3.3.2 Bilateral and regional trade agreements</i>	<i>168</i>
(i) Clauses supporting environmental and non-derogation measures	169
(ii) Environmental chapters and side agreements	170
(iii) Supporting existing obligations under multilateral environmental agreements	171

<i>3.3.3 UNFCCC negotiations</i>	<i>171</i>
(i) Endorsing the UNFCCC process and a 2015 agreement	171
(ii) Tracking states' climate change prevention and mitigation commitments	172
(iii) Expanding aid for domestic migration adaptation programmes	173
(iv) Improving the UNFCCC process: REDD+ and the CDM	173
(v) Regulation of global fossil fuel reserves and the cumulative carbon budget	175
<i>3.3.4 Multilateral adaptation measures</i>	<i>176</i>
(i) Increased regulation of emerging carbon engineering technologies	176
(ii) Engaging UN expertise on challenges posed by rising sea levels	179
(iii) IBA Working Group on the Legal Aspects of Climate Change Adaptation	180
Climate change-related migration	180
Food security	183
Technology transfer	185
Index	209

IBA Climate Change Justice and Human Rights Task Force Members

Co-Chairs

David Estrin *Chair IBA Environment, Health and Safety Law Committee; Partner/Certified Environmental Law Specialist, Gowling Lafleur Henderson, Toronto; Visiting Professor, Osgoode Hall Law School; Senior Research Fellow, Centre for International Governance Innovation, International Law Research Program*

Baroness Helena Kennedy QC *House of Lords; Co-Chair International Bar Association's Human Rights Institute (IBAHRI); Chair, JUSTICE, UK; Doughty Street Chambers, London; Principal, Mansfield College, Oxford*

Vice-Chairs

Catherine M Amirfar *Partner, Debevoise & Plimpton LLP, New York; IBA Arbitration Committee IBAArb40 Co-Chair; Vice-President & Executive Committee member, American Branch of the International Law Association*

Conor Linehan *Regional Representative Europe, IBA Environment, Health and Safety Law Committee; Partner and Head of Environmental Law, William Fry, Dublin; Irish Government appointee to the International Panel of Environmental Law Expert Arbitrators, Permanent Court of Arbitration, The Hague. Adjunct Lecturer in Climate Change and Law, School of Law, Trinity College, Dublin*

Roger R Martella, Jr *Secretary, IBA Environment, Health and Safety Law Committee; Partner, environmental practice group, Sidley Austin LLP, Washington, DC; former General Counsel, US Environmental Protection Agency; former Chair, American Bar Association, International Environmental Law Committee; editor, International Environmental Law: The Practitioner's Guide to the Laws of the Planet*

Academic Advisor

Stephen Humphreys, PhD *Associate Professor of International Law, London School of Economics; editor, Human Rights and Climate Change (Cambridge University Press, 2009); formerly Research Director, International Council on Human Rights Policy, Geneva*

Secretaries to the Task Force

Nwamaka Genevieve Ejebe *Associate, Debevoise & Plimpton LLP (New York)*

Nicola Leslie *Associate, Debevoise & Plimpton LLP (London)*

Carolina Henriquez-Schmidt *(former Secretary)*

Task Force Members

Olanrewaju Fagbohun, PhD *Director of Research, Nigerian Institute of Advanced Legal Studies & Director, Environmental Law Research Institute, Lagos, Nigeria*

Guy S Goodwin-Gill *Senior Research Fellow, All Souls College, Oxford; Professor of International Refugee Law; Barrister, Blackstone Chambers, Temple, London*

Tomoaki Ikenaga *Partner, Anderson Mori & Tomotsune, Tokyo*

Koh Kheng-Lian, PhD *Emeritus Professor, Faculty of Law, National University of Singapore; Honorary Director, Asia-Pacific Centre for Environmental Law; Chair, APCEL Specialist Group on Adaptation to Climate Change*

Jolene Lin *Associate Professor, Faculty of Law, The University of Hong Kong*

Stuart Pimm, PhD *Doris Duke Chair of Conservation, Duke University, North Carolina, USA*

Jane McAdam *Scientia Professor of Law, Faculty of Law, University of New South Wales, Australia*

The Honourable Justice Brian J Preston SC *Chief Judge of Land and Environment Court of New South Wales, Adjunct Professor of Sydney Law School, University of Sydney, Australia*

Anne Ramberg *Secretary General, Swedish Bar Association*

Catherine Redgwell *Chichele Professor of Public International Law, University of Oxford; Fellow of All Souls College, Oxford; and Co-Director of the Oxford Geoengineering Programme of the Oxford Martin School*

Peter J Rees QC *Thirty Nine Essex Street Chambers, London*

Dinah L Shelton *Manatt/Ahn Professor of Law, George Washington University Law School, Washington, DC; member and President 2010–2013, Inter-American Commission of Human Rights; editor, The Oxford Handbook of International Human Rights Law*

Gauthier van Thuyne *Partner, head of Belgian and EU Environmental and Regulatory Law Group and co-head Human Rights Interest Group, Allen & Overy, Brussels; member of editorial board, Business and Human Rights Review (BHHR)*

Acknowledgements

The concept for this Task Force report originated as the IBA's response to the 'New Justice Challenge for the IBA', proffered by **Mary Robinson**, formerly President of Ireland and United Nations High Commissioner for Human Rights, at the IBA Annual Conference 2012 in Dublin. There, Mary Robinson – who in 2014 became the UN Secretary-General's Special Envoy for Climate Change – introduced the concept of climate justice and proposed that the IBA convene a working group to provide leadership in shaping the global response to climate change.

Michael Reynolds, then newly elected IBA President, accepted the challenge, with the keen support of the newly elected IBA Vice-President, **David W Rivkin**, and **Michael Greene**, IBA Legal Practice Division (LPD) Chair. In early 2013 **Baroness Helena Kennedy QC**, Co-Chair of the International Bar Association's Human Rights Institute (IBAHRI), and **David Estrin**, Chair of the IBA Environment, Health and Safety Law Committee, were appointed as Task Force Co-Chairs, together with three Vice-Chairs: **Catherine M Amirfar**; **Conor Linehan** and **Roger R Martella, Jr.**

Task Force members were also appointed, comprised of prominent legal and human rights experts, experienced legal practitioners and a senior environmental jurist. They made important contributions by providing guidance on key issues that the report should address, and reviewing various components of report drafts in order to offer critiques and advice.

In October 2013 the Task Force arranged a Showcase Session on Climate Change Justice and Human Rights at the IBA Annual Conference in Boston and invited leading experts on climate change law, diplomacy, and human rights to speak. This session also provided an opportunity for IBA members to offer their advice on issues the Task Force report should address. The experts speaking at the Boston session were: **Michael B Gerrard**, Director, Center for Climate Change Law, Columbia Law School, New York; **Bianca Jagger**, Founder and Chair, Bianca Jagger Human Rights Foundation, London; **Koh Kheng-Lian**, Emeritus Professor, Faculty of Law, National University of Singapore; **Professor John H Knox**, UN Independent Expert on Human Rights and the Environment, Professor of International Law, Wake Forest University School of Law, Winston-Salem, North Carolina, USA; and **Sir Crispin Tickell**, author of **Climate Change and World Affairs**, former President, Royal Geographic Society, adviser on climate change to successive British Prime Ministers, diplomat, academic, London, England. Task Force Members offering comments at that session were **Professor Olanrewaju Fagbohun** and **Honourable Justice Brian Preston**. The filmed Showcase Session is available to watch at www.ibanet.org/Conferences/boston_climatechange.aspx.

The Task Force offers its profuse thanks to lawyers **Nwamaka Genevieve Ejebe** and **Nicola Leslie** of Debevoise & Plimpton LLP, current Secretaries to the Task Force, and **Carolina Henriquez-Schmidt**, former Secretary, for their dedication in producing this Report. The Task Force would also like to thank Debevoise & Plimpton LLP for making pro bono arrangements for these lawyers to devote their professional time and talents to this project, as well as the time of Associates who assisted in researching and drafting this Report: **James Amler**; **Morgan Davis**; **Bernardo Becker Fontana**; **Christopher Ford**; **Corina Gugler**; **Jing Kang**; **Noelle Lyle**; **Ciara Murphy**; **Angus Ni**; and **Peter Ross**.

The Task Force also thanks the following for their assistance in reviewing, commenting on, or drafting contributions to sections of the Report: **Pablo Alliani** (Alliani & Bruzzon, Buenos Aires); **Lourdes Breuer** (Berkemeyer, Asunción); **Lina Pimentel Garcia** (Mattos Filho, Veiga Filho, Marrey Jr e Quiroga Advogados, São Paulo); **Michael B Gerrard** (Director, Centre for Climate Change Law, Columbia Law School, New York); **Sarah Grimmer** (Senior Legal Counsel, Permanent Court of Arbitration, The Hague); **Sébastien Jodoin** (Yale School of Forestry and Environmental Studies, New Haven); **Sarah Kieran** (Mary Robinson Foundation – Climate Justice); **Els Reynaers Kini** (MV Kini, Mumbai); **John H Knox** (United Nations Independent Expert on Human Rights and the Environment); **Mary Robinson Foundation – Climate Justice**; **Dr Constance McDermott** (University of Oxford Environmental Change Institute, Oxford); **Professor Emeritus Shinya Murase** (Chair, International Law Association Committee on Legal Principles Relating to Climate Change); **Angeles Murgier** (Brons & Salas Abogados, Buenos Aires); **Patricia Nuñez** (Nuñez, Muñoz, Verdugo, Santiago); **Joost Pauwelyn** (Graduate Institute of International and Development Studies); **Lavanya Rajamani** (Rapporteur, International Law Association Committee on Legal Principles Relating to Climate Change); **Ian Sampson** (Shepstone & Wylie, Durban); **Associate Professor Sara Seck** (University of Western Ontario, Ontario); **Tara Shine** (Mary Robinson Foundation – Climate Justice); **Henry Shue** (University of Oxford, Oxford); **Allison Silverman** (Centre for International Environmental Law, Washington DC); and **José Antonio Urrutia** (Urrutia & Cia, Santiago).

The Task Force is grateful to lawyer **Yuriko Kanematsu**, of the Tokyo law firm Momo-o, Matsuo and Namba, for her valuable contribution in supervising the translation of the Report's Executive Summary into Japanese.



Foreword

11 July 2014

In October 2012 when the International Bar Association (IBA) held its annual meeting in Dublin, I was honoured to be invited to give the George Seward Memorial lecture. In that lecture, entitled 'A New Justice Challenge for the IBA', I discussed the human rights dimensions of climate change and introduced the concept of climate justice. I also made a bold proposal and challenged the IBA to develop a working group on climate justice to provide leadership in shaping the global response to climate change.

I was thrilled when the incoming IBA President Michael Reynolds responded positively to my challenge and the Taskforce on Climate Change Justice and Human Rights was born. With the publication of this report I have to say that the IBA has surpassed my expectations and delivered an excellent contribution to the understanding of climate justice and the role of human rights law in addressing the climate challenge.

The significance of this report lies in its legal treatment of the impacts of climate change on human rights and the proposal of practical ways of integrating human rights into climate policies and actions. Through this Report the legal community embraces climate justice, elucidates the links between climate change and human rights and makes clear recommendations on ways to secure justice for those affected by climate impacts.

I want to end as I began 2 years ago, with a challenge! I call on the IBA to follow up on the recommendations in this Report, to establish the working groups identified and to continue to contribute knowledge, evidence and legal solutions to the global effort to combat climate change and achieve climate justice.

A handwritten signature in black ink that reads "Mary Robinson". The signature is written in a cursive, flowing style.

Mary Robinson

President, Mary Robinson Foundation – Climate Justice

United Nations Secretary-General's Special Envoy for Climate Change

Glossary of Acronyms

ACCC	Aarhus Convention Compliance Committee
ADP	Ad Hoc Working Group on the Durban Platform for Enhanced Action
APEC	Asia-Pacific Economic Cooperation
ASEAN	Association of Southeast Asian Nations
BITs	bilateral investment treaties
CAF	Cancun Adaptation Framework
CARIFORUM	Caribbean Forum of African, Caribbean and Pacific States
CDM	Clean Development Mechanism
CEC	Commission for Environmental Cooperation
CEDAW	Convention on the Elimination of all Forms of Discrimination against Women
CJEU	Court of Justice of the European Union
CMP	Governing Body of the Kyoto Protocol
COP	UNFCCC Conference of the Parties
CTE	The WTO's Committee on Trade and Environment
ECAs	export credit agencies
ECHR	European Convention on Human Rights
ECtHR	European Court of Human Rights
EGS	environmental goods and services
EIA	environmental impact assessment
EPA	US Environmental Protection Agency
Espoo	Convention on Environmental Impact Assessment in a Transboundary Context
EU ETS	EU Emissions Trading Scheme
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FTA	free trade agreement

GATS	General Agreement on Trade in Services
GATT	General Agreement on Tariffs and Trade
HCA	Host Country Agreements
IACHR	Inter-American Commission on Human Rights
IBA	International Bar Association
IBAHRI	International Bar Association's Human Rights Institute
ICC	International Chamber of Commerce's International Court of Arbitration
ICCPR	International Covenant on Civil and Political Rights
ICE	International Court for the Environment
ICEF	International Court of the Environment Foundation
ICESCR	International Covenant on Economic, Social and Cultural Rights
ICHRP	International Council on Human Rights Policy
ICJ	International Court of Justice
ICSID	International Centre for Settlement of Investment Disputes
IFPRI	International Food Policy Research Institute
ILA	International Law Association
IMO	International Maritime Organization
IPCC	Intergovernmental Panel on Climate Change
ISO	International Organization for Standardization
ITLOS	International Tribunal on the Law of the Sea
LCIA	London Court of International Arbitration
LDCs	least-developed countries
MEAs	multilateral environment agreements
NAAEC	North American Agreement on Environmental Cooperation
NAFTA	North American Free Trade Agreement
NAPAs	national adaptation programmes of actions
NGO	non-governmental organisation
OAU	(Organization of African Unity) Convention

OHCHR	Office of the High Commissioner for Human Rights
PCA	Permanent Court of Arbitration
PPMs	process and production methods
PRI	Principles of Responsible Investment
REDD+	Reducing Emissions from Deforestation and Forest Degradation
RGGI	US Regional Greenhouse Gas Initiative
RTA	regional trade agreement
SCM	Agreement on Subsidies and Countervailing Measures
SEA	strategic environmental assessment
TBT	Agreement on Technical Barriers to Trade
TPP	Trans-Pacific Partnership Agreement
TRIPS	Trade-Related Aspects of Intellectual Property Rights
TTIP	Transatlantic Trade and Investment Partnership
UN	United Nations
UNCITRAL	United Nations Commission on International Trade Law
UNCLOS	United Nations Convention on the Law of the Sea
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
UNECE	United Nations Economic Commission for Europe
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNGA	General Assembly of the United Nations
UNCHR	United Nations Commission on Human Rights
UPR	Universal Periodic Review
WTO	World Trade Organization

**Executive Summary, Recommendations
and Action Matrix**

Global climate change is a defining challenge of our time. Dramatic alterations to the planet's climate system are already having an impact on the world's inhabitants and its natural environment. Extremes abound. In recent years, a number of countries have experienced the hottest temperatures since records began. This summer, record or near-record temperatures were recorded throughout Central and Eastern Europe, North Africa, and Southeast Asia. An unprecedented heat wave struck Russia and parts of Europe in May 2014. Japan and Hong Kong each witnessed their hottest ever summers, while Canada and New York suffered exceptionally freezing winters. The United States, Canada and Mexico are currently undergoing the worst droughts on record. The single largest storm ever to make landfall in recorded history, Typhoon Haiyan, devastated the Philippines in late 2013.

These events, their causes and consequences, raise questions of justice and human rights. Climate change affects everyone, but it disproportionately strikes those who have contributed least to it and who are also, for a variety of reasons, least well placed to respond. By contrast, the main contributors to climate change – those with the largest carbon footprints, living and working in the world's wealthier regions – are also, by virtue of their wealth and/or access to resources, most insulated from it. This fundamental justice concern is exacerbated by the fact that climate change will strain the ability of many states, especially the poorest among them, to uphold their human rights obligations. Climate change poses an effective obstacle to the continued progress of human rights, which translates directly into a worsening of the existing inequities that afflict a world already riven with inequality, poverty and conflict.

As the voice of the global legal profession, the International Bar Association (IBA) recognises the importance of being at the vanguard of the legal and institutional reform needed to reduce the impacts of climate change and deal with its consequences. With this in mind, in November 2012, Michael Reynolds, then incoming IBA President, launched the Task Force on Climate Change Justice and Human Rights (the 'Task Force') with the objective of supporting the IBA in assessing the challenges to the current national and international legal regimes on climate change, with a focus on their justice implications and deficiencies, and to make recommendations accordingly. The Task Force adopted the following definition of climate change justice:

'To ensure communities, individuals and governments have substantive legal and procedural rights relating to the enjoyment of a safe, clean, healthy and sustainable environment and the means to take or cause measures to be taken within their national legislative and judicial systems and, where necessary, at regional and international levels, to mitigate sources of climate change and provide for adaptation to its effects in a manner that respects human rights.'

As defined, climate change justice or climate justice is a concept that recognises climate change will disproportionately affect people who have less ability to prevent, adapt or otherwise respond to increasingly extreme weather events, rising sea levels and new

resource constraints. A climate-justice agenda embraces a conscious recognition of the development imbalances brought into relief by climate change. Climate justice seeks to combine the climate change discussion with human rights in a way that is equitable for the most climate-vulnerable groups.

With this Report, the Task Force has endeavoured to present a critical comprehensive survey of existing international, regional and domestic legal frameworks relevant to climate change, and identify, using a justice-centred perspective, opportunities for legal, regulatory and institutional reforms at multilateral, state, corporate and individual levels to enhance mitigation and adaptation to climate change. By adopting a justice and human rights-centred approach, the IBA intends to shift the focus of much-needed reform from purely economic and scientific considerations to the human rights and equity consequences of climate change. In doing so, the IBA hopes to advance equity and justice by listening to the human rights concerns of the communities most vulnerable to climate change. The Report reminds its audience that failure to address the challenges posed by climate change will have devastating consequences for hundreds of millions around the globe, in both the industrialised and developing world, and that, in the drive to confront this potentially existential threat to our civilisation, not a moment should be lost.

A summary of actionable Task Force recommendations for states, international organisations, domestic legislative, executive and judicial bodies, corporations, communities and individuals is provided in the Action Matrix on pages 25–31. The recommendations are designed to be practical, manageable and politically feasible.

The Task Force presents this Report in a spirit of promoting governance and legal reform, with a view to assisting in global efforts to mitigate climate change and, where that fails, adapting to its effects. The Task Force calls upon world leaders, governments, policy-makers, human rights, judicial and other dispute resolution bodies, bar associations, corporate leaders, legal practitioners, businesses, NGOs and individuals to embrace and implement these recommendations, and urges continued engagement and discourse from all stakeholders to explore how enhancements to climate change law can be used to achieve climate change justice.

Chapter 1 – Understanding climate change and climate change justice

At its broadest, climate change justice encapsulates rights and obligations spanning generations, across political entities, and implicates state, corporate and individual responsibilities. More practically, as described recently by the Mary Robinson Foundation, climate justice ‘links human rights and development to achieve a human-centred approach, safeguarding the rights of the most vulnerable and sharing the burdens and benefits of climate change and its resolution equitably and fairly.’ To translate such an aspiration into concrete recommendations requires that actions be grounded in the certainties of climate science and the realities of international climate policy.

This Report relies in particular upon the cumulative work of the Intergovernmental Panel on Climate Change (IPCC), representing the consensus view of climate scientists and other experts. The IPCC warns in its most recent Fifth Assessment Report that warming of the climate system is ‘unequivocal’ and that atmospheric concentrations of carbon dioxide have increased to levels unprecedented in the past 800,000 years. Most notably, the IPCC has concluded that it is ‘extremely likely’ (ie, with a 95 to 100 per cent probability) that human influence has been the dominant cause of the warming since the mid-20th century.

Strategies to address climate change take two major forms. The first strategy is mitigation, by which is meant measures to limit greenhouse gases (GHGs) either by reducing their sources or by enhancing the planet’s capacity to absorb them (in, for example, forests or oceans, also known as ‘carbon sinks’). The second strategy is *adaptation*, which is the adjustment of natural or human systems to a new or changing environment, to moderate harm or exploit beneficial opportunities.

The global response to these dangers has to date largely been conducted under the auspices of the United Nations Framework Convention on Climate Change (UNFCCC) and its implementing mechanism, the Kyoto Protocol. Every year, States Parties to both treaties meet with a view to progressing negotiations, though success has proved famously elusive. At time of writing, states are aiming to achieve a global agreement on mitigation and adaptation at the UNFCCC negotiations in Paris in late 2015.

The UNFCCC recognises the global climate as a ‘common concern of humankind’. Both the UNFCCC and the Kyoto Protocol incorporate the principle of ‘common but differentiated responsibilities’ (CBDR) by which is meant that the Convention’s principal obligations, while common to all parties, are also subject, pursuant to Article 4(1), to ‘specific national and regional development priorities, objectives and circumstances.’ The UNFCCC makes specific concessions to the needs of developing and least developed countries under Article 4(7), taking ‘fully into account that economic and social development and poverty eradication are the first and overriding priorities of the developing country Parties’. Nevertheless, there is much to be done to actually implement climate justice within the UNFCCC process.

Mitigation and adaptation policies both raise justice issues. The central goal of mitigation policies, for example, is to limit GHG emissions, but efforts to do so must take into account development goals in poorer countries. Moreover certain measures designed to assist mitigation, such as the Clean Development Mechanism (CDM) developed under the Kyoto Protocol and the UN’s programme of Reducing Emissions from Deforestation and Forest Degradation (REDD+) have raised their own human rights concerns in practice. And while many least developed countries (LDCs) have now drafted national adaptation programmes of actions (NAPAs) under the UNFCCC process – identifying activities to address their most urgent adaptation needs – the needed funding from other nations has been slow to appear. Resources devoted to both mitigation and adaptation strategies therefore need to be allocated with an understanding of, and appreciation for, the ways in which they impact human rights. Indeed, the parties to the UNFCCC themselves stated, in a 15 March 2012 report on the Cancun conference, that they ‘should, in all climate change-related actions, fully respect human rights’.

Given the number and complexity of possible ‘climate change justice’ concerns, the Task Force has undertaken to analyse the objective of climate change justice in the specific context of human rights. Indeed, understanding the human rights implications of climate change allows for a fuller appreciation of the impact of climate change mitigation and adaptation policies. This approach clarifies policy-making by illustrating the true harms climate change causes – harms felt in all communities across every continent, but with devastating impacts for the most vulnerable.

Chapter 2 – Current legal challenges in climate change justice

The climate change justice landscape is fragmented and decentralised, due partly to the difficulty of achieving international agreement on addressing climate change itself, and partly to the many areas of relevant international legal activity, but also due to the breadth and complexity of international development and economic activity. Many areas of international law are relevant to the problems raised by climate justice but the law as it stands was not created with the challenge of climate change in mind and is not always well suited to address it. The Report examines relevant international legal regimes dealing with the environment, human rights and trade and investment law, as well as those touching on dispute resolution, state responsibility and certain adaptation measures, including migration, food security and technology transfer. Chapter 2 focuses in particular on the difficulties in relying on any or all of these regimes in their current form to mitigate sources of climate change, provide for adaptation or ensure climate change justice.

2.1 Environmental law regimes

Domestic, regional and international *environmental law* is necessarily central to the goal of achieving climate change justice. On the domestic front, a growing number of countries have integrated cap-and-trade schemes and/or carbon taxes into their national climate policies. Regional arrangements have also been established to combat climate change, with the leading example undoubtedly being the complex of regulations and policy targets set within the European Union, and extending to its Emissions Trading Scheme. As to international environmental law, there are, in addition to the UNFCCC and Kyoto Protocol, a number of other treaties and, in particular, widely agreed principles that are of relevance to climate change. In addition to CBDR, these include the ‘no-harm’ principle, the ‘precautionary principle’ and the principle of sustainable development. The progressive acceptance of these principles doubtless marks a long-term trend in international law. However, the Report concludes that international law has not yet developed to a point that it might, on its own and in its current state, provide a firm basis for limiting the degree to which states may release harmful greenhouse gas into the atmosphere.

2.2 Human rights law regimes

International human rights law may provide an avenue for individuals and communities to seek redress for harms caused by global climate change. There is little doubt that climate change affects peoples' human rights directly. Rights to life, health, food, shelter and water are all plainly affected by the ravages of climate change. These effects can be characterised as 'rights violations' (rather than mere bad luck) because climate change is a preventable man-made phenomenon. Nevertheless, it is not easy, as a matter of law, to join up the dots between those emitting excessive greenhouse gases and those suffering the consequences – the law is not designed to that end, and difficult questions of causation and standing arise. Possible avenues of redress may include class actions, targeting major groups of emitters or holding public officials responsible for failures of due diligence. Many of these strategies are currently being explored. Another possible avenue may be the development of 'environmental rights', now recognised in a number of national constitutions.

2.3 Trade law regimes

International trade law, centred on the widely ratified and relatively effectively enforced World Trade Organization (WTO) agreements, is another area that could be used to address global climate change. The WTO has been criticised for failing to progress discussions on trade and climate change, with many seeing the recent Doha round negotiations as a missed opportunity for progress on environmental issues. The principal question that arises under WTO law is whether states considering low or carbon-neutral trade policies might be in breach of their WTO obligations. Scholars are generally agreed that it should be possible to devise carbon-light trade policies that are compatible with WTO rules but they are also agreed that to do so is likely to impose cumbersome design and negotiation costs, and the shadow of possible adverse rulings by the WTO's panels or its Appellate Body will tend to dilute enthusiasm and create regulatory chill.

Similar issues arise with respect to whether international investment law – networks of interlocking bilateral and regional investment protection agreements with binding dispute settlement provisions – facilitates or hinders climate change justice.

2.4 State responsibility and climate change liability

Holding states accountable under international law face significant practical obstacles. The fora involved in considering such disputes vary widely, from the International Court of Justice (ICJ) to the Permanent Court of Arbitration (PCA) and the International Tribunal for the Law of the Sea. These tribunals only have jurisdiction based on the consent of the parties who appear before them; their expertise in environmental issues varies and their approach tends to be conservative: absent clear progress in treaty or customary law, few of these fora are well-placed to sound the clarion call for action that climate justice requires. Recently, the idea of an exclusive international tribunal with an environmental law mandate (an International Court for the Environment) has garnered attention.

2.5 International law on climate change adaptation

Adaptation measures are necessary to grapple with various *human security* threats created by climate change, including threats to global security, territorial sovereignty, health security, food security and environmental security. Climate change adaptation law aims to ‘increase the capacity of humans, other species, society and the ecosystem’ to adapt to the continual transformation of our environment. Politically, economically and socially marginalised groups within developing states have the lowest adaptive capacity, requiring concerted international action to enable them to adapt to the effects of climate change. Although Article 4 of the UNFCCC recognises the necessity of adaptation, the development of multilateral adaptation law and policy has thus far lagged behind that of mitigation. For example, there are no international law instruments directly applicable to *climate change-related migration*. International refugee law and domestic immigration and asylum law are ill-suited to address this foreseeable problem. While the international community has outlined principles to address general internal displacement within states – the most common source of climate change-related migration – these principles remain non-binding and add little in practice to accepted international law obligations. And while international human rights law guarantees a right to food, human rights institutions and international mechanisms to oversee food supply have largely failed to address *food security* in the context of climate change. Finally, the international community has not established concrete obligations with regard to *technology transfer*. In fact, international intellectual property protections may in some cases impede the development and diffusion of badly needed adaptation technologies to developing countries.

Chapter 3 – Enhancing legal regimes to achieve climate change justice: Task Force recommendations

Existing legal mechanisms addressing mitigation, adaptation and remediation of climate change are failing to cope with the scale of the global issue and its wide-ranging impact on individuals, leaving many climate change justice issues unaddressed.

International and domestic laws must be used to strengthen, not stifle, climate change justice. It is too easy, as shown in Chapter 2, to list the reasons why current legal systems cannot cope with emerging climate issues or why existing laws were not designed to solve global climate change. Drawing on the challenges identified, we consider the need for greater legal responsibilities that not only states but also multinational corporations and organisations must adopt to reduce greenhouse gas emissions and promote climate change justice. In Chapter 3, the Task Force explores the most promising opportunities for legal reforms, including using international and regional human rights bodies and instruments to clarify rights, creating a Model Statute on Legal Remedies for Climate Change and greater use of the existing PCA Optional Rules specific to environmental disputes.

Based on its findings and recommendations, the IBA Task Force calls on world leaders, policy-makers, lawyers, legislators, advocates and scientists to take joint, bold action aimed at achieving climate change justice.

Recommendation highlights

The Task Force recommendations include:

- clarifying and vindicating rights connected with climate change justice under international and regional human rights law by leveraging and, where necessary, ‘greening’ existing rights, outlining a minimum core of rights and duties relevant to climate justice, and recognising free-standing environmental rights;
- creating an IBA working group to develop a Model Statute on Legal Remedies for Climate Change, drawing on the success of the United Nations Commission on International Trade Law (UNCITRAL) Model Law on International Commercial Arbitration;
- increasing international recognition of corporate responsibility for human rights harms stemming from climate change;
- seizing opportunities to accommodate states’ ‘pro-climate’ policies within WTO law, and actively recognising and promoting climate change and environmental objectives within the WTO;
- enhancing the UNFCCC process to develop dispute resolution mechanisms for human rights protections;
- using the UN Universal Periodic Review (UPR) process to highlight climate justice concerns for developing countries before a broad audience; and
- creating an IBA Working Group on the Legal Aspects of Adaptation to develop effective and practical solutions for global climate change adaptation problems, including migration, food security and technology transfer.

Chapter 3 sets out recommendations across the following areas:

- **Legal measures** (climate change justice measures for individuals and communities; states; and corporations);
- **Capacity building and transparency**; and
- **Institutional measures** (the WTO; bilateral and regional trade agreements; the UNFCCC negotiations; and multilateral adaptation measures).

Each of the Task Force’s recommendations is summarised in the **Action Matrix** on pages 25–31. The recommendations are identified across short-, medium- and long-term timeframes for states, international organisations, domestic legislative, executive and judicial bodies, corporations, communities and individuals.

3.1 Recommended legal measures

3.1.1 Climate change justice measures for individuals and communities

The Report explains which rights are available for individuals and communities to address climate change issues and makes three overarching recommendations for the clarification and vindication of environmental rights in international and human rights law.

(i) Clarification of human rights obligations relating to climate change

The Task Force endorses work by scholars and practitioners to ‘green’ existing human rights, by urging human rights bodies to recognise that climate change impedes the full enjoyment of at least some, if not all, human rights. In such a case, ‘greening’ requires the application of climate change justice to existing human rights obligations such as the rights to life or health.

Acknowledging these gaps, Professor John H Knox, UN Independent Expert on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment, prepared in 2013 a series of ‘mapping reports’, which consider how international bodies have applied human rights law to environmental issues. This analysis confirms that many fora are ‘greening’ human rights, and that virtually all treaty bodies have recognised that human rights are threatened by environmental degradation. The Independent Expert urges human rights bodies to further develop and clarify the environmental rights contained in the instruments they interpret. *The Task Force strongly endorses the Independent Expert’s 2013 Report and recommends that human rights bodies further clarify and ‘green’ the scope of human rights obligations relating to the enjoyment of a healthy environment. The Task Force also urges human rights bodies to consider not only the human rights impacts of environmental degradation, but also climate change-specific impacts on human rights.*

In order to clarify and solidify those norms, *the Task Force recommends that, with the requisite state backing, the Human Rights Council adopt a resolution requesting that the UN Office of the High Commissioner for Human Rights (OHCHR) draft a report outlining a ‘minimum core’ of rights and duties implicated by the right to a healthy environment, particularly as it pertains to climate change.*

Further, scholars and practitioners have been advocating for explicit recognition of a free-standing right to the environment and, as a result, since 1976, over 90 nations have included some form of environmental rights in their national constitutions. In his 2013 ‘mapping’ report, Professor Knox concluded that states have obligations to adopt legal and institutional frameworks that protect against, and respond to, environmental harm that may or does interfere with the enjoyment of human rights. Therefore, as a supplementary long-term goal, *the Task Force recommends that states consider recognising free-standing human rights to a safe, clean, healthy and sustainable environment.* The most pragmatic way to achieve this would be for States Parties to human rights conventions to adopt optional protocols incorporating such a right. *The Task Force also urges states to ratify optional*

protocols, in particular the Optional Protocol to the Convention on Social, Economic and Cultural Rights, permitting individuals to raise human rights breaches in formal dispute resolution. Several regional human rights instruments already contain a freestanding right to a healthy environment. The Task Force urges states to work together to further strengthen regional human rights bodies and their mechanisms for enforcing the right to a healthy environment, and encourages states to work together to create new regional bodies where they do not exist or are lacking.

(ii) Model Statute on Legal Remedies for Climate Change

Although a multitude of litigation claims and strategies have been proposed to seek redress for climate harms against individuals, thus far none have had particular success because international and domestic laws do not provide effective and consistent standards due to the diffuse, non-specific, unpredictable, and non-causative harms caused by climate change.

The Task Force has considered the importance of encouraging incremental development and the use of model statutes and laws to serve as a basis for the establishment of a unified global legal framework. In this regard, the Task Force seeks to draw on the success of the UNCITRAL Model Law on International Commercial Arbitration (UNCITRAL Model Law) – which has been adopted by states around the world as the uniform basis for domestic arbitration legislation – to propose *the creation of an IBA Working Group on Climate Change Justice to draft a Model Statute on Legal Remedies for Climate Change*. The Model Statute would be relevant not just for purposes of developing domestic statutes, but also in promoting the development of consistent international legal standards relevant to procedural rights related to climate justice litigation, which face many of the same conceptual difficulties and issues. *States should then be encouraged to adopt domestic procedural and substantive law that incorporates legal principles set out in the Model Statute, and international norms should be developed in accordance with the principles developed in the Model Statute.*

The Task Force proposes that this Working Group build upon the International Law Association (ILA) 2014 Draft Articles on Legal Principles Relating to Climate Change and include in its terms of reference the following commonly observed substantive and procedural issues: (i) actionable rights affected by climate change; (ii) clarification of the role and definition of legal standing; (iii) issues regarding causation, including appropriate standards for proving a legally cognisable causal link between greenhouse gas emissions and relief sought; (iv) whether knowledge, including foreseeability of harm, is relevant to liability or judicial relief; (v) development of methods for awarding remedies and relief as warranted by the circumstances, including uniform standards by which to apportion damages, and the provision of declaratory, interim and/or injunctive relief; (vi) issues regarding standards of liability; (vii) the interrelationship of competing claims from states, communities and individuals; (viii) limitation periods for claims; (ix) the availability of pre-trial and interim applications for disclosure and discovery; (x) guidelines on costs awards in climate change cases; and (xi) guidelines for the jurisdictional reach of domestic and international courts to adjudicate climate change-related claims. Although these subjects all raise complex issues, we must recognise the need to engage with these issues, to draw on the best practice developing around the world and to work towards increasing justice for those most affected by climate change.

3.1.2 Climate change justice measures for states: international dispute resolution

The Task Force identifies legal and procedural rights that states have against other states and privately controlled emitters under traditional notions of state responsibility (including the impact of climate change obligations having *erga omnes* character under international law) through regional human rights institutions and formal adjudication. For example, states can bring inter-state disputes before and request advisory opinions from the ICJ; the dispute settlement mechanisms under the UN Convention on the Law of the Sea (UNCLOS); regional human rights treaty bodies (eg, the European Court of Human Rights – ECtHR); commissions established by bilateral or regional investment agreements (eg, the Commission for Environmental Cooperation – CEC, established under the environmental side agreement to the North American Free Trade Agreement – NAFTA); the WTO Dispute Settlement Body; or Compliance Committees established by multilateral treaties such as the Montreal Protocol.

However, in addition to the challenges of limited actionable rights and indirect causation faced in climate change cases brought by individuals, these actions face additional challenges, including states failing to accept the jurisdiction of the fora, the absence of regional enforcement mechanisms other than diplomatic or political pressure, and ultimately reliance on the states themselves for compliance with recommendations and the execution of judgments.

Although no single forum has emerged as uniquely appropriate or particularly willing to entertain environmental disputes between states, the lack of a specialised international environmental court does not seem to be handicapping the settlement of environmental disputes (eg, the ICJ adjudicates international disputes with significant environmental dimensions, without resorting to its now-abolished ICJ Special Chamber for environmental cases, and provides advisory opinions). Nevertheless, there is clearly scope for a more robust system of international dispute resolution in environmental matters and cases touching on climate justice.

(i) International dispute resolution

The Task Force recognises that judicial bodies, such as the ICJ and International Tribunal on the Law of the Sea (ITLOS) provide important fora in principle for the resolution of inter-state disputes on climate-related matters, particularly as they are best placed to develop international law. At the same time, many states have opted for arbitration in regard to environmental matters both between states and in cases involving investors, such as disputes over power generation and natural resource extraction. Taking account of this trend, the PCA has been suggested as the preferred – but not dedicated – forum for international environmental disputes against states (indeed, both critics and proponents of a future International Court for the Environment have advocated for an increased use of the PCA to fill in the gaps in environmental dispute resolution). Chapter 3 assesses the advantages of the PCA, in particular its financial assistance fund for developing states and the development of its 2001 Optional Rules for Arbitration of Disputes Relating to Natural Resources and/or the Environment (2001 Rules), the first and only procedural arbitral rules drafted specifically with environmental disputes in mind. States, intergovernmental institutions, NGOs, corporations and investors may bring claims to the PCA, provided the parties have agreed to do so. The 2001 Rules also establish a specialised list of arbitrators with expertise in environmental issues as well as a list of scientific and technical experts who may be appointed as expert witnesses in environmental cases.

Accordingly, the Task Force encourages states to *accept the jurisdiction of international judicial bodies such as the ICJ or ITLOS over environmental disputes, and to work to ensure that these bodies have the capacity and competence to engender confidence in their appraisal and adjudication of matters touching on climate justice*. Where states have determined to pursue climate-related disputes in arbitral, rather than judicial, fora, the Task Force encourages states to consent – including through domestic legislation and international commitments – to arbitration before the PCA, pursuant to the PCA Optional Rules for Arbitration of Disputes Relating to Natural Resources and/or the Environment. The Task Force *encourages states to apply these Rules, and to take advantage of the PCA's environmental expertise in all disputes touching on climate justice*, including those involving power generation and distribution and natural resource extraction, and in disputes involving investors. In doing so, *states should ensure that proceedings are open and transparent*.

The Task Force further recommends that *states and international organisations mobilise dispute resolution provisions of other enforceable international instruments to integrate international judicial and arbitral fora, including the ICJ, ITLOS (where relevant) and any future ICE as appropriate climate change dispute resolution fora, and to prefer the PCA in cases of arbitration*. In a similar vein, and with a similar focus on the importance of transparency, the Task Force encourages the UNFCCC Conference of the Parties (COP) and UNCLOS parties to adopt the PCA as the preferred arbitral body in cases where States Parties have not opted for the jurisdiction of the ICJ or ITLOS.

(ii) Other international arbitral fora

Although the Task Force recommends the PCA as a preferred forum for environmental and climate change-related disputes, the Task Force also recognises the availability of multiple other arbitral fora that, depending on the nature of the case, may also be considered, including, for example the World Bank's International Centre for Settlement of Investment Disputes (ICSID), the London Court of International Arbitration (LCIA), the International Chamber of Commerce's International Court of Arbitration, and the Arbitration Institute of the Stockholm Chamber of Commerce, among many others. *The Task Force encourages all arbitral institutions to take appropriate steps to develop rules and/or expertise specific to the resolution of environmental disputes, including procedures to assist consideration of community perspectives.*

(iii) Transparency and precedent

Promotion of arbitration over court litigation to resolve international disputes has many advantages, the most often cited being its comparative flexibility, expertise and lower cost. However, a significant disadvantage of using arbitration as opposed to domestic courts is that arbitration decisions are often confidential to the parties and thus not available in any published form. Even though there is no official system of binding precedent in arbitration, an unofficial system of precedent is increasingly common, particularly in investor-state arbitration instigated under bilateral investment treaties (BITs), where arbitral tribunals will be influenced by authoritative or well-regarded awards issued on similar issues. States and investors have, over the past decade, moved to make these arbitrations more accessible and transparent. For example, in 2006, the ICSID modified its rules to require prompt publication of all awards and to permit tribunals to consider requests from third parties to file amicus curiae briefs. In April 2014, the UNCITRAL's Rules on Transparency in Treaty-based Investor-State Arbitration went into effect requiring all hearings to be open to the public, all awards to be published, and tribunals to be able to accept, as well as invite third-party, submissions.

The Task Force *endorses the move towards greater transparency in investor-state arbitrations, including the development of the UNCITRAL Rules on Transparency in Investor-State Arbitration, and recommends that arbitral decisions and awards affecting climate change issues should be made available publicly and, on a timely basis, to ensure transparency and confidence in the arbitral system; and that the PCA and other arbitral institutions adopt the UNCITRAL Rules on Transparency in Investor-State Arbitration.*

(iv) International Tribunal for the Environment

An additional, if longer-term, goal to enhance climate change justice would be the creation of an International Court for the Environment (ICE), as described in detail in Chapter 2. Although efforts to establish a specialised international legal forum dedicated to adjudicating environmental disputes have thus far failed, it is likely that developing focused scientific and technical expertise within an ICE could more efficiently and effectively address the pronounced challenges of climate change litigation. Therefore, in the long term, *the Task Force supports existing proposals for the gradual development of an ad hoc arbitral body (International Tribunal for the Environment – ITE), which would build towards a permanent formal judicial institution (ICE)*. This could be modelled on the best practices of arbitration institutions such as the London Court of International Arbitration and the International Chamber of Commerce. Unlike other arbitration bodies, however, the ICE would operate exclusively in the environmental area, ensuring its reliability and competence. In particular, an ICE could ascertain and clarify environmental legal obligations of governments and businesses, facilitate harmonisation of and complement existing legislative and judicial systems and provide access to justice to a broad range of actors through open standing rules.

3.1.3 Climate change justice and corporate responsibility

(i) Implementation of the UN Framework on Corporate Responsibility to Protect Human Rights

With respect to corporate responsibility, the current regulatory regime imposed by international environmental, human rights or trade law is, at best, inconsistent and, at worst, ineffective. The impetus is on states and international organisations, in conjunction with corporations, to come to coherent and consistent standards to regulate corporations as part of efforts to mitigate and adapt to climate change. As stated by the then-Special Representative of the Secretary-General on human rights and transnational corporations and other business enterprises, ‘the State duty to protect against non-State abuses is part of the very foundation of the international human rights regime. The duty requires States to play a key role in regulating and adjudicating abuse by business enterprises, or risk breaching their international obligations.’

The Task Force strongly endorses John H Knox’s 2013 Report as UN Independent Expert on human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment, which concluded that ‘the human rights obligations relating to the environment also include substantive obligations to adopt legal and institutional frameworks that protect against environmental harm that interferes with the enjoyment of human rights, *including harm caused by private actors*’ (emphasis added). He recognised that the UN Guiding Principles on Business and Human Rights make it clear that states have an obligation to provide for remedies for human rights abuses caused by corporations, and that corporations themselves have a responsibility to respect human rights.

The Task Force supports the increasing international recognition of corporate responsibility for environmental harms that impact human rights. But that responsibility must be accompanied by development of coherent and clear regulatory standards that make compliance possible. In this regard, the Task Force recommends a multi-faceted approach to corporate responsibility that will increase the ability of corporations to self-regulate, including in response to increased regulation by states.

In the short term, *corporations should adopt and promote the UN Guiding Principles on Business and Human Rights as they pertain to climate change and justice issues. The Task Force recommends that the OHCHR develop a model internal corporate policy, expanding upon its prior guidance from 2011*, which emphasises the importance of conducting risk analysis before undertaking any major project, tracking performance and remediating any harms, while simultaneously integrating human rights concerns throughout the company.

To advance corporate responsibility specifically in the context of climate change, a model policy should commit the corporation to take a number of concrete steps, such as: (i) the corporation should adopt an explicit policy that stipulates measures designed to prevent or mitigate adverse climate change impacts linked to its operations (including due diligence of corporate projects, together with the practices of the company’s

affiliates, and as far as reasonably practicable, its major contractors and suppliers); (ii) the corporation should implement a due-diligence process to identify, prevent, mitigate and account for its actual climate change impacts; and (iii) the corporation should implement remediation processes that allow for open communication with stakeholders most affected by the corporation's operations.

(ii) Reporting by corporations

In the medium term, the Task Force *encourages states and international organisations, in consultation with corporations, to develop and subsequently adopt clear and implementable objective standards for corporate reporting in respect of human rights issues pertaining to the environment.*

The Task Force also recommends that *corporations require full disclosure of evident climate change effects arising from the actions of (i) all major subsidiaries and affiliates; and, as far as reasonably practicable from (ii) corporations' supply chains (for example, by incorporating disclosure obligations into contractual provisions).*

In the short term, the Task Force encourages states to require corporations to specifically disclose greenhouse gas emissions using International Organization for Standardization (ISO) or other promulgated standards already available, in recognition of much voluntary reporting that is already occurring by companies, and a number of states (including Australia, Canada, France, the UK and the US) already having introduced and implemented binding greenhouse gas disclosure requirements.

Ultimately, the Task Force recommends that states should require independent verification of corporations' GHG emissions reporting, similar to auditing of financial statements, as well as independent verification of companies' broader human rights reporting pertaining to the environment in as rigorously objective manner as is practicable given the standards and guidance developed.

(iii) Corporate regulation

The Task Force encourages *international institutions* (particularly those established under multilateral treaties as well as international financing/credit banks and agencies) *to increasingly monitor multinational corporations* in respect of their compliance with greenhouse gas emissions limits.

Over the longer term, the Task Force recommends that states clarify *regulatory mechanisms related to climate change, including for overseas violations by corporations or international subsidiaries.* In particular, *states should increasingly seek to regulate corporations' impact on the climate through legislation requiring full disclosure of greenhouse gas emissions both at home and abroad.*

(iv) Sector-specific initiatives: finance and banking

The Task Force endorses a number of progressive developments in the finance and banking sectors, including the Principles of Responsible Investment (PRI) and Principles for Sustainable Insurance developed through the UN Environment Programme Finance Initiative. In addition, the *Thun Group* of Banks has been particularly active in progressing discussion of the UN Guiding Principles on Business and Human Rights. Over 79 financial institutions have now officially adopted the *Equator Principles*, a risk management framework for determining, assessing and managing environmental and social risk in projects, which primarily seeks to provide a minimum standard for due diligence to support responsible risk decision-making. *The Task Force encourages similar initiatives that promote addressing climate change issues through the banking and financial sector.*

3.2 Recommended capacity building and transparency

3.2.1 Knowledge and skills transfer

Drawing on the international regimes surveyed in Chapter 2, there is evidently a pressing need to enhance climate change justice capability and capacity in developing countries. Many opportunities exist to build capability within governments, to upskill environmental and human rights lawyers, to educate individuals and groups of their rights, and to highlight pressing areas of concern. In this Report, the Task Force has focused on two areas: the education and capacity building-programmes offered by the IBA; and the UN UPR process.

(i) IBA network of climate change counsel and IBAHRI

The IBA is the global voice of the legal profession, with a membership 55,000 individual lawyers and 206 bar associations and law societies around the globe. Drawing on this vast network, the Task Force recommends that the IBA use this Report to *consider innovative ways of raising awareness of climate change justice by attorneys, judges and lawmakers.* As a starting point, *the Task Force recommends that the IBA establish an international IBA network of climate change counsel,* to allow developed and developing nations to leverage the legal expertise of IBA members, and to exchange ideas regarding environmental litigation and international law more efficiently. Following this, *the Task Force specifically recommends that the IBA integrate climate justice training and courses into its existing platform of legal education,* and that the influential IBAHRI, *together with other components of the IBA, including its Environment, Health and Safety Law Committee, integrate training on climate justice and human rights issues into the support and technical assistance provided to judiciaries, newly established and/or under-resourced bar associations and law societies worldwide.*

(ii) Universal Periodic Review

The UN UPR process requires all 193 UN Member States to periodically report on actions they have taken to meet their international human rights obligations. It is a unique, member-driven process to establish accountability among states, to allow countries to share best practices and request technical assistance. Having considered the progress of human rights law on climate change issues worldwide, and drawing on the work of the Friedrich-Ebert-Stiftung Academic Foundation and the Centre for International Environmental Law, *the Task Force recommends that developing countries in particular use the UPR process to request technical assistance for specific climate expertise or resources. Equally, the UPR process should be used to submit stakeholder reports to highlight domestic climate change justice concerns.*

3.2.2 Transparency

Promotion of transparency in environmental decision-making has been endorsed at the highest level. It has been recognised in the 1992 Rio Declaration, the UNFCCC, the Espoo Convention, the ILC Draft Articles on Prevention of Transboundary Harm, and the European Aarhus Convention, as well as many national environmental laws. John Knox, the UN Independent Expert, concluded in his 2013 report to the UN General Assembly that states are obligated to assess environmental impacts on human rights, to make environmental information public, to facilitate public participation in environmental decision-making and to provide individuals with remedies.

The Aarhus Convention was adopted under the UN Economic Commission for Europe (ECE) and entered into force in 2001 with 46 States Parties including the EU. The Aarhus Convention is at the vanguard of increasing transparency in environmental decision making. In particular, states are required to promote the application of the principles in the Convention in international environmental decision-making. Another innovative feature is the Convention's compliance mechanism, which supplements a traditional inter-state dispute settlement procedure with a non-judicial Compliance Committee. Significantly, individuals or NGOs may petition the Compliance Committee if they consider a state is failing to comply with its obligations, and the Committee has taken a number of active steps to progress these concerns. The Task Force commends this progress and *recommends the extension of the principles in the Aarhus Convention to other regions around the world* (eg, the Economic Commission for Latin America and the Caribbean adopted similar principles in the Declaration on the Application of Principle 10 of the Rio Declaration on Environment and Development in June 2012), and in particular its *Compliance Committee as a model for regional agreements on environmental rights*. In addition, the Task Force endorses the work of the UN Environment Programme (UNEP) in this area, and in particular its

Guidelines for the Development of National Legislation on Access to Information, Public Participation and Access to Justice in Environmental Matters.

Separately, environmental impact assessment (EIA) is a risk management process that operationalises precautionary principles, by identifying and evaluating the environmental consequences of a proposed project before the project is authorised. EIA is not only integral to the principle of transparency, but also to the environmental principles of prevention and precaution, by enabling states to anticipate the environmental risks (and, in particular, transboundary risks) of planned projects and address them in advance. A number of multilateral environment agreements (MEAs) and other international treaties already incorporate EIA-type provisions. The Task Force *recommends that states incorporate obligations to conduct EIA and/or Strategic Environmental Assessment into legislation for significant projects with potential climate change or transboundary impacts*. States are encouraged to go beyond their obligation under customary international law to conduct EIA for projects with transboundary effects and to extend the duty to conduct EIA, with specific reference to potential impacts on climate change, to all public projects.

3.3 Recommended institutional measures

3.3.1 WTO reforms

As identified in Chapter 2, the underlying objective of the WTO is trade liberalisation, not environmental protection, and consequently there is increasing tension between climate change policies and the WTO disciplines. For example, the Report discusses the lack of any specific ‘climate change’ exemption within WTO law, and the inherent tension between the WTO’s ethos of treating ‘like products’ alike, against the reality that goods produced using renewable energy may still appear similar to their carbon-intensive competitors. However, there is a real opportunity for the WTO to evolve to accommodate states’ ‘pro-climate’ policies within the bounds of WTO law, and to go further to actively promote climate change and environmental objectives.

For example, the WTO’s Committee on Trade and Environment (CTE) has a broad mandate to promote sustainable development by identifying the relationship between trade and environment and ‘to make appropriate recommendations on whether modifications of the multilateral trading system are required’, but has thus far failed to issue any guidance on how WTO rules could be amended to accommodate climate change measures. As a pragmatic tool for states, *the Task Force recommends that the CTE establish a notification procedure for climate change measures*, whereby states wishing to adopt climate change measures but with concerns about the compatibility of the measures with WTO law could refer the measures to the CTE prior to their issuance to seek advice on their WTO-compatibility.

Short of amending the WTO agreements, *the Task Force also supports clarification by the WTO that the GATT and GATS (the key WTO agreements dealing with trade in goods and trade in services) permit exceptions for national policies designed to mitigate climate change*, whether through a formal clarification (Interpretative Decision) from the WTO Ministerial Conference or ‘greening’ of the WTO’s Appellate Body jurisprudence. Endorsement of the precautionary principle and clarification of the relationship between MEAs and WTO law is also welcomed.

Significant opportunities also exist in the regulation of subsidies under WTO law. The Task Force recommends that the WTO clarify the status of emissions allowances and recognise renewable energy and climate change subsidies as ‘non-actionable’ subsidies under the Subsidies and Countervailing Measures Agreement. Ultimately, the Task Force supports further consideration of a standalone environmental or climate change agreement within the framework of the WTO.

3.3.2 Bilateral and regional trade agreements and international investment law

Bilateral and regional free trade agreements, for example the current Trans-Pacific Partnership (TPP) and Transatlantic Trade and Investment Partnership (US-EU or TTIP) negotiations, are increasingly used by states to secure trade advantages and investor protection outside of the formal WTO negotiating rounds. In an encouraging trend, states are increasingly using these types of regional negotiations to include a number of pro-environmental measures in trade and investment agreements. These include clauses explicitly supporting environmental measures, obligations to promote foreign direct investment in environmental goods and services, requirements not to derogate from existing environmental laws when seeking to attract investment, and/or explicit exceptions from trade obligations for environmental measures. *The Task Force encourages all states to include such language when negotiating BITs and free trade agreements (FTAs), and also supports efforts by states to ensure that commitments to climate change justice made in separate side agreements or chapters are subject to strong enforcement and compliance mechanisms.*

Furthermore, investor-state disputes brought to binding international arbitration under BITs or investment chapters in FTAs with environmental components have increased significantly in the last decade. As discussed above, the Task Force supports *increased measures promoting transparency in investor-state dispute resolution*, both as to the transparency of proceedings and the publication of arbitral awards involving climate change measures.

3.3.3 UNFCCC negotiations

The UNFCCC process currently represents the greatest effort among nations to collectively combat the effects of human-induced climate change, and remains the most promising framework for attaining a global international agreement. As such, any serious attempt to address climate change justice must engage with UNFCCC negotiations. As such, *it is critical that states should support the urgent work of the Ad Hoc Working Group on the Durban Platform for Enhanced Action (ADP)*, as it represents the UNFCCC's key initiative to implement a long-term coordinated reduction in global greenhouse gas emissions, as well as *States Parties to the Kyoto Protocol striving to ratify the Doha Amendment*, which establishes net emission reductions for 2013–2020. Aside from emphasising the need for more ambitious and widespread targets, in the short term *the Task Force endorses the efforts of the UNFCCC process to develop a coherent international framework for measuring, reporting and verifying national efforts of all states to combat climate change.*

Over the longer term, to meet the concerns regarding the poor human rights record of certain CDM projects, *the Task Force recommends that the Governing Body of the Kyoto Protocol (the CMP) consider how best to recognise existing applicable human rights obligations for CDM projects, and adopt explicit and binding language to protect human rights during climate change-related activities*, together with *the development of a dispute-settlement mechanism or grievance procedure to address human rights contentions concerning the CDM approval process.* The Task Force endorses promoting *dispute resolution mechanisms and procedural rights* to all mechanisms within the UNFCCC process.

Finally, there is a growing consensus that in order to keep global warming below 2°C, the world must take steps to limit the development of fossil fuels by creating a finite 'carbon budget'. The Task Force recommends that the COP take account of the increasing calls for hard measures on fossil fuels to ultimately recognise a cumulative carbon budget, including more stringent regulation of global fossil fuel reserves.

3.3.4 Multilateral adaptation measures

(i) Geo-engineering

Proposals to mitigate or adapt to climate change through geo-engineering are increasingly common, including ocean based carbon capture and sequestration (storing CO₂ in sub-seabed geological formations) and ocean fertilisation (adding nutrients to the oceans to increase phytoplankton growth to reduce CO₂ in the atmosphere). The Task Force strongly endorses the work of the International Maritime Organization (IMO) in its leading efforts to regulate oceanic geo-engineering through formal recognition of the precautionary principle. In this regard, parties to the London Convention and Protocol on the Prevention of Marine Pollution recently, adopted amendments that seek to regulate ocean fertilisation, including an Assessment Framework for Scientific Research Involving Ocean Fertilization. The Task Force applauds these efforts and recommends that states accede to these instruments and adopt IMO regulations while, in the short term, also complying with the Assessment Framework. To assist in regulation of emerging geo-engineering, the Task Force *recommends that states work towards the creation of international legal obligations governing research, development and implementation of solar radiation management.*

(ii) Engaging UN expertise on challenges posed by rising sea levels

The Task Force is cognisant that climate change has various impacts from sea-level rise, the chief among them, the loss of territory. With global sea-level rise, states' coastal features may change and significant territory may be lost, creating uncertainty in the existing legal framework governing states' maritime borders and sovereignty under the UNCLOS. However, neither the Human Rights Council nor the UN General Assembly has appointed a rapporteur or commissioned a report that offers detailed multilateral solutions to concerns raised by rising sea levels. *The Task Force recommends that, in the medium term, the Human Rights Council task a special rapporteur to comprehensively research human security issues triggered by sea-level rises caused by climate change and to recommend multilateral solutions to these challenges.*

(iii) IBA Working Group on the Legal Aspects of Climate Change Adaptation

As highlighted in Chapter 2, climate change adaptation law needs further development in order to address current and ever-growing adaptation needs. *The Task Force recommends, in the short term, the creation of an IBA Working Group on the Legal Aspects of Adaptation to develop effective and practical solutions for global adaptation problems.* The Working Group's mandate would be to explore and propose legal and policy recommendations in the critical adaptation areas, including, but not limited to: (i) climate change-related migration; (ii) food security; and (iii) access to adaptation technologies. *For each adaptation challenge, the Working Group's Terms of Reference would include analysing the existing protections in international law and proposing areas for improvement in the law.*

For example, on the issue of cross-border and internal climate change-related migration, the Working Group should consider, among other issues: (i) whether the international community should promote the adoption of bilateral and regional agreements and national legislation to assist with climate change-related migration; (ii) whether the Guiding Principles on Internal Displacement, the Peninsula Principles on Climate Displacement Within States, the Nansen Principles and/or the Nansen Initiative are models for further international efforts in the area of climate change-related migration; and (iii) how the international legal community can build consensus toward coordinated action in conjunction with existing initiatives by international organisations on the subject of climate change-related migration.

On the issue of food security, the Working Group should also identify and scrutinise law relevant to food security in the context of climate change with a view to making recommendations on how to integrate a right-based approach into the climate change regime. This would include an assessment of current legal protections related to food security and how these might be used and strengthened to inform rights-based approaches to climate change policy-making.

Finally, with respect to technology transfer, the Working Group should consider, among other issues: (i) how the international environmental and trade regimes may be brought into conformity with each other to promote technology transfer; (ii) how the international environmental law framework may be reformed to incentivise innovation while facilitating technology transfer; and (iii) how the international legal community can promote and facilitate cooperation among various stakeholders.

Action Matrix

Action Matrix

	Short-term	Medium-term	Long-term
3.1 Legal measures			
3.1.1 Climate change justice measures for individuals and communities			
Clarification of human rights obligations relating to climate change	<p>(i) The Task Force strongly endorses the findings of the Independent Expert on Human Rights and the Environment that human rights bodies, special procedures, courts, tribunals and dispute resolution bodies charged with interpreting human rights treaties further clarify and 'green' the scope of human rights obligations relating to the enjoyment of a healthy environment. The Task Force further urges these bodies to consider not only the human rights effects of environmental degradation, but also climate change-specific effects on human rights.</p> <p>(ii) The Task Force recommends that the Human Rights Council adopt a resolution convening the Office of the United Nations High Commissioner to draft a report outlining a 'minimum core' of rights and duties implicated by the right to a healthy environment, particularly as this pertains to climate change.</p> <p>(iii) The Task Force urges states to ratify the optional protocols of core human rights treaties (in particular the ICCPR and ICESCR) to ensure that individuals have international fora in which to seek redress for violations of their environmental rights.</p>	<p>The Task Force urges states to work together to further strengthen regional human rights bodies and their mechanisms for enforcing the right to a healthy environment, and encourages states to work together to create new regional bodies where they do not exist or are lacking.</p>	<p>The Task Force recommends that states consider recognising free-standing human right to a safe, clean, healthy and sustainable environment, through the adoption or amendment of protocols to human right instruments.</p>

	Short-term	Medium-term	Long-term
Model Statute on Legal Remedies for Climate Change	<p>The Task Force recommends the designation of an <i>IBA Working Group to draft a Model Statute on Legal Remedies for Climate Change</i>, addressing each of the substantive and procedural obstacles, and <i>applicable to litigation in both domestic and international fora</i>, including: (i) actionable rights affected by climate change; (ii) clarification of the role and definition of legal standing; (iii) issues regarding causation, including appropriate standards for proving a legally-cognisable causal link between GHG emissions and relief sought; (iv) whether knowledge, including foreseeability of harm, is relevant to liability or judicial relief; (v) development of methods for awarding remedies and relief as warranted by the circumstances, including uniform standards by which to apportion damages, and the provision of declaratory, interim, and/or injunctive relief; (vi) issues regarding standards of liability; (vii) the interrelationship of competing claims from states, communities and individuals; (viii) limitation periods for claims; (ix) the availability of pre-trial and interim applications for disclosure and discovery; (x) guidelines on costs awards in climate change cases; and (xi) guidelines for the jurisdictional reach of domestic and international courts to adjudicate climate change-related claims.</p>		<p>(i) The Task Force encourages states to adopt domestic procedural and substantive law that incorporates legal principles set out in the Model Statute.</p> <p>(ii) The Task Force endorses the development of international law in accordance with the principles in the Model Statute.</p>

	Short-term	Medium-term	Long-term
3.1.2 Climate change justice measures for states			
International dispute resolution	<p>(i) The Task Force encourages states to accept the jurisdiction of international judicial bodies such as the ICJ or ITLOS over environmental disputes, and to work to ensure that these bodies have the capacity and competence to engender confidence in their appraisal and adjudication of matters touching on climate justice.</p> <p>(ii) Where states have determined to pursue climate-related disputes in arbitral fora, the Task Force encourages states to consent – including through domestic legislation and international commitments – to arbitration before the PCA, pursuant to the PCA Optional Rules for Arbitration of Disputes Relating to Natural Resources and/or the Environment. The Task Force encourages states to apply these Rules, and to take advantage of the PCA environmental expertise, in all disputes touching on climate justice and in disputes involving investors. In doing so, states should ensure that proceedings are <i>open and transparent</i>.</p> <p>(iii) The Task Force further recommends that states and international organisations mobilise dispute resolution provisions of other enforceable international instruments to <i>integrate international judicial and arbitral fora, including the ICJ and ITLOS (where relevant) as appropriate climate change dispute resolution fora</i>, and to prefer the PCA in cases of arbitration.</p> <p>(iv) The Task Force encourages <i>arbitral institutions to take appropriate steps to develop rules and/or expertise specific to the resolution of environmental disputes</i>, including procedures to assist consideration of community perspectives.</p>	<p>(i) The Task Force encourages states to make use of the UNFCCC dispute resolution system (Article 14.2(b)) in conjunction with the PCA. <i>The UNFCCC COP should adopt the PCA as the UNFCCC's preferred arbitral body</i>, with the PCA adopting adequate rules of transparency in all such proceedings and, furthermore, <i>adopt the PCA Optional Rules</i> on environmental disputes.</p> <p>(ii) The Task Force further encourages States Parties to continue to make efforts towards making the <i>PCA the preferred arbitral forum for UNCLOS disputes</i> in cases where States Parties have not opted for the jurisdiction of the ICJ or ITLOS.</p> <p>(iii) The Task Force endorses the move towards <i>greater transparency in investor-state arbitrations</i>, including the development of the UNCITRAL Rules on Transparency in Investor-State Arbitration, and recommends that:</p> <p>(i) <i>arbitral decisions and awards impacting climate change issues should be made available publicly</i>, on a timely basis, to ensure transparency and confidence in the arbitral system; and (ii) that the <i>PCA and other arbitral institutions adopt the UNCITRAL Rules on Transparency in Investor-State Arbitration</i>.</p>	<p>The Task Force supports the <i>gradual development of an ad hoc arbitral body (ICE Tribunal) which would build towards a permanent formal judicial institution (ICE)</i>. If such institutions came to fruition, states should standardise MEAs to incorporate the ICE Tribunal into dispute resolution process.</p>

	Short-term	Medium-term	Long-term
3.1.3 Climate change justice and corporate responsibility			
Climate change justice and corporate responsibility	<p>(i) The Task Force endorses the promotion of the <i>UN Guiding Principles on Business and Human Rights</i> (the 'Ruggie Principles') by multinational corporations in relation to human rights relating to climate change.</p> <p>(ii) The Task Force endorses the findings of the <i>UN Independent Expert on Human Rights and the Environment</i> that States' human rights obligations relating to the environment include substantive obligations to adopt legal and institutional frameworks that protect against environmental harm that interferes with the enjoyment of human rights, including harm caused by private actors.</p> <p>(iii) The Task Force encourages the <i>OHCHR</i> to develop a model internal corporate policy to provide guidance on: (i) adopting a human rights policy that stipulates concrete measures to prevent and mitigate adverse climate change impacts that are linked to the corporation's operations; (ii) implementing a human rights due diligence process to identify, prevent, mitigate and account for actual and potential climate change impacts; and (iii) implementing a remediation process to address any adverse climate change effects.</p> <p>(iv) The Task Force encourages states to require corporations to specifically disclose GHG emissions using ISO standards already available (as is now mandatory in some states). Such reporting should be subject to independent verification.</p>	<p>(i) The Task Force encourages corporations to incorporate ISO standards in business GHG management programmes to ensure standardised quantification of GHG emissions and promote good practice in environmental and energy management.</p> <p>(ii) The Task Force encourages international institutions to increasingly monitor multinational corporations in respect of their compliance with human rights standards and green-house gas emissions limits, and to endorse corporations taking the most proactive measures.</p> <p>(iii) The Task Force encourages states and international organisations, in consultation with corporations, to develop and subsequently adopt clear and implementable objective standards for corporate reporting in respect of human rights issues pertaining to the environment (as promulgated in the UN Guiding Principles on Business and Human Rights and as is now mandatory in some states). Such reporting should be subject to independent verification in as rigorously objective manner as practicable.</p> <p>(iv) The Task Force recommends that corporations require full disclosure of climate change impacts arising from the actions of all major subsidiaries and affiliates; and, as far as reasonably practicable, from the corporation's supply chain.</p> <p>(v) The Task Force encourages sector-specific initiatives, including initiatives in the banking and finance sector to promote environmental accountability in the provision of finance.</p>	<p>The Task Force encourages states to clarify regulation of corporations that relates to climate change, including for overseas violations. States are encouraged to clarify that domestic legislation is applicable to corporations within its jurisdiction even in respect of their overseas activity. States should require full disclosure of corporations' GHG emissions both at home and abroad.</p>

	Short-term	Medium-term	Long-term
3.2 Capacity building and transparency			
3.2.1 Knowledge and skills transfer	<p>(i) The Task Force recommends that the IBA consider innovative ways of raising awareness of attorneys, judges and lawmakers in respect of climate change and its adverse implications on human rights.</p> <p>(ii) The Task Force recommends the establishment of an international IBA network of climate change counsel to increase the sharing of expertise in climate change-related law, litigation and advocacy.</p> <p>(iii) The Task Force recommends that UN Member States lacking expertise or resources to address certain climate change issues should request technical assistance in their UPR country reports.</p>	<p>(i) The Task Force recommends that UPR stakeholder reports are used to highlight domestic climate change justice concerns during the reviews of each UN Member State.</p> <p>(ii) To promote access to justice, the Task Force recommends that the IBA integrate climate justice training and courses into its existing platform of legal education.</p> <p>(iii) The Task Force recommends that the IBA Human Rights Institute, together with other components of the IBA, including its Environment, Health and Safety Law Committee integrate training on climate justice and human rights issues into the support and technical assistance provided to judiciaries, newly established and/or under-resourced bar associations and law societies worldwide.</p>	
3.2.2 Transparency	<p>(i) The Task Force endorses the UNEP Guidelines for the Development of National Legislation on Access to Information, Public Participation and Access to Justice in Environmental Matters.</p> <p>(ii) The Task Force endorses the Aarhus Convention's citizen-focused compliance mechanism as a useful model in other regional agreements promulgating environmental procedural rights and in other MEAs more generally.</p>	<p>(i) The Task Force encourages states outside Europe to adopt the principles recognised in the Aarhus Convention in respect of transparency of environmental decision-making.</p> <p>(ii) The Task Force recommends that states incorporate obligations to conduct EIA and/or strategic environmental assessment into legislation for significant projects with potential climate change or transboundary impact.</p>	
3.3 Institutional Measures			
3.3.1 WTO reforms	<p>(i) The Task Force recommends that the CTE establish a notification procedure to allow states to confirm that proposed climate change measures are not in breach of WTO law.</p> <p>(ii) The Task Force recommends that the CTE should strengthen its relationship and collaboration with the secretariats of other MEAs through the establishment of a series of memoranda of understanding.</p>	<p>The Task Force recommends that WTO members should consider asking the Ministerial Conference of the WTO to adopt an interpretive decision defining and clarifying the contours and scope of application of GATT Article XX (exceptions) to measures relating to climate change.</p>	<p>(i) The Task Force recommends that WTO Members should work towards adopting an amendment to Article XX of the GATT to explicitly allow climate change measures.</p> <p>(ii) The Task Force recommends redefining and reinstating a category of non-actionable subsidies, including a category of renewable energy and climate change subsidies.</p> <p>(iii) Task Force supports the consideration of a standalone environmental or climate change agreement within the framework of the WTO.</p>

	Short-term	Medium-term	Long-term
3.3.2 Bilateral and regional trade agreements	The Task Force encourages all states when negotiating BITs and FTAs to include <i>provisions supporting domestic climate change measures, including non-derogation clauses</i> requiring the States Parties to refrain from weakening or waiving their environmental rules in order to encourage or incentivise foreign investment.	The Task Force encourages states to consider including in future trade or investment agreements a specific recognition that <i>obligations arising under MEAs take precedence over conflicting trade measures.</i>	The Task Force endorses efforts by states to ensure that <i>commitments to the environment and climate change justice made in separate chapters and side agreements to BITs and RTAs are subject to strong enforcement and compliance mechanisms.</i>
3.3.3 UNFCCC negotiations	<p>(i) The Task Force endorses and fully supports UNFCCC COP efforts to develop a coherent international framework for measuring, reporting and verifying national efforts to combat climate change</p> <p>(ii) The Task Force encourages states to support the urgent work of the ADP in producing a universal climate outcome by 2015 to enter into effect in 2020.</p> <p>(iii) The Task Force encourages parties to the Kyoto Protocol to ratify the Doha Amendment.</p> <p>(iv) The Task Force endorses adoption of safeguards in efforts to advocate for justice in implementing Reduced Emissions from Deforestation and Degradation (REDD+).</p>	<p>(i) The Task Force recommends that the CMP should consider how best to recognise existing applicable human rights obligations for CDM projects, and adopt explicit and binding language to protect human rights during climate change-related activities.</p> <p>(ii) The Task Force recommends the development of a dispute-settlement mechanism or grievance procedure to address human rights contentions concerning the CDM approval process. The Task Force endorses promoting dispute resolution mechanisms and procedural rights to all mechanisms within the UNFCCC process.</p> <p>(iii) The Task Force recommends the international community make efforts to increase funding for NAPAs and national adaptation plans through the Least Developed Countries Fund.</p>	The Task Force recommends that the UNFCCC COP take account of the increasing calls for hard measures on fossil fuels, to ultimately recognise a cumulative carbon budget, including more stringent regulation of global fossil fuel reserves.
3.3.4 Multilateral adaptation measures	<p>(i) The Task Force recommends that all states abide by the IMO Assessment Framework for Scientific Research Involving Ocean Fertilization.</p> <p>(ii) The Task Force recommends the creation of an IBA Working Group on the Legal Aspects of Adaptation to develop effective and practical solutions in critical adaptation areas, including, but not limited to, climate change-related migration, food security and access to adaptation technologies.</p>	<p>(i) The Task Force recommends that more states accede to the 1972 Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter and its 2006 Protocol, and adopt the IMO's proposals in respect of geo-engineering of the oceans.</p> <p>(ii) The Task Force recommends that the Human Rights Council task a special rapporteur to comprehensively research human security issues triggered by sea level rises caused by climate change and to recommend multilateral solutions to these challenges.</p>	<p>(i) The Task Force recommends that states work towards the creation of international legal obligations governing research, development and implementation of solar radiation management.</p>

Introduction

Global climate change is a defining challenge of our time. Dramatic alterations to the planet's climate system are already affecting the world's inhabitants and its natural environment. In recent years, a number of countries have experienced the hottest temperatures since records began. In summer 2014, record or near-record temperatures were recorded throughout Central and Eastern Europe, North Africa, and South and East Asia. An unprecedented heat wave struck Russia and parts of Europe in May. Japan and Hong Kong each witnessed their hottest ever summers, while Canada and New York suffered exceptionally freezing winters. The US, Canada and Mexico are currently undergoing the worst droughts on record. The single largest storm ever to make landfall in recorded history, Typhoon Haiyan, devastated the Philippines in late 2013.

These events, their causes and consequences, raise questions of justice and human rights. Climate change affects everyone, but it disproportionately strikes those who have contributed least to it and who are also, for a variety of reasons, least well-placed to respond. Current effects are likely to be dwarfed by the future consequences of climate change. Now-fertile land will be permanently wasted by drought, extreme temperatures – with arctic cold fronts striking temperate zones – will become the norm, rising sea levels and higher episodic storm surges will submerge coasts, existing sources of freshwater supplying millions will be depleted, ecosystems will disappear and millions of livelihoods will vanish. Scientists around the world warn that all of this will be accompanied by greatly intensified weather disasters such as enormous tropical cyclones, which will become much more frequent. Mass displacement and conflicts will result, and the ability of numerous communities and societies to develop and realise their human rights will be seriously jeopardised. All of this is occurring with a severity and pace to which it is already difficult for us to react.

Yet the main contributors to climate change – those with the largest carbon footprints, living and working in the world's wealthier regions – are, by virtue of their wealth and/or access to resources, most insulated from it. This fundamental justice concern is exacerbated by the fact that climate change will strain the ability of many states, especially the poorest among them, to uphold their human rights obligations. Climate change poses an effective obstacle to the continued progress of human rights, which translates directly into a worsening of the existing inequities that afflict a world already riven with vast inequality, poverty and conflict.

As the voice of the global legal profession, the International Bar Association (IBA) recognises the importance of being at the vanguard of the legal and institutional reform needed to reduce the impacts of climate change and deal with its consequences. With this in view, in November 2012, then incoming IBA President Michael Reynolds created a Task Force on Climate Change Justice and Human Rights (the 'Task Force') with the objective of supporting the IBA in assessing the challenges to the current national and international legal regimes on climate change, with a focus on their justice implications and deficiencies, and to make recommendations accordingly.

The Task Force sets forth its analysis and recommendations through this Report. By adopting a justice- and human rights-centred approach, the IBA intends to shift the focus of much-needed reform from purely economic and scientific considerations to the

human rights and equity consequences of climate change. In doing so, the IBA hopes to advance equity and justice, listening to the human rights concerns of the communities most vulnerable to climate change. Throughout this process, the Report will adhere to an equity- and justice-centred perspective, and seek to preserve and enhance legal and policy measures that increase access to justice. It will do so through a pragmatic approach to the opportunities that arise in the global negotiations to articulate a legal response to climate change, and will consider from the standpoint of implementation and practice how climate change law can be used to achieve climate change justice. In particular, this Report proposes concrete recommendations relevant to climate change mitigation and adaptation, with a view to ensuring climate justice. Taking into consideration the number and complexity of concerns existing in respect of climate change justice, the Task Force has adopted the following definition:

‘To ensure that communities, individuals and governments have substantive legal and procedural rights to the enjoyment of a safe, clean, healthy and sustainable environment and the means to take or cause measures to be taken within their national legislative and judicial systems and, where necessary, at regional and international levels, to mitigate sources of climate change and provide for adaptation to its effects in a manner that respects human rights.’

Chapter 1 lays the conceptual foundations for the Report by demonstrating the relevance of a justice- and human rights-orientated approach and, by outlining the Report’s definitions of climate change, climate change justice and the general principles of international law that ultimately underpin the international climate change legal regime. Chapter 1 also describes the effects of climate change on the natural world, individuals and states. Finally, it evaluates the inevitable human rights challenges that accompany the efforts aimed at addressing these problems, for example, the equity considerations that arise when limited resources must be allocated across mitigation and adaptation efforts.

This Report will address justice issues in the context of the efforts carried out in part under the auspices of the UNFCCC. The UNFCCC, which entered into force in 1994 and currently has 195 states parties, provides an overall framework for international efforts to combat climate change. While the UNFCCC represents the greatest commitment of nations to addressing human-induced climate change, its goal of producing a binding international legal framework adequate to the problem has so far remained elusive. Thus, there is as yet no single international legal umbrella that can provide a powerfully coordinated legal and institutional response to climate change and the international community faces a fragmented and decentralised legal landscape. Accordingly, Chapter 2 discusses the present available regimes both globally and regionally, in international environmental law, human rights law, trade and investment law, and international law relating to migration. That discussion catalogues and analyses the difficulties inherent in relying on these disparate regimes to achieve climate change justice.

Through analysing those difficulties, including the challenges inherent in the UNFCCC, it becomes clear that existing legal mechanisms on mitigation, adaptation and remediation

are insufficient to cope with the novelty, scale and complexity of the problem. Chapter 3 therefore identifies opportunities and suggests creative legal and institutional mechanisms across the legal sectors identified in Chapter 2 to improve efforts to address climate change and access to climate justice.

The Task Force's recommendations, summarised in the Action Matrix on pages 25–31, are organised into short-, medium- and long-term goals for states, international organisations, domestic legislative, executive and judicial bodies, corporations, groups and individuals. In that context, the Report makes a number of legal recommendations, together with institutional recommendations directed at those groups best placed to address the particular issues raised. The recommendations are designed to be practical, manageable and politically feasible.

The Report's scope is wide and its recommendations are intended for a correspondingly wide audience. This is because climate justice requires effective action on an interdisciplinary and global scale. In turn, this requires a pooling of resources and a sharing of skills. The focus must be on collaboration between states, corporate interests and civil society to take the action necessary to avoid dire consequences for the future of our planet.

Through its findings and recommendations, the IBA Task Force on Climate Change Justice and Human Rights calls on world leaders, policy-makers, lawyers, legislators, advocates and scientists to take joint, bold action aimed at achieving climate change justice.

Chapter 1

Understanding Climate Change and Climate Change Justice

The justice issues arising from climate change can only be understood against the background of three decades of accumulated climate science, which extends to the physical origins of climate change and its impact on the natural world, individuals, communities and states. This Chapter explains the current and potential wide-ranging physical effects of climate change and the resulting impact on human rights. It then explains the structure of the international climate change regime under the UNFCCC, including how this framework incorporates the scientific findings of the IPCC. It is only at this point that we can then understand the particular justice issues resulting from climate change, and particularly the important justice implications for mitigation and adaptation to climate change.

1.1 The science of climate change

This Report relies in particular on the detailed, meticulous and extensively scrutinised work of the IPCC, the body established in 1988 by the UNEP and the World Meteorological Organization to provide a comprehensive, impartial assessment of climate change. The IPCC is the leading international body for the assessment of climate change and the authoritative voice of the international scientific community on the causes, implications and potential responses to climate change. The IPCC does not conduct its own research, but rather collects and reviews the most recent scientific, technical and socioeconomic information from a wide variety of sources. Through a continuing, collaborative analysis of the existing science, the IPCC offers the most thorough account of climate science, while remaining cautious and retaining its independence. The IPCC's work encompasses not only the physical science, but also the evaluation of various strategies of adaptation and mitigation.

IPCC reports are authored by a diverse panel of renowned scientific experts and subject to an intense process of intellectual scrutiny.¹ For instance, a recent report from the IPCC, *Climate Change 2014: Mitigation of Climate Change*, was written by 235 lead authors and 38 review editors, and was reviewed by 880 experts and 38 governments in a multistage process drawing a total of 38,315 comments. Thousands of scientific publications, with priority given to peer-reviewed literature, formed the basis of this assessment and its near 10,000 references.²

The cumulative findings of the IPCC clearly set forth the urgent need to address climate change on an international level. It concluded that '[w]arming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia.'³ Indeed, the climate is transforming before our eyes: '[t]he atmosphere and ocean have warmed, the amounts of snow and ice have diminished, sea levels have risen, and the concentrations of GHGs have increased.'⁴ Most relevant, the IPCC has concluded that human influence is 'extremely likely' (ie, with a 95 to 100 per cent probability) to have been the dominant cause of the warming we have observed since the mid-20th century.⁵

Our enormous influence on climate change has developed over generations. It has now reached a point today where global temperatures and the extent of atmospheric warming from the late 21st century onwards will largely be determined by cumulative emissions of

CO₂ and other GHGs by humans. Moreover, the most reliable projections of future human-induced climate change show unequivocally that present trends will worsen dramatically. Without additional efforts to reduce GHG emissions, the IPCC estimates global mean surface temperatures will increase by the year 2100 to range from 3.7°C to 4.8°C above pre-industrial levels.⁶ The IPCC observes that ‘[c]ontinued emissions of GHGs will cause further warming and changes in all components of the climate system. Limiting climate change will require substantial and sustained reductions of greenhouse gas emissions.’⁷

What are the consequences? The IPCC projects a rise in temperature of 4°C by the end of the century unless there are drastic changes in the way we consume and produce energy.⁸ Such a scenario will have devastating effects. These include ‘the inundation of coastal cities; increasing risks for food production potentially leading to higher malnutrition rates; many dry regions becoming dryer, wet regions wetter; unprecedented heat waves in many regions, especially in the tropics; substantially exacerbated water scarcity in many regions; increased frequency of high-intensity tropical cyclones; and irreversible loss of biodiversity.’⁹ We already experience many of these effects. Across the globe, 2013 and 2014 saw new weather patterns and climate-related natural disasters of unprecedented severity, including summers and winters of extraordinary duration and temperature, and storms, floods, droughts and Arctic cold spells all of record-breaking intensity. Add to this the many other cataclysmic weather events that have recently devastated communities worldwide: hurricanes Katrina and Sandy in the US, the extraordinary heat wave in Russia in 2010 and Typhoon Haiyan in the Philippines. Such catastrophes will likely continue and intensify, even in the short term.¹⁰

Yet, these are only the predictable consequences of anthropogenic climate change. Even more alarmingly, a 4°C warmer world confronts us with risks and dangers that are new and unknown, and for which we are entirely unprepared.¹¹ Large areas of the tropics would become essentially uninhabitable, for example.¹² Yet even were we to succeed in limiting the increase in global temperatures to the ambitious international goal of 2°C (a feat whose achievement is far from certain), the consequences would still be devastating for some – those living in low-lying cities, small island states and Arctic regions, for example.¹³ Should we fail to alter course soon, not only will prosperity be denied to hundreds of millions worldwide, decades of efforts at sustainable development in the developed world would be vitiated by unprecedented strains on resources.¹⁴

Climate models predict these effects of climate change will last centuries, if not millennia – a longevity due to the amount of time some GHGs, notably carbon dioxide (CO₂), remain in the atmosphere.¹⁵ As the IPCC noted: ‘[m]ost aspects of climate change will persist for many centuries *even if emissions of CO₂ are stopped*’ (emphasis added).¹⁶ Thus, even if humanity was somehow able to immediately cease all CO₂ emissions, past emissions will continue to *increase* the harm felt across the globe, and future generations would still have to face the already irreversible effects of climate change visible across the planet.

These findings not only unequivocally establish the scientific foundations for recognising that climate change has already begun to seriously harm human society, they also press upon us the *immediate* need for coordinated legal steps to tackle the problem, and underscore

the singular responsibility of the IBA, as the voice of the global legal profession, to focus its efforts upon this vital endeavour.

1.2 The impact of climate change on natural resources

The planet's ecosystem is complexly intertwined and the high-level impacts of climate change – whether in the form of air or water temperature, sea level or erosion patterns – have a cascading effect on other aspects of the environment. There can no longer be any serious question that human behaviour has caused, and continues to cause, changes to the planet's climate and ecosystem. The relevant questions now must be *what* those changes are, *who* they affect and *how* their impacts can be mitigated and avoided. This section will address the effects of anthropogenic, or man-made, climate change on the natural world.

Climate change results from an accumulation of certain gases in the atmosphere producing a 'greenhouse' effect, which allows heat from the sun to get in but not letting it out. There are numerous GHGs, but the principal one by far is carbon dioxide, which results in the main from industrial processes, especially fossil fuel combustion. Methane from agricultural processes is also a significant GHG. The majority of heat trapped in the atmosphere becomes locked in the oceans, which expand as they warm, causing sea levels to rise. Warmed air also holds greater amounts of water, leading ultimately to more rainfall in wet areas but less in drier lands. The change in surface ocean and land temperatures alters and polarises patterns of air pressure leading in turn to extreme weather events. Such changes are partially predictable, but only in general terms. Certain expected 'feedback loops' inject further unpredictability. For example, loss of snow and ice cover reduces the planet's capacity to reflect sunlight, more of which is absorbed, increasing the earth's warming; elsewhere, melting permafrost is expected to release vast quantities of the methane locked in the tundra, thus further accelerating climate change. Ironically, climate change also makes it easier to access buried oil reserves in some parts of the world such as the Arctic, providing us with the tools to do even greater damage. These trends give rise to a variety of localised effects.

The impact of climate change on waterways and precipitation patterns, for example, are diverse and complex: changing weather patterns create both droughts and flooding; both swelling tides and disappearing lakes. As water levels across the planet increase, habitats and agriculture will change as well. Coastal flooding leads to population displacement and reduced freshwater resources,¹⁷ and an increase in the sea level will lead to shoreline erosion and threaten the very existence of coastal communities and Pacific island nations.¹⁸

These changes will directly impact animal and plant life, as well as humanity dependent on those resources for their survival. Temperature changes, extreme weather events and long-lasting droughts or flooding directly threaten the sustainability of rain-dependent agriculture and reduce crop yields.¹⁹ As water levels rise and extreme weather becomes more frequent, threatening to wipe out whole communities and their infrastructures,²⁰ flooding will also salinate inland freshwater rivers and lakes, precluding their use as a source of

drinking water or irrigation, causing further damage to human health and agriculture.²¹

Communities that depend on the oceans for survival are also at increased risk due to climate change; islands and coastal communities will generally see changing fishing or agricultural patterns due to temperature and ocean stream changes,²² while polar regions will experience significant loss of sea ice and glacial calving.²³

Climate change impacts the land in different ways but touches every form of natural ecosystem, from deserts to rainforests to mountains. Grassland and savannah soil are being depleted of nutrients.²⁴ Deforestation caused by rising temperatures causes biodiversity loss and compromises human habitats.²⁵ Mediterranean ecosystems in Europe, as well as ecologically comparable ones – such as those in California and South Africa – will be among the most impacted ecosystems, with increasing desertification as well as increased frequency of fires.²⁶ Land that was once capable of sustaining human life will become inhospitable in many ways: disappearing beneath the rising oceans;²⁷ drying past the point of arability²⁸ and losing the plant and animal biodiversity that sustained life.²⁹ The combined force of these changes will even lead to what the IPCC has termed ‘ecosystem collapse’, which is the rapid transformation of a region from fertile and life-supporting to effectively barren. This transformation is nearly impossible to predict and devastating in its consequences.³⁰

As air quality declines, the consequences for crops, wildlife and human health can be severe and fatal. As the climate changes, these effects will worsen. Additionally, changes in air quality or composition may create cascading effects with other aspects of climate change, such as changing environmental conditions increasing vulnerability to extreme weather events. Such events impact agricultural crops and forestry – a resource that 1.2 billion people who live in extreme poverty heavily rely on – thus potentially affecting virtually every community around the world.³¹

These various ways in which climate change impact the sea, land and air all coalesce into broader impacts on the natural and human environment. Changing weather patterns and desertification will make it difficult to ensure sufficient agricultural output, with losses in the US alone already projected to reach US\$3bn per year.³² Rising temperatures and population displacement often lead to outbreaks of disease and mutations that can make those diseases harder to treat or effectively incurable.³³ Rising sea levels can wipe out habitable land and endanger infrastructure, as can extreme weather events.³⁴

1.3 The impact on individuals, communities and states

As the climate changes, the environmental impact already described will unquestionably jeopardise three fundamental human rights: (i) the right to life, (ii) the right to health, and (iii) the right to subsistence.³⁵ In addition, as cities and nations are threatened with loss of their territory due to rising sea levels or natural disasters, civil and political rights will be affected as well – the international community may soon be faced with the problem of people potentially being rendered stateless when their territory vanishes beneath the rising ocean.³⁶ Since 2005, when the Inuit people petitioned the Inter-American Commission on Human Rights (IACHR)

to recognise the damage to their human rights caused by climate change, and with the 2007 Malé Declaration on the Human Dimension of Global Climate Change,³⁷ the international community has seen a growing number of calls for recognition of the profound links between climate change and human rights, from resolutions of the UN's Human Rights Council³⁸ to the final text of the conferences of the parties of the UNFCCC.³⁹

1.3.1 The impact on individuals

Numerous individual human rights have been impacted by climate change. First and foremost is the right to life, recognised in the 1976 International Covenant on Civil and Political Rights.⁴⁰ Severe weather events, from hurricanes and typhoons to heat waves and flash floods, are already causing massive loss of life, from Venezuela to Chicago and the Philippines.⁴¹ By one estimate, 14,800 people died in France in three weeks due to a heat wave in 2003.⁴² An estimated 55,000 died due to a massive heat wave in Russia in 2010.⁴³ The death toll from 2013's Typhoon Haiyan in the Philippines was nearly 6,000.⁴⁴ Beyond these massive events, as food and water sources are contaminated or depleted, food security will decline in many parts of the world, leading to famine and malnutrition.⁴⁵

The right to the highest attainable standard of health – part of the discourse of international human rights law since 1946 – is equally implicated by the impact of climate change.⁴⁶ The damage to agriculture and the accompanying decline in food security are far from the only threat; climate change will result in increased exposure to countless illnesses, from cardiovascular disease to psychological harm created by destabilisation or displacement.⁴⁷ Numerous vector-borne diseases are temperature-sensitive, and changes or increases in migration patterns of both animals and people can accelerate the spread of disease and reintroduce previously eradicated illnesses into new parts of the world.⁴⁸ Additionally, where basic foodstuffs are traded as commodities on global markets, scarcities and shocks due to climate change will have knock-on effects in the form of price spikes, potentially making staples unaffordable for many in the developing world (as happened in the food crisis of 2008).⁴⁹

As climate change contributes to forced human migration and displacement,⁵⁰ the resulting crises will create threats not only to health but also to subsistence.⁵¹ In 2009, the International Organization for Migration, the United Nations High Commissioner for Refugees and the United Nations University noted: 'While there are no scientifically verified estimates of climate change-related displacement or of overall population flows triggered by the effects of climate change, it is evident that gradual and sudden environmental changes are already resulting in substantial human migration and displacement. This trend is expected to continue, with anywhere between 50 and 200 million people moving as a result by the middle of the century, either within their countries or across borders, on a permanent or temporary basis.'⁵² Internal displacement is already common,⁵³ as occurred in the US after Hurricane Katrina and in the Philippines after Typhoon Haiyan.⁵⁴ To make matters worse, displaced individuals often come from vulnerable social groups and their displacement creates additional hardships and threats to their basic human rights.⁵⁵

The UN Special Rapporteur on Internally Displaced Persons has noted that internal displacement creates serious human rights concerns, as it can undermine basic needs like housing, access to public services and security.⁵⁶ The Special Rapporteur has also noted that vulnerable groups like women, the elderly and the disabled are often ‘especially at risk’ of human rights violations during periods of internal displacement.⁵⁷ Because climate change may create a class of permanently displaced persons, the Special Rapporteur’s focus on creating ‘durable solutions’ – those that eliminate the need for specific assistance needs linked to displacement – will be more important than ever.⁵⁸

1.3.2 The impact on communities and cultures

In addition to the human rights to life, health and subsistence, community-based rights – like the right to free enjoyment of culture – and minority rights are at risk due to climate change.⁵⁹ These cultural rights are especially threatened where the population at issue has developed around a close relationship to the natural world,⁶⁰ as is the case with indigenous populations.⁶¹

Cultural rights, up to and including the cornerstone right to develop and preserve culture,⁶² are affected by the threat climate change poses to indigenous peoples’ survival and the survival of cultural traditions in the wake of climate-related migrations. As climate change forces cultures to adapt to a changing environment rather than respect their longstanding traditions or norms, important parts of groups’ historical and cultural background will be lost.⁶³

Minority rights will also be harmed by climate change and the process of equalising outcomes for women and minorities in developing countries will be set back considerably by the impact of climate change. Women, who are caretakers in many developing nations, have increased health risks,⁶⁴ and have higher mortality rates in the aftermath of natural disasters.⁶⁵ Children face stunted growth and health problems due to malnutrition or forced migrant status.⁶⁶

1.3.3 The impact on states

At both the state and international level, climate change will create new pressures and challenges that will affect every region of the world. In certain low-lying or island areas, disappearing land may mean that a nation’s entire territory will vanish.⁶⁷ This poses unprecedented questions about the nature of citizenship,⁶⁸ and raises thorny issues as to how the world will respond to future forced displacement and migration (discussed later in this report).⁶⁹

States will increasingly need to deal with internal migration, food shortages and disaster events caused or exacerbated by climate change. While the full scale of the challenge is becoming increasingly clear, many of these effects have been acknowledged for the last 30 years. The international community’s attempt to address the issue crystallised in the UNFCCC, to which we now turn.

1.4 The UN Framework Convention on Climate Change

In making its analysis and advancing its recommendations, much of this Report will focus on the equity and fairness implications of climate change-related regulation under international law.⁷⁰ A relatively small body of international law deals directly with climate change, in a regime primarily comprised of two treaties, the UNFCCC and its implementing mechanism, the Kyoto Protocol.⁷¹ In addition to these conventional sources, customary international law and general principles of law are likewise relevant to the governance of climate change-related actions and policies.⁷²

The UNFCCC, the main international treaty governing the human response to climate change, calls for the ‘stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system’.⁷³ The UNFCCC entered into force in 1994 and provides a framework and forum for negotiating international agreement on actions to address climate change. Today, the UNFCCC boasts universal membership, with 196 parties (including the EU). Through the UNFCCC process, the world’s states have signaled the importance and legitimacy of addressing human rights in the context of climate change: at the COP in Cancun in 2010, the States Parties emphasised that ‘Parties should, in all climate change related actions, fully respect human rights’.⁷⁴

In 1997, the international community negotiated the Kyoto Protocol to the UNFCCC. This international treaty sets binding obligations on most developed countries to reduce GHG emissions. The Protocol entered into force in 2005 with 191 parties plus the EU. The US was not one of these parties as it did not ratify the Protocol.

Under the Protocol, developed country parties agreed to emissions limitations and reductions in two commitment periods: the first applying to emissions between 2008 and 2012, and the second to emissions between 2013 and 2020. The Protocol was amended in 2012 to accommodate the second commitment period, but the amendment has not yet entered into force.

Every year, States Parties to both treaties meet with a view to progressing negotiations, though success has proved famously elusive. At the time of writing, states are aiming to achieve a global agreement on mitigation and adaptation at the UNFCCC negotiations in Paris in late 2015. Thus far, attempts to reach an agreement on a post-2020 emissions reduction plan have been unsuccessful.⁷⁵

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’.⁷⁶ This contrasts to the definition used by the IPCC, which encompasses any change in the state of the climate that can be identified (eg, statistically), and that persists for an extended period, typically decades or longer. Unlike the UNFCCC’s focus on human-induced climate change, the IPCC definition refers to any change in climate over time, whether due to natural variability or as a result of human activity.⁷⁷ Under both definitions, climate change includes

not only ‘global warming’ – that is, increase, on balance, of surface temperature – but also other observed effects resulting in increasing amounts of GHGs in the atmosphere, such as changes in precipitation patterns and sea level.⁷⁸

While the IPCC definition is conceptually broader, in practice, it closely tracks that of the UNFCCC. This is because anthropogenic contributions to climate change vastly outweigh those from natural sources, such as solar irradiance, which constitute only a tiny percentage of the total warming effects.⁷⁹ Furthermore, while natural climate variations and climatic cycles do occur, both the natural and human contributions to climate change ultimately affect us all.

1.5 The importance of climate change justice

The need for coordinated action – above and beyond the UNFCCC – to address the steadily growing threat of climate change lies both in the magnitude of the problem and in the disconnect between cause and consequence: those who contribute most to the Earth’s warming are often the ones most insulated from the full effects of their actions, geographically, temporally and economically.

Climate change injustice is felt across generations because the cumulative, environmental effects of human behaviour can last centuries, even millennia, into the future. The changing global temperatures we are witnessing today are in part due to consumption and production choices that others made many years ago. Future institutions and individuals will similarly have to grapple with the consequences of present-day choices. Action is needed today to *prevent* climate change from intensifying, to *mitigate* emissions from existing sources of climate change, and to *adapt* to its unavoidable effects.

The need for climate change justice is also apparent in the unequal geographic distribution of its environmental effects. Unlike more localised forms of pollution, the externalities of climate change are not confined to neighbouring countries and regions, but affect the entire world. International norms and law, including the ‘no-harm rule’,⁸⁰ already recognise that individual countries may not cause environmental harm in areas beyond the limits of their national jurisdiction. Climate change raises the same concern on a global scale.

Thus, the most equitable conception of climate change must recognise that while the developed nations have contributed the most to climate change over the past two centuries, it is the developing nations and their peoples who stand to suffer the most extreme consequences of rising sea levels, rising temperatures, and other human-induced environmental shifts.⁸¹ For example, from 1970 to 2008, over 95 per cent of deaths due to natural disasters took place in the developing world.⁸² Rich nations are ‘in a better position to store food against the possibility of drought, to move people away from flooded areas, to fight the spread of disease-carrying insects, and to build seawalls to keep out the rising seas.’⁸³ Poor countries do not have such advantages, and their populations are vulnerable due to lack of resources, poverty, marginalisation and exclusion, as well as their place in the direct line of fire of climate change’s most pernicious effects. It is therefore imperative that a justice-centred approach be adopted in our efforts to combat climate change.

Climate justice as a concept allows us to view climate change and efforts to combat it as having ethical implications, and to consider how these issues relate to wider justice concerns. In the words of one international organisation promoting diplomatic efforts to further climate justice, the Mary Robinson Foundation, it 'links human rights and development to achieve a human-centered approach, safeguarding the rights of the most vulnerable and sharing the burdens and benefits of climate change and its resolution equitably and fairly.'⁸⁴ The Foundation has adopted a set of core 'Principles of Climate Justice', including respect for human rights, supporting the right to development, sharing benefits and burdens equitably, ensuring the transparency of climate change decisions and harnessing education to encourage climate stewardship. These principles inform the Foundation's mission in the 'advancing of climate justice'.⁸⁵ Climate justice examines the climate change's disproportionate impact on the poorest and least responsible. It also looks at how to equitably share the benefits of the transition to a post-carbon world.⁸⁶

As such, a justice-centred approach to climate change seeks to introduce ethics into policy-making and foster a more human-rights and equity-conscious perspective in climate change responses. A climate-justice agenda embraces a conscious recognition of the development imbalances brought into relief by climate change. It further recognises the fact that the distribution of climate change effects is inherently unjust, with the most devastating costs exacted upon the poorer developing nations on the global economic periphery, rather than on the industrialised creators of the problem.

Recognising this, climate justice seeks to combine the climate change discussion with human rights in a way that is equitable for the most climate-vulnerable groups.⁸⁷ Practically speaking, this means not just thinking of the political and moral issues inherent in tackling climate change as questions of distributive justice, but rather as a matter of avoiding (i) worsening climate change by continuing to emit enormous quantities of GHGs and (ii) hindering development for poorer nations in the methods we find to reduce those emissions.⁸⁸

In the past few decades, these *justice* and *equity* concerns have found expression in international agreements addressing the threat of anthropogenic climate change. Acknowledging the risk to future generations, the 1992 Rio Earth Summit embraced the precautionary principle, which states that where threats of serious or irreversible damage exist, lack of full scientific certainty should not be a reason to postpone taking responsive measures. With respect to equity obligations, the UNFCCC also endorsed a principle of CBDR, whereby the obligations in Article 4(1) of the Convention are common to all parties, albeit subject to 'specific national and regional development priorities, objectives and circumstances', while the more onerous commitments in Article 4(2) apply only to developed states and the 'economies in transition' of Eastern Europe.⁸⁹ Finally, the 'no-harm rule' also features prominently in the UNFCCC. It notes that 'States have, in accordance with the Charter of the United Nations and the principles of international law... the responsibility to ensure that activities within their jurisdiction and control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction.'⁹⁰

However, these justice principles, while incorporated into the international system nominally, are not dominant as guiding philosophies in climate change policy-making, nor have they been particularly effective. The international system has been criticised for failing to deal more directly with human rights concerns raised by climate change, if at all.⁹¹

In its *Draft Articles on Climate Change* released in April 2014, the ILA has recognised some of these issues within the framework of the UNFCCC negotiations.⁹² The Draft Articles are intended to reflect the fundamental principles that should guide states in the development and operation of an effective regime on climate change. In particular, Draft Article 4, ‘Equity’, establishes that ‘States shall protect the climate system in a manner that equitably balances the needs of present and future generations of mankind’, recognising both present and future generations.

Intergenerational equity is an important element of climate change justice. As the UN Secretary-General pointed out in his Report on Intergenerational Solidarity and the Needs of Future Generations, ‘[f]uture generations are politically powerless, with the representation of their interests limited to the vicarious concern of present generations.’⁹³ As such, climate justice by necessity incorporates intergenerational equity as a consideration in mitigating the effects of climate change on not just the living but on generations yet unborn.

Gender equity is also an essential element of climate change justice. Women will disproportionately bear the burdens created by climate change. As climate change accelerates migration and displacement, women in particular are subject to abuse and deprivation.⁹⁴ Climate change ‘leads to poverty, loss of land, loss of custom and culture and loss of identity which more often than not targets the most vulnerable groups, ie., women and children.’⁹⁵ This could be combated by building on recent progress in the UNFCCC to improve gender balance and place gender on the COP agenda. The next step would be the inclusion of a gender-sensitive policy in the 2015 climate agreement.

Taking into consideration the number and complexity of concerns existing in respect of climate change justice or climate justice, the IBA Task Force has adopted the following objective for this Report, formulated in the context of human rights:

‘To ensure communities, individuals and governments have substantive legal and procedural rights to the enjoyment of a safe, clean, healthy and sustainable environment and the means to take or cause measures to be taken within their national legislative and judicial systems and, where necessary, at regional and international levels, to mitigate sources of climate change and provide for adaptation to its effects in a manner that respects human rights.’

This Report will assess the challenges to the current national and international legal regimes on climate change, particularly in respect of their justice implications and deficiencies, and make recommendations accordingly. In doing so, the Report reminds its audience that failure to address the challenges posed by climate change will have devastating consequences for hundreds of millions around the globe, in both the industrialised and developing worlds, and that, in the drive to confront this potentially existential threat to our civilisation, not a moment should be lost.

1.6 Justice implications of mitigation and adaptation measures

Strategies to address climate change take two forms: first is *mitigation*, by which is meant measures to limit GHGs either by reducing their sources or by enhancing the planet's capacity to absorb them (in, for example, forests or oceans, also known as 'sinks'); second is *adaptation*, which is the adjustment of natural or human systems to a new or changing environment, to moderate harm or exploit beneficial opportunities. The interdependence between mitigation and adaptation efforts has been recognised most recently in the ILA *Draft Articles on Climate Change*,⁹⁶ Article 4.3, which establishes that 'States shall protect the climate system as a matter of urgency, keeping in mind that to the extent they delay taking adequately ambitious mitigation action to meet the multilaterally agreed global goal, the locus of action will shift, of necessity, to adaptation and the burden of responsibility to the most vulnerable and least responsible states.'

As aforementioned, climate change undermines human rights thus creating injustice. But responses to climate change can also risk further injustice if not informed by human rights. As such, although mitigation and adaptation measures are needed to achieve climate change justice, the measures themselves can create additional justice concerns. The IPCC has noted that:

'[m]itigation and adaptation can positively or negatively influence the achievement of other societal goals, such as those related to human health, food security, biodiversity, local environmental quality, energy access, livelihoods, and equitable sustainable development; and vice versa, policies toward other societal goals can influence the achievement of mitigation and adaptation objectives.'⁹⁷

Resources devoted to either mitigation or adaptation should be allocated with an understanding of, and appreciation for, the ways in which they impact human rights. As resources are allocated between mitigation and adaptation, significant issues will arise about the appropriate balance among these two different strategies for addressing the harms of climate change. Properly balancing resources devoted to mitigation and those devoted to adaptation may be 'itself a justice issue.'⁹⁸ Examined separately, mitigation and adaptation policies also pose a myriad potential justice questions.⁹⁹

1.6.1 Justice implications of mitigation

The central goal of mitigation is to decrease, or enhance sinks of, GHG emissions and thus reduce the extent of further climate change. Mitigation policies can therefore be in tension with the developmental necessities, particularly for poor countries whose GHG emission contributions remain, in many cases, negligible. A blunt global approach that capped emissions universally would perpetuate global wealth disparities, hamper emission-intensive development strategies, ultimately restricting development and endangering access to food.¹⁰⁰ It would also be fundamentally unfair because emission levels vary so dramatically across the world: the emissions of the whole of sub-Saharan Africa, for example, are equivalent to those of New York City's five boroughs.

One major mechanism targeted at climate change mitigation that has already presented difficulties in balancing climate protection and justice concerns is the UN REDD+ (which recognises that forests play an important role in climate change mitigation and provides incentives for developing countries to conserve and sustainably manage their forests and enhancement of forest carbon stocks, discussed in Chapter 3). Considering that many communities live in and are dependent on forests for their lives and livelihoods, there is great concern around REDD+'s potential negative impacts. Many have advocated for the need to respect the rights of indigenous peoples and local communities, and pressed for better assurance that indigenous peoples are given a voice in the distribution of resources.¹⁰¹ There has been widespread concern that human rights would be violated as the REDD mechanism came into force.¹⁰² With enormous amounts of attention and resources already devoted towards REDD and REDD+ programmes globally,¹⁰³ various justice concerns have arisen regarding the conception and implementation of those programmes, particularly in regards the effects on indigenous and other communities traditionally reliant on forests for their livelihoods.¹⁰⁴ In some cases, the concerns have been so significant that indigenous groups have openly condemned REDD programmes.¹⁰⁵ REDD and REDD+ demonstrate the complex interactions between international policy-making, national governance and individual- or community-based human rights,¹⁰⁶ concerns that have also been raised in the context of other UN mechanisms such as the CDM.¹⁰⁷

The CDM was established to encourage funding for carbon reduction projects in developing countries.¹⁰⁸ Through the CDM, a project that reduces or removes emissions is carried out in a non-Annex I Party by an actor from an Annex I Party (Annex I Parties are those with quantified emissions limitation and reduction commitments under Article 3 of the UNFCCC).¹⁰⁹ The CDM accounts for more than 7,300 projects to date, and in 2012 it was estimated to have generated circa US\$215bn for developing countries.¹¹⁰

However, there has been widespread criticism of the CDM, in particular that it cannot deliver on its sustainable development mandate and that the CDM has failed to effectively safeguard human rights.¹¹¹ The CDM has been criticised for not having any safeguards to prevent the registration of projects that are linked to human rights abuses, such as displacement of communities.¹¹² For example, the Aguan Biogas project in Honduras (funded in part through the CDM) is cited as having resulted in human rights violations against farmers in the region,¹¹³ but stakeholders have been unable to stop the project because the CDM does not contain any requirements that its funds not be used in projects that cause human rights violations.¹¹⁴ Although the UNFCCC has recognised that 'parties to the [UNFCCC] should, in all climate change-related actions, fully respect human rights',¹¹⁵ there are as yet no practical mechanisms to ensure accountability.

Another climate mitigation area raising justice concerns is emissions trading. Emissions trading was established under the Kyoto Protocol and has long been viewed as a key element of a global climate agreement, by allowing entities to trade emissions allocations within domestic and/or international markets under an overarching cap of GHG emissions. Today, there is no global carbon market but rather dispersed emissions trading systems at

national and regional levels. For example, the European Union Emissions Trading Scheme (EU ETS)¹¹⁶ was established in 2005 with other schemes in Canada, California,¹¹⁸ China, Japan,¹¹⁷ Kazakhstan, New Zealand, Quebec, Switzerland,¹¹⁹ Tokyo and the US. In addition, there are regional initiatives including the US Regional Greenhouse Gas Initiative (RGGI).¹²⁰ A number of other emissions trading schemes are under development.¹²¹ Although emissions trading has been promoted for its flexibility, predictability, its incentives for innovation and, ultimately, for ‘putting a price on carbon’ so as to drive down demand for carbon,¹²² emissions trading schemes in fact present significant justice issues, particularly regarding the fairness, transparency and legitimacy of schemes.¹²³ For example, critics argue that the schemes allow industrialised countries and companies to continue polluting and to avoid their emissions reduction targets.¹²⁴ Further, they argue that many carbon offset projects create fundamental injustices, including displacing indigenous peoples and repressing local communities.¹²⁵ If emissions trading systems continue to be promoted at a policy level, it will be important to resolve these justice concerns in the design of the trading system without impairing their mitigation effectiveness.¹²⁶

Although there are human rights concerns around the design and implementation of some climate mitigation schemes, there are opportunities for improving mitigation approaches by better integrating rights. One evolving positive development in this area is the potential for *linking* carbon markets. The Harvard Project on Climate Agreements has stated that a bottom-up system of linking carbon markets, as compared to a top-down negotiated international agreement, is a promising and feasible short-term solution to reduce GHGs.¹²⁷ For example, the Western Climate Initiative enabled the California Cap-and-Trade Programme to link with the Québec Cap-and-Trade Programme on 1 January 2014.¹²⁸ In Europe, the EU’s 2004 ‘Linking Directive’ created an indirect linking of different emissions trading schemes by providing for mutual recognition of credits from different emissions reduction projects (for example, the CDM and Joint Implementation programmes, later discussed in this report).¹²⁹ One prominent example for planned linkages between existing emissions trading schemes is the proposed linking of the EU ETS with the Swiss scheme, which is planned for 2016. Such initiatives have been positively endorsed in terms of progress on addressing climate change, but must be implemented with mindfulness of the above justice concerns.

Also at the global level, the International Energy Agency and others have identified the concept of a cumulative world ‘carbon budget’, which would require limits on exploitation or use of fossil fuels in order to keep global warming at safe levels. To meet such a carbon budget, corporations or states would need to limit fossil fuel extraction, potentially raising the price of fossil fuels. Achieving a carbon budget limit without appropriate alternative mechanisms to provide energy to those who have no or only very limited energy access will need to be done with appropriate foresight. Otherwise, it has been pointed out, implementation of a carbon budget ‘will make it more difficult for the global poor to escape the “energy poverty” that is a critical obstacle to their development’.¹³⁰

1.6.2 *Justice implications of adaptation*

As the IPCC has noted, adaptation measures range from ‘purely technological (eg, sea defense), through behavioural (eg, altered food and recreational choices) to managerial (eg, altered farm practices), to policy (eg, planned regulations).’¹³¹ Although mitigation has historically received more attention than adaptation on the international stage, adaptation challenges can be equally as complicated, serious and costly for developing countries with already limited technological and financial resources.

Although there is no ‘monocausal relationship’ between climate change and displacement, there is a well-understood connection between climate change effects and displacement.¹³² Entire nations, such as the Maldives and Tuvalu, are likely to be lost to a rise in sea level, rendering their inhabitants stateless. Adaptation measures will be needed to determine where and how displaced persons can be relocated. Likewise, human security, food security and the realisation of the right to food will be adversely affected by climate change, and lead to other complicated adaptation issues that need global solutions. Climate change will have a severe impact on the ability of certain regions and communities to feed themselves, and thus on the availability of food.¹³³ As stated by the IPCC in 2007, ‘[a]ll four dimensions of food security, namely food availability (ie, production and trade), stability of food supplies, access to food, and food utilisation will likely be affected by climate change.’¹³⁴ The IPCC restated such concerns in its most recent report.¹³⁵

In its 2010 study report, the World Bank estimated that the cost of adapting to a 2°C increase in the world temperature from 2010 to 2050 would be US\$70bn to US\$100bn per year.¹³⁶ This figure was roughly 0.17 per cent of developed countries’ GDP, and similar to what developed countries already spent in foreign aid.¹³⁷

Although there is a well-established consensus that adaptation measures need to be utilised, it is unclear who will pay for them¹³⁸ and how governments will trade-off adaptation goals with other societal needs. And while many LDCs have now drafted NAPAs under the UNFCCC – identifying activities to address their most urgent adaptation needs – the needed funding from other nations has not, for the most part, appeared. The UNFCCC requires wealthier nations to provide ‘new and additional funding’¹³⁹ to poorer countries to allow them to manage climate change, but the provision has not had a meaningful practical impact. Nonetheless, there is a growing recognition that climate change adaptation needs to be part of national development and budgeting processes. As scholars have explained, ‘[t]he integration of adaptation into mainstream development policies, plans and programs can improve policy coherence, enhance the efficiency and effectiveness of resources, minimize duplication and contradictory policies, deal with trade-offs and reduce the sensitivity of development activities to current and future climate change.’¹⁴⁰

1.7 Moving from understanding to action

Understanding the science behind, and the human rights implications of, climate change herein detailed allows for a full appreciation of the impact of climate change mitigation and adaptation policies.¹⁴¹ It informs policy-making by illustrating the true harms of climate change: harms felt in populations of every size across every continent.¹⁴² All over the world, people are already feeling the impact of climate change. As the environment changes, it forces those who are dependent upon it to change as well and, where change is not possible, there have been and will be pressures in turn at every level of human society: from small indigenous communities to entire states.

International law has already developed a comprehensive vocabulary to explain the meaning and importance of various harms to human life, health, safety and dignity.¹⁴³ Chapter 2 will discuss the various legal regimes that have been adapted to, or created to address, climate change issues, and how they interact with these complex but undeniable questions of human rights.

In addition to bringing greater attention to the sheer urgency of the need to address climate change, the recommendations contained in this Report are intended to supplement and advance the next major step in the UNFCCC process, set to take place in 2015, when it is hoped that a legally binding treaty framework may be concluded. With an eye towards this goal, the Report can and should serve as a powerful reference for lawyers and state-level policymakers at all levels, as they work towards forging a universal climate agreement.

Notes

- 1 Since 1990, the IPCC has produced five assessment reports, as well as a number of special reports on more focused topics. The most recent *Fifth Assessment Report* contains three working group reports: Working Group I, *Climate Change 2013: The Physical Science Basis*; Working Group II, *Climate Change 2014: Impacts, Adaptation and Vulnerability* (13 April 2014); and Working Group III, *Climate Change 2014: Mitigation of Climate Change* (13 April 2014). A synthesis report of the *Fifth Assessment Report* is due out in autumn 2014.
- 2 IPCC, *Climate Change 2014: Mitigation of Climate Change, Fact Sheet* (13 April 2014), at <http://mitigation2014.org/background>.
- 3 IPCC, *Climate Change 2013: The Physical Science Basis, Summary for Policymakers* (Cambridge University Press 2013) 2.
- 4 *Ibid.*
- 5 *Ibid.*, 15.
- 6 IPCC, *Climate Change 2014: Mitigation of Climate Change, Summary for Policymakers* (13 April 2014) 8: <http://mitigation2014.org>.
- 7 *Ibid.*, 17.
- 8 *Ibid.*, 8 ('Baseline scenarios, those without additional mitigation, result in global mean surface temperature increases in 2100 from 3.7°C to 4.8°C compared to pre-industrial levels.'). Potsdam Institute for Climate Impact Research, *Turn Down the Heat: Why a 4°C Warmer World Must Be Avoided, World Bank Report* (November 2012) ix.
- 9 *Ibid.*; IPCC, *Climate Change 2014: Impacts, Adaptation and Vulnerability, Summary for Policymakers* (2014) 12.
- 10 See, for example, Melillo et al (eds), *US Global Change Research Program, Highlights of Climate Change Impacts in the United States: The Third National Climate Assessment* (2014) 2–14, <http://nca2014.globalchange.gov>.
- 11 See n 9, IPCC (2014).
- 12 See n 8, Potsdam (2012), 34.
- 13 J Hansen, P Kharecha, et al, 'Assessing "Dangerous Climate Change": Required Reduction of Carbon Emissions to Protect Young People, Future Generations and Nature' (2013) 8(12) Plos One, www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0081648.
- 14 *Ibid.*
- 15 Henry Shue, 'Climate Hope: Implementing the Exit Strategy' (2013) 13 Chi J Int'l L 381, 388, n18.
- 16 See n 2, IPCC (2013) 2.
- 17 The Center For Int'l Environmental Law, *Climate Change & Human Rights: A Primer* (23 May 2011) 2, at www.ciel.org/Publications/CC_HRE_23May11.pdf ('Rising sea-levels and storms cause flooding, population displacement, salinization of fresh-water resources, and the diminishment of habitable or cultivable land.').
- 18 Theodor Rathgeber, *Climate Change Violates Human Rights* (Heinrich Böll Foundation, 2009) 11 ('When entire Pacific island nations are threatened by rising oceans, questions of citizenship and the guarantee of civil freedoms also arise.'). Rosemary Rayfuse and Emily Crawford, 'Climate Change, Sovereignty and Statehood' (September 2011) Sydney Law School, Legal Studies Research Paper No 11/59, 1.
- 19 IPCC, *Climate Change 2014: Impacts, Adaptation and Vulnerability* (13 April 2014) at s 7.4.1 ('The data indicate that negative impacts on average yields become likely from the 2030s. Negative impacts of more than 5% are more likely than not beyond 2050 and likely by the end of the century. From the 2080s onwards, negative yield impacts in the tropics are very likely, regardless of adaptation or emission scenario.'). See also David Leary and Balakrishna Pisupati (eds), *Introduction to the Future of International Environmental Law* (United Nations University Press, 2010) 1 at 2.
- 20 See n 17, Center For Int'l Environmental Law (2011) 2 ('The increasing number and intensity of weather events endanger life, health, and housing.').
- 21 See n 19, IPCC (2014) at s 11.5.2 ('Climate may act directly by influencing growth, survival, persistence, transmission or virulence of pathogens; indirect influences include climate-related perturbations in local ecosystems or the habitat of species that act as zoonotic reservoirs.').
- 22 *Ibid.*, at ss 29.6.1, 29.6.2.
- 23 *Ibid.*, at s 18.3.1.
- 24 *Ibid.*, at s 4.3.3.2.

- 25 See n 19, Leary and Pisupati (2010) at 2.
- 26 See n 19, IPCC (2014) at s 23.2.1 ('Soil degradation is already intense in parts of the Mediterranean and central-eastern Europe and, together with prolonged drought periods and fires, is already contributing to an increased risk of desertification').
- 27 See n 18, Rathgeber (2009) and accompanying text.
- 28 See n 19, Leary and Pisupati (2010) at 2 ('Changing precipitation patterns and the melting of glaciers can affect access to water, which in turn affects the ability to irrigate lands and secure access to food.').
- 29 See n 19, IPCC (2014) at s 19.2.2.1 ('[C]ommunities or social-ecological systems (eg, coastal communities dependent on fishing or mountain communities dependent on specific soil conditions) may reach a tipping point (or critical threshold) that would cause a partial or full collapse of the system, including displacement...').
- 30 *Ibid*; see also IPCC, *Fourth Assessment Report – Working Group II, Climate Change 2007: Impacts, Adaptation and Vulnerability* (2007) at s 17.4.2.2 (discussing ecosystem collapse).
- 31 See n 19, IPCC (2014) at s 23.4.4 ('Observed and future responses of forests to climate change include changes in growth rates, phenology, composition of animal and plant communities, increased fire and storm damage, and increased insect and pathogen damage.').
- 32 *Ibid*, s 26.5.1 ('Since 1999 a marked increase in crop losses attributed to climate-related events such as drought, extreme heat and storms has been observed across North America, with significant negative economic effects.').; s 26.8.3 ('Sohngen and Sedjo (2005) estimate losses from climate change in the Canadian/US timber sector of \$1.4–\$2.1 billion per year over the next century.').; s 26.3.2.3 ('[Others] estimate that annual riverine flood losses in the USA could increase from approximately \$2 billion now to \$7–\$19 billion annually by 2100 depending upon emission scenario and economic growth rate.').
- 33 *Ibidi*, at s 19.3.2.3.
- 34 See n 17, Center For Int'l Environmental Law (2011) 2.
- 35 Simon Caney, 'Climate Change, Human Rights and Moral Thresholds', in Stephen Humphreys (ed), *Human Rights and Climate Change* (Cambridge University Press, 2010) 69, 75.
- 36 See n 18, Rathgeber (2009) 11.
- 37 See n 17, Center For Int'l Environmental Law (2011) 3–4.
- 38 UN Human Rights Council Resolution 7/23, 7th Session, 14 July 2008, UN Doc A/HRC/7/78; UN Human Rights Council, Resolution 10/4, 10th Session, 12 May 2009, UN Doc A/HRC/10/L.11.
- 39 UNFCCC, *Report of the Conference of the Parties*, 15 March 2011, UN Doc FCCC/CP/2010/7/Add.1, at Preamble ('Noting resolution 10/4 of the United Nations Human Rights Council on human rights and climate change, which recognizes that the adverse effects of climate change have a range of direct and indirect implications for the effective enjoyment of human rights...').
- 40 See Int'l Covenant on Civil and Political Rights, Art 6.1 (23 March 1976) ('Every human being has the inherent right to life... No one shall be "arbitrarily deprived of his life".').
- 41 See n 35, Caney (2010) 77.
- 42 A Haines, et al, 'Climate Change and Human Health: Impacts, Vulnerability, and Public Health' (2006) 120 *Public Health* 588.
- 43 Wynne Parry, 'Recent Heat Waves Likely Warmest Since 1500 in Europe', (17 March 2011) *Livescience*, at www.livescience.com/13296-european-russia-heat-waves-climate-change.html; see also University of Oxford, *Russian heat wave 'had both manmade and natural causes'* (21 February 2012), at www.ox.ac.uk/media/news_stories/2012/120221.html.
- 44 Per Lijas, 'Supertyphoon Haiyan: Death Toll Reaches 5,719' (4 December 2013), <http://world.time.com/2013/12/04/supertyphoon-haiyan-death-toll-reaches-5719/> (noting that the death toll does not account for 1,779 people still missing).
- 45 See n 19, IPCC (2014) at ss 7.3.3, s 7.3.3.1 ('All of [the components of food security] will be affected by climate change to some extent. For example, climate change effects on water, sanitation and energy availability have major implications for food access and utilization as well as availability. Likewise, changes in the frequency and severity of climate extremes can affect stability of food availability and prices, with consequent impacts on access to food.').

- 46 Paul Hunt and Rajat Khosla, 'Climate Change and the Right to the Highest Attainable Standard of Health', in Stephen Humphreys (ed), *Human Rights and Climate Change* (Cambridge University Press, 2010) 238–239.
- 47 See n 8, Potsdam (2012), 54–55 (describing threats to human health from climate change including both heat- and cold-related mortality, malnourishment, cardiovascular diseases, psychological disorders and pathogen spreading).
- 48 Edward Cameron, 'Development, Climate Change and Human Rights; From the Margins to the Mainstream?' (17 March 2011) World Bank Paper No 123, 9–10; see also n 35, Caney (2010) 79–80.
- 49 Olivier De Schutter, *Mandate of the Special Rapporteur on the Right to Food: Observations on the Current Food Price Situation* (21 January 2011) 1 ('A focus on export-led agriculture has also made many developing countries vulnerable to price shocks on international markets and to currency exchange volatility. In order to address this situation, developing countries must be allowed and encouraged to strengthen their agricultural production to ensure a higher degree of food self-sufficiency.').
- 50 See generally UN High Commissioner for Refugees (UNHCR), *Climate Change, Natural Disasters, and Human Displacement* (14 August 2009) 3–6, at www.unhcr.org/4901e81a4.html.
- 51 See n 35, Caney (2010) 81–83.
- 52 Submission by the IOM, UNHCF and UNU, in cooperation with NRC and the RSG on the Human Rights of IDPs, *Climate Change, Migration and Displacement: Impacts, Vulnerability and Adaptation Options* (6 February 2009).
- 53 UNHCR, *Forced Displacement in the Context of Climate Change: Challenges for States Under International Law* (20 May 2009) 4, www.unhcr.org/4a1e4d8c2.html.
- 54 See John C Mutter and Kye Mesa Barnard, 'Climate Change, Evolution of Disasters and Inequality', in Stephen Humphreys (ed), *Human Rights and Climate Change* (Cambridge University Press, 2010) 277–284; Office of the UN High Commissioner for Refugees, *Typhoon Haiyan: Indigenous People Seek to Break Cycle of Displacement* (4 February 2014), www.unhcr.org/52f0c8e36.html.
- 55 See n 53, UNHCR (2009) 7–8.
- 56 UN Special Rapporteur for Internally Displaced Persons, 'Protection of and assistance to internally displaced persons' (31 July 2013) UN Doc A/68/225 15–16.
- 57 UN Special Rapporteur for Internally Displaced Persons, 'Report of the Special Rapporteur on the human rights of internally displaced persons' (18 March 2013) UN Doc A/HRC/23/44 7–8.
- 58 UN Special Rapporteur for Internally Displaced Persons, 'Framework on Durable Solutions for Internally Displaced Persons' (9 February 2010) UN Doc A/HRC/13/21/Add. 4 para 6.
- 59 Oxfam Int'l, *Climate Wrongs and Human Rights, Briefing Paper No 117* (September 2008) 7 ('Minority and indigenous peoples are among the worst affected by the impacts of the changing climate, but are often the last to be assisted during disasters.').
- 60 See n 19, IPCC (2014) at s 16.3.1.1 (H Gitay and J Thurlow (eds), 2014) ('Opportunities for adaptation range from increasing awareness of climate change, its consequences, and the potential costs and benefits of adaptation options to the implementation of specific policies that create conditions that are conducive to adaptation implementation. For example, rice is a key food crop, particularly in Asia in which 90% of rice is produced and subsequently consumed. Multiple studies have identified rice as being particularly vulnerable to the effects of climate change including both temperature and water availability impacts. Therefore, planning and implementation of adaptive responses will be an important component of managing the risk of climate change to rice production.') (internal citations omitted).
- 61 See n 59, Oxfam Int'l (2008) 3, 7.
- 62 UNESCO, *Declaration of Principles of International Cultural Co-operation*, Art 1 and Art 2 (4 November 1966).
- 63 See n 59, Oxfam Int'l (2008) 3, 7; see also Vienna Declaration and Programme of Action, World Conference on Human Rights, Vienna, 14–25 June 1993, UN Doc A/CONF.157/24 (Part I) 20.
- 64 See n 59, Oxfam Int'l (2008), 7.
- 65 See n 18, Rathgeber (2009), 11.
- 66 See n 59, Oxfam Int'l (2008), 7–8.

- 67 See n 48, Cameron (2011), 10 (discussing Maldives' President Maumoon Abdul Gayoom's speeches that 'described how... failure to act to stave off the threat of climate change would result in short-term decline and long-term disappearance for many small island nations').
- 68 See n 18, Rathgeber (2009), 11.
- 69 See n 50, UNHCR (2009), 4.
- 70 See Statute of the International Court of Justice, Art 38(1)(a), (b), and (c), 26 June 1945, 59 Stat 1055, 33 UNTS 993.
- 71 UNFCCC, 29 May 1992, A/AC.237/18 (Part II)/Add 1, *reprinted in* (1992) 31 ILM 849; the Kyoto Protocol to the UNFCCC, 10 December 1997, FCCC/CP/1997/L.7/add 1, *reprinted in* (1998) 37 ILM 22 (the 'Kyoto Protocol').
- 72 Scholars have sought to include a broad array of legal regimes, including environmental, human rights, and trade regimes, among others, in the understanding of what constitutes climate change law, which are discussed in detail in Chapter 3.
- 73 See n 71, UNFCCC (1992), Art 2.
- 74 UNFCCC, *Report of the Conference of the Parties*, 15 March 2011, UN Doc FCCC/CP/2010/7/Add 1, para 8.
- 75 William R Moomaw, 'Can the International Treaty System Address Climate Change?' The Fletcher Forum of World Affairs (Winter 2013) 105 111–112.
- 76 See n 71, UNFCCC (1992), Art 1.
- 77 See S Planton (ed), IPCC, *Climate Change 2013: The Physical Science Basis, Annex III: Glossary* (Cambridge University Press, 2013) 1450.
- 78 Erik Conway, *What's in a Name? Global Warming vs. Climate Change* (5 December 2008) NASA, www.nasa.gov/topics/earth/features/climate_by_any_other_name.html ('Global warming refers to surface temperature increases, while climate change includes global warming and everything else that increasing greenhouse gas amounts will affect.').
- 79 See n 3, IPCC (2013) 14.
- 80 Declaration of the United Nations Conference on the Human Environment (16 June 1972) (the Stockholm Declaration').
- 81 See, for example, IPCC, *Climate Change 1995: Economic and Social Dimensions of Climate Change* (J Bruce, H Lee and E Haites, eds, 1995) 94 ('The industrialized countries together account for 84% of the total [amount of emissions].'); Stephen Gardiner, 'Ethics and Global Climate Change' in S Gardiner and S Caney, et al, (eds) *Climate Ethics: Essential Readings* (Oxford University Press, 2010) 3.
- 82 See n 9, IPCC (2014) *Summary for Policymakers*, 7.
- 83 Peter Singer, 'One Atmosphere' in S Gardiner and S Caney, et al, (eds), *Climate Ethics: Essential Readings* (Oxford University Press, 2010) 181–183.
- 84 Mary Robinson Foundation: Climate Justice, *Principles of Climate Justice* (10 June 2014), www.mrfcj.org/about/principles.html.
- 85 *Ibid.*
- 86 *Ibid.*
- 87 International Council on Human Rights Policy, *Climate Change and Human Rights: A Rough Guide* (ICHRP 2008) 16.
- 88 See n 15, Shue (2013), 383.
- 89 See n 71, UNFCCC (1992), Art 3(2) and (3) and 4.
- 90 *Ibid.*, Preamble.
- 91 See, for example, Sam Adelman, 'Rethinking Human Rights: The Impact of Climate Change on the Dominant Discourse', in Stephen Humphreys (ed), *Human Rights and Climate Change* (Cambridge University Press, 2010) 159.
- 92 ILA, *Legal Principles Relating to Climate Change: Draft Articles* (ILA, April 2014).
- 93 UN Secretary-General, Report on Intergenerational Solidarity and the Needs of Future Generations para 3, 68th Session, 5 August 2013, UN Doc A/68/x.
- 94 UN Special Rapporteur for Internally Displaced Persons, 'Report of the Special Rapporteur on the human rights of internally displaced persons' (18 March 2013) UN Doc A/HRC/23/44 7–8.

- 95 UNGA Nat'l Report Submitted in Accordance with Paragraph 15 (a) of the Annex to Human Rights Council Resolution 5/1, Marshall Islands, para 52 (9 November 2010) UN Doc A/HRC/WG.6/9/MHL/1/Rev 1.
- 96 See n 92, ILA (2014).
- 97 See n 6, IPCC (2014) *Summary for Policymakers*, 5.
- 98 Remarks of the Hon Justice Brian J Preston, 'Climate Change Justice and Human Rights – Concepts for Legal and Institutional Reforms' (9 October 2013) SC, IBA, at www.ibanet.org/Conferences/boston_climatechange.aspx.
- 99 See, for example, n 87, ICHRP (2008).
- 100 For example, the production of agrofuels decreases the land available for food crops and contributes to increases in the price of staple food; the cleaning of coal requires water that could otherwise be used for irrigation; and the construction of dams for hydro-electricity shortens the land available for agriculture. See Columbia Law School – Human Rights Institute, *Climate Change And The Right To Food: A Comprehensive Study* (Heinrich Böll Foundation, 2009) 33, 72. See also n 87, ICHRP (2008), 55.
- 101 See n 87, ICHRP (2008), 32.
- 102 See n 48, Cameron (2011), 13 ('The appeal of increased revenues for forest conservation and using forests as carbon sinks increase the likelihood that local elites will ignore or deny the land and resource rights of indigenous, traditional and[/or] poor forest users in order to position themselves to claim compensation for forest stewardship. Indigenous Peoples are concerned that REDD will lead to expropriation of their lands, leading to displacement and migration.' Internal citations omitted).
- 103 Chukwumerije Okereke and Kate Dooley, 'Principles of Justice in Proposals and Policy Approaches to Avoided Deforestation: Towards a post-Kyoto Climate Agreement' (2010) 20 *Global Environmental Change* 82, 95.
- 104 See n 17, Center For Int'l Environmental Law (2011), 10.
- 105 Stephanie Long, Ellen Roberts and Julia Dehm, 'Climate Justice Inside and Outside the UNFCCC: The Example of REDD' (December 2010) 66 *Journal of Australian Political Economy*, 229.
- 106 See n 17, Center For Int'l Environmental Law (2011), 10 ('Land tenure, traditional use of resources, and benefit sharing considerations may all be impacted by mitigation efforts, such as REDD+. For example, national governments establishing protected areas over forests occupied or otherwise used by indigenous peoples and other forest dependent communities could potentially displace traditional occupants, and implicate customary rights.').
- 107 See, for example, Hans Morten Haugen, 'What Role for Human Rights in Clean Development Mechanism, REDD+, and Green Climate Fund Projects?' (2013) 5 *Nordic Environmental L.J.*, 51.
- 108 In order to be eligible for approval under the CDM scheme, a project must meet a two-fold requirement: (i) it must lead to emission reductions in addition to those reductions that would otherwise occur; and (ii) it must contribute to the achievement of sustainable development in the host country, as set forth in Art 12 of the Protocol J; Timmons Roberts and Bradley C Parks, 'A climate of injustice: Global inequality' (2007) 238 *North-South politics, and climate policy*; See n 100, Columbia Law School (2009), 75.
- 109 UNFCCC, ADP, An Overview of the Mandates, as well as the Progress of Work Under Institutions, Mechanisms and Arrangements Under the Convention, 30 October 2013, UN Doc FCCC/ADP/2013/INF.2, paras 161–68.
- 110 *Ibid.*
- 111 Lavanya Rajamani, 'Developing Countries and Compliance in the Climate Change Regime', in Lavanya Rajamani, Jutta Brunnée and Meinhard Doelle, *Promoting Compliance in an Evolving Climate Regime* (Cambridge University Press, 2012) 391.
- 112 *Ibid.*; See n 17, Center For Int'l Environmental Law (2011), 10; Marcos A Orellana, 'A Human Rights-Based Approach to Climate Change', in José Parra (ed), *The Human Rights-Based Approach: A Field of Action for Human Rights Education* (Cifedhop, 2012) 58.
- 113 See Aguan-Biogas Project, 'Honduras' (10 June 2014) Carbon Market Watch, <http://carbonmarketwatch.org/campaigns-issues/aguan-biogas-project-honduras>; *ibid.*, Orellana ('a large-scale hydroelectric project in a developing country under the CDM could force local communities to relocate from their traditional lands and livelihoods resulting in infringement of their rights to self-determination, property and life.').

- 114 *Ibid*, Carbon Market Watch (2014).
- 115 See n 38, UNFCCC (2011), para 8.
- 116 For an overview of the EU ETS, see A Kossoy (ed), *Carbon Finance at the World Bank – Mapping Carbon Pricing Initiative* (ECOFYS, 2013) 37–43, http://ec.europa.eu/clima/policies/ets/index_en.htm.
- 117 For an overview of the existing ETS worldwide, see ETS Map, *International Carbon Action Partnership* (10 June 2014), <https://icapcarbonaction.com/ets-map>.
- 118 See n 116, Kossoy (2013), 44–47; see also California Environmental Protection Agency Air Resources Board, *Cap and Trade Program* (10 June 2013), www.arb.ca.gov/cc/capandtrade/capandtrade.htm.
- 119 German Emissions Trading Authority, *Linking Different Emissions Trading Systems-Current State and Future Perspectives* (German Emissions Trading Authority (DEHSt), 2013) 7; see also n 116, Kossoy (2013); Matthew Ranson and Robert Stavins, 'Regulatory Policy Program (Harvard Kennedy School), Linkage of Greenhouse Gas Emissions Trading Systems: Learning from Experience' (2013) Discussion Paper ES 2013-2, Harvard Project on Climate Agreements.
- 120 The RGGI is a consortium of nine northeastern US states; emissions from electricity generation are covered; see n 116, Kossoy (2013), 51–54; Regional Greenhouse Gas Initiative, www.rggi.org.
- 121 A number of other developing countries are assessing domestic trading schemes, such as Brazil, Chile, Mexico, Colombia, Thailand, Vietnam, South Africa, Turkey and Ukraine. See Ernst & Young, *The Future of Global Carbon Markets* (E&Y, 2012); see also *Carbon Finance at the World Bank*, n116; Peter Sopher, 'Emissions Trading Around the World: Dynamic Progress in Developed and Developing Countries' (2012) 4 Carbon & Climate Law Review 306.
- 122 Sonja Klinsky, Michael Mehling and Andreas Tuerk, 'Beyond Déjà Vu: Opportunities for Policy Learning from Emissions Trading in Developed Countries' (2012) 4 Carbon & Climate Law Review 291; Michael Mehling, 'Between Twilight and Renaissance: Changing Prospects for the Carbon Market' (2012) 4 Carbon & Climate Law Review 277.
- 123 Robert Baldwin, *Regulation Lite: The Rise of Emissions Trading* (Working Paper) (Draft of March 2008) 1; see also Joel Stonington, 'Cutting Carbon: Is Europe's Emissions Trading System Broken?' *SpiegelOnline* (26 October 2012), <http://Spiegel.de/international/Europe/Europe-looks-to-fix-problems-with-its-carbon-emissions-trading-system-a-863609.html>. See also Larry Lohmann (N Hållström, O Nordberg and R Österbergh (eds)), *Carbon Trading: A Critical Conversation on Climate Change* (Dag Hammarskjöld Foundation, 2006).
- 124 Environmental Justice – Transnational Institute, *A Brief Introduction to Carbon Trading* (10 June 2014), www.tni.org/primer/carbon-trading. Because it is difficult to prove whether emissions have genuinely been reduced or moved elsewhere, some claim that the argument that carbon markets are reducing emissions is based on a myth. See *EU ETS myth busting: Why it can't be reformed and shouldn't be replicated* (April 2013), <http://corporateeurope.org/climate-and-energy/2013/04/eu-ets-myth-busting-why-it-can-t-be-reformed-and-shouldn-t-be-replicated>.
- 125 *Ibid*; see also Daniel Farber, 'Emissions Trading and Social Justice' (2014) Berkley Law Center for Law, Energy & the Environment.
- 126 *Ibid*, Farber (2014); see also Rena Steinzor, *Emissions Trading 'Market-based' Regulatory Tools: Toward Better Bubbles* (Center for Progressive Regulation, 2013), www.progressivereform.org/perspermissions.cfm; League of Women Voters, *Cap-and-Trade Versus Carbon Tax: Two Approaches to Curbing Greenhouse Gas Emissions* (10 June 2014), www.lwv.org/content/cap-and-trade-versus-carbon-tax-two-approaches-curbing-greenhouse-gas-emissions; see n 123, Baldwin (2008), 1; Paul Baer, et al, *The Greenhouse Development Rights Framework* (Heinrich Böll Foundation, 2008) 66–82; see n 122, Klinsky and Mehling (2012), 291. See also Simon Carey, 'Just Emissions' (2012) 40 *Philosophy & Public Affairs* 255–300 (offering an alternative approach to the distribution of greenhouse gas emissions permits).
- 127 See n 119, Ranson and Stavins (2013), 20–21. See also International Carbon Action Partnership, *Linking – ETS Topics* (10 June 2014) <https://icapcarbonaction.com/ets-topics/linking>; Christian Flachsland, et al, *Developing the International Carbon Market, Linking Options for the EU ETS* (Potsdam Institute for Climate Impact Research, 2008) 14–23; see also n 119, German Emissions Trading Authority (2013), 9–12; Dallas Burtraw, et al, *Resources for the Future, Linking by Degrees: Incremental Alignment of Cap-and-Trade Markets* (Resources for the future, April 2013) 1; Ottmar Edenhofer, et al, *Identifying Options for a New International Regime Arising from the Durban Platform for Enhanced Action* (Harvard Project on Climate Agreements, October 2013) 4.

- 128 *Ibid*, International Carbon Action Partnership (2014); Western Climate Initiative (2014), www.wci-inc.org.
- 129 Council Directive 2004/101/EC; see also n 119, German Emissions Trading Authority (2013), 8.
- 130 See n 15, Shue (2013), 381, 383.
- 131 See n 9, IPCC, *Impacts, Adaptation and Vulnerability* (2014), 14–21.
- 132 See n 53, UNHCR (2009) 2.
- 133 UN Special Rapporteur on the Right to Food, *Climate change and the human right to adequate food, Contribution of the Special Rapporteur to the Committee on Economic, Social and Cultural Rights* (13 May 2010) 1, www.srfood.org/images/stories/pdf/otherdocuments/20100513_climate-change-and-the-human-right-to-adequate-food_en.pdf; see also n 87, ICHRP (2008), 91 ('Agricultural production... in many African countries... is projected to be severely compromised by climate variability and change. The area suitable for agriculture, the length of growing seasons and yield potential, particularly... are expected to decrease. This would further adversely affect food security and exacerbate malnutrition in the continent.');
- 134 Easterling, et al, '2007: Food, Fibre and Forest Products' in M L Parry, et al (eds), *Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* para 5.6.5 (2007) (internal citation omitted); see also Stephen Humphreys, 'Climate Change and International Human Rights Law', and Christine Gray, 'Climate Change and the Law on the Use of Force', both in Rosemary Rayfuse and Shirley V Scott (eds), *International Law in the Era of Climate Change* (Edward Elgar, 2012), 31, and 219, 221 respectively; Olivier De Schutter, *The Right to Food: Interim Report of the Special Rapporteur on the Right to Food* paras 16–19 (8 August 2012) UN Doc A/67/268 (right to food threatened by pollution and habitat loss as consequences of climate change).
- 135 See n 6, IPCC (2014) *Summary for Policymakers*, 20.
- 136 Margulis et al, (eds), *The World Bank Economics of Adaptation to Climate Change: Synthesis Report* (The World Bank, 2010) 3.
- 137 *Ibid*.
- 138 For a theoretical discussion on who should pay, see Daniel Farber, 'Adapting to Climate Change' (2007–2008) 23 J Land Use & Environmental Law 2.
- 139 UNFCCC Article 4 (3).
- 140 Koh Kheng Lian and Lovleen Bhullar, 'Governance on Adaptation to Climate Change in the ASEAN Region' (2011) 1 Carbon and Climate Law Review 82, 83.
- 141 See n 48, Cameron (2011), 15 ('Recognizing climate change as principally an issue of social justice and development provides scope for policy makers to develop a more comprehensive diagnosis of the origins, significance, interrelationships and potential solutions to climate change.').
- 142 See n 9, IPCC (2014).
- 143 See n 19, Leary and Pisupati (2010), 7 ('Clearly therefore, as new environmental challenges arise, careful thought needs to be given as to whether new law or institutions are needed, or whether it might be more appropriate for existing laws, mechanisms and institutions to be utilized or adapted to meet new environmental challenges.').

Chapter 2

Current Legal Challenges in Climate Change Justice

Despite the significant development and many successes of international environmental law over the past 20 years, the international community is faced with a fragmented and decentralised landscape relating to climate change justice.¹⁴⁴ This fragmentation is partly due to the many areas of relevant international legal activity, but also due to the breadth and complexity of international development and economic activity. Many areas of international law are relevant to the problems raised by climate justice, but the law as it stands was not created with the challenge of climate change in view and is not always well suited to address it. This Chapter sets out the present available regimes under international and, when applicable, regional and domestic law in the areas of (i) environmental law; (ii) human rights law; (iii) trade law; (iv) international law pertaining to certain adaptation measures; and (v) state responsibility, and the difficulties in relying on any or all of these regimes to mitigate sources of climate change, provide for adaptation or ensure climate change justice.

2.1 Environmental law regimes

The efforts to use domestic, regional and international environmental law to achieve climate change justice have been varied and far-reaching. For example, on the domestic level, a growing number of countries have integrated emission trading schemes into their national climate policies, and regional arrangements have been established to combat climate change, the most significant being the EU's 20:20:20 policy.¹⁴⁵ Given the scope of the Report, this section will focus on the challenges inherent in applying existing international environmental law to climate change justice issues, touching upon domestic and regional issues when relevant.

2.1.1 *The international environmental law framework*

International environmental law is a body of law comprised of global treaties, conventions, regulations and policies aimed at protecting the environment and natural resources from the negative effects of human activity. From the 1970s, international environmental law developed as a system of rules initially limited to state responsibility for transboundary harm, resource allocation and addressing competing demands on areas beyond national jurisdiction, for example, the high seas. However, as discussed in Chapter 1, the focus of international environmental law today is preventative and precautionary, to manage environmental risk and protect the environment on a global level.¹⁴⁶ Over the past few decades there has been a rapid and dynamic development of binding international agreements concerning environmental protection at both global and regional levels.¹⁴⁷ This rapid development has been characterised by multiple multilateral negotiations, which have consumed human and financial resources but that have often failed to comprehensively achieve successful implementation.¹⁴⁸

2.1.2 Constraints of international environmental treaties to address climate change

As described in Chapter 1, the chief international environment instruments dedicated to addressing climate change issues are the UNFCCC and the Kyoto Protocol. These treaties invoke the principles of inter- and intra-generational equity, Common But Differentiated Responsibilities (CBDR), the precautionary principle, the right of all parties to sustainable development, and the need to promote a supportive and open international economic system.¹⁴⁹

Under the Kyoto Protocol, certain (Annex B) countries must meet emissions reductions targets through national measures to reduce GHG emissions. The Kyoto Protocol also permits Annex B parties to participate in GHG emissions trading for the purpose of fulfilling commitments under Article 3 of the UNFCCC.¹⁵⁰ In addition, the Kyoto Protocol established two other market-based mechanisms to allow countries to meet their targets: the Clean Development Mechanism (CDM) (discussed later in more detail),¹⁵¹ and Joint Implementation.¹⁵² In 2001, an adaptation fund was established to finance concrete adaptation projects and programmes in developing countries party to the Kyoto Protocol.¹⁵³

The Kyoto Protocol has been widely criticised. Significantly, the US signed the Kyoto Protocol but never ratified it, and is thus not bound to comply with the quantified emission reduction commitments contained in Annex B.¹⁵⁴ In addition, while larger developing countries such as Brazil, China and India (which rank among the top ten GHG emitters) are parties to the Kyoto Protocol, they did not take on binding emissions targets of their own, in line with the CBDR principle. As a result, the Kyoto Protocol in fact only covered 27 per cent of current global energy-related CO₂ emissions in 2012, likely to be now even less.¹⁵⁵

Critically, in line with the principle of CBDR, the current climate regime is characterised by a complete divide between developed and developing countries regarding the distribution of the burden of climate actions.¹⁵⁶ Under the Kyoto Protocol, only certain developed countries were legally bound to reduce GHG emissions by specific percentage figures below the 1990 levels by the period 2008–2012. As already described, subsequent emission reduction commitments, for the period 2013–2020, were finally agreed to in 2012, but have not yet entered into force.¹⁵⁷ This ‘precedent’ for assigning GHG emission targets has been criticised by large industrialised developing countries – that are now increasingly expected to have their own targets – for not taking into account historical emissions by Annex B parties.¹⁵⁸ Developing countries argue that the principle of CBDR has also been circumvented by developed states through ‘carbon leakage’, which can occur, for example, when GHG emissions attributable to an Annex I country are ‘outsourced’ by moving industry or production to countries with less strict emissions limits.¹⁵⁹

Furthermore, the Kyoto Protocol has been criticised for the lack of ambition of its emission reduction commitments and measures to support adaptation to climate change, its overly complicated policy tools and ineffectual enforcement mechanisms.¹⁶⁰ It is widely considered that, unless there is a shared understanding on burden-sharing, it will not be possible to create a legitimate global commitment regime.¹⁶¹ The most recent COP, held in Warsaw in November 2013, adopted several decisions, most significantly the Warsaw

Framework for REDD+ and the Warsaw international mechanism for loss and damage, as well as agreements on further advancing the Durban Platform, operationalising the 'Green Climate Fund' (established in 2010 to promote low-emission and climate-resilient development pathways) and long-term finance.¹⁶² The Warsaw outcomes build on steps taken at COP in Durban and Doha in 2011 and 2012 and point towards the conclusion of a global instrument of outcome planned for 2015.¹⁶³

The ideals of sustainable development and the transfer of technology and financial resources, added to the goal of cost-effectiveness and flexibility in the choice of mitigation measures, led to the inclusion within the Kyoto Protocol of the so-called flexibility or aforementioned economic mechanisms (Joint Implementation, the CDM and emissions trading), in which developing and developed countries participate together.¹⁶⁴ Although the mechanisms have significant potential to act as important features in helping Annex I parties to achieve their mandatory emission reduction commitments under Article 3 of the Protocol while contributing to social and economic development in developing countries, this is only possible if equity concerns are incorporated into the design of the mechanisms.¹⁶⁵ There has been much criticism of the mechanisms in this regard, and in particular the CDM (see Chapter 3, page 173).

Aside from the UNFCCC and Kyoto Protocol, no other multilateral treaties (described as MEAs)¹⁶⁶ are directed *specifically* at slowing human-caused climate change. Although a number of other multilateral treaties seek to address atmospheric and transboundary pollution, none are aimed at reducing GHG emissions (although they may have a positive impact). For example, the 1979 Geneva Convention on Long-range Transboundary Air Pollution,¹⁶⁷ the 1985 Vienna Convention for the Protection of the Ozone Layer¹⁶⁸ and its Montreal Protocol on Substances that Deplete the Ozone Layer¹⁶⁹ provide international frameworks to tackle global atmospheric pollution. However, these treaties are limited in scope. For example, the 1979 Geneva Convention – the purpose of which is to prevent, reduce and control transboundary air pollution – does not provide concrete commitments to specific reductions in air pollution.¹⁷⁰ A special Rapporteur on the Protection of the Atmosphere has recently been appointed by the International Law Commission to progress draft guidelines in this area.¹⁷¹

In addition, all of the multilateral environmental agreements face similar compliance challenges. Pollution and environmental degradation principally result from transboundary, corporate, non-state activities. Therefore, they are more difficult to regulate directly by international law through treaties between states since the corporate entities are not treaty parties and must be regulated by their individual states.¹⁷² Furthermore, many compliance problems result from gaps in economic, regulatory and technical capacity issues: for example, the current IMO regulation of ocean fertilisation and other geo-engineering proposals relies on states' willingness to embrace the precautionary principle, rather than comprehensive mandatory regulation.¹⁷³ Other issues are simply left unaddressed: a significant gap in the current international climate law regime has been the lack of controls on deforestation, now subject to significant work through REDD+ (as discussed

in Chapter 3).¹⁷⁴ Similarly, the existing international framework for regulating states' maritime borders under UNCLOS may not be designed to deal with changing borders due to sea level rises¹⁷⁵ because it largely presumes a fixed coastline.

Despite the significant progress that international treaties have made on certain issues, such as regulation of the ozone layer, treaties do have particular weaknesses in effectively regulating environmental issues. States can too easily make reservations or derogations in respect of obligations to which they object.¹⁷⁶ Treaties depend on reaching the required number of ratifications to actually enter into force, or may not include the states whose involvement is most vital to resolve the specific issue.¹⁷⁷ Additionally, many environmental treaties do not contain clear, detailed or specific rules, but instead may only lay down a framework of general principles.¹⁷⁸ A major constraint for many MEAs is that they do not provide any forum for filing complaints by non-state actors (with the exception of the Aarhus Convention, discussed in the following sections). Because treaties take years to negotiate, international law is often criticised as not being able to respond quickly enough to the emerging environmental challenges, nor adequately protect the environment even when treaties or customary laws apply.¹⁷⁹ Finally, international environmental treaties have developed on a slightly ad hoc, often sectorial basis, for example in response to specific environmental disasters, rather than through a coordinated approach to reflect the interdependence of environmental issues and solutions.¹⁸⁰

Accordingly, to date, the UNFCCC and other international treaties have been constrained both in their ability to effectively address the global mitigation and prevention of climate change, as well as in their ability to provide avenues of redress to individuals to secure climate change justice. This weaknesses aside, treaty law is still critical for defining states' international legal obligations and can successfully regulate difficult cross-border issues, for example, as seen in the UNCLOS. To properly address climate change justice, the international community needs to strengthen and expand states' legally binding commitments and compliance under the existing UNFCCC, as well as consider a much broader response, which is discussed in Chapter 3.

2.1.3 Constraints of customary international law

Customary international law imposes obligations on states that do not derive from express agreements between states but that are implied through consistent state practice, coupled with an intention to be legally bound (known as *opinio juris*). Such rules, once they have emerged, are binding on all states under international law.¹⁸¹ Customary rules of international law have their own limitations: it is always difficult in the short term to demonstrate the existence of consistent *opinio juris* and state practice required to form customary law.¹⁸² In environmental law, developments in 'soft law' are often cited as evidence of developing customary international law (eg, through codes of practice, guidelines, resolutions or declarations of principles).¹⁸³

Various environmental principles are recognised to differing degrees under customary international law. One of the widely recognised principles is the *no-harm principle*, whereby

a state is duty-bound to prevent, reduce and control risk of environmental harm to other states.¹⁸⁴ However, despite wide citation, it has not yet required any ‘general obligation’ to prevent significant transboundary harm or to minimise the risk of such harm outside of a specific treaty regime.¹⁸⁵ Instead, the principle has traditionally been applied in the context of region-specific disputes and has often led only to a generalised holding that states must take environmental norms into account when making policy decisions.¹⁸⁶ Similarly, the principle of sustainable development is widely accepted as an important principle by states, but difficulties with its exact definition mean it is not yet globally recognised under customary international law.¹⁸⁷ Similar difficulties confront the ‘polluter pays principle’, the CBDR principle and the full recognition of the precautionary principle. Though widely accepted in international environmental law and endorsed by states,¹⁸⁸ the application of the precautionary principle remains somewhat unclear because of disagreements over its precise meaning.¹⁸⁹

Given the complex, unstructured and multifaceted nature of climate change, existing international environmental law is not designed as it stands to limit GHG emissions or achieve climate change justice. The opportunities for development of international dispute resolution applying international environmental law are discussed in Chapter 3.

2.2 Human rights law regimes

International human rights law comprises a number of core international human rights treaties, together with regional treaty instruments, and is supported by developing norms of customary international law. Given significant progress in the field of international human rights law in the past 20 years, it has more recently been proposed as an avenue for individuals and/or groups to seek redress for harms caused by global climate change.¹⁹⁰ Usefully, and in contrast to the international environmental law regimes herein discussed, international human rights law can provide redress for *individuals or communities* who have suffered a particular environmental harm that can be linked to a breach of a protected right. Thus, although it is not directed at mitigation or prevention of climate change, human rights law could become a key component of climate change justice.

2.2.1 *Framework of human rights treaties and customary international law*

The core of international human rights law is codified in what is sometimes called an International Bill of Human Rights: the Universal Declaration of Human Rights (UDHR), the International Covenant on Civil and Political Rights (ICCPR), and the International Covenant on Economic, Social and Cultural Rights (ICESCR). The most significant regional human rights mechanisms are the European Convention on Human Rights (ECHR), the American Convention on Human Rights, the African Charter on Human and Peoples’ Rights and the Association of Southeast Asian Nations (ASEAN) Human Rights Declaration.

Compliance mechanisms have been established with respect to rights protected by the

International Bill of Human Rights and regional human rights instruments. At the regional level, individuals may claim redress directly against states before the ECtHR, the IACHR (which can in turn refer cases to the Inter-American Court of Human Rights); and the African Commission on Human and Peoples' Rights (and, if accepted by the state, before the African Court on Human and Peoples' Rights). At the international level, the principal treaties are overseen by 'treaty bodies', which are open to individual petition. Individuals may bring a complaint to the UN Human Rights Committee against any State Party to the ICCPR. Since 2013, individuals in the 13 signatory states to the ICESCR Optional Protocol may now also bring claims against states for breaches of the ICESCR before the UN Committee on Economic, Social and Cultural Rights.¹⁹¹ However, although the regional courts have the power to make binding findings and orders against states for human rights breaches (including monetary compensation), the ICESCR Committee and Human Rights Committee are limited to making recommendations to states. Finally, the UN human rights system also includes a number of 'special procedures', appointed by the Human Rights Council, to monitor and report upon specific human rights (such as to water, health and food) or situations in which human rights are at risk.

Climate change is already undermining a wide range of internationally protected human rights such as the rights to life, self-determination, water, food, health and an adequate standard of living.¹⁹² The Human Rights Council, taking note of a report of the OHCHR, expressed its concern that 'climate change poses an immediate and far-reaching threat to people and communities around the world and has implications for the full enjoyment of human rights.'¹⁹³ It further recognised that the 'world's poor are especially vulnerable to the effects of climate change, in particular those concentrated in high-risk areas, and also tend to have more limited adaptation capacities.'¹⁹⁴ These effects can be characterised as 'rights violations' (rather than mere bad luck) because climate change is a preventable man-made phenomenon.

2.2.2 Constraints of human rights law

Although increasingly mooted as an avenue for individuals to access climate change justice,¹⁹⁵ the international human rights law framework faces several key constraints due to its history, design and structure.

Economic, social and cultural rights are the rights most directly impacted by climate change. Under the ICESCR, states must take action for the 'progressive realisation' of such rights, in accordance with their means and resources. States have legal duties under the ICESCR to 'respect, protect and fulfill' the rights laid down in that treaty, including citizens' rights to water, 'adequate food',¹⁹⁶ shelter and the 'highest attainable standard of healthcare'. The ICESCR further requires countries to 'take steps [...] to the maximum of its available resources [...] individually and through international assistance and co-operation' to fulfil protected rights.¹⁹⁷ Such an admonition fits well with the provision of the UNFCCC that its signatories must 'take fully into account that economic and social development and poverty eradication are the first and overriding priorities of the developing country Parties.'¹⁹⁸

The fact that human rights can be affected by environmental harms has been recognised by a number of human rights bodies, such as the ECtHR, the CESCR and a several special

procedures.¹⁹⁹ The UN Independent Expert on the issue of human right obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment concluded in December 2013 that human rights obligations require states ‘to adopt and implement legal frameworks to *protect* against environmental harm that may infringe on enjoyment of human rights; and [...] to regulate private actors to *protect* against such environmental harm.’²⁰⁰ Nevertheless, human rights law evolved before man-made climate change was recognised as a global concern, and its provisions do not apply easily to the specific harms attributable to climate change-related events.

Moreover, there is no free-standing ‘right to a clean and healthy environment’ under international law. This remains the case despite the fact that many states now boast constitutional protections for such a right and several regional human rights treaties²⁰¹ and soft law instruments²⁰² also endorse and recognise it (for example, the African Charter on Human and Peoples’ Rights contains a specific right to a healthy environment).

Further, while the UNFCCC regime, for example, addresses global climate change based on the principle of reciprocity between states, international human rights law mainly ‘concerns the responsibilities of *States towards individuals* within their own territory or under their effective control.’²⁰³ Multinational corporations are not directly bound under international or regional human rights treaties; their regulation rests with states that, moreover, must do so as a matter of human rights law. The recent Guiding Principles on Business and Human Rights developed by UN Special Representative to the Secretary General John Ruggie, and endorsed by the Human Rights Council in 2011, explain that corporations nevertheless have a responsibility to respect human rights including in their transnational activities.²⁰⁴

In addition, the traditionally territorial nature of human rights obligations also tends to problematise the application of international human rights to climate harms. According to its principal treaties, human rights law imposes duties on a state in respect of those *within its jurisdiction*, even if not expressly limited by territory.²⁰⁵ Environmental human rights jurisprudence has also developed in the context of national harm, as opposed to transboundary pollution or global climate change.²⁰⁶ The extraterritorial application of the ICCPR, ICESCR and other global human rights treaties is a politically and legally controversial issue.²⁰⁷ In addition, while domestic climate policies often recognise a balance between the benefits of a particular economic policy for a state and the environmental harm it creates, it is not easy to translate this to transboundary harm.²⁰⁸

Finally, there are the potential problems of causation, attribution and standing. As already discussed, the diffuse impact of climate change is difficult to trace to particular individual entities or states (although see Chapter 3 for the progress made in this regard), and developing states argue that they should not be held responsible for human rights violations resulting from climate impacts when the majority of GHG emissions are attributed to developed nations. Establishing causation is potentially difficult on a technical level: it may not be possible using traditional domestic law principles to establish the causal link between a particular damage and the activities of a particular state being sued. This problem may not prove insurmountable. For one, there is increasing data available that

quantifies individual entities' contribution to climate change.²⁰⁹ Some have suggested the alternative approaches of market share liability,²¹⁰ or a 'responsibility capacity index' (RCI), which measures the capacity and responsibility for all parties to the UNFCCC based on country-specific income, income distribution and emissions data.²¹¹ It is also likely that international law does not set as high a standard for finding state responsibility as might be required in domestic law. Nevertheless, in order for their claims to be admissible, claimants must also be able to show that they are victims of a particular human rights violation, which is difficult to link to a general climate policy. Moreover, although positively recognised by the African Charter, other human rights instruments make few concessions to 'group rights',²¹² instead requiring that in order to have standing, each individual in a group must be able to prove that they have been a victim of an individual rights violation.²¹³ This complicates the capacity of groups, such as indigenous peoples, to claim that climate change threatens their way of life.²¹⁴

Despite these challenges, international human rights law may provide an avenue for individuals and communities to seek redress for harms caused by global climate change. Possible avenues of redress may include class actions, targeting major groups of emitters, or holding public officials responsible for failures of due diligence.²¹⁵ Many of these strategies are currently being explored. Another possible avenue may be the development of 'environmental rights', now recognised in a number of national constitutions. Accordingly, although the international human rights regime was not designed to solve global climate change, there is increasing momentum for human rights law to assist individuals and hold corporations and states – particularly developed countries with established rights infrastructure – responsible for human rights breaches relating to climate change.

In addition, human rights law itself has shifted to provide greater focus on prevention of violations, with some human rights institutions exercising their mandate of promotion to be proactive in addressing issues before violations take place.²¹⁶ The steps required to progress climate change justice in the human rights context are considered in Chapter 3.

2.3 Trade law regimes

2.3.1 Framework of international trade law

The international trade law system, centred on the widely ratified and relatively effectively enforced WTO agreements, is another regime relevant to global action against climate change. There are numerous intersections and linkages between sustainable development and international trade, as recognised in the Preamble to the Agreement establishing the WTO).²¹⁷ These linkages, in addition to the broad membership of the WTO²¹⁸ and its effective dispute settlement mechanism, buttressed by the ability to impose trade sanctions, signify that the WTO has the potential to play an important role in this field.

Indeed, many argue that the liberalisation of international trade can contribute to environmental and climate change protection by enhancing efficient use of resources,

disseminating climate change technologies and know-how and increasing welfare.²¹⁹ Trade measures can also be deployed to prevent ‘free riding’ on GHG reduction schemes or to encourage countries to reduce carbon emissions. Conversely, commentators have cautioned that the green ‘technology effect’ of trade must be balanced against other externalities and ‘scale effects’.²²⁰ For example, increased trade leads to a greater level of natural resources consumption which may ultimately lead to an overall increase in GHG emissions, outweighing any benefits resulting from better environmental practices.²²¹

Despite the potential for it to have a leading role in this area, the WTO has been criticised for failing to progress discussions on trade and climate change and, in particular, the needs of developing countries. Pascal Lamy, former Director-General of the WTO, has observed that ‘what is sorely lacking in the current WTO context is a constructive and forward-looking discussion among members on the rapidly expanding trade and energy interface’, describing the failure to address fossil fuel subsidy reform as ‘a missed opportunity’.²²² The protracted Doha ‘Development’ Round negotiations, which were intended to reform the international trade system with a view to supporting developing countries, illustrate the difficulties inherent in promoting environmental and development goals through the international trade law system.²²³

For example, there has been much criticism of the Doha ‘Development’ Round, which was intended to lower trade barriers around the world and in particular support developing countries. Discussions that had stalled during the Doha Round did have some success in January 2014 with the statement by 13 countries²²⁴ and the EU pledging to proceed with plurilateral negotiations towards a ‘Green Goods Agreement’ to liberalise trade in EGS by 2015.²²⁵ Liberalisation of EGS is said to deliver a ‘triple-win’ on the basis that it leads to concurrent benefits to the environment, development and trade. The proposed Green Goods Agreement is intended to build upon the Asia-Pacific Economic Cooperation’s (APEC) existing list of 54 environmental goods, which include products that contribute to energy and resource efficiency.²²⁶ While this attempt to break the impasse in negotiations is welcome, some commentators have expressed reservations about the narrow remit of the negotiations, which are limited to tariffs (which are already very low in respect of many of these goods) and do not address environmental services or other significant obstacles to the liberalisation of environmental goods, including technical and conformity regulations, anti-dumping policies and intellectual property regimes.²²⁷

In the absence of international consensus, states may seek to adopt unilateral trade-related policies, either in the form of regulations, such as energy efficiency or carbon emission standards, or economic incentives that put a price on carbon emissions, such as carbon taxes, emission trading systems, subsidies for renewable energy or restrictions on fossil fuel subsidies.²²⁸ Where domestic climate change policies impose costs on domestic production that adversely impact their international competitiveness, states may wish to supplement domestic policies with provisions that ‘aim at leveling the playing field by imposing the same or similar costs on *imports*, as domestic climate policy imposes on *domestic* production’.²²⁹ These measures are designed to combat a phenomenon known as carbon leakage, whereby carbon-intense industries based in countries with stringent climate change regulations seek

to shift production or to relocate to countries with lower standards, which can result in an overall increase in GHG emissions.

However, such ‘competitiveness’ provisions may conflict with the state’s obligations under the WTO agreements and, therefore, must be carefully designed so as to comply with WTO requirements. Moreover, the ambiguity surrounding the scope of some WTO rules can generate uncertainty as to the WTO-consistency of states’ climate change policies, contributing to a regulatory ‘chilling effect’.

As such, the WTO regime presents potential obstacles to states’ domestic climate change regimes, which are considered in the following. First, climate change policies and related border adjustment measures must be considered in light of the principle of non-discrimination, a fundamental principle of the WTO that is enshrined in a number of the WTO agreements, including the General Agreement on Tariffs and Trade (GATT), the General Agreement on Trade in Services (GATS) and the Agreement on Technical Barriers to Trade (TBT). Particular areas for clarification are the WTO-compatibility of measures that are contingent on the process of manufacture, known as ‘process and production methods’, and the applicability of the GATT’s general exception provisions under Article XX. Furthermore, the Agreement on Subsidies and Countervailing Measures (SCM) has an impact on the ability of states to employ subsidies for renewable energies or, conversely, for fossil fuels.

(i) WTO non-discrimination disciplines under GATT and the TBT – apparent inconsistencies for climate change measures

The principle of non-discrimination is a central tenet of the WTO regime and has two components: first, the ‘most-favoured nation’ principle dictates that states cannot discriminate *between* trading partners. Any advantage granted to goods or services from one country must be extended to ‘like’ goods and services originating from any other WTO member.²³⁰ And second, the ‘national treatment’ obligation prohibits protectionist trade measures that favour domestic products²³¹ by requiring that imported products are ‘accorded treatment *no less favorable* than that accorded to *like products* of national origin in respect of all laws, regulations and requirements affecting their internal sale, offering for sale, purchase, transportation, distribution or use.’²³²

Importantly, states are prohibited from both direct and *indirect* discrimination.²³³ Direct discrimination is exemplified by a measure expressly targeted at the origin of the product, for example, a tariff or ban directed at the products originating from a state in an attempt to induce that state to comply with climate change measures.

Indirect discrimination, on the other hand, refers to an apparently ‘neutral’ measure, which does not overtly distinguish on the basis of the origin of the product but that has the *effect* of disadvantaging products originating from certain countries in relation to others.²³⁴ For example, fiscal or regulatory measures applied to imported products at the border to equalise or compensate for climate change costs borne by domestic products (known as ‘border carbon adjustments’)²³⁵ must be carefully designed so as not to discriminate, in effect, against imported products.

The non-discrimination provisions of the TBT, which regulates technical regulations, product standards and certification procedures, are also relevant to climate change measures, such as eco-labelling and low-carbon production methods.²³⁶ The TBT is designed to ensure that a state's technical standards and regulations do not create protectionist or unnecessary obstacles to trade, while affording states a degree of regulatory space to set their own level of protection provided it is not 'more trade-restrictive than necessary to fulfill a legitimate objective.'²³⁷

(ii) Process and production methods (PPMs) under WTO law – critical for climate change policy

The national treatment obligation, which requires states to treat imported 'like' products no less favourably than domestic ones, can constrain the ability of states to incentivise goods that have been produced with environmentally friendly or low-carbon PPMs.

The crux of this issue is whether products manufactured according to different PPMs are considered 'like' products, such that states cannot discriminate between them, in particular where the environmentally friendly PPM does not affect the physical characteristics of the product (non-product related PPMs). Early decisions of the GATT, the precursor to the WTO, suggested that different PPMs could *not* justify distinguishing between products, that is to say PPMs could not render products 'unlike'; these decisions were often cited as evidence of the international trade regime's refusal to accommodate environmental measures – in that case, a dolphin conservation scheme – within the trade law disciplines.²³⁸

The test of whether products are 'like' focuses on the existence of a *competitive relationship* between the products, determined by criteria including: the product's properties, consumer preferences, the product's end uses and tariff classification.²³⁹ The focus on the competitive relationship – and in particular consumer preferences – signified that states could not distinguish between low-carbon products if consumers would not differentiate between the two.

However, the Appellate Body has held that not all differential treatment between 'like' products necessarily leads to breach of the national treatment obligation. The complaining state must show that imports, as a group, are disproportionately affected as compared to the entire group of like domestic products.²⁴⁰ Further, following the decision in *Dominican Republic – Cigarettes*, if it can be shown that the detrimental impact on the imported product does not flow from the climate change measure itself but can be explained by factors or circumstances unrelated to the climate change measure, there will be no violation of national treatment (eg, extrapolating to the climate change context, the fact that imports from a particular country have overall a higher carbon footprint than domestic like products).²⁴¹

The Dispute Settlement Body of the WTO has adopted a similar definition of 'likeness' for the purpose of the national treatment obligation under the TBT. However, some recent cases suggest that the Appellate Body is prepared to move away from the predominant 'competitive relationship' test to consider the regulatory purpose of the measure. In the recent *US-Clove Cigarettes* case,²⁴² the Appellate Body found that a measure's differential impact on imports could in principle be justified by reference to the measure's regulatory

purpose – in that case, the ban on flavoured cigarettes was designed to promote public health by discouraging youths from starting smoking. This would allow for the possibility that should a measure designed to mitigate climate change impose a heavier burden on imports than domestic products due to the product's high-carbon emissions rather than its foreign origin, it might then avoid being found to be discriminatory.

In sum, while low-carbon PPMs that cause differential treatment will not automatically breach WTO disciplines, the jurisprudence remains subject to uncertainty, which in turn can lead to regulatory chill where a state is considering whether to adopt climate change measures. Furthermore, discriminatory climate change measures may also be justified on one of the public policy grounds set out in GATT Article XX, discussed in this report.

(iii) General exceptions to WTO obligations – limited application to climate change

Measures that are inconsistent with GATT provisions may nonetheless be justified if they satisfy the general exceptions contained under GATT Article XX. Climate change policies may fall under Article XX(b), which permits measures that are '*necessary* to protect human, animal or plant life or health' or Article XX(g), which provides for measures '*relating* to the conservation of exhaustible natural resources if such measures are made in conjunction with restrictions on domestic production or consumption.' In the absence of an express finding of the Appellate Body, there is some uncertainty as to whether GHG reduction would fall under one of these categories.²⁴³ However, in *US-Reformulated Gasoline*,²⁴⁴ it was held that 'clean air' was an 'exhaustible natural resource' and in *US-Shrimp/Turtle*, 'natural resources' was found to encompass 'living resources'. In that case, the Appellate Body stated that the term 'natural resources' was not a static term but was 'evolutionary' and therefore should be read in light of modern international treaties.²⁴⁵ In order to avail of GATT Article XX, measures must satisfy a 'necessity' test and the restrictive 'chapeau' of Article XX.

The 'necessity' test under Article XX(b) signifies that the measure must be 'necessary' to pursue the particular regulatory goal and that it is the least restrictive means to achieve the end. However, in *Korea-Beef*, the Appellate Body relaxed the stringent test, holding that 'necessity' should not be equated with 'indispensable' and should instead be determined by 'weighing and balancing' of factors such as the contribution made by the measure to the objective, the common interests or values protected by the measure and the impact of the measure on imports or exports.²⁴⁶ In *Brazil-Retreaded Tyres*, the Appellate Body evinced greater flexibility when applying the weighing and balancing test, thus widening the scope for states to adopt climate change and environmental measures. For example, the Appellate Body recognised that the anticipated objective might not be attained immediately, citing by way of example '*measures adopted in order to attenuate global warming and climate change*', which can only 'be evaluated with the benefit of time.'²⁴⁷

Exempted measures under GATT Article XX must also satisfy the Article's 'chapeau', which provides that such measures must not be 'applied in a manner which would constitute a means of arbitrary or unjustifiable discrimination between countries where the same

conditions prevail, or a disguised restriction on international trade.’²⁴⁸ The chapeau enables one to distinguish between legitimate public policy and regulatory choices and excuses for protectionism. In practice, the chapeau has been used to import a duty of good faith by requiring states to apply measures in a manner that is sufficiently flexible to accommodate products produced in states with comparable levels of protection. Notably, it has also been found to impose a duty on states to enter into ‘serious’, ‘good faith’ negotiations with other states with a view to adopting multilateral agreements addressing the particular objective before adopting unilateral measures.²⁴⁹

Overall, the indeterminacy that pervades this jurisprudence continues to give rise to regulatory chill and it remains somewhat unclear whether trade-related ‘climate-friendly’ policies that impose additional burdens on imported products will be protected by the WTO’s limited environmental exceptions. However, if designed carefully and implemented in an even-handed manner, the pro-climate policy will be viewed as compliant with WTO law.

(iv) Constraints of the Subsidies and Countervailing Measures Agreement

Financial incentives for the development of climate-friendly technologies and practices constitute an important climate change policy instrument.²⁵⁰ However, such measures must comply with SCM, which regulates ‘specific’ subsidies provided by the state to confer a benefit on an enterprise, industry or group of enterprises or industries. Under SCM, export subsidies or subsidies contingent on the use of domestic content²⁵¹ are ‘prohibited’.²⁵² ‘Actionable’ subsidies are those that cause an adverse effect to the domestic industries of other states or material injury²⁵³ and may be challenged by another state before the WTO dispute settlement mechanism and can result in the imposition of countervailing measures.

Significantly, for the purposes of climate change policies, SCM does not provide for any public policy exemptions. Although SCM Article 8 established a category of ‘non-actionable’ subsidies for legitimate public policy purposes, including environmental measures that were immunised from challenge, this category expired on 31 December 1999 and was never renewed.

The objective of SCM is to balance between the ‘legitimate use of public funds for public purposes and subsidies that unfairly promote national industries.’²⁵⁴ However, it is unclear whether SCM is fit for this purpose. This was cast into relief in the recent decision in *Canada – Feed-in Tariff*. The Appellate Body found that Ontario’s Green Energy Act, which made financial incentives for renewable electricity contingent on purchasing a certain amount of domestically produced equipment, did not breach SCM, primarily because of its finding that there could be no market distortion where the government intervened to create a market that did not previously exist.²⁵⁵ While commentators have remarked on the Appellate Body’s pro-environment ‘desire to exempt government support for renewable electricity from the disciplines of the SCM Agreement’,²⁵⁶ some have criticised the methodology adopted as being difficult to apply in future cases, since it is predicated on the ‘newness’ of the market.²⁵⁷

Similarly, the compatibility of domestic emission trading schemes with SCM also gives rise to uncertainty: while the allocation of free emissions credits to domestic industries

might be argued to constitute a subsidy, it is unclear whether emissions permits do fall into the definition of ‘financial contribution’ set out in SCM Article 1.1.²⁵⁸

(v) Summary: constraints of WTO law

Climate change policies continue to raise several unresolved and untested questions of WTO law. There remains a degree of uncertainty about the WTO-compatibility of many climate change policies with WTO disciplines. This uncertainty, and the prospect of potentially costly WTO challenges, may have a chilling effect on states wishing to adopt trade-related climate change measures. Furthermore, there may be concerns about allowing states to adopt unilateral trade-related climate change measures unless there are robust guarantees against protectionism: developing countries have argued that many environmental measures are simply a disguised form of trade protectionism.²⁵⁹

The broad membership of the WTO, and the more recent accessions of both China and Russia, mean that there are serious opportunities for the WTO to take a leading role in addressing climate change. Climate change measures should be accommodated within the existing framework and under the GATT Article XX exceptions. WTO-compatibility will depend on how measures are designed and implemented. Recent cases illustrate a willingness to uphold environmental measures and have recognised the importance of the protection of the environment to WTO members; this may translate to an openness towards trade-related climate change measures in the future. For greater certainty, options for reform within the WTO, as well as in trade negotiations outside the WTO, are set out in Chapter 3.

2.3.2 Framework of regional trade and bilateral investment law

A growing number of regional FTAs²⁶⁰ and BITs²⁶¹ have been concluded to enhance trade and investment. The principal objectives and incentives in concluding such FTAs and BITs are opening new markets, increasing economic growth, accessing cheaper imports and increasing foreign investment.²⁶² The slow progress in multilateral trade negotiations have contributed to a proliferation of trade agreements. Trade agreements can be bilateral or regional and may also include arrangements where one or more parties to the agreement is a regional trade agreement (RTA) itself, such as the EU-CARIFORUM²⁶³ Economic Partnership Agreement. Many RTAs contain obligations that go beyond the existing multilateral commitments; others deal with areas not yet included in the WTO agenda, such as investment and competition policies, labour and environmental issues.²⁶⁴

One of the challenges identified in the regional trade law system is the lack of coordination between the multilateral and regional trade mechanisms.²⁶⁵ It has further been argued that, as the scope of RTAs extends beyond trade into other areas such as investment and competition, climate change chapters with a strong commitment to reduce GHG emissions should be included in RTAs.¹²² While some RTAs already contain provisions on the environment, only a few RTAs include a direct reference to climate change-related activities, which are limited to commitments to cooperate on various environmental matters without

concrete obligations or undertakings.²⁶⁷ Perhaps unsurprisingly, enforcement mechanisms are not in place to ensure that this environmental cooperation in fact takes place, or how much progress parties have made on environmental matters. Only NAFTA has established an enforcement and compliance mechanism under the North American Agreement on Environmental Cooperation (NAAEC), which in turn has faced criticism for lacking in effectiveness.²⁶⁸ A key challenge is to include more tangible points of climate cooperation in RTAs while minimising any impact on trade objectives and to persuade countries to be parties to RTAs that contain such concrete climate-related provisions.

In the field of investment protection, BITs provide a unique opportunity under international law for private investors of one state to bring claims directly against a foreign government where a host state has expropriated or interfered with an investment, for example, through the imposition of regulation, including environmental regulation. BITs thus avoid the need to resort to diplomatic protection if relations between a host state and an investor break down. Conversely, states have only a limited ability under certain treaties to bring environmental claims *against* investors as ‘counterclaims’ within the investment proceeding.²⁶⁹ While this avenue may be used to ensure the accountability of businesses and investors, there are a number of restrictions in place and the efficacy of such claims is questionable.²⁷⁰

2.4 State responsibility and climate change liability

As discussed, in relation to international human rights law, litigation against states or other actors for harms caused by climate change to individuals or communities faces significant obstacles.²⁷¹ In particular, divergent and inconsistent precedent exists with respect to establishing standing of claimants, proving a causal link between tangible harms and GHG emissions by particular defendants and determining an effective and equitable process for apportioning and distributing damages or for determining the propriety of injunctive relief. However, climate change-related litigation and dispute resolution are developing on an ad hoc basis at international, regional and domestic levels involving individual and state actors. For example, domestic climate change litigation against a corporate entity may be possible under environmental or resource management regulation, while regional or international litigation could be brought against a state before the ICJ or UNCLOS as a result of alleged breaches of states’ international climate change or carbon trading commitments.²⁷²

2.4.1 Domestic climate change litigation

Where political action has not been forthcoming, a number of groups have sought to effectuate climate change adaptation and mitigation through litigation.²⁷³ For example, in the US, litigants have successfully brought administrative challenges at the federal level to require regulatory agencies to consider GHG emissions a pollutant. However, similar efforts by environmental NGOs under common law public trust, nuisance and negligence claims have thus far failed.

Outside of the US, Europe and Australia have witnessed the most active attempts to combat climate change through litigation. However, whereas in the US, litigation is often an

attempt at advancing policy, actions in Europe and Australia have focused almost exclusively on enforcing existing domestic environmental legislation, including by challenging governmental failures at enforcement.

Elsewhere, various efforts to achieve environmental objectives through domestic litigation are afoot. Unsurprisingly, given the wide diversity of jurisdictions where these efforts are undertaken, they have been pursued with varying degrees of intensity, met with differing levels of receptiveness, and have achieved correspondingly mixed results.

(i) United States

In the US, climate change litigation can be broadly divided between statutory claims and a much smaller category of claims arising under common law or public international law. In the former category, there have been at least four types of claims: (i) litigation seeking to stop government action that contributes to climate change; (ii) litigation to force the government to act to mitigate the effects of climate change; (iii) litigation to regulate private emitters directly; (iv) litigation brought by emitting industries to resist regulation of GHGs. In the absence of comprehensive national legislation, climate change litigation has played a significant role in the development of US policy.

Federal regulatory litigation

Those advocating for a reduction in GHG emissions have enjoyed great success by litigating to compel federal agencies to regulate GHGs in the face of Congressional inaction. One prominent example of this occurred when several NGOs and states petitioned the US Environmental Protection Agency (EPA), a federal entity, to regulate GHG emissions under the Federal Clean Air Act. The EPA response and the resulting challenges to it culminated in the US Supreme Court's decision in *Massachusetts v EPA*, 549 US 497 (2007), in which the Court held that GHGs qualified as 'air pollutants' under the Clean Air Act and that the EPA must consider whether they should be subject to regulation. The decision paved the groundwork for an emerging suite of federal GHG regulation drafted by federal agencies rather than law makers.

Following the decision, the EPA decided in 2009 to classify GHG emissions as a danger to public health, safety and welfare.²⁷⁴ The EPA then issued regulations governing GHG emissions from passenger vehicles²⁷⁵ as well as stationary sources.²⁷⁶ These regulations were challenged by affected entities, and the DC Circuit upheld them in 2012.²⁷⁷

In June 2014, the Supreme Court struck down aspects of the EPA regulations that required facilities to obtain permits based solely on the extent of GHG emissions. However, the Court affirmed the EPA's authority to regulate GHG emissions from large facilities that are already required to obtain permits due to emissions of other pollutants, thus confirming for the first time the EPA's authority to regulate GHG emissions from certain major stationary emitters.²⁷⁸

Since then, the EPA has continued to promulgate more extensive regulations governing GHG emissions from both mobile and stationary sources. Most recently, the EPA proposed regulations aiming to cut total carbon dioxide emissions from power plants by 30 per cent

by 2030 and phasing out the construction of any new coal-fired power stations. These rules remain controversial and are expected to face legal challenges.

Public trust litigation

In addition to federal regulatory actions, plaintiffs have also advanced common law claims against state and federal governments, for example arguing that the atmosphere is a natural resource that governments have an affirmative obligation to protect under the ‘public trust’ doctrine. These cases have not been successful, as courts commonly dismiss them on the grounds that they would improperly interfere with the government’s legislative and regulatory authority.²⁷⁹

Public nuisance litigation

As an alternative to seeking relief from the government, a number of plaintiffs have attempted to sue private entities directly under common law nuisance theories. While the factual scenarios differ, these cases each assert that climate change constitutes a ‘nuisance’ and that GHG emitters are liable for economic damages associated with resulting harms.

The most prominent of these cases was *American Electric Power Co v Connecticut (AEP)*.²⁸⁰ In this case, the US Supreme Court held that the Clean Air Act displaced common law nuisance as a cause of action for injunctive relief against GHG emitters.²⁸¹ The Ninth Circuit subsequently concluded that *AEP*’s holding also applied to federal common law claims for monetary relief, and dismissed a suit by an Alaskan tribal village seeking damages against an oil company and other private entities.²⁸²

AEP focused on federal common law and expressly left open the question of whether a plaintiff could allege a *state* common law claim against emitters of GHGs.²⁸³ At least one federal district court has dismissed a similar action under state common law as pre-empted by the Clean Air Act.²⁸⁴ However, it is useful to note here that the facts of the case were unique and plagued by causational difficulties: the plaintiffs filed against GHG emitters for damages caused by Hurricane Katrina, which they alleged – ambitiously – was caused by global warming.

(ii) Canada

As with most common law systems, Canadian tort law theoretically allows for private litigants concerned about climate change to base a cause of action under negligence, strict liability and private nuisance.²⁸⁵ However, to succeed, such actions must establish the standard elements of a non-environmental common law tort claim, for example, causation, a duty of care and foreseeability.²⁸⁶ To date, there has not been a significant common law action related to climate change in Canada.

The Province of Ontario, in its Environmental Bill of Rights, has provided a statutory cause of action that allows a resident of Ontario to bring an application before the Ontario Superior Court alleging that any person, including the government, has failed or is failing to adequately protect a public resource against an actual or imminent violation of provincial, as well as some federal, environmental statutes and regulations. The court has broad discretion to grant many non-monetary remedies, including injunctions and other

forms of equitable relief in performance, including, for example, the implementation of restoration plans. However, no case yet has been adjudicated under this provision.²⁸⁷

Attempts have been made in Canada to seek judicial review of government inaction on climate change, as well as to challenge governmental environmental assessments for failing to adequately consider – or a lack of transparent reasons for such failure to consider – the alleged significant adverse environmental impacts of GHG emissions. However, these attempts have faced an uphill battle in Canadian courts.

The most prominent of these cases was an application by Friends of the Earth, which was seeking a declaration that the Canadian government's climate change plan failed to comply with a federal law, the Kyoto Protocol Implementation Act (KPIA). The KPIA was passed in June 2007 by a coalition of opposition parties. It required the government to file a climate change plan with a view to meeting Canada's obligations as a signatory to the Kyoto Protocol. The government, which opposed the legislation, filed a plan that, on its face, admitted the government could not and would not comply with these obligations.

In dismissing the case, the court held that the provisions of the KPIA, taken together, were so policy-laden, permissive and subject to parliamentary consultation and review, that they did not evince a legislative intention to impose absolute, justiciable compliance obligations upon the government. The decision was upheld on appeal, with the effect of removing any domestic legal requirement for Canada to adhere to the Kyoto Protocol.²⁸⁸

A more successful attempt at seeking judicial review was made by The Pembina Institute for Appropriate Development, which petitioned for court review of a recommendation to approve an CA\$8bn oil sands project, made by a Joint Review Panel constituted under the Canadian Environmental Assessment Act. The Federal Court granted the application, ruling that the Joint Panel failed to provide sufficient rationale for its finding that GHG emissions from the project would be insignificant.²⁸⁹

(iii) South America

In Argentina, two cases are notable for developing jurisprudence in environmental and climate change related litigation. First, in *Native Community of the Wichi Hoktek T'Oi People v Environment and Sustainable Development Secretariat*, the Environment and Sustainable Development Secretariat of the province of Salta authorised the harvesting of various forests. In response, the Wichi Native Community filed an amparo action – cause of action commonly used in several South American countries to assert constitutional rights – against the authorisations.

The case reached the Argentine Supreme Court, which sustained the petition. In its judgment of July 2002, the Argentine Supreme Court ruled that the province's authorisation to harvest forest would have irreparably negative environmental consequences in violation of the constitution, and that the asserted claims were appropriate for adjudication in an amparo action.²⁹⁰

Secondly, in *Salas, Dino et al v Province of Salta and National Government*, a group of individuals, native communities and local associations filed a similar amparo action,

also against the Province of Salta and the National Government, requesting the Court to order the cessation of the clearing of indigenous forests, to declare unconstitutional the authorisations granted for such purposes and to order a prohibition against granting more of them in the future. The plaintiffs also requested that the defendants restore the environment to a state prior to the deforestation and, if this was not possible, to pay compensation to substitute for such damages. In March 2009, the Argentine Supreme Court found in favour of the plaintiffs, drawing support from a version of the precautionary principle established in a domestic Argentine environmental statute. In a holding that recognises the threat of a possible connection between environmental degradation and climate change, the court stated:

‘The cutting and clearance of about one million hectares will make an impact on the environment that cannot be overlooked and[...] that impact will surely be negative. Hence, this situation clearly poses a threat of serious damage because it may substantially change the climate of the entire region, thus affecting not only current inhabitants, but also future generations.’²⁹¹

Brazil passed environmental legislation in 2009 as a part of a national policy for combating climate change and reducing GHG emissions. The federal legislation is still awaiting implementing regulations, which will likely require certain industries to control and reduce GHGs. The regulations are expected to be subjected to litigation.²⁹²

In 2010, a Chilean NGO filed an action in Santiago’s Appeals Court, challenging an Exemption Resolution by the Environmental Regional Commission that approved the Alto Maipo hydroelectric project near Santiago.²⁹³ The plaintiff alleged that the project endangered several protected species and that the Commission’s Resolution failed to consider the climate change implications of the project. The court dismissed both claims.

(iv) Australia

Climate change litigation has, in many ways, advanced the furthest in Australia. There, plaintiffs have brought a number of successful lawsuits in which courts have recognised a causal link between emitters and climate change.²⁹⁴ A number of cases have applied the precautionary principle as a response to the ‘problem of proof’ raised in climate change litigation.²⁹⁵ For example, in the *Anvil Hill* case (a judicial review action that successfully challenged the approval of a large coal mine on the basis of a failure to consider downstream GHG emissions) the Court referred to the precautionary principle as a relevant matter shaping the environmental assessment undertaken.²⁹⁶ The Court took a broad approach to the question of causation, noting ‘[t]hat the impact from burning the coal will be experienced globally as well as in [New South Wales], but in a way that is currently not able to be accurately measured, does not suggest that the link to causation of an environmental impact is insufficient.’²⁹⁷

Such litigation, however, has been mainly tied to judicial review or merits review of decisions taken under Australian domestic environmental legislation and regulation (requiring government decision-makers to consider future climate-associated risks in planning decisions). Indeed, as with such cases in the US, suits alleging common law negligence and public nuisance are unlikely to succeed in Australia because of the inability of plaintiffs to establish standing, foreseeability, a duty of care and other necessary elements.²⁹⁸

That being said, the influence of these cases has been wide-reaching, leading to the revision or formulation of Australian government policies on mining and coastal management.²⁹⁹ Judicial review cases have led the way for amendments to legislation, such that climate-change associated risks are now required to be taken into account in almost all planning decisions.³⁰⁰ Successful cases such as the *Anvil Hill* case alleging violations of domestic environmental legislation have established principles that could in future be applied in the context of common law tort litigation. Further, cases brought in the Federal Court of Australia, although having less success because of the narrow ambit of federal environmental laws (making the indirect effects of GHGs on areas such as the Great Barrier Reef more difficult to prove), have nonetheless highlighted the need for legal form. Subsequent cases have continued to build on the legal arguments and scientific evidence presented.³⁰¹

(v) Asia

Asian nations have recognised general principles of environmental harm that could support GHG tort litigation, but such actions still face formidable hurdles. For instance, the Philippines Supreme Court stated in 1993 that ‘the right to a balanced and healthful ecology belongs to a different category of rights altogether for it concerns nothing less than self-preservation and self-perpetuation the advancement of which may even be said to predate all governments and constitutions’.³⁰² Indonesian courts recognise strict liability for actions that cause a ‘serious threat to the environment’.³⁰³ Finally, Japanese courts, in the environmental context, have recognised liberal theories of causation and offer the potential for injunctions to be sought limiting emissions of GHGs.³⁰⁴ These principles, however, have not been applied in the context of climate change-related tort litigation.

Judicial support for climate-related environmental protection has made notable advances in India. The Indian Supreme Court has undertaken far-reaching efforts to influence environmental protection policy and oversee its thorough implementation by the executive branch bureaucracy – even going so far as to make policy choices from time to time.

A landmark 2001 decision, *MC Mehta v Union of India*, addressed air pollution in the city of Delhi, but it is suggestive of how the Supreme Court may view litigation more closely related to climate change.³⁰⁵ On 28 July 1998, on the basis of recommendations made by a Committee constituted under the Environmental Protection Act, the Supreme Court directed that the entire New Delhi city bus fleet be converted to use compressed natural gas by 31 March 2001. Neither the governmental authorities nor private bus operators acted on these directions and, in 2001, the Supreme Court took up the case again in *MC Mehta*.³⁰⁶

Explicitly recognising the application of the precautionary principle, the Court held that ‘to recommend that the role of the government be limited to specifying norms is a clear abdication of the constitutional and statutory duty cast upon the government to protect and preserve the environment.’ It then discussed in detail the benefits of sustainable development and the harms of air pollution, criticised the government for ‘protecting the financial health’ of polluters, and held that ‘it becomes the duty of the Court’ to direct steps be taken ‘necessary for cleaning the air so that the future generations do not suffer from ill-health.’³⁰⁷

Elsewhere in Asia, common law legal systems recognise claims of negligence and nuisance, but climate change litigation under these claims face the same problems of establishing causation, a duty of care, foreseeability and other elements of tort. In civil law jurisdictions, potential litigants would face different hurdles. In China, for example, there is no codified provision for private law liability for climate change-related harms. In the view of at least one Chinese commentator: ‘GHG emissions will not give rise to tort liability.’³⁰⁸

(vi) Europe

In Europe, an era of private suits to address GHG emissions is in its infancy, with one of the first suits being filed in The Hague in November 2013 by the Dutch Urgenda Foundation and 886 individual citizens against the Government of the Netherlands.³⁰⁹ This suit is likely to be closely followed as a precedent for other actions across the EU. To date, climate change litigation has focused on the implementation of EU regulations, namely Directive 2003/87/EC (EU ETS). Thus, EU ETS litigation has not focused on the impacts of climate change but rather on compliance with (or the legitimacy of) regulatory requirements and whether certain industries or facilities are covered.³¹⁰

Occasionally though, litigation concerned with the legitimacy of EU ETS regulation is itself the setting for an examination of some of the more fundamental legal and policy questions that lie at the heart of effective international climate change cooperation. Litigation challenging the extension of the EU ETS from ground-based installations to aviation, for example, has highlighted how competing or conflicting legal regimes at different levels of governance can impede effective response.

Responding to the EU ETS coverage of emissions from all aircraft flying, not just within, but into and out of EU territory, a number of US Airlines and the Air Transport Association of America challenged the implementing regulations in the UK. In the High Court there, and subsequently on a referral to the EU Court, the airlines challenged the competence of the EU to adopt the relevant legislative acts and the consistency of the aviation aspects of the EU ETS with certain principles of customary international law (including the principle relating to each state having exclusive sovereignty over its airspace and the principle guaranteeing freedom to fly over the high seas). The same case examined the validity of the EU legislative acts in light of certain international treaties and agreements such as 1944 Convention on International Civil

Aviation ('the Chicago Convention'), the 2007 Air Transport Agreement between the European Community and the US (the 'Open Skies Agreement'), and the Kyoto Protocol, Article 2(2) of which envisaged parties to the Protocol pursuing limitation of GHGs from aviation through the International Civil Aviation Organization.³¹¹

Finally, as a general matter, commentators have noted that EU human rights provisions and rules on environmental law do not permit private litigants to bring actions regarding climate change in EU courts.³¹²

It bears noting that because most EU members are civil legal systems, common law tort claims are generally unavailable if not framed as violations of civil codes. Even in England's common law system, private litigants have not brought common law claims against GHG emitters. However, England presents possibilities for indirect litigation against future large-scale emission sources, on the basis of general governmental regulation and legislation on climate change. An example was the judicial review challenge taken against decisions (announced in 2009) confirming UK Government support for a third runway at Heathrow Airport. Opponents of the Airport expansion successfully argued that the government support (first announced in a 2003 Air Transport White Paper) should have been reviewed in light of the 2008 Climate Change Act, with its national GHG reduction targets.³¹³

(vii) Africa and the Middle East

Many African and Middle Eastern countries like Egypt, South Africa and Israel recognise similar common law principles of negligence and nuisance. However, no actions to advance a climate change-related objective have been documented in these countries.

Nonetheless, there have been efforts to pursue actions against global warming as a violation of human rights. In Nigeria, the Federal High Court was among the first in the world to recognise that human rights issues are implicated in GHG emissions cases.³¹⁴ In *Gbemre v Shell Petroleum Dev Co Nigeria Ltd*, the Court found that the practice of gas flaring (the burning of excess gas in petroleum refineries and other industrial plants) violated rights to health and contributed to climate change. The court further ordered that the practice of gas flaring be terminated, and that the Attorney-General and Minister of Justice meet with the President of the Federal Republic of Nigeria to set in motion the necessary processes for putting in place new gas flaring legislation that is consistent with the constitution. However, nearly nine years on from the decision, the case remains on appeal and gas flaring continues.

In South Africa, the government has introduced legislation regulating GHGs, and litigation in reliance upon such legislation is in its infancy. Even prior to the emissions limits' taking effect in 2015, a challenge was brought, presenting arguments analogous to challenges in the US and the EU on procedures for setting emissions standards.

2.4.2 *State responsibility in international law*

Under international law, establishing state responsibility for harms caused by climate change, such as extreme weather events or environmental degradation, has traditionally faced many difficulties. For example, in addition to the limits imposed by concepts of traditional state immunity, there has not historically been an obvious forum before which individuals or groups may seek to challenge states' actions in respect of climate change: the ICJ is limited to disputes filed by other states; there is no effective judicial body within the UNFCCC process that individuals can apply to; domestic courts are generally limited to applying domestic, as opposed to international, law; and regional human rights courts, although increasingly invoked by individuals for environmental harms, as discussed herein, were not designed with a specifically environmental mandate.

Another key issue is standing: under traditional international law, individuals do not have standing to bring claims against states at the international level.³¹⁵ Although there have been positive developments in this regard, such as individuals having standing to bring claims under human rights regimes,³¹⁶ much broader acceptance of wide definitions of standing is required.

Notwithstanding these difficulties, various international fora, including the ICJ, the PCA, the International Tribunal for the Law of the Sea and even the ECtHR,³¹⁷ are already addressing environmental claims against states.³¹⁸ Accordingly, despite various attempts to institute a world environment court (discussed herein), climate change litigation is developing in various contexts around the world. The following section canvasses the different attempts made already to introduce a global environmental court – whether through the ICJ, or as an independent ICE – and the constraints of each.

2.4.3 *Constraints of the International Court of Justice*

As the pre-eminent forum for disputes between sovereign states, the ICJ has a developing jurisprudence of international environmental disputes.³¹⁹ Yet its approach to applying international environmental law suggests the ICJ is unlikely to break new ground on climate change litigation. The ICJ has in the past elected to take a narrow approach to questions presented, and is more likely to reiterate general principles of international environmental law in the absence of actionable obligations clearly established by treaty or international agreement. The ICJ espoused such a view in the *Nuclear Weapons* opinion: '[the Court] states the existing law and does not legislate. This is so even if, in stating and applying the law, the Court necessarily has to specify its scope and sometimes note its general trend.'³²⁰

In 1993, the ICJ established a special chamber for environmental cases under Article 26(1) of its Statute, composed of seven judges. However the chamber was *abolished* in 2006 with no cases ever having been listed on its docket. The reasons why this chamber was never used are manifold: first, since the parties could not choose the judges and the judges were not necessarily experts on international environmental law or on scientific and technical issues, parties prefer resorting to the full court; secondly, a recurring issue is the difficulty in identifying the limits of such a chamber's mandate – there will almost always be a very close link to other issues such as trade, production, investment or individual rights.³²¹ Similarly,

the chamber had no particular body of law to apply, unlike other tribunals or courts based on particular treaties (for example, the ECHR, the 1982 UNCLOS or the WTO agreements).

Yet, even in the absence of a specialised chamber, recent cases illustrate that states are confident that the ICJ could adjudicate claims based on international environmental law. For example, Ecuador instituted proceedings before the ICJ (now settled) alleging that aerial spraying by Colombia of toxic herbicides around and across the Ecuador border was causing serious environmental damage on the Ecuadorian side of the border, including to people, crops and animals.³²² Similarly, the ICJ determined Australia's claim against Japan (with New Zealand intervening), finding that Japan's scientific whaling programme constituted a breach of the International Convention for the Regulation of Whaling.³²³ Another indicator of the desire to seek ICJ jurisdiction on climate change issues was the attempt by a group of states, led by Palau, organised as the 'Ambassadors for Responsibility on Climate Change', to have the UN General Assembly request an advisory opinion from the ICJ clarifying the obligations and responsibilities under international law of a state for climate change harms.³²⁴

However, there are real criticisms of the ICJ's ability to deal with the technical scientific evidence that will always accompany environmental claims – and which will be particularly acute with future climate change challenges. While the ICJ has the ability to appoint technical advisers, it failed to do so in seminal cases such as the *Pulp Mills* case, where Argentina brought a claim against Uruguay for breaching a long-standing bilateral agreement by permitting the construction of water-polluting pulp mills on the Uruguay River. This deficit was observed in the joint dissenting opinion of Judge Al-Khasawneh and Judge Simma, who described the manner in which the ICJ evaluated scientific evidence as flawed, and noted that the Court had missed a 'golden opportunity' to 'demonstrate its ability to approach scientifically complex disputes in a state-of-the-art manner.'³²⁵ Poignantly, they stated that the Court: 'had before it a case on international environmental law of an exemplary nature – a "textbook example", so to speak, of alleged transfrontier pollution – yet, the Court has approached it in a way that will increase doubts in the international legal community whether it, as an institution, is well-placed to tackle complex scientific questions.'³²⁶

Accordingly, although the ICJ is rightly one of the most important sources of developing international environmental law, it is constrained by a number of institutional factors.

2.4.4 Constraints of an International Court for the Environment

Several models for an International Court for the Environment (ICE) have been proposed in recent decades, each presenting different strengths and challenges.

A prominent model for an ICE was set forth in 1989 at a congress sponsored by the International Court of the Environment Foundation (ICEF).³²⁷ The congress recommended that the proposed environmental court should be accessible to states, organs of the UN and private citizens, and should have jurisdiction over disputes relating to breaches of a proposed covenant on the environment.³²⁸ The ICEF then developed a Model Statute of the International Environmental Agency and the International Court of the Environment that was presented at the United Nations Conference on Environment and Development (UNCED) in Rio de

Janeiro in June 1992.³²⁹ The Model Statute provided access to the ICE by individuals and NGOs only where national courts had already dismissed the claim on the merits or for lack of judicial remedy. It also provided for a revolutionary system whereby any damages awarded were to be used to pay the costs of restoring the environmental damage directly.³³⁰ However, the proposal was ultimately removed from the UNCED agenda after different states rejected the idea.³³¹

In 1994, the International Court of Environmental Arbitration and Conciliation (ICEAC) was established in Mexico as an NGO to assist in the resolution of environmental disputes submitted by states, corporations or individuals. However, since its inception, the ICEAC has not received any requests for arbitration, which shows the difficulties inherent in consent-based forms of dispute resolutions in environmental disputes.³³²

In 1999, at the Third Annual Environmental Law Conference at George Washington University, a group of international environmental experts and organisations further discussed proposals for an ICE.³³³ It was proposed that, similar to the ICJ, the ICE should have both mandatory and voluntary jurisdiction. To bolster states' confidence, jurisdiction was proposed to be limited solely to disputes involving transboundary harm. Like the ICEF proposal, claims would not be admissible unless domestic remedies had been exhausted. In addition, the ICE would only have original jurisdiction in case of environmental issues of significant international importance. However, the proposal did not have sufficient support and stopped short of any concrete implementation.³³⁴

The most recent proposals (for example, those by Carroll and Hoffman, discussed below) include proposals for an ad hoc arbitral body (an ICE Tribunal) and a formal judicial institution (an ICE).³³⁵ Both proposals identify a number of advantages for instituting an ICE.

First, there is no international body with specific jurisdiction for international environmental law claims. In addition, it is now widely recognised that many non-state actors have rights under international law backed by international responsibility, but there is no international judicial fora accessible by individuals to keep states and non-state actors accountable for environmental harm. In the 1997 *Gabčíkovo-Nagymaros* case, a dispute over the construction of hydroelectric power stations on the River Danube, Judge Weeramantry, in his separate opinion, recognised the ICJ's limitations and stated that international law needs to evolve beyond state-state dispute resolution to hear matters of 'global concern of humanity as a whole'.³³⁶ An ICE would not only provide a forum for individual claims but also provide useful clarity for governments and businesses regarding international environmental issues. In addition, as discussed herein, no dispute resolution body exists at the international level with specialised subject matter expertise to hear and determine environmental and climate change matters.

In summary, despite the many advantages of establishing an ICE, and the various efforts made already, particularly in the ICJ itself, an ICE has been an elusive political goal. Although the ICJ remains an open forum for international environmental law issues between states, this does not provide individuals with any means of redress at the international level. A number of concrete options for providing greater redress, including leverage of the existing PCA, are considered in Chapter 3.

2.5 International law on climate change adaptation

2.5.1 *Framework of international law relating to climate change adaptation*

Climate change adaptation comprises efforts by states, regional governments, civil society actors, and individuals to adjust ‘natural or human systems in response to actual or expected climatic stimuli or effects’ in order to ‘moderate harm or exploit beneficial opportunities.’³³⁷ Climate change adaptation law aims to ‘increase the capacity of humans, other species, society and the ecosystem’ to adapt to the continual transformation of our environment.³³⁸ Politically, economically and socially marginalised groups within developing states have the lowest adaptive capacity,³³⁹ requiring concerted international action to enable them to adapt to the effects of climate change. Accordingly, the IPCC 2014 Assessment recognised a growing need for ‘institutional[...] and social measures, including the provision of climate-linked safety nets for those who are most vulnerable.’³⁴⁰

Although the UNFCCC recognised the necessity of adaptation,³⁴¹ the development of adaptation law and policy has thus far lagged behind that of mitigation.³⁴² The UNFCCC established a procedural requirement for adaptation, directing States Parties to ‘facilitate adequate adaptation to climate change’ through the formulation, implementation and publication of national adaptation measures.³⁴³ The UNFCCC further highlighted several areas of focus for adaptation, including the management and protection of coastal zones, water resources, agriculture and lands susceptible to desertification or flooding.³⁴⁴ The Kyoto Protocol built on the UNFCCC by requiring developed States Parties to submit their national mitigation and adaptation programmes to the Conference of the Parties.³⁴⁵

The parties to the UNFCCC have since met on a yearly basis, adding incrementally yet minimally to the adaptation framework. The Nairobi Work Programme was established in 2005 under the UNFCCC’s Subsidiary Body for Scientific and Technological Advice to aid all states, particularly developing countries, including the LDCs and small island developing states, to improve their understanding and assessment of impacts, vulnerability and adaptation to climate change, as well as to make informed decisions on practical adaptation actions and measures to respond to climate change.³⁴⁶ Recently, the 2010 Cancun Adaptation Framework (CAF) invited States Parties to the UNFCCC to undertake a variety of adaptation measures, including the formulation of national adaptation plans.³⁴⁷ Two years later, in Doha, the parties approved the three-year work plan of the Adaptation Committee, an important step in ‘promoting coherence in adaptation under the Convention and[...] providing technical support and guidance to the Parties.’³⁴⁸ Nevertheless, the international community has struggled to undertake coordinated action to facilitate adaptation to the effects of climate change worldwide.

Climate change adaptation challenges closely align with concerns regarding human security. Climate change threatens various types of human security, and adaptation measures are necessary to grapple with these threats. The UNDP has recognised that human security includes food security, health security and environmental security.³⁴⁹

Similarly, the ASEAN Political-Security Community Blueprint acknowledges that security has ‘political, economic, socio-cultural, and environmental dimensions’.³⁵⁰ With the ‘Male’ Declaration on the Human Dimension of Climate Change, small island developing states affirmed that climate change poses a substantial and immediate threat to human security by endangering their citizens’ enjoyment of basic human rights, including the rights to life, food and property.³⁵¹ Accordingly, the UN Trust Fund for Human Security promotes human security through country-level projects carried out through various UN organisations.³⁵²

Commentators have further recognised that climate change threatens global security and territorial sovereignty. Sir David King, the UK Special Representative for Climate Change and previously Chief Scientific Advisor for the UK Government, has stated that ‘[t]he international community has[...] paid increasing attention to the security implications of climate change[...]. Climate change is a far greater threat to the world’s stability than international terrorism.’³⁵³ In their recent article, Stuart Beck and Elizabeth Burleson note that the initiative on climate and security ‘grew out of a simple realization that when the survival of nation states is at stake, international peace and security must be recognized as a legal issue that the international community has a collective obligation to address.’³⁵⁴ They identified that recognising climate change as a threat to international peace and security places the issue within the jurisdiction of the UN Security Council. For its part, the Security Council has expressed ‘its concern that possible adverse effects of climate change may... aggravate certain existing threats to international peace and security’ and that ‘possible security implications of climate change [are] important, [and] when such issues are drivers of conflict, represent a challenge to the implementation of Council mandates’, but was unable to reach consensus that climate change fell within the Security Council’s mandate.³⁵⁵

Adaptation challenges are diverse, demanding action on international, national, regional and local scales. Implementing adaptation strategies requires involvement from a wide spectrum of actors in the fields of development, urban planning, rural affairs, conflict management and disaster planning. This Report does not attempt to summarise all of the wide-ranging aspects of international law relating to adaptation, but highlights the constraints of international law with regard to three key areas of adaptation: (i) climate change-related migration; (ii) food security; and (iii) technology transfer.³⁵⁶

2.5.2 Constraints for climate change-related migration

Climate change, natural disasters and territorial loss due to rising sea levels are all expected to contribute to changing migration patterns, particularly in terms of *internal* migration within states, which is already taking place. Such factors will not cause movement on their own, but rather will intersect with ‘a range of economic, social and political drivers which themselves affect migration’.³⁵⁷ Although there is no ‘direct and exclusive causality’ between environmental events caused by climate change and most forms of displacement, the connection between the two is well-established.³⁵⁸ The estimates for the potential number of internal and cross-border climate change-related migrants range widely and are contested,

but it is undisputed that internal and cross-border climate change-related migration will grow over the coming decades, not least because of the amplifying effect climate change will have on the scale and intensity of ‘natural’ disasters.³⁵⁹ According to the IPCC, ‘climate change over the 21st century is projected to increase displacement of people.’³⁶⁰ For many vulnerable populations, migration may be a necessary form of adaptation to the negative impacts of climate change.³⁶¹ In particular, commentators have identified a host of challenges for the populations of small island states.³⁶²

The legal and policy implications of climate change-related migration cut across many different fields, including human rights, development, humanitarian assistance, asylum, immigration and the environment.³⁶³ There is no international institution solely responsible for addressing climate change-related migration, nor are there any instruments of international law directly applicable to it.³⁶⁴ Although the CAF urges states to consider measures relating to displacement, migration and planned relocation,³⁶⁵ neither the UNFCCC nor the Kyoto Protocol contain any specific requirements to assist those affected by climate change-related migration in most cases, the causes of which may be less directly attributable to state action.³⁶⁶ Historically, international refugee law and domestic immigration and asylum law have developed to deal with territorially and temporally limited migration flows arising from armed conflict and persecution, and are therefore ill-suited to address climate change-related migration.³⁶⁷ While some states have implemented national programmes to host migrants fleeing major natural disasters, this protection has thus far been only temporary or ad hoc. Further, the international effort to aid climate change-related migrants faces significant practical challenges. Finally, while the UN Guiding Principles on Internal Displacement may in theory apply in situations of disaster- or climate change-related displacement, they remain non-binding.

The 1951 UN Convention Relating to the Status of Refugees and its 1967 Protocol (together, the ‘Refugee Convention’) form the centre of the international *refugee* framework and obligate states to protect refugees, defined as individuals who are outside their country of origin and have a well-founded fear of persecution for reasons of their race, religion, nationality, political opinion or membership in a particular social group.³⁶⁸ However, the Refugee Convention defines protected persons narrowly and few believe its protection extends to those who move in anticipation or because of environmental or climate-related causes.³⁶⁹ This is because climate change per se does not meet legal understandings of the concept of ‘persecution’ and because such persecution must be ‘for reasons of’ the person’s race, religion, nationality, political opinion or membership in a particular political group, which evidently does not tie in easily to those displaced by climate change.³⁷⁰ This understanding of the Convention was recently confirmed by a New Zealand court, which denied asylum to a Kiribati migrant seeking refuge on the basis that Kiribati was becoming too dangerous to live on because of the rising waters resulting from climate change.³⁷¹ As such, for cross-border migration, the international refugee framework may provide protection in a few limited circumstances,³⁷² such as cases in which people flee the effects of climate change because their government has prevented

them from accessing fertile land to grow their crops or has denied them aid or assistance in order to punish them on the basis of one of the five protected grounds.³⁷³ Yet, these circumstances are exceptional; overall, the effects of climate change will rarely satisfy the Refugee Convention's definitional requirements.³⁷⁴

Two regional refugee instruments define refugees more broadly than the Refugee Convention, potentially offering protection to a larger class of climate change-related migrants. The Organization of African Unity 1969 Convention Governing the Specific Aspects of Refugee Problems in Africa (OAU Convention)³⁷⁵ and the 1984 Cartagena Declaration on Refugees (Cartagena Declaration)³⁷⁶ include in their definition of refugees any individuals fleeing 'events seriously disturbing public order'. Scholars have cautioned that the OAU Convention and the Cartagena Declaration may be inapplicable to migrants fleeing environmental catastrophes such as famine and drought per se, although they may apply to those fleeing disturbances resulting from such catastrophes.³⁷⁷ Indeed, African states have recognised that while all people displaced across borders in the context of disaster are especially in need of state protection, the OAU Convention 'may not extend to people displaced across borders where elements of conflict and violence are absent.'³⁷⁸ Scholars have further suggested that while the Refugee Convention protects those fleeing a risk of future harm, the regional treaties seem to require evidence of an existing threat which may mean that they cannot provide protection for those who flee in anticipation of future climate change-related harms.³⁷⁹

The principle of *non-refoulement* (non-return) under international human rights law has also been suggested as a possible source of additional protection for individuals displaced in the context of climate change.³⁸⁰ Under the theory of complementary or subsidiary protection, the *non-refoulement* obligation precludes states from expelling individuals to a state where they face a real risk of arbitrary deprivation of life, torture or cruel, inhuman or degrading treatment or punishment.³⁸¹ Decision-makers have demanded a very high threshold when considering its application to individuals fleeing violations of their socio-economic rights, which are the rights primarily implicated in climate change-related migration.³⁸² They have been unwilling to find that an individual is entitled to international protection unless a state deliberately inflicts harm or withholds basic resources.³⁸³ A lack of basic resources alone would therefore be insufficient to trigger the *non-refoulement* obligation, except in cases of deliberate state action or where the lack of resources would make an individual's survival nearly impossible.³⁸⁴ While this may indeed be the case at some future point in time, for example, when the cumulative impacts of climate change mean that fresh water, food, health and shelter are compromised, complementary protection may not be a useful anticipatory mechanism for protecting climate-related migrants.³⁸⁵

The push for a more pronounced international effort to aid climate migrants faces enormous practical challenges. The United Nations Commission on Human Rights (OHCHR), under the leadership of its current High Commissioner, António Guterres, has, in recent years, made concerted efforts to seek broad international consensus on the creation of a new, non-binding guiding framework covering climate change and other environmental migrants. This received

a muted reaction from states.³⁸⁶ Scholars have suggested several practical reasons for this reticence. First, in many respects, states continue to consider the admission of foreign citizens to be a matter of national sovereignty, prioritising national security concerns over effective multilateral cooperation.³⁸⁷ Secondly, states were wary of extending mandate of the OHCHR in this way, preferring to limit any developments on this front to an intergovernmental process – such as the Nansen Initiative on Disaster-Induced Cross-Border Displacement – rather than one in which an international organisation took the lead.³⁸⁸ Thirdly, climate change-related migration concerns a wide range of policy domains, with attendant communication and coordination challenges. Fourth, it is impossible to establish a simple, direct causal link between climate change and migratory flows.³⁸⁹ Finally, uncertainty as to the number of people likely to be displaced due to climate change impedes effective planning.³⁹⁰ Despite these hurdles, in 2010 the CAF under the UNFCCC included a ‘first time ever mention of migration, displacement and planned relocation in an internationally negotiated piece of climate policy.’³⁹¹ The CAF invited parties, taking into account their CBDR and capabilities, to undertake ‘measures that enhance understanding, coordination and cooperation with regard to climate change induced displacement, migration and planned relocation, where appropriate at national, regional and international levels.’³⁹²

In 2012, as a direct result of UNHCR’s unsuccessful attempt to engage states, the governments of Norway and Switzerland established the Nansen Initiative on Disaster-Induced Cross-Border Displacement.³⁹³ This intergovernmental process seeks to gather empirical evidence and expertise from government, academia and civil society in five sub-regions particularly effected by disasters and the effects of climate change.³⁹⁴ Its objective is to ascertain what kinds of responses are needed at the local, national, regional and international levels to address displacement, migration and planned relocation.³⁹⁵ In that sense, the Nansen Initiative is also a direct response to paragraph 14(f) of the CAF. In 2015, the Nansen Initiative will present a ‘protection agenda’ – a toolkit of legal and policy responses based on the evidence gathered – as a first step to stimulate further action on this subject.³⁹⁶

The international community has also taken specific steps to address internal displacement.³⁹⁷ Scholars have suggested that the UN Guiding Principles on Internal Displacement (Guiding Principles) may provide ‘the normative framework for addressing all climate change-related displacement, including slow-onset disaster displacement, occurring within a country’.³⁹⁸ The Guiding Principles identify rights necessary to the protection of internally displaced persons, but they do not set out to create new law or envisage the creation of a legal status for individuals displaced internally due to climate change, as these individuals remain citizens of their own country.³⁹⁹ While the international community has not undertaken binding commitments to address internal displacement, African states built on the Guiding Principles by adopting the African Union Convention for the Protection and Assistance of Internally Displaced Persons in Africa (the ‘Kampala Convention’), a binding instrument specifying the rights of the internally displaced,⁴⁰⁰ and the responsibility of states to ensure appropriate protection and assistance to internally

displaced persons.⁴⁰¹ The Kampala Convention is the first instrument to specifically mention climate change in this context of internal displacement.⁴⁰²

When it comes to cross-border movement, few countries have domestic immigration laws that would assist climate change-related migrants. There are some notable exceptions, however. Finland, Sweden and Argentina have explicitly included environmental migrants in their immigration policies.⁴⁰³ Yet, commentators have suggested that Swedish and Argentinian immigration laws would apply only to those fleeing sudden-onset disasters.⁴⁰⁴ Finnish immigration law has not yet been applied to climate change-related migration, but its provision extending protection to an individual who ‘cannot return to his or her country of origin or... former habitual residence as a result of an environmental catastrophe or a bad security situation [that] *may* be due to an international or internal armed conflict or a poor human rights situation’ might cover climate migrants (emphasis added).⁴⁰⁵

Other efforts by states to protect those affected by extreme weather events have been temporary or ad hoc. The EU Temporary Protection Directive establishes temporary protection for ‘mass influxes’ of certain displaced populations,⁴⁰⁶ but has never been triggered. Further, ‘mass influx’ is designated on a case-by-case basis and has not been formally expanded to specifically cover climate change-related migration.⁴⁰⁷ Similarly, the US offers temporary protected status at the Attorney-General’s discretion to provide sanctuary for those unwilling to return to dangerous situations in their home countries.⁴⁰⁸ Notably, categories of events that would render a country eligible include ‘earthquake, flood, drought, epidemic, or other environmental disaster in the state resulting in a substantial, but temporary disruption of living conditions in the area affected’.⁴⁰⁹ However, as is clear from the text, both the US and EU designations envisage only *temporary* protection.

2.5.3 Constraints for food security

Climate change is expected to affect all four dimensions of food security: (i) food availability; (ii) food utilisation; (iii) food accessibility; and (iv) food systems stability.⁴¹⁰ A recent study by the World Food Programme concluded that, without significant adaptation measures, climate change ‘will greatly increase hunger, especially in the poorest parts of the world’.⁴¹¹ In fact, climate change has proven a contributory cause in a series of recent global food crises – in 2008⁴¹² and again in 2011⁴¹³ – with the result that food security is emerging as a defining climate justice challenge. At the same time, certain adaptation and mitigation measures, such as agrofuel production and forest preservation, may themselves negatively affect food availability in developing countries.⁴¹⁴ Trade law, agrofuels, commodity markets, subsidies, as well as relevant elements of international and transnational law, all have important effects upon food security in the context of climate change. However, to date, the role of international and domestic law in protecting food security or, to the contrary, contributing to vulnerability to food shocks has garnered little attention. The main exception has undoubtedly been the recent UN Special Rapporteur on the Right to Adequate Food, Olivier de Schutter, who has amassed an impressive quantity of analysis and recommendation over the course of his now complete eight-year mandate.

The obvious source of protection against food insecurity under international law is the ‘right to adequate food’, recognised in the Universal Declaration on Human Rights, the ICESCR, the Convention on the Elimination of All Forms of Discrimination against Women and the Convention on the Rights of the Child.⁴¹⁵ Human rights bodies and experts have further developed the concepts, obligations and means of implementation relating to the right to food. As a result, the right to food has been recognised as ‘a basis for analysis, action and accountability’ in promoting food security.⁴¹⁶

The Committee on Economic, Social and Cultural Rights clarified the content and ways and means of implementation of the right to adequate food with General Comment 12.⁴¹⁷ General Comment 12 defines the right to adequate food as the right to ‘physical and economic access at all times to adequate food or means for its procurement’ for every man, woman and child.⁴¹⁸ Responding to the ‘disturbing gap’ between the right to food as expressed in ICESCR Article 11 and the situation on the ground, the Committee noted that ‘fundamentally, the roots of the problem of hunger and malnutrition are not lack of food but lack of access to available food’, including due to poverty.⁴¹⁹ Indeed, General Comment 12 considers the right to adequate food as ‘inseparable from social justice, requiring the adoption of appropriate economic, environmental and social policies, at both the national and international levels’.⁴²⁰ The concept of adequacy underlines that various factors – including social, economic, cultural, climatic, ecological and other conditions – must be taken into account in determining whether particular foods or diets are appropriate. The notion of sustainability is linked to food accessibility for both present and future generations.

Yet, although the climate change regime and associated international organisations have clearly recognised the threat climate change poses to food security, they have thus far eschewed a human rights-based approach.⁴²¹ The UNFCCC states that the Convention’s primary purpose is to ‘prevent dangerous anthropogenic interference with the climate system[...] within a timeframe sufficient to allow ecosystems to adapt naturally to climate change, to *ensure that food security is not threatened*’.⁴²² The World Bank, the Food and Agriculture Organization of the United Nations (FAO), the World Health Organization (WHO), and the UNDP have also acknowledged the link between food security and climate change.⁴²³ The Rome Declaration on World Food Security recognised that ‘climate change poses additional, severe risks to food security and the agricultural sector’.⁴²⁴ Nevertheless, the most recent IPCC Assessment Report does not acknowledge the human right to food in its discussion of food security.⁴²⁵ Similarly, the FAO assessment and monitoring tools for food security focus on necessary technological adaptation and forecasting, but do not adopt a rights-based approach.⁴²⁶ The Special Rapporteur on the right to food has suggested that the willingness of the FAO to embrace the right to food through its committee on world food security is at odds with its local monitoring programmes and with its private-sector projects; accordingly, he has called upon the FAO to apply a human rights-based approach to food security across its component committees and projects.⁴²⁷

Furthermore, the international climate change regime has undertaken necessary mitigation measures that may in some cases negatively impact the right to food for many

vulnerable populations. For example, the UNFCCC Initiative on Reducing Emissions from Deforestation and Forest Degradation (REDD) and REDD+, which attempt to preserve forest carbon sinks by halting the incursion of agriculture into forestlands,⁴²⁸ may further diminish the availability of arable land and threaten food security in developing countries.⁴²⁹ Similarly, a number of more developed states have promoted a shift to agrofuels in order to reduce their fossil fuel consumption, which may negatively impact food security.⁴³⁰ The World Bank has noted that policies that subsidise production, impose high tariffs and mandate consumption of agrofuels ‘have led to rapid expansion of biofuels production from food crops, such as maize and vegetable oils, and have contributed to higher food prices as well as to environmental degradation’.⁴³¹ Public incentives for agrofuels and the consequent growth in biofuel production have recognisably decreased the land available for food crops and raised the price of food commodities, forcing poor consumers out of the market.⁴³² In the absence of concerted international action, the EU and Switzerland have developed sustainability criteria for agrofuel production, but such unilateral measures ‘fail to adequately address the potential impacts of the development of agrofuels production on food security.’⁴³³

Recently, the UN Special Rapporteur on the right to food expressed concern that the EU’s agrofuels policy – reflected in the Renewable Energy Directive (2009/28/EC) – impinges upon the right to food in developing countries and called upon the EU to eventually remove or reduce its agrofuel mandates.⁴³⁴ In the face of these policies, least-developed nations have increasingly expressed concern about the impacts of climate change on food security.⁴³⁵ The Office of the UNHCHR has recognised that the realisation of the right to food requires that ‘special attention be given to vulnerable and disadvantaged groups,’ especially in threatened areas.⁴³⁶ Indeed, it is ‘the rural hungry whose livelihood is intimately tied to the food sector who are most at risk from[...] climate-exacerbated fluctuations in the global food system.’⁴³⁷ The climate change regime’s failure to focus on the human right to food has meant that the international community has not focused on these groups in establishing adaptation and mitigation measures, leaving many in developing countries increasingly vulnerable to climate change-related food insecurity.

2.5.4 Constraints on technology transfer and access to information

The development and transfer of various technologies are essential to effective adaptation to climate change. For example, the development and diffusion of new irrigation technologies⁴³⁸ or new plant varieties⁴³⁹ will be necessary to the preservation of agriculture in vulnerable regions.⁴⁴⁰ Rainwater harvesting and ground-water pumping technologies will help populations adapt to the increased incidence of drought in certain areas.⁴⁴¹ In addition, technologies related to disaster preparation and early warning systems may prove crucial to safeguarding human life and infrastructure in the event of climate change-induced natural disasters.⁴⁴²

States’ technological and financial capacities to adapt to climate change differ significantly.⁴⁴³ Expertise and funding are concentrated in developed states, leaving developing states without necessary information about the expected impacts of and

potential responses to climate change.⁴⁴⁴ While international law establishes a limited right to information concerning adaptation to climate change, the international community has not outlined concrete legal obligations to facilitate the transfer of adaptation technology.⁴⁴⁵

International law establishes a right to receive information related to climate change, as well as limited duties to disseminate such information. The UN has recognised that ‘[f]reedom of information is a fundamental human right and[...] the touchstone of all the freedoms to which the United Nations is consecrated’.⁴⁴⁶ In the climate change context, the Aarhus Convention recognises a right to access environmental information, creating an affirmative obligation to provide certain environmental information on request and to actively disseminate other forms of information.⁴⁴⁷ In addition, John H Knox, the UN Independent Expert on human rights and the environment concluded in 2013 that ‘[human rights] obligations include procedural obligations of States to assess environmental impacts on human rights and to make environmental information public, to facilitate participation in environmental decision-making, and to provide access to remedies. The obligation to facilitate public participation includes obligations to safeguard the rights of freedom of expression and association against threats, harassment and violence.’⁴⁴⁸

The international community has not, however, established concrete obligations with regard to the transfer of adaptation technologies. The 1992 Rio Declaration on Environment and Development laid out an ambitious set of broad international and national policies intended to facilitate technology transfer to less developed countries.⁴⁴⁹ That same year, the UNFCCC required States Parties, ‘taking into account their common but differentiated responsibilities and their specific priorities’, to cooperate in the development and implementation of adaptation measures, ‘including transfer of technologies’.⁴⁵⁰ The States Parties to the Kyoto Protocol reiterated this commitment and pledged to cooperate in the development, application, transfer and diffusion of environmentally sound technologies, ‘in particular to developing countries’.⁴⁵¹

In December 2007, the UNFCCC Bali Action Plan called for ‘scaling up of the development and transfer of technology to developing country parties in order to promote access to affordable environmentally sound technologies’ as well as for ‘[c]ooperation on research and development of current, new and innovative technology’.⁴⁵² In 2010, the parties to the UNFCCC reiterated these commitments,⁴⁵³ and established a technology mechanism to facilitate the development and transfer of adaptive technologies.⁴⁵⁴ Nevertheless, international civil society organisations have concluded that ‘[d]espite almost 20 years of negotiation and accumulating evidence of climate harms, there is as yet no actionable international policy on technology transfer’.⁴⁵⁵

At the same time, international intellectual property protections may in some cases impede the development and diffusion of badly needed mitigation and adaptation technologies to developing countries.⁴⁵⁶ For example, the United Nations Special Rapporteur on the Right to Food has concluded that intellectual property protections on seed varieties are undermining traditional seed systems, ‘a source of economic independence and resilience [for small farmers] in the face of threats such as pests, diseases

or climate change'.⁴⁵⁷ The role of intellectual property in climate change mitigation and adaptation began to receive international attention following the COP at Bali in 2007, during which developing countries declared intellectual property rights to be among the primary impediments to technology transfer.⁴⁵⁸ At the 2012 COP in Doha, the Technology Transfer Committee highlighted the need for clarity in the application of intellectual property protections to the transfer of climate change-related technologies.⁴⁵⁹

The WTO Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) regime has thus far privileged protection of intellectual property rights, which fosters technological innovation, over the widespread diffusion of new technologies to developing countries. While Article 66(2) of the TRIPS Agreement does require developed states to help facilitate technology transfer to LDCs,⁴⁶⁰ many developing country members of TRIPS have indicated that Article 66(2) has had limited impact.⁴⁶¹ Recently, the TRIPS Council, the body responsible for administering the TRIPS agreements, discussed the issue of intellectual property and technology transfer at its February 2014 meeting without reaching consensus to take any action.⁴⁶²

A number of multilateral instruments have recognised the necessity of technology transfer to developing countries.⁴⁶³ Going forward, the international community must create a concrete framework to facilitate technology transfer that links the environmental and trade law regimes and strikes an appropriate balance between incentives for innovation and widespread diffusion of adaptation technology.

Notes

- 144 See, for example, International Law Commission, *International Law Commission: Conclusions of the Work of the Study Group on the Fragmentation of International Law: Difficulties Arising from the Diversification and Expansion of International Law* (2006); Margaret A Young, 'Climate Change Law and Regime Interaction' (2011) 5 Carbon and Climate Law Review 147, 147–151.
- 145 The EU has committed to three key objectives for 2020: (i) a 20 per cent reduction in EU GHG emissions from 1990 levels; (ii) a rise in the share of EU energy consumption produced from renewable resources to 20 per cent; and (iii) a 20 per cent improvement in the EU's energy efficiency. See http://ec.europa.eu/clima/policies/package/index_en.htm.
- 146 Patricia Birnie, Alan Boyle and Catherine Redgwell (eds), *International Law and the Environment* (3rd edn, Oxford University Press, 2009) 39.
- 147 Jane Bulmer, 'Compliance regimes in multilateral environmental agreements' in Lavanya Rajamani, Jutta Brunnée and Meinhard Doelle, *Promoting Compliance in an Evolving Climate Regime* (Cambridge University Press, 2012) 55–56.
- 148 *Ibid.*, 56.
- 149 UNFCCC, 29 May 1992, A/AC.237/18 (Part II)/Add 1, reprinted in (1992) 31 ILM 849, Art 3; see the Kyoto Protocol to the UNFCCC, 10 December 1997, FCCC/CP/1997/L.7/add 1, reprinted in (1998) 37 ILM 22; Vienna Convention for the Protection of the Ozone Layer, Vienna 22 March 1985, UN, Treaty Series, Vol 1513, at 293; Montreal Protocol on Substances that Deplete the Ozone Layer, 1 January 1989, 1522 UNTS 3; 26 ILM 1550 (1987); UN Rio Declaration on Environment and Development, 14 June 1992, 31 ILM 874 (1992); see also ILA, *The Hague Conference 2010, Legal Principles Relating to Climate Change*; Rafael Leal-Arcas, *Climate Change and International Trade, Part 2* (Edward Elgar, 2013).
- 150 See n 71, Kyoto Protocol (1998), Art 17.
- 151 *Ibid.*, Art 12. The CDM has been criticised for not reflecting real, verifiable GHG emissions reductions but instead favouring the cheapest abatement options. See n 149 above, Leal-Arcas, 241–44.
- 152 *Ibid.* See also n 71, Kyoto Protocol (1998).
- 153 See http://unfccc.int/cooperation_and_support/financial_mechanism/adaptation_fund/items/3659.php.
- 154 The states listed in Annex B that have ratified the Kyoto Protocol are bound to reduce their GHG emissions by specified percentages below their recorded 1990 emissions.
- 155 Lavanya Rajamani, Jutta Brunnée and Meinhard Doelle, 'Introduction: The role of compliance in an evolving climate regime' in Lavanya Rajamani, Jutta Brunnée, and Meinhard Doelle, *Promoting Compliance in an Evolving Climate Regime* (Cambridge University Press, 2012) 4–5; see also n 149 above, Leal-Arcas, 250, for an overview of the top 25 largest CO₂-emitting countries in 2009, and at 266 for an overview of projected emissions of GHGs in 2025.
- 156 Jutta Brunnée, 'Promoting compliance with multilateral environmental agreements' in Lavanya Rajamani, Jutta Brunnée and Meinhard Doelle, *Promoting Compliance in an Evolving Climate Regime* (Cambridge University Press, 2012) 48–49; Sumudu Atapattu, 'Climate Change, differentiated responsibilities and state responsibility: devising novel legal strategies for damage caused by climate change' in Benjamin J Richardson, Yves Le Bouthillier, Heather McLeod-Kilmurray and Stepan Wood, *Climate Law and Developing Countries, Legal and Policy Challenges for the World Economy* (Edward Elgar, 2009) 39; Lee Godden, 'Death, Desire, Modernity and Redemption: Climate Change and Public International Environmental Law' (2009) 10 Melbourne Journal of International Law 31–36.
- 157 Doha Amendment adopted by decision 1/CMP. 8 in accordance with Articles 20 and 21 of the Kyoto Protocol, at the eighth session of the COP serving as the meeting of the Parties to the Kyoto Protocol held in Doha, Qatar in December 2012 at: https://unfccc.int/kyoto_protocol/doha_amendment/items/7362.php.
- 158 Benjamin J Richardson, Yves Le Bouthillier, Heather McLeod-Kilmurray and Stepan Wood, 'Introduction: Climate Law and Developing Countries, Legal and Policy Challenges for the World Economy' in Benjamin J Richardson, Yves Le Bouthillier, Heather McLeod-Kilmurray and Stepan Wood, *Climate Law and Developing Countries, Legal and Policy Challenges for the World Economy* (Edward Elgar, 2009) 8; n 146 above, 371–72, 374; n 156, Godden, 31–36.
- 159 See n 146, Birnie, Boyle and Redgwell (2009) 357.

- 160 See n 156, Richardson, Le Bouthillier, McLeod-Kilmurray and Wood (2009), 13.
- 161 See n 156, Brunnée (2012), 49.
- 162 See http://unfccc.int/meetings/warsaw_nov_2013/meeting/7649.php.
- 163 *Ibid.* Notably the Durban Platform no longer refers specifically to the principle of CBDR, but instead launched a process to develop a protocol, the legal instrument or agreed outcome in 2015, which would be 'applicable to all Parties'.
- 164 Farhana Yamin and Joanna Depledge, *The International Climate Change Regime: a Guide to Rules, Institutions and Procedures* (Cambridge University Press, 2004) 136–140, 144–45; David Hunter, James Salzman and Durwood Zaelke, *International environmental law and policy* (2nd edn, Foundation Press, 2002) 640–645; Charlotte Kreuter-Kirchhof, *Neue Kooperationsformen im Umweltvölkerrecht* (Duncker & Humblot GmbH, 2005) 112–14; Anita M Halvorsen, 'Common, but Differentiated Commitments in the Future Climate Change Regime – Amending the Kyoto Protocol to include Annex C and the Annex C Mitigation Fund' (2007) 18 *Colo J of Int'l Environmental Law & Pol'y* 256–257. The CDM is rooted in the principles of CBDR and sustainable development, working as a 'partnership' between the two groups of nations, where each group has its own responsibilities aiming at a common goal (Dr Philippe Cullet, 'Equity and Flexibility Mechanisms in the Climate Change Regime: Conceptual and Practical Issues' (1998) IELRC Working Paper, 11.
- 165 *Ibid.*, Cullet (1998), 8.
- 166 See, for example, Convention on the Prevention of Marine Pollution by Dumping of Waste and Other Matter and its Protocol, 30 August 1975, 26 UST 2403, 1046 UNTS 120, 11 ILM 1294 (1972); UNCLOS, 16 November 1994, 1833 UNTS 3, 397; 21 ILM 1261 (1982) (UNCLOS); Convention on Biological Diversity and its Cartagena Protocol on Biosafety, 29 December 1993, 1760 UNTS 79, 31 ILM 818 (1992); Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, 5 May 1992, 1673 UNTS 126, 28 ILM 657 (1989); Convention on International Trade and Endangered Species of Wild Fauna and Flora, 1 July 1975, 27 UST 1087, TIAS 8249, 993 UNTS 243.
- 167 See www.unep.org/env/lrtap/lrtap_h1.html.
- 168 See <http://legal.un.org/avl/ha/vcpol/vcpol.html>.
- 169 See http://ozone.unep.org/new_site/en/Treaties/treaties_decisions-hb.php?sec_id=5.
- 170 See n 146, Birnie, Boyle and Redgwell (2009), 345–46.
- 171 S Murase, *International Law Commission, First Report on the Protection of the Atmosphere A/CN.4/667* (14 February 2014).
- 172 See n 156, Brunnée (2012), 47–48.
- 173 *Ibid.*
- 174 See n 156, Richardson, Le Bouthillier, McLeod-Kilmurray and Wood, 9–10; see n 149, Leal-Arcas, 246–47, stating that '[d]ue to continued deforestation in tropical developing countries, developing countries today produce more GHG emissions than the developed world'.
- 175 See n 166, UNCLOS, parts II and V of UNCLOS codify international law relating to states' territorial seas (12 nautical miles from a state's legally determined baseline) and Exclusive Economic Zones (200 nautical miles from the baseline), where a state exercises control of natural resources in the Exclusive Economic Zones. This aspect of UNCLOS was agreed as an effort to encourage the final resolution of maritime boundary disputes, and the setting of relatively stable and permanent boundaries. See, for example, Achim Maas and Alexander Carius, *Territorial Integrity and Sovereignty: Climate Change and Security in the Pacific and Beyond* (2010) 6–8.
- 176 See n 146, Birnie, Boyle and Redgwell (2009), 18.
- 177 *Ibid.*, 34–37.
- 178 See, for example, n 71, UNFCCC; Bonn Convention on Conservation of Migratory Species of Wild Animals (1979), www.cms.int; see also n 166, Convention on Biological Diversity and UNCLOS; International Convention on the Regulation of Whaling (1946), 62 Stat 1716, 161 UNTS 72.
- 179 See n 146, Birnie (2009), 37.
- 180 *Ibid.*
- 181 See, for example, Ian Brownlie, *Principles of Public International Law* (7th ed, Oxford University Press, 2008) 6–12.
- 182 See n 146, Birnie, Boyle and Redgwell (2009), 22–25.
- 183 *Ibid.*, 34–37.

- 184 Initially expressed in the *Trail Smelter Arbitration*, and most recently recognised as part of the corpus of international law relating to the environment in the ICJ *Advisory Opinion on the Legality or Threat of Use of Nuclear Weapons* (ICJ Rep 1996 at 20). ('Taken together, these provisions embody a general obligation to protect the natural environment against widespread, long-term and severe environmental damage; the prohibition of methods and means of warfare which are intended, or may be expected, to cause such damage; and the prohibition of attacks against the natural environment by way of reprisals.')
- 185 The ICJ espoused this 'preventive' dimension of the no-harm rule in *Pulp Mills on the River Uruguay (Argentina v Uruguay)*, Judgment, ICJ Rep 2010 (20 April 2010). The ILA, *Legal Principles Relating to Climate Change: Draft Articles* (April 2014), usefully progress this by including in Draft Art 3.5: 'Where social and economic development plans, programs or projects may result in significant emissions of GHGs or cause serious damage to the environment through climate change, *States have a duty to prevent such harm* or, at a minimum, to employ due diligence efforts to mitigate climate change impact.' Also Draft Art 7A: 'States have an obligation 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, including damage through climate change.'
- 186 See *Trail Smelter case (US v Canada)*, Award 16 April 1938, 3 RIAA 1905, 1965; *Corfu Channel case, (UK v Albania)*, ICJ Rep 1949 (9 April 1949); *Legality of the Threat or Use of Nuclear Weapons*, Advisory Opinion, ICJ Rep 1996; Case concerning the *Gabčíkovo-Nagymaros Project (Hungary v Slovakia)*, ICJ Rep 1997. In its Advisory Opinion on the *Legality of the Threat or Use of Nuclear Weapons*, the ICJ acknowledged the no-harm rule as a principle of customary international law, but went on to point out that no obligations of total restraint stem from environmental law treaties, and that states must simply 'take environmental considerations into account when assessing what is necessary and proportionate in the pursuit of legitimate military objectives' (para 30). The Court did not define a specific obligation arising from the no-harm principle, rather opting for a case-by-case analysis (para 33).
- 187 See n 146, Birnie, Boyle and Redgwell (2009), 125–127.
- 188 See n 71, UNFCCC, Art 3; n 149 UN Rio Declaration on Environment and Development, Principle 3 and Principle 15; various formulations of the precautionary principle have also been adopted into other international agreements, including: the Montreal Protocol on Substances that Deplete the Ozone Layer, n 149 above; the Cartagena Protocol on Biosafety, n 166 above; and the Stockholm Convention on Persistent Organic Pollutants, 17 May 2004, 2256 UNTS 119, 40 ILM 532 (2001).
- 189 See n 146, Birnie, Boyle and Redgwell (2009), 159–64; Kenneth L Mossman and Gary E Marchant, 'The Precautionary Principle & Radiation Protection' (Spring 2002) 13 Risk: Health, Safety & Environment 137. In its 2011 Advisory Opinion on the Responsibilities and Obligations of States, the Seabed Disputes Chamber of the International Tribunal on the Law of the Sea stated that the precautionary approach is 'an integral part of the due diligence obligation of sponsoring States' (in the context of the Regulations at issue in that case). In *Tatar v Romania*, App No 67021/01, Eur Ct HR para 120 (27 January 2009), the ECtHR noted that the precautionary principle was part of European Community law, 'qui "a vocation à s'appliquer en vue d'assurer un niveau de protection élevée de la santé, de la sécurité des consommateurs et de l'environnement, dans l'ensemble des activités de la Communauté".' In addition, the ILA *Draft Articles on Climate Change* n 92 above usefully progresses this by including in Draft Art 7B.1: 'Where there is a reasonably foreseeable threat of serious or irreversible damage, including serious or irreversible damage to States vulnerable to the impacts of climate change, measures to anticipate, prevent or adapt to climate change shall be taken by States without waiting for conclusive scientific proof of that damage.'
- 190 See John H Knox, *Report of the Independent Expert on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment*, Mapping Report para 26 (30 December 2013) UN Doc A/HRC/25/53.
- 191 Optional Protocol to the International Covenant on Economic, Social and Cultural Rights, adopted 10 December 2008, entered into force on 5 May 2013. As of 14 July 2014, 15 states have ratified the Optional Protocol. Human Rights Council Resolution 5/1, Institution-building of the United Nations Human Rights Council para 85, 18 June 2007.
- 192 See n 190, paras 17–25. See the detailed analysis of climate change effects on all recognised rights set out in Sébastien Jodoin and Katherine Lofts (eds), *Economic, Social and Cultural Rights and Climate Change: A*

- Legal Reference Guide* (CISDL, GEM & ASAP, 2013). See also the reports and publications of the Special Rapporteur on the Human Right to Safe Drinking Water and Sanitation, at www.ohchr.org/EN/Issues/WaterAndSanitation/SRWater/Pages/SRWaterIndex.aspx; the reports of the Special Rapporteur on the Right to Food, at www.ohchr.org/EN/Issues/Food/Pages/FoodIndex.aspx; the reports of the Special Rapporteur on Adequate Housing, at www.ohchr.org/EN/HRBodies/SP/Pages/Themes.aspx; and the reports of the Special Rapporteur on Extreme Poverty and Human Rights, at www.ohchr.org/EN/Issues/Poverty/Pages/SRExtremePovertyIndex.aspx.
- 193 Human Rights Council Resolution 7/23, 7th Session, 28 March 2008, UN Doc A/HRC/RES/7/23; see also UN OHCHR, *Report on the relationship between climate change and human rights*, 15 January 2009, UN Doc A/HRC/10/61; Human Rights Council Resolution 18/22, Human rights and climate change, 18th Session, 17 October 2011, UN Doc A/HRC/RES/18/22.
- 194 See n 38, UNFCCC (2011); UN Human Rights Council Resolution 10/4, Human rights and climate change, 10th Session, 25 March 2009, UN Doc A/HRC/RES/10/4.
- 195 See section 1.3, 'The impact of climate change on individuals', p 10, Chapter 1 of this report.
- 196 See, for example, CESCR, General Comment 12, the right to adequate food, paras 14–16, 12 May 1999, UN Doc E/C.12/1999/5; CESCR General Comment No 15, the right to water, paras 17, 20, 20 January 2003, UN Doc E/C.12/2002/11; CESCR, General Comment 14, the Right to the Highest Attainable Standard of Health, paras 30–33, 11 August 2000, UN Doc E/C.12/2000/4.
- 197 ICESCR Art 2(1).
- 198 See n 149, UNFCCC (1992), Art 4(7); ICESCR Art 2(1).
- 199 See 'Mapping Human Rights Obligations Relating to the Enjoyment of a Safe, Clean, Healthy and Sustainable Environment, Focus report on human rights and climate change', Prepared by the Independent Expert on human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment (June 2014).
- 200 See n 190 above, para 46 (emphasis added).
- 201 See, for example, African [Banjul] Charter on Human and People's Rights Art 24 adopted 27 June 1981, OAU Doc CAB/LEG/67/3 rev 5, 21 ILM 58 (1982), entered into force 21 October 1986 ('All peoples shall have the right to a general satisfactory environment favorable to their development.') Moreover, the African Commission on Human and People's Rights has entertained petitions based on violations of this right and found states in violation of their associated obligations. 155/96 *Social and Economic Rights Action Centre (SERAC) and Center for Economic and Social Rights (CESR) v Nigeria* (Ogoniland case), paras 53–5; San Salvador Protocol Art 11.
- 202 See, for example, UN General Assembly Resolution, Problems of the Human Environment, GA Res 2398 (XXIII), 3 December 1968, UN Doc A/Res/2398/23; see also UN General Assembly, Need to Ensure a Healthy Environment for the Well-being of Individuals, 14 December 1990, UN Doc A/RES/45/94; Hague Declaration on the Environment, 28 ILM 1308 (11 March 1989); Stockholm Declaration on the Human Environment of the United Nations Conference on the Human Environment, 11 ILM 1416 (16 June 1972).
- 203 Siobhán McInerney-Lankford, Mac Darrow and Lavanya Rajamani, *Human Rights and Climate Change, A Review of the International Legal Dimensions* (The World Bank 2011) 7 (emphasis added) ('World Bank Study').
- 204 See UN Guiding Principles on Business and Human Rights, HR/PUB/11/04 (setting out guidelines for companies' responsibilities to respect human rights; Human Rights Council Resolution 17/4, Human rights and transnational corporations and other business enterprises para 1, 17th Session, 6 July 2011, UN Doc A/HRC/RES/17/4 (endorsing the UN Guiding Principles on Business and Human Rights, HR/PUB/11/04).
- 205 See n 190 above, paras 62–68.
- 206 See n 203 above, 39–40; see also *ibid*, paras 63, 66; John H Knox, 'Climate Change and Human Rights Law' (2009–2010) 50 Va J Int'l L 163, 200–201.
- 207 The ICESCR contains language providing support for extraterritorial obligations such as duties to assist and cooperate, but its committee's interpretations are not legally binding. See n 203 above, 40–41; John H Knox, 'Linking Human Rights and Climate Change at the United Nations' (2009) 33 Harv Environmental L Rev 477, 492–93.

- 208 See n 203, 39; see also n 206, Knox.
- 209 See n 156, Richardson, Le Bouthillier, McLeod-Kilmurray and Wood, 50; but see Richard Heede, 'Tracing anthropogenic carbon dioxide and methane emissions to fossil fuel and cement producers, 1854-2010' (2014) 122(1-2) *Climate Change* 229-241 (the '*Climate Majors Report*'), which has linked 63 per cent of cumulative worldwide emissions of industrial CO₂ and methane between 1751 and 2010 to 90 'carbon major' entities (50 investor-owned entities; 31 state-owned enterprises and nine current or former centrally planned states. See also *Mass v EPA*, 549 US 497 (2007), which is discussed in Chapter 3.
- 210 See n 156 above, Richardson, Le Bouthillier, McLeod-Kilmurray and Wood, 53-4.
- 211 Paul Baer, Tom Athanasiou, Sivan Karta and Eric Kemp-Benedict, *The Greenhouse Development Rights Framework: The Right to Development in a Climate Constrained World* (2nd edn, Heinrich Böll Foundation, 2008) 17-20; see also n 207, Knox, 489.
- 212 Where peoples' rights exist, those rights can be exercised by the whole population of a country or by a part of a population of a country who are bound together by their historical, traditional, racial, ethnic, cultural, linguistic, religious, ideological, geographical or economic identities, and affinities or other bonds (African Commission on Human and People's Rights: *Gunme and Others v Cameroon*, No 266/2003, 26th Activity Report of the ACommHPR (1999-2000) para 170). Among other peoples' rights, the ACHPR recognises that '[a]ll peoples shall have the right to their economic, social and cultural development with due regards to their freedom and identity and in the equal enjoyment of the common heritage of mankind', Art 22 and that '[a]ll peoples shall have the right to a general satisfactory environment favourable to their development', Art 24.
- 213 In some cases, the ECHR has given a broad interpretation to the notion of victim, making it possible for an applicant to challenge a general law without it being established that they themselves had become a victim. However, in these cases, the applicants were potential victims of legislation. *Klass and others v Germany*, para 10, App No 5029/71 (6 September 1978); *Norris v Ireland*, paras 9-11, App No 10581/83 (26 October 1988).
- 214 For example, the Inuit petition to the IACHR Petition to the Inter-American Commission on Human Rights Seeking Relief from Violations Resulting from Global Warming Caused by Acts and Omissions of the United States (7 December 2005), <http://inuitcircumpolar.com/files/uploads/icc-files/FINALPetitionICC.pdf>, would be much more difficult before the ECtHR.
- 215 See also discussion in section 3.1.1 on 'What rights are available for individuals and communities?', p 85, Chapter 3 of this report.
- 216 See, for example, Terms of Reference for the Voluntary Fund for Financial and Technical Assistance for the Implementation of the Universal Periodic Review at www.ohchr.org/Documents/HRBodies/UPR/TOR_TF_for_TC_assistance_UPR.pdf (establishing a Trust Fund to help countries implement recommendations emanating from the Human Rights Council Universal Periodic Review); OHCHR, *High Commissioner's Strategic Management Plan 2010-2011*, 36-37, www.ohchr.org/Documents/Press/SMP2010-2011.pdf (discussing strengthening human rights mechanisms and the progressive development of international human rights law, including the 2008 launch of the Human Rights Council Universal Periodic Review process); *Rights Up Front* (17 December 2013), www.un.org/sg/rightsupfront/doc/RuFAP-summary-General-Assembly.htm (discussing the Secretary-General's Rights Up Front initiative, designed to identify and ameliorate human rights crises in their infancy).
- 217 World Trade Organization, *Marrakesh Agreement Establishing the World Trade Organization*, Preamble (15 April 1994), 1867 UNTS 154, 33 ILM 1144 (1994). The Preamble to the Agreement states: 'Recognizing that their relations in the field of trade and economic endeavour should be conducted with a view to raising standards of living, ensuring full employment and a large and steadily growing volume of real income and effective demand, and expanding the production of and trade in goods and services, while allowing for the optimal use of the world's resources in accordance with the objective of sustainable development, seeking both to protect and preserve the environment and to enhance the means for doing so in a manner consistent with their respective needs and concerns at different levels of economic development.'
- 218 The WTO presently has 159 members, including China and the Russian Federation, which became members on 11 December 2001 and 22 August 2012, respectively. See *Understanding the WTO: The Organization – Members and Observers*: www.wto.org/english/thewto_e/whatis_e/tif_e/org6_e.htm.

- 219 The *Environmental Kuznets Curve* suggests that 'there is a strong link between higher growth and environmental benefits', namely, that an increase in per capita GDP leads to an improvement in environmental protection and a reduction in pollution. However, this effect is only observed after a certain threshold has been attained at 'relatively low levels of income[,] pollution increases with income'. See the discussion of the Environmental Kuznets Curve in Reports of the Panel, *China – Measures Related to the Exportation of Various Raw Materials*, (WT/DS394/R, WT/DS395/R, WT/DS398/R), circulated on 5 July 2011, para 7.551. See also Rafael Leal-Arcas, 'Unilateral Trade-related Climate Change Measures' (2012) 13 *Journal of World Investment & Trade* 880.
- 220 Olivier De Schutter, 'Trade in the Service of Climate Change Mitigation: The Question of Linkage' (2014) *Journal of Human Rights and the Environment* 65–102, 69.
- 221 *Ibid*; see also n 219, Leal-Arcas (2012).
- 222 Pascal Lamy, Energy Policy and the WTO, Speech delivered at Workshop on the Role of Intergovernmental Agreements in Energy Policy organized by the Energy Charter Secretariat (29 April 2013) at www.wto.org/english/news_e/sppl_e/sppl279_e.htm.
- 223 The 'Doha Development Round', as the most recent WTO trade-negotiations are known, was launched in 2001. A milestone was reached on 7 December 2013 with the adoption of the 'Bali Package', which reached agreement on a selection of issues from the Doha Development Agenda, including trade facilitation, food security and agriculture subsidies. The Doha round, WTO at www.wto.org/english/tratop_e/dda_e/dda_e.htm.
- 224 The green goods initiative was launched by Australia, Canada, China, Costa Rica, Chinese Taipei, the EU, Hong Kong (China), Japan, Korea, New Zealand, Norway, Switzerland, Singapore and the US; see *Joint Statement Regarding Trade in Environmental Goods* (24 January 2014) http://trade.ec.europa.eu/doclib/docs/2014/january/tradoc_152095.pdf.
- 225 *Ibid*; see also European Commission, *Press Release, EU in joint launch of WTO negotiations for green goods agreement* (24 January 2014) at <http://trade.ec.europa.eu/doclib/press/index.cfm?id=1017>.
- 226 20th APEC Economic Leaders' Declaration, Annex C: APEC List of Environmental Goods, Vladivostok Declaration – Integrate to Grow, Innovate to Prosper (Vladivostok, Russia, 8–9 September 2012) at www.apec.org/~media/Files/LeadersDeclarations/2012/2012_AELM_Declaration_AnnexC.pdf.
- 227 Aaron Cosbey, 'The Green Goods Agreement: Neither green nor good?' (February 2014) International Institute for Sustainable Development, available at www.iisd.org/publications/green-goods-agreement-neither-green-nor-good; Jaime de Melo 'How Much Will the Davos Initiative Help Reduce Trade Barriers in "Green Goods"?' (4 March 2014) Opinion, Brookings Institute, available at www.brookings.edu/research/opinions/2014/03/04-davos-trade-barriers-green-goods-de-melo.
- 228 Ludivine Tamiotti, et al, *Trade and Climate Change: A Report by the United Nations Environment Programme and the World Trade Organization* (WTO, 2009) 88.
- 229 Joost Pauwelyn, 'Carbon Leakage Measures and Border Tax Adjustments Under WTO Law' in Denise Prevost and Geert Van Calster (eds), *Research Handbook on Environment, Health and the WTO* (Edward Elgar, 2013) 448–49.
- 230 GATT Art I.1 provides: 'With respect to customs duties and charges of any kind imposed on or in connection with importation or exportation or imposed on the international transfer of payments for imports or exports, and with respect to the method of levying such duties and charges, and with respect to all rules and formalities in connection with importation and exportation, and with respect to all matters referred to in paragraphs 2 and 4 of Article III,* *any advantage, favour, privilege or immunity granted by any contracting party to any product originating in or destined for any other country shall be accorded immediately and unconditionally to the like product originating in or destined for the territories of all other contracting parties*' (emphasis added). See also GATS Article II.
- 231 GATT Art III.1 provides: 'The contracting parties recognize that internal taxes and other internal charges, and laws, regulations and requirements affecting the internal sale, offering for sale, purchase, transportation, distribution or use of products, and internal quantitative regulations requiring the mixture, processing or use of products in specified amounts or proportions, *should not be applied to imported or domestic products so as to afford protection to domestic production*' (emphasis added).

- 232 GATT Art III.4 and GATT Art XVII.
- 233 Appellate Body Report, *Canada – Certain Measures Affecting the Automotive Industry*, WT/DS139/AB/R, WT/DS142/AB/R, adopted 19 June 2000, para 140.
- 234 Appellate Body Report, *Canada – Measures Relating to the Feed-in Tariff Program*, WT/DS426/AB/R, adopted 24 May 2013, para 6.1. The Appellate Body affirmed the Panel Report, which held that the measures, by attaching the feed-in tariffs to a local content requirement, were inconsistent with GATT Article III.4 and Article 2.1 of the Agreement on Trade-Related Investment Measures (TRIMs). The Appellate Body subsequently rejected Canada's argument that the measure constituted government procurement under Article III:8.
- 235 See generally GATT Working Party On Border Tax Adjustments, *Report of the Working Party On Border Tax Adjustments*, L/3464 (2 December 1970), which defines BTAs as 'any fiscal measures which put into effect, in whole or in part, the destination principle (ie, enable exported products to be relieved of some or all of the tax charged in the exporting country in respect of similar domestic products sold to consumers to be charged with some or all of the tax charged in the importing country in respect of similar domestic products)' (para 4). Note that the *Note Ad* to GATT Article III provides that measures that are imposed on imported products at the time of importation and like domestic products are to be considered as measures equivalent to internal taxes and regulations and not border measures, and are therefore considered under GATT Article III concerning internal measures rather than the more restrictive provisions concerning imports.
- 236 Appellate Body Report, *United States – Measures Concerning the Importation, Marketing and Sale of Tuna and Tuna Products*, WT/DS381/AB/R, adopted 13 June 2012, 77–78, para 193. The Appellate Body found that American 'dolphin-safe' labelling provisions constituted a mandatory technical regulation for the purposes of the TBT because it disallowed the use of alternative tuna labels and therefore set out a 'a single and legally mandated set of requirements for making any statement with respect to the broad subject of "dolphin-safety" of tuna products in the United States.'
- 237 TBT Art 2.2: The requirement under the TBT that technical regulations must not be more trade restrictive than necessary signifies that regulations may fall foul of the TBT despite not having any *discriminatory* effect. This could potentially further limit states' ability to adopt, for example, low carbon emission technical standards that have an impact on trade. However, in a series of recent cases, the Appellate Body found that the impugned measures did *not* violate TBT Art 2.2, despite finding that the same measures discriminated against imported products, in breach of TBT Art 2.1, indicating that the Appellate Body will not interpret this provision strictly. See Appellate Body Report, *United States – Certain Country of Origin Labeling (COOL) Requirements*, WT/DS384/AB/R, adopted 23 July 2012; Panel Report, *United States – Measures Affecting the Production and Sale of Clove Cigarettes*, WT/DS406/R and Appellate Body Report, *United States – Measures Affecting the Production and Sale of Clove Cigarettes*, WT/DS406/AB/R, adopted 24 April 2012.
- 238 Panel Report, *US-Restrictions on Imports of Tuna*, WT/DS21/R, circulated 3 September 1991, not adopted; the Panel found that dolphin-friendly PPMs could not be considered an internal measure for the purposes of the national treatment obligation (GATT Art III:4) because it did not relate to the product per se and therefore had to be considered under the more stringent regime of GATT Art XI governing quantitative restrictions. Further, in a 1994 decision concerning the same dolphin conservation programme, the Panel held that even if the measures were considered under GATT Art III:4, the PPM did not affect whether the products were considered 'like' or not, which is to say, dolphin-friendly tuna could not be distinguished from dolphin 'unfriendly' tuna. Panel Report, *US – Restrictions on Imports of Tuna*, circulated 16 June 1994, not adopted.
- 239 Appellate Body Report, *European Communities – Measures Affecting Asbestos and Asbestos-Containing Products* (hereafter, *EC-Asbestos*) WT/DS135/AB/R, adopted on 5 April 2001, paras 99–103.
- 240 Appellate Body Report, *EC – Measures Affecting Asbestos and Products Containing Asbestos ('EC-Asbestos')*, WT/DS135/AB/R, adopted on 5 April 2001, paras 99–103.
- 241 Appellate Body Report, *Dominican Republic – Measures Affecting the Importation and Internal Sale of Cigarettes*, WT/DS302/AB/R, adopted 19 May 2005, para 96.

- 242 See n 237, Appellate Body Report, *United States – Measures Affecting the Production and Sale of Clove Cigarettes*. The Panel concluded, and the Appellate Body agreed albeit on a different legal analysis, that prohibition on (imported) clove cigarettes while (domestically produced) menthol cigarettes were not subject to a ban, amounted to less favourable treatment in breach of TBT Art 2.1.
- 243 GATT Art XX also protects measures ‘necessary to protect public morals’; it remains to be seen whether one could argue that climate change measures could be justified on this provision, on the basis that ‘public morals’ encompasses all internationally recognised human rights, including the right to a healthy environment.
- 244 Appellate Body Report, *United States – Standards for Reformulated and Conventional Gasoline*, WT/DS2/AB/R, adopted 20 May 1996 at 11, 12.
- 245 Appellate Body Report, *United States–Import Prohibition of Certain Shrimp and Shrimp Products* (‘US–Shrimp Turtle I’), WT/DS58/AB/R, adopted 6 November 1998; see also *ibid*, para 130.
- 246 Appellate Body Report, *Korea – Measures Affecting Imports of Fresh, Chilled and Frozen Beef*, WT/DS161/AB/R, WT/DS169/AB/R, adopted 10 January 2001, para 164. See also n 239.
- 247 Appellate Body Report, *Brazil – Measures Affecting Imports of Retreaded Tyres*, WT/DS332/AB/R, adopted 17 December 2007, para 151 (emphasis added).
- 248 GATT Art XX.
- 249 See n 245.
- 250 See n 30, IPCC (2007).
- 252 Andrew Green, ‘Trade Rules and Climate Change Subsidies’ (2006) 5(3) World Trade Review 14.
- 253 SCM Art 3.1.
- 254 SCM Art 5.
- 254 Lauren Henschke, ‘Going it alone on climate change: a new challenge to WTO subsidies disciplines: are subsidies in support of emissions reductions schemes permissible under the WTO’ (2012) 11(1) World Trade Review 29.
- 255 Appellate Body Report, *Canada – Measures Relating to the Feed-in Tariff Program*, WT/DS426/AB/R, adopted 24 May 2013, paras 5.185, 5.188. The Appellate Body held that it had not been demonstrated that the preferential feed-in-tariff for renewable energy conferred a *benefit* for the purposes of Article 1 of the SCM. The Appellate Body found that the relevant market to determine the existence of a benefit was the specific market for electricity generated by renewable resources and not, as the complaining States had argued, the ‘competitive wholesale electricity market as a whole.’ *Ibid*, para 5.178. The Appellate Body found that the Ontario measure was designed to *create* a market for renewable electricity, and in this instance ‘it cannot be said that the government intervention distorts the market, as there would not be a market if the government had not created it.’ *Ibid*, para 5.188. The Panel had previously found that the requirement that participating generators source a certain percentage of their equipment from local suppliers constituted an investment measure which was in breach of GATT Article III(4) and the TRIMS Agreement Article 2(1), and this finding was not appealed.
- 256 Rajib Pal, ‘Has the Appellate Body’s Decision in Canada – Renewable Energy / Canada – Feed-in Tariff Program Opened the Door for Production Subsidies?’ (2014) 17(1) Journal of International Economic Law 125, 126; see also Aaron Cosbey and Petros C Mavroidis, ‘A Turquoise Mess: Green Subsidies, Blue Industrial Policy and Renewable Energy: The Case for Redrafting the Subsidies Agreement of the WTO’ 17(1) Journal of International Economic Law, 28.
- 257 *Ibid* Cosbey and Mavroidis, 12, 26.
- 258 See generally n 254.
- 259 The argument is that the imposition of climate change and environmental standards amounts to ‘eco-imperialism’. See n 149, Leal-Arcas, 97.
- 260 Examples of major FTAs include: NAFTA, the Southern Common Market, the Central American Free Trade Agreement, the Economic Community of West African States, and the Caribbean Forum of African, Caribbean and Pacific States (CARIFORUM).
- 261 BITs are agreements establishing the terms and conditions for private investment by nationals and companies of one state in another state. There are currently about 2,857 BITs in force, involving most countries in the world. See James Zhan, et al, (eds), *World Investment Report 2013: Global Value Chains: Investment and Trade for Development* (UNCTAD, 2013) at http://unctad.org/en/PublicationsLibrary/wir2013_en.pdf.

- 262 Markus W Gehring, et al, 'Climate Change and Sustainable Energy Measures in Regional Trade Agreement (RTAs): An Overview, International Centre for Trade and Sustainable Development' (August 2013) Issue Paper No 3, 7 at <http://ictsd.org/downloads/2013/08/climate-change-and-sustainable-energy-measures-in-regional-trade-agreements-rtas.pdf>.
- 263 CARIFORUM is a regional grouping of 16 Caribbean countries.
- 264 See n 149, Leal-Arcas, 356–365.
- 265 RTAs operate outside the WTO system, and are not governed by its disciplines: GATT Art XXIV and GATS Art V set out an exemption, which enables members to establish RTAs. GATT Art XXIV:5 provides that 'the provisions of this Agreement shall not prevent, as between the territories of contracting parties, the formation of a customs union or of a free-trade area or the adoption of an interim agreement necessary for the formation of a customs union or of a free-trade area', subject to a number of requirements. See further n 149 above, Leal-Arcas, 405–406.
- 266 See n 149, Leal-Arcas, 407.
- 267 For example, the Trans-Pacific Strategic Economic Partnership (the Free Trade Agreement between Brunei Darussalam, Chile, Singapore and New Zealand signed in 2005, which has evolved into the TPP) contains an Environment Cooperation Agreement that commits parties to 'endeavour' to have its environmental laws, regulations, policies and practices in harmony with its international environmental commitments, while affirming 'respect' for the sovereign right of each party to set, administer and enforce its own environmental laws according to its priorities. However, the Agreement confirms that parties agree that 'it is inappropriate to set or use their environmental laws, regulations, policies and practices for trade protectionist purposes' as well as that 'it is inappropriate to relax, or fail to enforce or administer, their environmental laws and regulations to encourage trade and investment'. The New Zealand-Thailand Closer Economic Partnership Agreement (2005) similarly leaves the scope of environmental cooperation open. Further examples of RTAs that include environment-related wording are: the New Zealand-China Free Trade Agreement (2008), Agreement between Japan and Mexico for the Strengthening of the Economic Partnership (2004), the Framework Agreement on Comprehensive Economic Cooperation Among the Governments of the Member Countries of the Association of Southeast Asian Nations and the Republic of Korea (2005). See n 149, Leal-Arcas, 363–386; see n 262, Gehring.
- 268 See Beatriz Bugada, 'Is NAFTA up to its green expectations? Effective law enforcement under the North American Agreement on Environmental Cooperation' (1999) 32 University of Richmond LR 1614–15; and Edit Antal, 'Lessons from NAFTA: The role of the North American Commission for Environmental Cooperation in conciliating trade and environment' (2006) 14 Mich St J Int'l L 167, 189.
- 269 See Thomas Kendra, 'State Counterclaims in Investment Arbitration – A New Lease of Life?' (2013) 29(4) Arbitration International 575.
- 270 Restrictions on the availability of counterclaims under BITs include: (i) the basis for bringing such a counterclaim is tightly prescribed and varies depending on the wording of the investment treaty at issue; (ii) any counterclaim can only be brought if it is intrinsically linked to the claim filed by the investor; thus, a state cannot allege unrelated breaches of its environmental laws if these are not in issue in the proceedings; and (iii) the investor must be seen to have *consented* to such counterclaims being included in the dispute. Unless the right of the state to bring counterclaims has been articulated clearly in the relevant treaty, an investor is likely to argue that they have not consented to such claims. The best current forum for bringing counterclaims against investors is under the ICSID Convention, which is often the default method applied under investment treaties because the ICSID Convention specifically permits counterclaims to be brought within these proceedings. See ICSID Convention, Art 46.
- 271 The few successful examples in this field are discussed in depth in Chapter 3.
- 272 One notable successful example is the African Commission on Human and People's Rights, which has entertained petitions based on violations of the right to a healthy environment and found states in violation of their associated obligations (see, for example, *The Social and Economic Rights Action Center and the Center for Economic and Social Rights/ Nigeria*, Comm No 155/96, Decision ACHPR/COMM/A044/1 para 52 (2002)). See also Burns and Osofsky (eds) *Adjudicating Climate Change – State, National and International approaches* (Cambridge University Press, 2009); and Lord, Goldberg, Rajamani and Brunnée *Climate Change Liability: Transnational Law and Practice* (Cambridge University Press, 2011).

- 273 Michael B Gerrard, 'Survey of Climate Change Litigation' (28 September 2007) 238(63) New York Law Journal at www2.nycbar.org/mp3/ClimateChangeLitigationNew_Y.pdf. See also *ibid*, Lord, Goldberg, Rajamani and Brunnée, for a detailed comparative discussion of different jurisdictions' range of climate change claims.
- 274 74 Fed Reg 66,496 (15 December 2009).
- 275 75 Fed Reg 25,324 (7 May 2010).
- 276 See, for example, 75 Fed Reg 31,514 (3 June 2010).
- 277 *Coal for Responsible Regulation, Inc (CRR) v EPA*, 684 F.3d 102 (DC Cir 2012).
- 278 *Util Air Regulatory Grp v EPA*, No 12-1146 (23 June 2014).
- 279 See, for example, *Alec L v Jackson*, 863 F Supp 2d 11 (DDC 2012); *Alec L v McCarthy*, No 13-5192 (DC Cir 5 June 2014); *cf Bonser-Lain v Tex Comm'n on Envtl Quality*, No D-1-GN-11-002194, 2012 WL 2964041 (Dist Ct Tex 9 July 2012) (denying claim but expressing some sympathy for plaintiffs' position).
- 280 *Am Elec Power Co (AEP) v Conn*, 131 S Ct 2527 (2011).
- 281 *Ibid*, 2356-37.
- 282 *Native Vill of Kivalina v ExxonMobil Corp*, 696 F.3d 849, 858-59 (9th Cir 2012), *cert denied*, 133 S Ct 2390 (2013).
- 283 *AEP*, 131 S Ct at 2540.
- 284 *Comer v Murphy Oil USA, Inc*, 839 F Supp 2d 849, 865 (SD Miss 2012), *aff'd on different grounds*, *Comer v Murphy Oil USA, Inc*, 718 F.3d 460, 469 (5th Cir 2013).
- 285 See n 272, Meinhard Doelle, et al, 'Canada', in Lord, Goldberg, Rajamani and Brunnée, 525, 542.
- 286 *Ibid*.
- 287 Environmental Bill of Rights, 1993, SO, 1993, c 28, Part VI (Can).
- 288 Jack Coop, 'Recent Trend in US Climate Change Litigation May Find Its Way North' (December 2009) Osler E-Reviews at www.osler.com/NewsResources/Default.aspx?id=1320.
- 289 *Ibid*.
- 290 Corte Suprema de Justicia de la Nación [CSJN] [National Supreme Court of Justice], 11 July 2002, *Comunidad indígena del pueblo Wichi Hoktek T'O'i v Secretaría de medio ambiente y desarrollo sustentable/amparo*, Fallos 325:1744 (Arg).
- 291 Corte Suprema de Justicia de la Nación [CSJN] [National Supreme Court of Justice], 26 March 2009, *Salas, Dino y otros v Salta, Provincia de y Estado Nacional/amparo*, S 1144. XLIV (Arg).
- 292 Ronaldo Seroa da Motta, et al, *Climate change in Brazil: economic, social and regulatory aspects* (IPEA, 2011) (Braz).
- 293 'Citizen Coordinator No Alto Maipo', Environment National Commission, Rol 851-2010. 7 December 2010 (Chile).
- 294 Specific causes of action for climate change litigation in Australia are discussed in Justice Brian Preston, 'Climate Change Litigation (Part 1)' (2011) 5 Climate & Carbon L Rev 3, and 'Climate Change Litigation (Part 2)' (2011) 5 Climate & Carbon L Rev 244.
- 295 Jacqueline Peel, 'Issues in Climate Change Litigation' (2011) 5 Climate & Carbon L Rev 15, 20.
- 296 *Gray v Minister for Planning, Dir-General of the Dep't of Planning & Centennial Hunter Pty Ltd*, [2006] NSWLEC 720 (Austl) at para 134-135, (2006) 152 LGERA 258, at 296-7. However, see also the approach taken in *Wildlife Preservation Society of Queensland Proserpine/Whitsunday Branch Inc v Minister for the Environment and Heritage* (2006) 232 ALR 510, where the claimants sought to establish a causal link between the burning of coal at several proposed coal mines and adverse impact on ecosystems of the Great Barrier Reef.
- 297 *Gray v Minister for Planning, Dir-General of the Dep't of Planning & Centennial Hunter Pty Ltd*, [2006] NSWLEC 720 (Austl) at para 98, (2006) 152 LGERA 258, 287.
- 298 See Justice Brian Preston, 'Climate Change Litigation (Part I)' (2011) 5 Climate & Carbon L Rev 3, 4-9; and Robert Blomquist, 'Comparative Climate Change Torts' (2012) 46 Val U Rev 1053, 1063-64.
- 299 Justice Brian Preston, 'The Influence of Climate Change Litigation on Governments and the Private Sector' (2011) 2 Climate Law 485.
- 300 *Ibid*, 513.
- 301 *Ibid*, 486-487.
- 302 *Oposa v Factoran*, GR No 101083 (SC, 30 July 1993) (Phil).
- 303 See n 272, Mas Achmad Santosa, et al, 'Indonesia' in Lord, Goldberg, Rajamani and Brunnée, 178, 195.
- 304 *Ibid*, Yukari Takamura, 'Japan' in Lord, Goldberg, Rajamani and Brunnée, 206, 229-33.

- 305 *MC Mehta v Union of India*, AIR 2001 SC 1948 (India).
- 306 *Ibid.* Discussing the history of the case, the court noted that ‘it was by reason of the lack of effort on the part of the enforcement agencies, notwithstanding adequate laws being in place, that this Court has been concerned with the state of air pollution in the capital of this country. Lack of concern or effort on the part of various governmental agencies has resulted in spiraling pollution levels. The quality of air was steadily decreasing and no effective steps were being taken by the administration in this behalf. It was by reason of the failure to discharge its constitutional obligations, and with a view to protect the health of the present and future generations, that this Court, for the first time, on 23rd September, 1986, directed the Delhi Administration to file an affidavit specifying steps taken by it for controlling pollution emission of smoke, noise, etc. from vehicles plying in Delhi.’
- 307 *Ibid.*
- 308 See n 272, Deng Haifeng, ‘China’ in Lord, Goldberg, Rajamani and Brunnée, 112, 137.
- 309 See RHJ Cox, ‘The Liability of European States for Climate Change’ (2014) 30 (78) *Utrecht Journal of International and European Law* 125. In *Urgenda Foundation v Kingdom of the Netherlands* (Supreme Court of the Netherlands), petitioners seek to find the government liable for domestic carbon dioxide emissions and to impose reductions 40 per cent below 1990 levels by 2020.
- 310 See, for example, *Abraham v Region Wallonne*, [Cass] [Court of Cassation], 29 November 2007, C-2/07 at www.cass.be (Belg) (determining whether the Liege-Bierset Airport should be included within the definition of a ‘project’ in the directive and an EIA was required).
- 311 Case C-366/10; Judgment of the Court of Justice (Grand Chamber), 21 December 2011.
- 312 See n 272, Ludwig Kramer, ‘European Union Law’ in Lord, Goldberg, Rajamani and Brunnée, 351, 374–75.
- 313 *R (Hillingdon LBC) v Secretary of State for Transport* [2010] EWHC 626.
- 314a *Gbemre v Shell Petroleum Dev Co Niger Ltd*, [2005] EHC/B/CS/53/05 FHCNLR (Nigeria), available at: www.climatelaw.org/cases/case-documents/nigeria/ni-shell-nov05-judgment.pdf.
- 315 See Statute of the International Court of Justice, Art 34 (26 June 1945), available at: www.icj-cij.org/documents/index.php?p1=4&p2=2&p3=0&; see also *Massachusetts v Environmental Protection Agency*, 549 US 497, 127 S Ct 1438 (2007).
- 316 See, for example, Option Protocol I to the International Covenant on Civil and Political Rights (1966), 6 ILM383 (1967); see also regional human rights treaties such as treaties by the IACHR.
- 317 The joint dissenting opinion of Judges Costa, Ress, Türmen, Zupančič, and Steiner states ‘that the original text of the Convention does not yet disclose an awareness of the need for the protection of environmental human rights’ but recognises that the interpretation of the ECHR by the ECtHR has been progressive and ‘has given clear confirmation that Article 8 of the Convention guarantees the right to a healthy environment.’ (Dissenting Opinion of Judge Costa, Ress, Turmen, Zupancic, and Steiner in *Hatton and Others v the United Kingdom*, App No 36022/97, Eur Ct HR paras 1, 4 (2003)). Although it has not happened to date, it seems that it is possible for the ECHR, without adding any additional rights to the ECHR or its Protocols, to interpret the ECHR in such a way that it includes protection against the consequences of climate change.
- 318 Notable decisions of international tribunals on environmental issues include: the ICJ’s advisory opinion on the *Legality of the Use of Nuclear Weapons*, its judgment in the case concerning the *Gabčíkovo-Nagymaros* dispute (*Hungary v Slovakia*) concerning the construction of barrages on the Danube (September 1997), and its provisional measures order in the case concerning *Pulp Mills on the River Uruguay*, brought by Argentina against Uruguay (July 2006); the WTO Appellate Body’s decision in the *Shrimp Turtle* case, concerning the circumstances in which the US was able to impose conservation measures under its laws on shrimping activities taking place in four Asian countries (October 1998), the WTO Panel decision in the *EC-Biotech* case brought by Argentina, Canada and the US challenging the European Community’s import regime for genetically modified organisms (February 2006); and the award of the arbitral tribunal (Permanent Court of Arbitration) in the case concerning the *Iron Rhine (Ijzeren Rijn) Railway (Belgium v Netherlands)*, May 2005).
- 319 *Pulp Mills on the River Uruguay (Argentina v Uruguay)*, Judgment, ICJ Rep 2010 (20 April 2010); *Aerial Herbicide Spraying (Ecuador v Colombia)*, Order, ICJ Rep 2013 (13 September 2013); *Whaling in the Antarctic (Australia v Japan: New Zealand Intervening)*, Judgment, ICJ Rep 2014 (31 March 2014).
- 320 *Legality of the Threat or Use of Nuclear Weapons*, Advisory Opinion, ICJ Rep 1996 (8 July 1996) para 18.

- 321 See, for example, n 186, *Gabčíkovo-Nagymaros*, presented issues of the law of treaties, international watercourses, state responsibility and state succession in addition to environmental law issues.
- 322 *Aerial Herbicide Spraying (Ecuador v Colombia)*, Order, ICJ Rep 2013 (13 September 2013).
- 323 *Whaling in the Antarctic (Australia v Japan: New Zealand Intervening)*, Judgment, ICJ Rep 2014 (31 March 2014).
- 324 Joint Statement by Leaders of Pacific Islands Forum, UN Secretary-General, 10 October 2012, SG/2191 (noting the proposal by the Ambassadors for Responsibility on Climate Change group to request through the General Assembly an advisory opinion for the ICJ). See also Mizan R Khan, *Toward a Binding Climate Change Adaptation Regime: A Proposed Framework* (Routledge, 2013) 185; Rachel Brown, 'The Rising Tide of Climate Change Cases' (4 June 2014) *The Yale Globalist*, <http://tyglobalist.org/in-the-magazine/theme/the-rising-tide-of-climate-change-cases>.
- 325 *Pulp Mills on the River Uruguay (Argentina v Uruguay)*, Joint Dissenting Opinion of Judges Al-Khasawneh and Simma, ICJ Rep 2010 (20 April) 98.
- 326 *Ibid*, para 3.
- 327 Tim Stephens, *International Courts and Environmental Protection* (Cambridge University Press, 2009) 56–62; see also Matthew Vespa, 'An Alternative to an International Environmental Court? The PCA's Optional Arbitration Rules for Natural Resources and/or the Environment', (2003) 2 Law & Prac Int'l Cts & Tribunals, 295.
- 328 *Ibid*, Stephens, 57.
- 329 Draft Statute of the International Environmental Agency and the International Court of the Environment presented at the UNCED Conference in Rio de Janeiro, June 1992, [http://www.icef-court.org/site/attachments/article/50/Draft Statute of the International Environmental Agency and the International Court of the Environment p.pdf](http://www.icef-court.org/site/attachments/article/50/Draft%20Statute%20of%20the%20International%20Environmental%20Agency%20and%20the%20International%20Court%20of%20the%20Environment.pdf).
- 330 *Ibid*, Art 10.
- 331 Jeffrey L Dunoff, 'Institutional Misfits: The GATT, the ICJ & Trade-Environment Disputes' (1994) 15 Mich J Int'l L 1043, 1107.
- 332 See n 327, Vespa, 328–29.
- 333 See Conference Report, 'The George Washington University Law School Conference on International Environmental Dispute Resolutions (15–17 April 1999)' (2000) 32 GW J Int'l L & Econ 325.
- 334 Susan Hinde, 'The International Environmental Court: Its Broad Jurisdiction as a Possible Fatal Flaw' (2003) 32(2) Hofstra L Rev 727, 734.
- 335 See generally Ellen Hey, *Reflections on an International Environmental Court* (Brill, 2000); n 146, 255–257; Philip Riches and Stuart A Bruce, 'Building an International Court for the Environment: A Conceptual Framework' (2013) Governance and Sustainability Issue Brief Series. Paper 7; see also n 327, Vespa; Murray Carroll, *It's High Time for an International Environmental Court* (2013), available at www.policyinnovations.org/ideas/innovations/data/000240; and Stephen Hoffman QC, 'The Case for an International Court for the Environment' (2011) 14 Effectus Newsletter.
- 336 *Gabčíkovo-Nagymaros Dam (Hungary v Slovakia)*, (*Separate Opinion of Vice-President Weeramantry*), ICJ Rep 115.
- 337 IPCC, *Climate Change 2007: Synthesis Report. Intergovernmental Panel on Climate Change* (2007).
- 338 Robin Kundis Craig, "'Stationarity is Dead" Long Live Transformation: Five Principles for Climate Change Adaptation Law', (2010) 34 Harv Environmental L Rev 9, 39.
- 339 See, for example, Tony George Puthucherril, 'International law on Climate Change Adaptation: Has the Time Come for a New Protocol?' (2012) 8 Macquarie J Int'l & Comp Environmental L 42, 47.
- 340 IPCC, 'Chapter 14: Adaptation Needs and Options', *Climate Change 2014: Impacts, Adaptation, and Vulnerability* (2014) 2.
- 341 See n 71, UNFCCC, Art 4.
- 342 David Freestone, 'The International Legal Framework for Adaptation', in Michael B Gerrard and Katina Fischer Kuh (eds), *The Law of Adaptation to Climate Change: US and International Aspects* (American Bar Association, 2012) 603.
- 343 UNFCCC, Art 4; *Ibid*, 605.
- 344 See n 71, UNFCCC, Art 4(1)(e).

- 345 *Ibid*, Kyoto Protocol, Art 10(b).
- 346 See, for example, UNFCCC, *Adaptation Assessment: Planning and Practice – An Overview from the Nairobi Work Programme on Impacts, Vulnerability and Adaptation to Climate Change* (UNFCCC, 2010).
- 347 Cancun Agreements, Outcome of the Work of the Ad Hoc Working Group on Long-term Cooperative Action Under the Convention. Decision 1/CP.16, 4–5 (2010).
- 348 See generally Draft Decision -/CP.18: National Adaptation Plans (Advance Unedited Version) at http://unfccc.int/files/meetings/doha_nov_2012/decisions/application/pdf/cop18_naps.pdf.
- 349 UNDP, *Human Development Report* (UNDP, 1994) 24–25.
- 350 ASEAN Secretariat, *ASEAN Political-Security Community Blueprint* (2009) 2.
- 351 Malé Declaration on the Human Dimension of Global Climate Change (14 November 2007) 2 at www.ciel.org/Publications/Male_Declaration_Nov07.pdf.
- 352 United Nations, *United Nations Trust Fund for Human Security Factsheet* at <http://mptf.undp.org/factsheet/fund/HSF00>.
- 353 David King, ‘Climate Change Science: Adapt, Mitigate, or Ignore?’ (9 January 2004) 303 (5655) *Science* 129, 176.
- 354 Stuart Beck and Elizabeth Burleson, ‘Inside the System, Outside the Box: Palau’s Pursuit of Climate Justice and Security at the United Nations’ (April 2014) 3(1) *Transnational and environmental law journal* 17, 21.
- 355 Security Council, in a statement, says ‘Contextual Information’ on Possible Security Implications of Climate Change Important When Climate Impacts Drive Conflict, SC/10332, 20 July 2012.
- 356 For a comprehensive treatment see Michael B Gerrard and Katina Fischer Kuh (eds), *The Law of Adaptation to Climate Change: US and International Aspects* (American Bar Association 2012).
- 357 The Government Office for Science, *Foresight, Migration and Global Environmental Change: Future Challenges and Opportunities* (The Government Office for Science 2011) 9.
- 358 Walter Kälin and Nina Schrepfer, Protecting People Crossing Borders in the Context of Climate Change Normative Gaps and Possible Approaches (UNHCR, February 2012) 6–7; UNHCR, *Forced Displacement in the Context of Climate Change: Challenges for States under International Law*, Submission to the 6th session of the Ad Hoc Working Group on Long-Term Cooperative Action under the Convention, AWG-LCA 6, at 2 (19 May 2009); see also n 357 (‘Environmental change will affect migration now and in the future, specifically through its influence on a range of economic, social and political drivers which themselves affect migration.’). The displacement of Arctic communities caused by the melting ice may be one exception because their displacement may be directly and exclusively caused by climate change.
- 359 Ilse Pinto-Dobernig (ed), *Migration and Climate Change, IOM Migration Research Series No 31* (International Organization for Migration, 2008) 11; see n 9, IPCC (2014), *Summary for Policymakers*, 20; International Displacement Monitoring Centre, *Global estimates 2012: People Displaced by Disasters* (International Displacement Monitoring Centre, 2012) 8.
- 360 *Ibid*, IPCC (2014) *Summary for Policymakers*, 20.
- 361 *Ibid*.
- 362 See, for example, Michele Klein Solomon and Koko Warner, ‘Protection of Persons Displaced as a Result of Climate Change: Existing Tools and Emerging Frameworks’ in Michael B Gerrard and Gregory E Wannier (eds), *Threatened Island Nations: Legal Implications of Rising Seas and a Changing Climate* (Cambridge University Press, 2013) 294.
- 363 Jane McAdam, ‘Climate Change Displacement and International Law: Complementary Protection Standards’ (May 2011) UNHCR Legal and Protection Policy Research, Division of International Protection, 7.
- 364 See n 362, Solomon and Warner, 249.
- 365 UNFCCC, Cancun Adaptation Framework, 15 March 2011, FCC/CP/2010/7/Add.1, para 14(f).
- 366 See n 360, Solomon and Warner, 243.
- 367 Guy Goodwin-Gill, ‘Non-refoulement and the New Asylum Seekers’ (1985–1986) 26 *Va J Int’l L* 897, 898; see also n 362, Solomon and Warner, 255.
- 368 Convention Relating to the Status of Refugees, Art 1(A)(2) (22 April 1954); Protocol Relating to the Status of Refugees (4 October 1967).

- 369 See, for example, Walter Kälin and Nina Schrepfer, 'Protecting People Crossing border in the Context of Climate Change: Normative Gaps and Possible Approaches' (February 2012) UNHCR Legal Protection Policy Research Series 31–33.
- 370 Jane McAdam, *Climate Change, Forced Migration, and International Law* (Oxford University Press, 2012) 45–46; see n 363, McAdam (2011).
- 371 *Ioane Teitiota v The Chief Executive of Ministry of Business, Innovation and Employment*, CA 50/2014 [2014] NZCA 173 (1 May 2014).
- 372 See, for example, UNHCR, *Forced Displacement in the Context of Climate Change: Challenges for States under International Law*, Submission to the 6th session of the Ad Hoc Working Group on Long-Term Cooperative Action under the Convention (AWG-LCA 6), 19 May 2009, 9–10. ('The Convention as well as UNHCR's mandate, would, for example, be application in situations where the victims of natural disasters flee because their government has consciously withheld or obstructed assistance in order to punish or marginalize them on [one of the Convention's bases for persecution], although such cases are likely to be few'.)
- 373 See n 370, McAdam (2012).
- 374 See n 363, McAdam (2011).
- 375 Organisation of African Unity Convention Governing the Specific Problems of Refugee Problems in Africa, Art 1(2), adopted 10 September 1969, 1001 UNTS 45, entered into force 20 June 1974.
- 376 Cartagena Declaration on Refugees, adopted 22 November 1984, OAS Doc OEA/Ser.L/V/II.66.doc.10, rev.1, 190–93.
- 377 See n 363, McAdam (2011), 14–15.
- 378 Natural Hazards, Climate Change, and Cross-border Displacement in the Greater Horn of Africa, The Nansen Initiative Regional Consultation (21–23 May 2014) 3. Participating states resolved to '[e]ngage with the African Court and Commission on Human and People's Rights regarding a potential interpretation of the clause 'events seriously disturbing public order' in disaster contexts without other factors of conflict or persecution, and encourage the African Union to discuss and seek consensus from Member States on the applicability of this clause to such disaster contexts.' *Ibid*, 5.
- 379 See n 363, McAdam (2011), 49.
- 380 *Ibid*, 55–89.
- 381 ICCPR, Arts 6, 7; CAT, Art 3; ECHR, Arts 2, 3; UNHCR Executive Committee Conclusion No 25 para (b); A/AC.96/694 at para 21; A/AC.96/660 para 17; A/AC.96/643 at para 15; A/AC.96/609/Rev.1 at para 5.
- 382 *D v United Kingdom*, 24 EHRR 423 (1997); *N v Secretary of State for the Home Department*, UKHL 31; See n 363, *HLR v France*, 20 EHRR 29, at para 42 (1997) in McAdam (2011), 17–18.
- 383 Jane McAdam, *The Human Rights Implications of Cross-Border Displacement in the Context of Natural Disasters: What Are the Protection Gaps and What is the Role of the Human Rights Council?* (Side Event at the 25th Session of the Human Rights Council, 20 March 2014).
- 384 *Ibid*.
- 385 See n 370, McAdam (2012), 84.
- 386 Jane McAdam, 'Creating New Norms on Climate Change, Natural Disasters, and Displacement: International Developments 2010–2013' (2013) 29(2) *Refuge*, 12.
- 387 See n 362, Solomon and Warner, 251; see also Walter Kälin, 'From the Nansen Principles to the Nansen Initiative' (2012) 41 *FMR*, 48 in *ibid*, 11, 18.
- 388 See n 386, McAdam (2013), 11, 13.
- 389 See n 362, Solomon and Warner, 250.
- 390 *Ibid*, 251.
- 391 Koko Warner, Tamer Afifi, et al, 'Changing climates, moving people: Framing migration, displacement and planned relocation, United Nations University' (21 June 2013) Policy Brief No 8, 14.
- 392 See n 365, para 14(f).
- 393 The Nansen Initiative on Disaster-Induced Cross-Border Displacement at www.nanseninitiative.org/.
- 394 *Ibid*.
- 395 *Ibid*.
- 396 *Ibid*.

- 397 See n 363, McAdam (2011).
- 398 Vikram Kolmannskog, *Dignity in disasters and displacement – exploring law, policy and practice on relocation and return in the context of climate change*, at 8 (Paper prepared for the GECHS Synthesis Conference, ‘Human Security in an Era of Global Change’, 22–24 June 2009, University of Oslo, Norway); but see Michelle Leighton, ‘Population Displacement, Relocation, and Migration’ in Michael B Gerrard and Katrina Fischer Kuh (eds), *The Law of Adaptation to Climate Change: US and International Aspects* (American Bar Association, 2012) 700 (‘It is unclear whether [the Guiding Principles] apply to all climate-related victims. The principles require protection only for victims forced or obliged to move... voluntary movements by people fearing or in anticipation of the impacts of another drought disaster appear to fall outside the guidelines and thus are not protected’) (emphasis original).
- 399 See n 362, Solomon and Warner, 251.
- 400 African Union Convention for the Protection and Assistance of Internally Displaced Persons in Africa, 6 December 2012, Art 4(4).
- 401 *Ibid*, Arts 1–5, 7, 9–14.
- 402 *Ibid*, Art 5(4).
- 403 Susan F Martin, *Climate Change and International Migration, Climate Change and Migration* (The German Marshall Fund of the United States, June 2010) 4.
- 404 See n 363, McAdam (2011), 39–40.
- 405 *Ibid*, 104.
- 406 European Council Directive 2001/55/EC (20 July 2011).
- 407 See n 370, McAdam (2012), 102.
- 408 8 USC 1254a s 244.
- 409 See n 370, McAdam (2012), 102.
- 410 Food and Agriculture Organization of the United Nations, *Climate Change and Food security: a Framework Document* (FAO, 2008) 1.
- 411 M Parry, A Evans, M W Rosegrant and T Wheeler, *Climate Change and Hunger: Responding to the Challenge*, Executive Summary (World Food Programme, 2009) 8.
- 412 Interagency Report to the G20, Price Volatility in Food and Agricultural Markets: Policy Responses, Policy Report including contributions by FAO, IFAD, IMF, OECD, UNCTAD, WFP, the World Bank, the WTO, International Food Policy Research Initiative (IFPRI) and the UN HLTf (2 June 2011); Donald Mitchell, ‘A Note on Rising Food Prices’ (July 2008) World Bank Policy Research Working Paper 4682; Asbjørn Eide, *The Right to Food and the Impact of Liquid Biofuels (Agrofuels)* (FAO Right to Food Study, 2008).
- 413 See, for example, Lester Brown, ‘The Great Food Crisis of 2011’, *Foreign Policy*, (10 January 2011) at www.foreignpolicy.com/articles/2011/01/10/the_great_food_crisis_of_2011.
- 414 See n 100, Columbia Law School (2009) 9; UN Office of the High Commissioner for Human Rights, *Note on the Impacts of the EU Biofuels Policy on the Right to Food* (23 April 2013) 3; Cinnamon Carlane and Josh Eagle, ‘Food Security, Fisheries, and Ecosystems’ in Michael B Gerrard and Katrina Fischer Kuh (eds), *The Law of Climate Adaptation to Climate Change: US and International Aspects* (American Bar Association 2012) 796.
- 415 The remainder of this section through to the penultimate paragraph borrows from María Julia Oliva, ‘Promoting the Transfer of Technologies for Adaptation in Agriculture: A Role for the Right to Food?’ (2010) ICHRP Working Paper.
- 416 United Nations Secretary-General Ban Ki-moon, in his closing remarks to the January 2009 High-Level Meeting on Food Security for All, held in Madrid.
- 417 Committee on Economic, Social and Cultural Rights, *Substantive Issues Arising in the Implementation of the International Covenant on Economic, Social and Cultural Rights: General Comment 12. The right to adequate food (Art 11)* E/C.12/1999/5 (12 May 1999).
- 418 *Ibid*.
- 419 *Ibid*.
- 420 *Ibid*.
- 421 *Ibid*.
- 422 UNFCCC, FCC/Informal/84, Art 2 (1992) (emphasis added).

- 423 See n 414, Carlane and Eagle (2012) 793.
- 424 Declaration of the World Summit on Food Security, WSFS 2009/2, Art 5 (16–18 November 2009).
- 425 See John R Porter, Liyong Xie, et al, 'Food Security and Food Production Systems' in IPCC, *Intergovernmental Panel on Climate Change Fifth Assessment Report* (2014).
- 426 See, for example, n 414, Carlane and Eagle (2012) 799–800.
- 427 Olivier de Schutter, 'The FAO Must Do More to Promote Food as a Basic Human Right' *The Guardian* (4 March 2013).
- 428 See, for example, UN Collaborative Program on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries, *UN-REDD Program Strategy: 2011–2015* (UN-REDD, 2011) 1.
- 429 See n 414, Carlane and Eagle (2012) 797.
- 430 UN Special Rapporteur on the right to food, *Contribution of the Special Rapporteur on the right to food, Mr. Olivier De Schutter, to the meeting convened by the Friedrich-Ebert-Stiftung with the Committee on Economic, Social and Cultural Rights*, (13 May 2010); see also n 414, Carlane and Eagle (2012) 796–97.
- 431 World Bank, *Global Economic Prospects: Commodities at the Crossroads* (The International Bank for Reconstruction and Development/The World Bank, 2009) 97.
- 432 UN OHCHR, *Note on the Impacts of the EU Biofuels Policy on the Right to Food* (23 April 2013) 3, www.srfood.org/images/stories/pdf/otherdocuments/20130423_biofuelsstatement_en.pdf; see also n 100, Columbia Law School (2009) 72; International Council on Human Rights Policy, *Climate Change and Human Rights: A Rough Guide* (ICHRP, 2008) 34.
- 433 See n 430.
- 434 See n 432.
- 435 UN OHCHR, *Mapping Human Rights Obligations Relating to the Enjoyment of a Safe, Clean, Healthy and Sustainable Environment* (December 2013) Report No 6 38–39.
- 436 UN GA Rep of the OHCHR on the relationship between climate change and human rights, para 27, UN Doc A/HRC/10/61 (15 January 2009).
- 437 See n 414, Carlane and Eagle (2012) 795.
- 438 Simon Carney, *Climate Technology Transfer: A Derivation of Rights- and Duty- Bearers from Fundamental Human Rights* (2011) Working Paper 13; María Julia Oliva, *Promoting the Transfer of Technologies for Adaptation in Agriculture: A Role for the Right to Food?* (2011) Working Paper 2.
- 439 Bradley J Condon and Tapen Sinha, 'The Role of International Economic Law in Addressing Climate Change' in WTO, *Connecting to Global Markets* (WTO 2013) 119; United Nations Environmental Programme, *Intergovernmental Panel on Climate Change, Special Report of Working Group III, Methodological and Technological Issues in Technology Transfer* (IPCC, 2000) 8.
- 440 See n 415, 2.
- 441 UNICEF, *Our Climate, Our Children, Our Responsibility: The Implications of ClimateChange for the World's Children* (UNICEF 2008) 11 at www.unicef.org.uk/documents/publications/climate-change.pdf; Elizabeth Burleson, 'Energy Policy, Intellectual Property, and Technology Transfer to Address Climate Change' (2009) 18 *Transnational L. and Contemporary Probs* 69, 91.
- 442 ICHRP, *Beyond Technology Transfer: protecting Human Rights in a Climate-Centered World* (2011) 6.
- 443 See n 439, Condon and Sinha, 117.
- 444 ICHRP, *Climate Change and Human Rights: A Rough Guide* (ICHRP 2008) 23.
- 445 See n 87, ICHRP (2008), 4; see also n 438, Oliva (2011).
- 446 UN General Assembly Resolution 59(I), A/RES/59(1) (14 December 1946).
- 447 Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters, 2161 UNTS 447, Art 3 (25 June 1998).
- 448 See n 190, Know (2013) 21.
- 449 UN Rio Declaration on Environment and Development, n149, Agenda 21, Chapter 34, Art 34.18.
- 450 See n 71, UNFCCC, Art 4.
- 451 *Ibid*, Kyoto Protocol, Art 10.

- 452 *Report of the Conference of the Parties on its thirteenth session, Bali 3–15 December 2007, Addendum, Part Two: Action taken by the COP at its thirteenth session, FCCC/CP/2007/6/Add.1, Decision 1/CP.13, at 4–5 (14 March 2008).*
- 453 Cancun Agreements, Outcome of the Work of the Ad Hoc Working Group on Long-term Cooperative Action Under the Convention Decision, FCCC/CP/2010/7/Add.1, 1/CP.16 at 4–5.
- 454 UNFCCC, *Report of the Conference of the Parties on its sixteenth session, Cancun 29 November to 10 December 2010, Addendum, Part Two: Action taken by the COP at its sixteenth session, FCCC/CP/2010/7/Add.1, para 117.*
- 455 See n 87, ICHRP (2008) 128.
- 456 See, for example, n 439, Condon and Sinha, 119.
- 457 Interim report of the Special Rapporteur on the right to food, Olivier de Schutter to the General Assembly, *Seed policies and the right to food: enhancing agrobiodiversity and encouraging innovation*, A/64/170, 23 July 2009.
- 458 Bassem Awad, *Patents, Climate Change Technology Innovation and Sustainable Development From International and Canadian Perspectives* (forthcoming 2014) 1.
- 459 *Ibid.*
- 460 TRIPS, Art 66(2).
- 461 Suerie Moon, ‘Meaningful technology Transfer to LDCs: A Proposal for a Monitoring Mechanism for TRIPS Article 66(2)’ ICTSD Programme on Innovation, Technology and Intellectual Property (9 April 2011).
- 462 See Council for Trade-Related Aspects of Intellectual Property Rights – Minutes of meeting – Held in the Centre William Rappard, 25–26 February 2014, IP/C/M/75.
- 463 See, for example, Rio Declaration on Environment and Development, Agenda 21, Chapter 34, Art 34.18 (3–14 June 1992); UNFCCC, Art 4; Kyoto Protocol, Art 10; Cancun Agreements, Outcome of the Work of the Ad Hoc Working Group on Long-term Cooperative Action Under the Convention Decision, FCCC/CP/2010/7/Add.1, 1/CP.16 at 4–5.

Chapter 3

Enhancing Legal Regimes to Achieve Climate Change Justice

Existing legal mechanisms addressing mitigation, adaptation and remediation of climate change are failing to cope with the scale of the global issue and its wide-ranging impact on individuals, leaving climate change justice issues unaddressed. This Chapter identifies opportunities from the five areas discussed in Chapter 2 – international law relating to the environment, human rights, adaptation, trade, investment and dispute resolution – to propose creative and challenging legal, policy and institutional mechanisms to support efforts to address climate change, and to provide individuals with tools to access climate change justice. The recommendations, summarised in the Action Matrix on pages 25–31, are identified across short-, medium- and long-term timeframes for states, international organisations, domestic legislative, executive and judicial bodies, corporations, groups and individuals.

This Chapter makes recommendations in the following areas:

- **Part 1 – legal measures:** identifying climate change justice measures for: (i) individuals and communities; (ii) states; and (iii) corporate entities;
- **Part 2 – capacity building and transparency measures:** including knowledge and skills transfer; and
- **Part 3 – institutional measures:** identifying climate change justice measures in the areas of: (i) WTO reforms; (ii) bilateral and regional trade agreements; (iii) the UNFCCC negotiations; and (iv) multilateral adaptation measures.

3.1 Legal measures

International and domestic laws must be used to strengthen, not stifle, climate change justice. It is too easy, as shown in Chapter 2, to list the reasons why current legal systems cannot cope with emerging climate issues or why existing laws were not designed to solve global climate change. This Chapter sets out climate change justice measures that can be taken in relation to individuals and communities (section 3.1.1, p 117); to states (section 3.1.2, p 137); and to corporations (section 3.1.3, p 147). In this section, the Task Force explores the most promising opportunities for legal reforms, including using international and regional human rights bodies and instruments to clarify rights, creating a Model Statute on Legal Remedies for Climate Change, greater use of the existing PCA Optional Rules specific to environmental disputes, and the longer-term development of an International Tribunal for the Environment. Drawing on the challenges identified in Chapter 2, we consider the need for greater legal responsibilities that not only states, but also multinational corporations and organisations, must adopt to reduce GHG emissions and promote climate change justice.

3.1.1 Climate change justice measures for individuals and communities

In this section, the Report:

- explains *which rights* are available for individuals and communities to address climate change justice issues;
- makes three overarching recommendations for the *clarification of human rights obligations relating to climate change* in international and regional human rights law, specifically: (i) ‘greening’ existing human rights obligations; (ii) outlining a minimum core of rights and duties inherent in those ‘greened’ rights; and (iii) recognising a freestanding right to a safe, clean, healthy and sustainable environment; and
- proposes further work to progress domestic and international action, specifically through consideration of a Model Statute on Legal Remedies for Climate Change.

The recommendations made are summarised in the Action Matrix on pages 25–31.

(i) What rights are available for individuals and communities?

Climate change law encompasses a number of legal regimes on the international, regional and domestic levels. As such, individuals and communities *potentially* have access to multiple avenues to assert their rights for harms caused by climate change. For example, an affected party seeking to bring a claim against the state for failure to comply with its international obligations enshrined in international treaties and conventions might look to see if the state violated its GHG emission caps under the Kyoto Protocol, caused climate-related damages to fisheries and the marine environment in violation of the United Nations Fish Stocks Agreement and UNCLOS, or infringed human rights in breach of the ICCPR or the ICESCR.

Similarly, affected parties may examine whether the state caused climate change harm that violated regional obligations found in regional human rights instruments like the ECHR, the American Convention on Human Rights, and the African Charter on Human and Peoples’ Rights (also known as the Banjul Charter).

An affected party hoping to bring a climate change claim against the state for failure to meet its own domestic obligations to protect the environment or properly regulate emitters may find relief in constitutional rights that protect a healthy environment, the ecosystem or the environment as part of the public trust, or environmental regulatory law. Tort claims, such as public nuisance actions, or destruction of property claims might also be brought in domestic courts, providing an opportunity for those affected by climate events to seek redress or injunctive relief from the state.

As explained in Chapter 2, there are numerous obstacles to climate change litigation in each of these avenues. Climate change litigants face challenges in establishing that the substantive law provides them an actionable right to bring a claim and make out causation, and procedural hurdles in the form of standing requirements. In addition, there is a diversity of viewpoints among policy-makers and courts as to the proper role of climate change litigation. To date, the central questions remain largely unanswered:

should individuals and communities be allowed to bring climate change claims against states, state-controlled emitters or private emitters? If so, how should claimants establish liability? And what triggers liability? For a state, should it be the occurrence of exceeding its Kyoto undertakings (and what of those who have not given undertakings)? For a state-controlled entity (eg, a state-run coal-fired power station), should it be the act of exceeding its permitted emissions under national regulations?

This Report will not attempt to provide definitive answers to all these questions, but instead will endeavour to make recommendations that will advance the discussion and enhance the substantive and procedure rights of climate change litigants. The Task Force remains mindful that even a robust litigation regime is in many ways an imprecise mechanism for distributing resources, establishing appropriate limits on conduct, and creating the conditions for sustainable economic and human development in balance with environmental conservation.

To that end, the Task Force posits that liability regimes must be developed in ways that ultimately support regulatory solutions. The ultimate goal must be to realign legal systems to accommodate the current problems in climate change litigation so that claims can be brought not solely for climate change justice and redress, but also to create a broader system of disincentives. For example, enforcing state liability should incentivise timely support for implementation of more effective and less costly regulatory solutions and mitigation regimes. For this same reason, this section focuses primarily on actions against the state, as opposed to also considering climate change litigation against private emitters. The reason for this is simple: if states can be incentivised to regulate actors within their borders, then this is the best solution to climate change justice.

The next two sections will discuss: (i) how individuals and communities can use international and regional human rights bodies and instruments to clarify and vindicate rights; and (ii) the work that is needed to enhance the scope for climate change litigation in domestic and international fora.

(ii) Clarification of human rights obligations relating to climate change

Unlike environmental rights instruments, many human rights instruments allow individuals to seek redress for state-caused harms. As such, they are an important avenue for climate change justice. However, most human rights instruments were promulgated before the advent of the modern environmental movement, and thus do not recognise that a safe, clean, healthy and sustainable environment (hereinafter, 'a healthy environment') is a prerequisite to the enjoyment of human rights.⁴⁶⁴ Moreover, only a few human rights instruments explicitly refer to environmental threats as an obstacle to human rights.⁴⁶⁵ As a result, many of those harmed by environmental degradation must seek redress from human rights bodies indirectly, by arguing that environmental harms impede their enjoyment of enumerated human rights, such as the rights to life, health, privacy and culture.⁴⁶⁶ As a consequence, claimants may be able to use this indirect approach to claim *climate change* injuries as *human rights* injuries.

Given the lack of clearly identifiable rights for individuals and communities to draw on, the Task Force makes recommendations for: ‘greening’ existing human rights obligations; outlining a minimum core of rights and duties inherent in those ‘greened’ rights; and recognising a free-standing right to a safe, clean, healthy and sustainable environment.

‘Greening’ existing human rights obligations

Scholars and practitioners are working to ‘green’ existing human rights by arguing that human rights bodies should recognise that climate change impedes the full enjoyment of at least some, if not all, human rights. In such a case, the process of ‘greening’ refers to implementing existing human rights obligations in the context of environmental and climate change harms. As a result, human rights bodies have begun to acknowledge and develop the interrelationship between environmental harm and human rights violations, albeit in an ad hoc manner, through both jurisprudence and general comments of human rights bodies.⁴⁶⁷ However, very few of these bodies have addressed specifically the environmental impact of climate change and its effects on human rights.⁴⁶⁸

Acknowledging these gaps, John H Knox, the UN Independent Expert on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment, has prepared a series of ‘mapping reports’ which consider how human rights bodies – including those charged with interpreting the ICESCR, the ICCPR, the Convention on the Elimination of all Forms of Discrimination against Women (CEDAW), the International Covenant on the Elimination of all Forms of Racial Discrimination (ICERD), and the UN Convention on the Rights of the Child (UNCRC), as well as several regional human rights treaties – have applied human rights law to environmental issues.⁴⁶⁹ These mapping reports confirm that many fora are wrestling with the question of ‘greening’ human rights, and that virtually all human rights bodies have recognised that human rights are threatened by environmental degradation.⁴⁷⁰ The Independent Expert urges human rights bodies to further develop and clarify the environmental rights contained in the instruments they interpret.

The Task Force strongly endorses the Independent Expert’s reports and recommends, in the short-term, that human rights treaty bodies further clarify and ‘green’ the scope of human rights obligations relating to the enjoyment of a healthy environment. The Task Force also urges these human rights bodies to consider not only the human rights impacts of environmental degradation, but also climate change-specific impacts on human rights.

The ICCPR and ICESCR are the natural starting point for efforts to ‘green’ existing human rights. These treaties do not contain an explicit right to a healthy environment but the OHCHR has noted that all UN human rights bodies at least ‘recognize the intrinsic link between the environment and the realization of a range of human rights, such as the right to life, to health, to food, to water, and to housing.’⁴⁷¹

Of these two treaties, the ICESCR is more directly relevant to climate change and also more easily ‘greened’. Recognising this relevance, the treaty oversight body, the Committee

on Economic, Social and Cultural Rights, has stated that ‘the right to health embraces a wide range of socio-economic factors that promote conditions in which people can lead a healthy life, and extends to the underlying determinants of health, such as[...] a healthy environment.’⁴⁷² The committee has also confirmed that States Parties have obligations to safeguard the ICESCR’s enumerated rights against degradation through environmental harms.⁴⁷³ The rights to water, health, food and an adequate standard of living are all easily characterised as having an environmental dimension. The rights protected by the ICCPR are less obviously dependent upon a healthy environment. However, governments will face difficulty in protecting rights – especially the right to life and the right of a people to natural wealth and resources/means of subsistence – if their resources are taxed by climate-related catastrophes. All of the civil and political rights the ICCPR enshrines would become much more difficult to honour and protect against a background of cataclysmic climatic shifts. As the Human Rights Committee continues to examine environmental linkages to the rights under its purview, such rights are ripe for consideration as being deeply affected by our changing climate.

Efforts to ‘green’ existing human rights obligations have also been made through courts. For example, the ECtHR has held that severe environmental degradation may violate the right to life, found in Article 2 of the ECHR,⁴⁷⁴ the right to respect of one’s private life and family life, found in Article 8,⁴⁷⁵ and the right to property, found in Article 1 of the First Protocol.⁴⁷⁶ It also regards the ECHR as a ‘living instrument which[...] must be interpreted in the light of present-day conditions.’⁴⁷⁷ The European Committee of Social Rights, which monitors compliance to the Council of Europe’s European Social Charter, has held that the right to the protection of health ‘include[s] the right to a healthy environment.’⁴⁷⁸ In addition, the often-cited Inuit Petition of 2005, while inconclusive, was notable in its invocation of a host of economic, cultural and social rights in positing its claims and in explicitly targeting climate change harms.⁴⁷⁹ While many obstacles still exist to widespread and international judicial recognition of the climate impact on existing human rights, courts will doubtlessly be faced with a number of environment and climate change-related claims in the years to come.

These parallel ‘greening’ processes, through treaty frameworks and in courts, are complementary. For civil society participants like the IBA, the mission should be to advocate for more explicit recognition of climate change’s capacity to jeopardise each and every one of these rights and to identify remedies.

Developing a minimum core of rights and duties

The work of ‘greening’ existing human rights is a promising route to vindicating climate change claims. However, it has resulted in a fragmented set of rights, necessarily focused on particular problems and particular treaties. As the Independent Expert has observed, ‘while there is no shortage of statements on human rights obligations relating to the environment, the statements do not come together on their own to constitute a coherent set of norms’.⁴⁸⁰ As a result, it would be highly beneficial to delineate a

common core of substantive rights and duties contained in those fragmented rights. The Independent Expert has concluded that:

‘The human rights obligations relating to the environment also include substantive obligations to adopt legal and institutional frameworks that protect against environmental harm that interferes with the enjoyment of human rights, including harm caused by private actors. The obligation to protect human rights from environmental harm does not require States to prohibit all activities that may cause any environmental degradation; States have discretion to strike a balance between environmental protection and other legitimate societal interests. But the balance cannot be unreasonable, or result in unjustified, foreseeable infringements of human rights. In assessing whether a balance is reasonable, national and international health standards may be particularly relevant. In addition, there is a strong presumption against retrogressive measures.’⁴⁸¹

In order to clarify and solidify those norms, the Task Force recommends that, with the requisite state backing, the Human Rights Council adopt a resolution requesting that the UN OHCHR draft a report outlining a ‘minimum core’ of rights and duties implicated by the right to a healthy environment, particularly as it pertains to climate change. This analytical report should outline how this minimum core would apply to existing human rights that are easily ‘greened’, such as the rights to health, food, water and life, and should pay special attention to climate change harms as a crucial subset of environmental harms. This report should be drafted in consultation with states, relevant international organisations, and intergovernmental bodies such as the IPCC and the secretariat of the UNFCCC, and the UN Independent Expert on human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment.

The Human Rights Council is particularly well-suited to undertake this task as it has been working for years on the issue of human rights and the environment, with a notable focus on climate change.⁴⁸² For example, the Human Rights Council has adopted several resolutions on human rights and climate change and has noted that ‘climate change-related impacts have a range of implications, both direct and indirect, for the effective enjoyment of human rights’.⁴⁸³ It has affirmed that ‘human rights obligations and commitments have the potential to inform and strengthen international and national policymaking in the area of climate change’.⁴⁸⁴ The Human Rights Council has decided to convene a full-day discussion during its 28th session in March 2015 on ‘specific themes relating to human rights and climate change’ and to identify ‘measures and best practices to promote and protect human rights that can be adopted by States and other stakeholders in their adaptation and mitigation efforts’.⁴⁸⁵ This discussion could perhaps be a launching pad for further elucidating the minimum core of rights and duties implicated by the right to a healthy environment.

In developing such a minimum core, the Human Rights Council should consider the points highlighted overleaf.

First, as explored further in section 3.2.2, ‘Transparency’, on page 158, certain key procedural rights should inform the right to a healthy environment, such as the right to receive and disseminate information about climate change, its causes and its effects, the right to receive and disseminate information about environmental harms generally, and the right to participate in decision-making about environmental standards and the balance to strike between development and environmental protection.⁴⁸⁶ Non-discriminatory application of environmental policies is an important subset of such procedural rights. The Aarhus Convention, adopted in 2001 and with 46 States Parties, can serve as an important guidepost in this area.⁴⁸⁷ In addition, the Human Rights Council can look to Principle 10 of the Rio Declaration on Environment and Development and Article 13 of the ILA’s Draft Articles on Prevention of Transboundary Harm from Hazardous Activities. Principle 10 of the Rio Declaration states that ‘[e]nvironmental issues are best handled with the participation of all concerned citizens, at the relevant level’ and that each citizen of a state should have appropriate access to that state’s information concerning the environment.⁴⁸⁸ Article 13 of the Draft Articles on Prevention of Transboundary Harm outlines that states shall provide the public likely to be affected by transboundary harm with relevant information and ascertain their views.⁴⁸⁹ In addition, the Human Rights Council should look to the UN Declaration on Human Rights Defenders⁴⁹⁰ and consider including explicit protections for environmental human rights defenders, such as activists, journalists and affected citizens who advocate for state response to environmental and climate change harms, allowing them to disseminate information and encourage activism without fear of retribution.

More broadly, states’ procedural duties should include: (i) the duty to adopt policies and frameworks to protect against environmental and climate change harms; and (ii) the duty to regulate private actors who may cause environmental harm and whose GHG emissions contribute to climate change.⁴⁹¹ In 2011, the UN Human Rights Council endorsed the UN Guiding Principles on Business and Human Rights, which are instructive when looking to clarify a state’s duty to regulate.⁴⁹² As discussed in more detail in section 3.1.3 on page 147 those Guiding Principles state that states must take ‘appropriate steps to prevent, investigate, punish and redress’ human rights abuse by businesses ‘through effective policies, legislation, regulations and adjudication’.⁴⁹³

Secondly, the ‘minimum core’ of substantive rights can be informed by the Independent Expert’s mapping reports, the substantive environmental rights and duties currently recognised in national constitutions,⁴⁹⁴ and the African Commission on Human and Peoples’ Rights’ interpretation of the right to a healthy environment found in Article 24 of the African Charter. The African Commission recognised in the *Ogoniland* case that Article 24 ‘imposes clear obligations upon a government’ and requires governments ‘to take reasonable and other measures to prevent pollution and ecological degradation, to promote conservation, and to secure an ecologically sustainable development and use of natural resources’.⁴⁹⁵ Some national constitutions currently include the right to healthy housing⁴⁹⁶ and the corresponding state duty to take environmental factors into account when conducting urban planning.⁴⁹⁷

Others include the right to be free of unhealthy levels of pollution and the concomitant state obligation to ameliorate pollution and to regulate hazardous materials.⁴⁹⁸

The Task Force encourages scholars and practitioners to take note of institutions such as the Court of Justice of the European Union (CJEU), which may become an important player in the intersection of human rights and climate change. Article 11 of the Treaty on Functioning of the European Union requires the EU to integrate environmental protection and to promote sustainable development when defining all of its policies and activities, and Articles 191–93 require the EU’s environmental policy to aim for ‘a high level of protection’. In addition, with the entry into force of the Lisbon Treaty in 2009, the Charter of Fundamental Rights of the European Union (the ‘Charter’) became legally binding on EU Member States.⁴⁹⁹ Article 37 of the Charter states that ‘[a] high level of environmental protection and the improvement of the quality of the environment must be integrated into the policies of the [EU] and ensured in accordance with the principle of sustainable development.’

The ECtHR and the CJEU refer to each other’s case law and, even before the Charter had binding status, both had referred to the Charter in their case law.⁵⁰⁰ Notwithstanding the fact that the EU has not (yet) acceded to the ECHR, the CJEU has already brought its case law in line with the case law of the ECtHR.⁵⁰¹ An important provision is Article 52 of the Charter, which provides that ‘[i]n so far as this Charter contains rights which correspond to rights guaranteed by the Convention for the Protection of Human Rights and Fundamental Freedoms, the meaning and scope of those rights shall be the same as those laid down by the said Convention. This provision shall not prevent [EU] law providing more extensive protection.’

In its case law, the CJEU has made it very clear (even before the entry into force of the Lisbon Treaty, giving binding effect to the Charter) that fundamental rights are part of the general principles of EU law and that the CJEU and the General Court should guarantee that they are protected within the EU’s legal order.⁵⁰² The entry into force of the Charter increases the possibility of the CJEU handling cases regarding human rights violations. Moreover, the CJEU already has an important role in environmental protection, as it polices the EU’s numerous environmental regulations and the EU Emissions Trading Scheme. Considering the content of the Treaty on the Functioning of the EU and the Charter regarding the environment, the bond between the CJEU and the ECHR, and the CJEU’s oversight over environmental law, it is quite possible that the CJEU will play an increasingly large role in the achievement of climate change justice.

Thirdly, development of such a minimum core of rights and duties should take account of the obligations owed to *future generations*. While visible pollution and efforts at controlling industrially driven environmental degradation are predicated on improving quality of life *now*, the effects of climate change are often less immediately visible. These effects will increase over time, with the most pernicious consequences likely to occur in timeframes that surpass our lifetimes. As a result, climate change is often portrayed as a concern of future generations, often leading to apathy and lack of current political will.

However, as the UN Secretary-General pointed out in his Report on Intergenerational Solidarity and the Needs of Future Generations, presented to the 68th session of the General Assembly of the United Nations (UNGA) in 2013, ‘the dedication to future generations is visible worldwide and across cultures. It is a universal value shared amongst humanity’.⁵⁰³ This is also recognised in the ILA 2014 *Draft Articles on Climate Change*, Article 3.1 of which states that: ‘States shall protect the climate system as a common natural resource for the benefit of present and future generations.’⁵⁴¹ Yet, despite the universality of this value, a sense of normative responsibility towards future generations is not widely accepted among law and policy-makers.

There is of course great difficulty determining responsibility and obligation to those who do not yet exist. But if equity demands that we safeguard the needs of the vulnerable, then due to the fact that they have no voice and no representation, future generations are arguably the *most* vulnerable group to be affected by climate change.⁵⁰⁵ The work of clarifying intergenerational rights and responsibilities is made normatively easier by the fact that the UNFCCC already makes clear that climate change is fundamentally an intergenerational problem.⁵⁰⁶ In addition, scholars and practitioners are using the ‘public trust’ doctrine to argue in domestic courts that the government has a responsibility to hold environmental resources in trust for the common use of all people, including those yet unborn.⁵⁰⁷ There are also over 25 international agreements, declarations and conventions that refer to future generations.⁵⁰⁸ Moreover, some countries have already made headway in this direction. Finland, for example, has a Parliamentary Committee for the Future with the power to comment on all budgetary and legislative review issues.⁵⁰⁹ Hungary, too, has established a Parliamentary Commissioner for Future Generations, which is imbued with significant legislative, investigative and, where applicable, even prosecutorial and punitive powers.⁵¹⁰ Such examples of institutionalised recognition for responsibility towards future generations should be a model for others.

Some have proposed criminalising certain acts as crimes against future generations, and conferring jurisdiction on both domestic courts and the International Criminal Court to prosecute these crimes.⁵¹¹ However, the hurdles facing the creation of climate-related crimes against future generations are significant and unlikely to be overcome in the short term.⁵¹²

Recognising a freestanding right to a safe, clean, healthy and sustainable environment

Although it would require overcoming many obstacles, the Task Force also recommends that, as a supplementary long-term goal, states consider recognising free-standing human right to a healthy environment. The adoption of such a free-standing right would provide a more comprehensive solution to protecting environmental rights and vindicating climate change harms than the already-discussed combination of ‘greening’ existing rights and outlining a minimum core of rights and duties inherent in those greened rights. Human rights bodies can look to the minimum core of rights and duties discussed herein when considering the contours of a free-standing right to a healthy

environment. They can also look to the regional human rights instruments that already include a free-standing right, the more than 90 nations that have included some form of environmental rights in their national constitutions,⁵¹³ and the many states of the US that have done the same.⁵¹⁴

Adopting optional protocols to incorporate a free-standing right into human rights treaties

Drawing on the conclusions of the Independent Expert, and recognising that it would be difficult to renegotiate existing human rights treaties, in addition to encouraging the recognition of such a right in national Constitutions, the Task Force also encourages human rights bodies to adopt protocols to existing treaties in order to expressly recognise the right to a healthy environment, and to encourage signatory States to ratify these protocols.

This work has already begun. For example, the *African Charter on Human and Peoples' Rights* established the right 'to a general satisfactory environment favourable to [human] development',⁵¹⁵ and a subsequent Protocol also established women's 'right to live in a healthy and sustainable environment'.⁵¹⁶ In addition, the *San Salvador Protocol to the American Convention on Human Rights* enshrined the right 'to live in a healthy environment,' and requires States Parties to 'promote the protection, preservation, and improvement of the environment'.⁵¹⁷ More recently, and although ultimately rejected by the Committee of Ministers, the Council of Europe's Parliamentary Assembly recommended in 2009 that the Committee of Ministers 'draw up an additional protocol to the European Convention on Human Rights, recognizing the right to a healthy and viable environment'.⁵¹⁸

Adopting optional protocols to enhance access to justice

Though the current international environmental regime lacks judicial fora accessible by individuals to keep states and non-state actors accountable for environmental harm, individuals can now bring claims to UN human rights bodies in respect of violations of their rights contained in the nine so-called 'core' human rights treaties.⁵¹⁹ However, these complaint procedures are only available against a state that is a party to the treaty in question and that has accepted the Committee's competence to examine individual complaints, either through ratification or accession to an optional protocol (in the case of ICCPR, CEDAW, CRPD, ICESCR and CRC) or by making a declaration to that effect under a specific article of the Convention (in the case of CERD, CAT, CED and CMW).

There are also procedures for complaints that fall outside of the human rights treaty body system, such as the Human Rights Council Complaints Procedure. The Complaints Procedure was established in 2007 to address consistent patterns of gross and reliably attested violations of all human rights and all fundamental freedoms occurring in any part of the world and under any circumstances.⁵²⁰ It addresses communications

submitted by individuals, groups or communities that claim to be victims of human rights violations or that have direct, reliable knowledge of such violations. A complaint can be submitted to the Council against any country, irrespective of whether the country has ratified any particular treaty or made reservations under a particular instrument.

The Task Force urges states to emulate the progress in the Human Rights Council Complaints Procedure and ratify or accede to the First Optional Protocol to the ICCPR and the Optional Protocol to the ICESCR, so as to allow individuals to bring claims for violations of key ICCPR and ICESCR human rights hampered by environmental degradation and climate change. Ratification of these protocols would ensure that individuals have international fora in which to vindicate their environmental rights.

Strengthening regional human rights bodies

Several regional human rights instruments already contain a free-standing right to a healthy environment. In the medium-term, the Task Force urges states to work together to further strengthen regional human rights bodies and their mechanisms for enforcing the right to a healthy environment, and encourages states to work together to create new regional bodies where they do not exist or are lacking. Much exciting work is being done at the regional treaty level. As discussed, the ECtHR has held that severe environmental degradation may violate the rights to life, respect of private and family life, and property found in the ECHR and its First Protocol.⁵²¹ In the *Ogoniland* case the African Commission on Human and Peoples' Rights interpreted the African Charter's free-standing right to a healthy environment to require governments to take measures to secure sustainable development and prevent ecological degradation.⁵²² And the 2005 Inuit Petition to the IACHR, though not ultimately granted, was a watershed case in the area of climate change harms.⁵²³ In addition, two of the newest regional human rights treaties contain a free-standing right to a healthy environment. The ASEAN Declaration on Human Rights, promulgated in 2012, though controversial in its treatment of individual rights in general,⁵²⁴ includes 'the right to a safe, clean and sustainable environment'.⁵²⁵ The ASEAN Intergovernmental Commission on Human Rights has yet to implement a complaint mechanism, though its terms of reference may open the door to such a mechanism in the future.⁵²⁶ The 2004 Arab Charter on Human Rights has also drawn international criticism,⁵²⁷ but includes the right to a healthy environment as part of the right to an adequate standard of living.⁵²⁸ In 2009, the Arab Human Rights Committee was established under the Charter, and is set up to receive reports from States Parties on measures that those States have taken to give effect to the rights recognised by the Charter.⁵²⁹ These developments are encouraging, and the Task Force urges scholars, civil society organisations and communities to further strengthen regional human rights bodies and their mechanisms for enforcing the right to a healthy environment.

(iii) Model Statute on Legal Remedies for Climate Change

Enhancing litigation rights and remedies for individuals and communities

As described in Chapter 2, although litigation strategies have been proposed, and in some cases attempted, thus far none have had particular success because international and domestic laws do not provide effective and consistent standards due to the types of diffuse, non-specific, unpredictable and non-causative harms caused by climate change.⁵³⁰ Unless some standardisation is achieved, such litigation will either burden certain states or actors disproportionately or fail to achieve any meaningful solution for those most vulnerable.

This section highlights the work that is needed to enhance climate change litigation as an effective process for individuals and communities to exercise rights and seek remedies, primarily against states, to ensure climate justice. The Task Force is conscious that litigation that secures *declaratory* or *interim* relief against states, whereby individuals can hold *governments* to account for their domestic regulation of GHGs, is preferable to ad hoc litigation against individual emitters that does not address broader climate concerns.

As part of this review, the Task Force has considered the importance of incremental development and the use of model statutes and laws to serve as a basis for the establishment of a unified legal framework. In this regard, the Task Force has considered the widespread adoption of the first Model Law on International Commercial Arbitration (UNCITRAL Model Law), which was adopted in 1985 by the General Assembly of the UN on the basis of UNCITRAL. The UNCITRAL Model Law was developed as a vehicle for harmonisation in response to concerns that the diversity of national laws on international arbitration was a serious impediment to the efficiency of the international arbitration process.⁵³¹ Today, many countries worldwide have enacted legislation based directly on the UNCITRAL Model Law, which has provided an excellent statutory framework for arbitral proceedings and thus a hospitable legal climate for such proceedings in those states that have adopted it.

Drawing on the success of the UNCITRAL Model Law in international arbitration, the Task Force recommends in the short-term that an IBA Working Group on Climate Change Justice be designated to draft a Model Statute on Legal Remedies for Climate Change, outlining legal rights and remedies in respect of climate change, including injunctive relief to mitigate or prevent current or future threats, declaratory relief, and judicial review. The Model Statute would be relevant not just for purposes of developing domestic statutes, but in promoting the development of consistent international legal standards relevant to procedural rights related to climate justice litigation, which face many of the same conceptual difficulties and issues. Over the longer term, the Task Force encourages states to adopt domestic procedural and substantive law that incorporates legal principles as set out in the Model Statute. The development of norms at the international level should also progress in accordance with the principles developed in the Model Statute.

Substantive and procedural issues to be addressed in Model Statute

The Task Force proposes that the Working Group build upon the ILA's 2014 *Draft Articles on Legal Principles Relating to Climate Change* and include in its terms of reference the following commonly observed substantive and procedural issues:

- *actionable rights* affected by climate change;
- clarification of the role and definition of *legal standing*;
- issues regarding *causation*, including appropriate standards for proving a legally cognisable causal link between GHG emissions and relief sought;
- whether knowledge, including foreseeability of harm, is relevant to liability or judicial relief;
- development of methods for awarding remedies and relief as warranted by the circumstances, including uniform standards by which to apportion damages, and the provision of declaratory, interim and injunctive relief;
- issues regarding standards of *liability*;
- the interrelationship of competing claims from nations, communities and individuals;
- limitation periods for claims;
- the availability of pre-trial and interim applications for disclosure and discovery;
- guidelines on costs awards in climate change cases; and
- guidelines for the jurisdictional reach of domestic and international courts to adjudicate climate change-related claims.

The interconnected and overlapping nature of these issues supports the Working Group taking a unified approach to considering these issues. The common issues encountered in each of the aforementioned areas are set out below.

Actionable rights

A comprehensive model statute would provide for the identification of actionable rights available to individuals. Owing to the fact that these will differ between states, each state would need to adjust its model statute to explain which rights and causes of action were available to individuals in the climate change context, for example, whether individuals can solely bring claims against the state for failure to implement climate change legislation. The Task Force's recommendations on how to progress development of actionable rights is set out in the previous section on page 119 ('greening' existing human rights obligations and recognising a free-standing right to a safe, clean, healthy and sustainable environment).

Standing

For climate change litigation to be effective, a model statute would need to provide a clear definition of legal standing to inform an adjudicative body of who must be allowed to seek legal remedies.⁵³² US federal courts, for example, require a claimant to make a threshold showing that it has suffered a concrete and particularised injury in fact that is actual or imminent; fairly traceable to the defendant's alleged conduct; and likely to be redressed by the court.⁵³³ Yet many national constitutions and environmental protection regimes allow groups or individuals to seek judicial relief where such rights are allegedly being breached without requiring proof of any direct or particular harm or damage to such individuals or groups (ie, where there are domestic procedural rights to ensure the public is informed and can participate in regulatory decisions on environmental matters).⁵³⁴ In such instances, standing in the traditional sense of 'injury in fact' is not deemed to be an appropriate requirement. Accordingly, to ensure relief to all those harmed by human-induced climate change, adjudicative bodies should interpret the notion of standing broadly. The goal should be to recognise a broad range of harms that would qualify a party to seek redress, yet at the same time incorporate procedural safeguards to prevent frivolous claims from going forward.

The model statute should also provide guidance that outlines the types of harms that are capable of being considered injury in fact and that are fairly traceable to the global impacts of climate change.

Among other things, adjudicative bodies should be instructed to recognise potential claimants across geographic boundaries, provided that the claimant could show a sufficient link to a territorial action or actor. Such an expanded notion of standing would immediately give rise to the problem of accommodating multilateral participation in legal proceedings. Given the widespread impact of climate change, the model statute could model private rights of action and attendant procedural rules around existing judicial procedures that allow for class actions (eg, in the US and the American Convention on Human Rights) or public interest litigation (eg, in India and in the African Charter on Human and Peoples' Rights) to allow for addressing the large-scale effects of climate change.

A key consideration will be whether a class or public interest certification process will require affirmative opt-in by similarly situated claimants or rather include all affected parties who may then choose to opt-out. Requiring affirmative opt-in could lead to low participation, particularly among under-informed communities, and could ultimately lead to a proliferation of overlapping claims. By contrast, an opt-out system would potentially lead to greater participation in a smaller number of claims, which should result in more efficient and consistent resolution of disputes. However, any opt-out system must include robust protections to ensure that all claimants' interests are fairly represented by class counsel and that any damages are justly distributed.

Another standing approach that the Working Group should consider is a gateway or leave provision whereby a potential claimant applies for, and the adjudicative body may grant, leave to bring proceedings. This approach is utilised in judicial review proceedings in the UK and, for certain types of proceedings, in Australia.

One issue that will require careful consideration is whether the model statute should address the possibility of granting standing to litigate potential human rights violations that unborn generations will have to endure. For example, in *Oposa v Factoran*, a case regarding massive deforestation plans, the Supreme Court of the Philippines found that the petitioner minors could sue on behalf of themselves as well as generations yet unborn.⁵³⁵ Yet this concept itself raises a number of difficult issues, including establishing appropriate trusteeship and distribution of any damages recovered, legitimacy concerns for representing the interests of persons unknown, and the doctrine of *res judicata* precluding future claims from being brought by the unborn parties themselves. Moreover, the harms of global climate change are already being experienced in the present day, which should remain the primary focus of climate change justice.⁵³⁶

Lastly, a model statute could also address how to better enforce environmental procedural rights before international human rights tribunals. For example, while the ECHR has cited the Aarhus Convention favourably, the ECHR rules on standing make it difficult for an individual to initiate a claim before the ECHR on the basis of the Aarhus Convention.⁵³⁷

Causation

A model statute should address causation issues, such as, in a damages claim, the standards that should be adopted for proving a legally cognisable causal link between particular tangible harms and sources of GHG emissions; and in respect of preventative (injunctive) claims, whether the same standards or different standards should apply; and to what extent causation is relevant in seeking judicial review or declaratory relief for failures to fulfil obligations.

Is the right to a healthy environment violated if a person's environment is unsafe, unclean or unhealthy for any reason, or is it violated only when environmental degradation is due to anthropogenic climate change and other human-induced pollution? The answer to this question may depend on the contours of the right and on the difficult issue of causation. As Stephen Humphreys points out, '[t]he assertion that climate change causes human rights harms is self-evident on the first view, but much more problematic on the second' because, although people are clearly harmed, the harm is not easily attributable to any particular actor.⁵³⁸ In addition, some robust human rights instruments, such as the ECHR, do not include the concept of peoples' rights. In order to have standing before the ECtHR therefore, a group would most likely have to prove that each individual in that group was the victim of an individual rights violation. This would make it difficult for indigenous peoples to petition the court saying that their way of life was being threatened by climate change harms.⁵³⁹

In order to pursue a substantive climate change claim against a state, on some level (depending on the theory of liability) it is necessary to establish a causal link between the wrongful conduct alleged and the harm complained of⁵⁴⁰ (unless the individual is asserting breach of statutory duty or administrative review that does not require harm). As discussed in Chapter 2, climate change litigation faces significant obstacles on the element of causation because there are currently serious factual difficulties in establishing a chain of causation in the context of collective contributions to climate change.⁵⁴¹

An example of a recent climate change claim brought before the US Supreme Court that achieved a significant success in dealing with the issue of causation is the case *Massachusetts v EPA*.⁵⁴² In that case, the Supreme Court held that evidence of sea-level rise, together with credible predictions of future harms resulting from climate change, were sufficient to show that the injuries in question were ‘concrete’. Given this, the Court ruled that EPA’s refusal to regulate CO₂ as a pollutant was a likely cause both of present injuries and of future damages. In the Court’s view, although regulation would not reverse climate change, this was not sufficient reason to avoid it. To reach this conclusion, the Court did not grapple extensively with climate change science but only accepted evidence of scientific consensus, and on that based the credibility of a claim of future harms and the possibility that deliberate action might slow it down.⁵⁴³

Some scholars have argued that the precautionary principle should be used as a ‘procedural tool to lower the standard of proof in situations where the complexity of scientific facts leads to a degree of uncertainty’.⁵⁴⁴ A similar approach was attempted in the *Inuit* case before the IACHR, wherein native Arctic peoples alleged that global warming caused by GHGs from the US threatened, inter alia, the availability of traditional food sources.⁵⁴⁵ However, as discussed in Chapter 2, the precautionary principle is not yet regarded an ‘operative’ principle of international law or as being of a fundamentally obligation-creating nature in the climate change context.⁵⁴⁶ And many jurists are inclined to view with some degree of scepticism any proposal that lowers an adjudicative standard of proof to meet a pre-determined litigation result, as this can raise serious concerns for fairness and due process for defendants.⁵⁴⁷

A more viable approach in the climate change context may be for a model statute to provide clear authority that in climate change litigation against states, partial causation will be considered sufficient to establish liability.⁵⁴⁸ The model statute should make clear that causation would be established if the defendant’s wrongful conduct was a ‘substantial factor’ in bringing about the harm relating to climate change.⁵⁴⁹ As most, if not all, of the factual basis for climate change litigation depends upon global climate models and statistical extrapolation, a model statute should stipulate that these types of evidence – subject to rigorous testing and neutral verification – constitute sufficient proof of causation.⁵⁵⁰

Owing to the fact that not all effects of climate change are attributable to human activity, adjudicative bodies need guidance on how to deal with the scientific evidence on causation in a sophisticated manner. While the IPCC *Fifth Assessment Report*

expresses high confidence that ‘human influence has been the dominant cause of the observed warming since the mid-20th century’, quantifying the anthropogenic contribution to any particular climate change harm is, at present, imprecise.⁵⁵¹ The uncertain quantification of specific causation centres on research to determine equilibrium climate sensitivity – research that is still emerging.⁵⁵² For example, the IPCC *Fifth Assessment Report* acknowledges uncertainty in attributing extreme weather events to anthropogenic causes.⁵⁵³ Regarding sea-level rise, the IPCC *Fifth Assessment Report* cites evidence that sea-level rise in 1920–1950 (at lower CO₂ concentrations) is likely of a similar magnitude as in 1993–2012 (at higher CO₂ concentrations).⁵⁵⁴ Regarding coastal harm, ‘there is low confidence in region-specific projections of storminess and associated storm surges’.⁵⁵⁵ Further, apportioning these uncertain anthropogenic causations more granularly among any particular set of carbon-emitters creates additional challenges of establishing causation.⁵⁵⁶ The point is not that there is doubt over climate change itself – the IPCC has concluded with very high certainty that human-induced changes are causing climate change – but whether the current accepted *legal* standard for causation can or should need to be met in particular instances by particular individuals in the climate change context.

It is logical to expect that such challenges in establishing legal causation in climate change litigation should dissipate organically as the contemporaneous effects of global warming become more apparent and the evidence of human causality becomes more demonstrable. Yet because the populations affected by such harms will require access to adaptive resources as quickly as possible, waiting for the climate to produce irrefutable evidence is not an acceptable option for climate change justice.

Several approaches are available. Relying on the findings of the IPCC, the model statute could instruct that no claimant will be required to prove affirmatively that the harm resulting from climate change was anthropogenic. Under such a rule, it would be sufficient to show that, for example, the defendant emitted GHGs and/or destroyed or removed GHG sinks, which, taking into account mitigation efforts, resulted in a net increase in GHGs in the atmosphere. Such a *prima facie* showing could create a rebuttable presumption of causation, with the burden then shifting to the state to show an intervening confounding cause. At the same time, adjudicative bodies could require a higher standard of proof for claims of harm where the causal link between natural phenomena and human induced climate change is more difficult to prove (ie, the increased frequency of hurricanes due to climate change).

Knowledge

A model statute should consider whether knowledge, including foreseeability of harm, is relevant to the accrual of a cause of action and/or required for liability for climate change harms. In certain jurisdictions, an actor’s state of knowledge is relevant to when a cause of action can be said to have accrued. The role of knowledge or foreseeability of the impact and potential effects of GHG emissions (ie, by reference to when they were omitted) is a significant issue to be clarified.

One possible proposal is to include a provision that conduct occurring after the UNFCCC entered into force on 21 March 1994 shall be presumed to be undertaken with knowledge that carbon emissions contribute to climate change. Thus, a claimant alleging offending conduct after this date could establish a *prima facie* case for knowledge, which would then be subject to rebuttal by the defendant. Alternatively, the model statute could provide that a claimant need not prove knowledge, and/or that lack of knowledge will not serve as an affirmative defence for a state violator. Some causes of action could be made ones of strict liability, rather than requiring knowledge. In evaluating the various options, drafters of the model statute should at all times seek to balance due process concerns of the defendant with claimants' potential remedies.

Relief

A model statute should provide the flexibility for an adjudicator to award such relief as is warranted by the circumstances of the dispute: (i) damages for past or present harms; (ii) injunctive relief to mitigate or prevent current or future threats; and/or (iii) declaratory relief.

It is consistent with the Task Force's objective of advancing climate change justice in the context of human rights that a model statute not be limited to 'damages', which is an after the fact or *ex post facto* type of remedy. Rather, in order to mitigate sources of climate change, a model statute also must contemplate an injunctive type remedy. To this end, a model statute should be seeking to enable injunctive relief in support of the rights and principles identified by the 2013 John H Knox Report (the 'Knox Report'), which found, *inter alia*, that: (i) states have obligations to adopt legal and institutional frameworks that protect against, and respond to, environmental harm that may or does interfere with the enjoyment of human rights;⁵⁵⁷ (ii) to that end, states are required to adopt measures against environmental health hazards, including by formulating and implementing policies 'aimed at reducing and eliminating pollution of air, water and soil';⁵⁵⁸ and (iii) in addition to a general requirement of non-discrimination in the application of environmental laws, states may have additional obligations to members of groups particularly vulnerable to environmental harm. Such obligations have been developed in some detail with respect to women, children and indigenous peoples, but work remains to be done to clarify the obligations pertaining to other groups.⁵⁵⁹

Accordingly, in some cases, a *declaration of rights* might also be appropriate, for example, that certain factual scenarios permitted or acquiesced in by a state are a violation of domestic laws and rights. In other cases, the most effective action will be an *interim order* to require a state to properly implement its environmental legislation, while in others the best option might be subsequent *judicial review* of executive action (eg, the state's failure to implement environmental legislation). In some jurisdictions, a condition for the grant of interim relief, such as an interim or interlocutory injunction, is that the claimant must offer an undertaking to pay any damages suffered by the party enjoined if the claimant were to be ultimately unsuccessful. The requirement to pay an

undertaking for damages can operate as a significant hurdle to public interest litigation and other climate change litigation. This issue and the appropriate balance between the interest of the claimant and the potential harm to the defendant will need to be addressed by the Working Group.

If cases seeking *compensation* for specific harm from particular emitters or from the state were to be brought, from a compensatory standpoint, a model statute should adopt uniform calculations by which to apportion damages. The multitude of actors involved with global climate change – both as emitters and as affected persons and communities – create enormous complexities and opportunities for apportioning and distributing remedial damages in an equitable manner. Unless some standardisation is achieved, litigation will either burden certain states or actors disproportionately or fail to achieve any meaningful solution for those most vulnerable.

For example, in terms of apportioning damages, it has been suggested that, because of the cumulative causation of climate change, each defendant should only be held responsible for its share of the overall wrong.⁵⁶⁰ Estimates exist of different countries' relative contributions to the absolute volume of GHG emitted globally.⁵⁶¹ Of the various compensation regimes that have been explored by scholars, the 'emitters pay' regime has been identified ultimately as the most attractive (which would focus on the ultimate emitter, or user, of carbon, rather than, for example, the fossil fuel company that extracted the carbon).⁵⁶² Holding states liable for emissions within their jurisdiction serves the practical purpose of deterring wrongful behaviour, as well as the ethical goal of correcting for the externalised environmental costs inflicted by the emitter on those harmed.⁵⁶³

Liability

The model statute should consider optional bases for establishing liability for damages, ranging from negligence to no-fault or strict liability, before arriving at a recommended basis. For example, under a negligence-based regime, liability could hinge on the defendant's conduct exceeding or falling below some agreed-upon environmental standard. For a state, the standard could be its obligations under public international norms and laws, including the 'no-harm rule', instruments such as the Kyoto Protocol, or for non-signatory nations, actions that are inconsistent with maintaining the 2°C goal embraced by the international community.

Even with a strict or absolute liability regime, the model statute could provide for a *de minimus* liability threshold for emissions, below which a defendant could not be held liable (though states could be responsible for small emissions in aggregate over time). Such a rule could drastically reduce the number of claimants, and focus limited judicial resources on the most important claims. A recent study by Carbon Majors attributes 63 per cent of the carbon dioxide and methane emitted between 1751 and 2010 to just 90 entities.⁵⁶⁴ This research, which looks at emissions from producers rather than states, could assist states to attribute harm.

Although joint liability is an important aspect of the causation element, it appears that joint and several liability is highly problematic if applied in the context of damages in climate change litigation. As some scholars have recognised, to avoid an absurd result – for example, holding a single state liable for all climate change harms worldwide – liability for damages should be limited by the doctrine of proportionality, that is, to the extent that it is reasonable and equitable in light of that defendant’s wrongful conduct.⁵⁶⁵ Of course, any state defendant found liable under this regime would be free to seek indemnification from other liable states. Overall, this approach of joint and several liability limited by the doctrine of proportionality would likely look to the same body of evidence that attributes GHG emissions to the defendant state. The model statute should provide clear guidance on this point and expressly limit a state’s liability to its own improper conduct or failure to act.

Interrelationship of claims

A model statute should also address the interrelationship between competing claims by individuals and communities arising from the same harm. If a judgment precludes future claims by similarly harmed individuals and communities, the statute should include measures to ensure that these interests receive compensation for the harm that they have suffered. The model statute should seek to balance the need to ensure that potential claimants are made whole with preventing individual defendants from paying excessive or duplicative damages.

With this in mind, a class-based system of distributing monetary compensation or other remedial aid might be preferable to a multitude of individual damages awards. Fragmented awards of damages could skew available adaptive and compensatory resources towards those complainants who race to the courthouse and/or who have the resources to retain the most capable legal counsel. A system of class-based awards would ensure that similarly affected persons receive a fair portion of any resources awarded.

Limitation periods

A model statute should also consider the appropriate approach to statutory limitation periods for climate change actions. The model statute should provide a distinct limitations period that would override any shorter domestic limitations period that might otherwise apply (eg, for torts or general negligence). In addition, the model statute should address the equitable defence of laches, as it is used in many jurisdictions to bar delayed suits for equitable relief (such as injunctions) or deny final equitable relief.

Disclosure and discovery

Many domestic jurisdictions impose a threshold requiring a claimant to show some basis for the alleged claims beyond mere speculation, and prohibit or strictly limit party disclosure and discovery to aid the claimant’s satisfying that pleading threshold. The model statute should address the availability of pre-action and interim applications for disclosure and discovery. The goal should be to provide for a more open process of exchanging information in a timely manner.

Costs awards

A model statute would ideally contain guidelines for managing costs awards in climate change litigation. For example, although frivolous claims are to be discouraged, a balance must also be struck to ensure that potential applicants for judicial relief, particularly in claims against a state for failure to implement environmental laws, are not intimidated from even commencing a claim by the spectre of a punishing costs awards should their claim be rejected (even for technical reasons). In the same way, the role of ‘costs in advance’ could be examined, as developed by courts in certain common law jurisdictions, whereby a court can order advanced costs orders against government defendants. In addition, the model statute should also address applications by defendants that claimants lodge security for costs in advance of the trial. Again, requirements to lodge security for costs can potentially operate as a hurdle to public interest litigation. The model statute may consider whether security should be provided in a climate change litigation context and, if so, whether a cap on the total security requested would be appropriate.

Jurisdictional reach

A model statute should also provide some guidance as to the jurisdictional scope of domestic courts to adjudicate climate-related claims. Possible grounds for extending limited jurisdiction could include: (i) whether the claimant suffered harm within or outside of the court’s jurisdiction; (ii) whether the defendant is present or does business within the court’s jurisdiction; and (iii) whether the defendant’s conduct occurred within the court’s jurisdiction and/or produced climate change-related harm within the jurisdiction. These issues are discussed further in section 3.1.3 on page 147. A model statute should be guided by the relevant recommendations set forth in the Knox Report, specifically:

‘Many grave threats to the enjoyment of human rights are due to transboundary environmental harm, including problems of global scope such as ozone depletion and climate change. This raises the question of whether States have obligations to protect human rights against the extraterritorial environmental effects of actions taken within their territory. There is no obvious reason why a State should not bear responsibility for actions that otherwise would violate its human rights obligations merely because the harm was felt beyond its borders.’⁵⁶⁶

Finally, the Task Force recommends that the Working Group consider ways in which tools utilised in the PCA’s 2001 Optional Rules for Arbitration of Disputes Relating to Natural Resources and/or the Environment (discussed below) could guide development of the model statute.

3.1.2 Climate change justice measures for states: international dispute resolution

(i) What rights are available for states?

In the previous section, 3.1.1, the Report identified potential rights that might be available to be invoked by *individuals and communities* to address climate change justice issues. We now consider what legal and procedural rights *states* have against other states, state-controlled emitters and privately controlled emitters.

The enforcement of environmental obligations arising under customary international law⁵⁶⁷ and treaties relies on the concept of state responsibility, which signifies that a state must be accountable for its acts and omissions which violate international law.⁵⁶⁸ A state's internationally wrongful act may engage its responsibility towards one state, several states or even the international community as a whole.⁵⁶⁹ The idea that there are certain rights of such importance that 'all States can be held to have a legal interest in their protection'⁵⁷⁰ – described by the ICJ in *Barcelona Traction* as obligations *erga omnes*⁵⁷¹ – is particularly important to climate change justice in the absence of any concept under international law of public interest *actio popularis*, since any state may invoke a breach of an obligation *erga omnes*, regardless of whether it has suffered injury.⁵⁷² Since the intended beneficiaries of climate change obligations must be the international community as a whole, and the obligations are dedicated to the protection of the global commons, they should be viewed as having *erga omnes* character.⁵⁷³

A state may challenge another state's breach of an international law obligation by a number of means including: (i) diplomatic channels, which include espousal of diplomatic claims, voluntary mediation and conciliation;⁵⁷⁴ (ii) unilateral sanctions or countermeasures (although it is unlikely that they could be lawfully applied in the context of climate change obligations);⁵⁷⁵ or (iii) binding international dispute settlement before judicial bodies such as the ICJ⁵⁷⁶ or international arbitral tribunals.⁵⁷⁷ The ICJ may adjudicate claims concerning violations of international climate obligations provided that its jurisdictional requirements, which are based on the state's prior consent, are met. States may consent to the ICJ's jurisdiction either by making an ex ante declaration accepting the compulsory jurisdiction of the Court under Article 36(2) of the Statute of the Court; by a dispute resolution provision in an international environmental agreement (see, for example, UNFCCC Article 14(2));⁵⁷⁸ or by way of an ad hoc special agreement with the adverse party to submit their dispute to the Court.

Alternatively, states may also initiate inter-state applications before the regional human rights tribunals for violations of environmental human rights. Significantly, the ECHR has asserted its (implied) power to grant interim measures in inter-state disputes.⁵⁷⁹ In addition, one could envisage inter-state claims arising under BITs where a host state applied climate or emissions regulation in a discriminatory manner against foreign investors or where the host state has arbitrarily withdrawn commitments made to renewable energy investors. While inter-state investment arbitrations are, to date, quite

rare,⁵⁸⁰ the great majority of BITS contain inter-state dispute settlement provisions.⁵⁸¹

However, the state responsibility model and the adjudication of inter-state climate change disputes encounter many of the same challenges encountered in individual litigation, set out in Chapter 2. Issues such as the appropriate standard of liability, causation, the threshold of injury or damage, liability for environmental damage by a private party, and the calculation and attribution of remedies in environmental disputes are contentious issues that remain to be determined.⁵⁸²

For this reason, the bilateral state responsibility model is not sufficient, in itself, to tackle the common concern of climate change and there is a recognised need to reconceptualise enforcement through the lens of prevention, cooperation and collective compliance.⁵⁸³

There are a number of supervisory bodies in the human rights field that have been tasked with overseeing compliance with human rights treaties and that have the power to accept petitions from other States Parties alleging (environmental-related) human rights breaches. While less prevalent in environmental agreements, a number of MEAs have established non-compliance procedures,⁵⁸⁴ such as the Implementation Committee of the Montreal Protocol to the Ozone Convention,⁵⁸⁵ which can be invoked by any State Party.⁵⁸⁶ Similarly, the Kyoto Protocol non-compliance procedure established a compliance committee, which may be seized either by states or by an ‘expert review team’ established under Article 8 of the Protocol.

As will be discussed section 3.2.2, ‘Transparency’, on p 158, the Aarhus Convention and the Espoo Convention on transboundary harm⁵⁸⁷ both include provisions on inter-state dispute settlement and a non-judicial compliance committee. Further, NAAEC, which is the environmental side agreement of NAFTA, which requires States Parties to effectively enforce its environmental legislation, established the CEC as a distinct international organisation responsible for implementing NAAEC. States, in addition to certain private parties, may initiate complaints before the CEC.

(ii) Applicable fora to determine international claims against states

As discussed, a major focus of this Report is the importance of holding states accountable for their environmental and climate change obligations under international law. In this regard, one major goal of climate change justice is to ensure that suitable dispute settlement fora are available and equipped with the procedural and practical tools to effectively hear and decide climate change litigation.

As described in Chapter 2, several existing fora provide facilities for environmental claims against states. The ICJ adjudicates international disputes with significant environmental dimensions, without resorting to the now-abolished special chamber for environmental cases. The dispute settlement mechanism under UNCLOS has been also utilised for environmental disputes. Regional courts, such as the ECtHR and the Inter-American Court of Human Rights, have entertained petitions concerning the human rights implications of climate change. However, these courts face various challenges, such as states accepting only limited jurisdiction or no jurisdiction at all, the absence

of regional enforcement mechanisms other than diplomatic or political pressure and, ultimately, reliance on the states themselves for compliance with recommendations and execution of binding judgments.⁵⁸⁸ The Task Force recommends that where possible states accept the jurisdiction of the ICJ and ITLOS, and work to ensure that these tribunals have access to the expertise and resources necessary to credibly adjudicate climate-related cases, and comply with their recommendations and judgments.

Although no single forum has emerged as uniquely appropriate or particularly willing to entertain climate change litigation against states, the lack of a specialised international environmental court does not seem to be handicapping the settlement of environmental disputes against or between states.⁵⁸⁹ Yet there are clearly a number of steps available to states to ensure a more robust framework for the governance of the international environment, and in particular the resolution of climate justice-related issues.⁵⁹⁰

(iii) The Permanent Court of Arbitration

The Task Force recognises that judicial bodies, such as the ICJ and ITLOS, provide an important fora in principle for the resolution of inter-state disputes on climate-related matters, particularly as they are best placed to develop international law. At the same time, many states have opted for arbitration in regard to environmental matters both between states and in cases involving investors, such as disputes over power generation and natural resource extraction. Taking account of this trend, the PCA has been suggested as a preferred – but not dedicated – forum for international environmental disputes against states.⁵⁹¹ Indeed, both critics and proponents of a future ICE have advocated for an increased use of the PCA to fill in the gaps in environmental dispute resolution.⁵⁹²

Where arbitration has been chosen over judicial dispute resolution, the PCA has several advantages in its favour: (i) it is the oldest institution dedicated to settling inter-state disputes with presently 115 member states and thus enjoys a high degree of international recognition and acceptance; (ii) it has experience administering purely environmental disputes as well as arbitrations under Optional Rules specific to environmental disputes, and the PCA has expertise in disputes involving remedies for environmental damage, environmental preservation or sustainability, or rights to natural resources;⁵⁹³ (iii) by using an existing institution, the need to secure both political will and the large amount of funding to create an ICE is avoided; (iv) the PCA is open to a broad range of actors such as states, private parties and intergovernmental organisations;⁵⁹⁴ and (v) the use of one specific institution and set of arbitration rules could further the coherent, consistent and directed development of international environmental law.⁵⁹⁵

A product of the first Hague Peace Conference, the PCA was established by the Convention for the Pacific Settlement of International Disputes, concluded in 1899 (later revised in 1907), and was the first global mechanism for the settlement of disputes between states.⁵⁹⁶ In the 1930s, faced with a request to administer a dispute between a state and a private party, the PCA Administrative Council interpreted its founding Conventions as encompassing disputes between states and non-state actors.

The PCA's founding Conventions set out procedures for arbitrating disputes between states. Since then, the PCA has promulgated various sets of rules for certain types of disputes. Of particular relevance for climate change disputes are the PCA Optional Rules for Arbitration of Disputes Relating to Natural Resources and/or the Environment based on the UNCITRAL Arbitration Rules 1976, which establish a specialised list of arbitrators and a list of scientific and technical experts. Promulgated in 2001, it has been described as the only modern set of arbitral rules by any international dispute resolution body, drafted specifically with environmental disputes in mind.⁵⁹⁷ In 2012, the PCA promulgated the PCA Arbitration Rules 2012, a modernised set of rules based on the revised UNCITRAL Arbitration Rules 2010, for use in disputes involving at least one state, state-controlled entity or intergovernmental organisation.

The PCA functions through a unique, three-part structure, consisting of an Administrative Council that oversees its policies and budgets, a roster of independent potential arbitrators nominated by the member states, known as Members of the Court, and its secretariat, known as the International Bureau, which provides registry services and administrative and logistical support to tribunals.⁵⁹⁸ Arbitrations proceed by consensus, with parties choosing to recognise the existence of a dispute, and choosing to submit it to the PCA. Parties may appoint arbitrators from the PCA's extensive roster of arbitrators: each member state may nominate up to four persons, although they are not obliged to do so.⁵⁹⁹

Immediately apparent from this structure is the PCA's capacity to meet at least two key requirements for an optimal international climate change arbitration forum: uniformity and procedural flexibility. The PCA imposes no mandatory jurisdiction and its membership is voluntary. Its roster of member arbitrators nominated from every member state offer both wide expertise and expansive choice to parties who are otherwise loath to subject themselves to the jurisdiction of an already constituted, treaty-based court with a narrow legal framework. These traits make the PCA highly desirable as a preferred forum for environmental disputes against states. As, like other arbitral institutions, the PCA has been criticised for lacking transparency, the Task Force recommends that the PCA and other arbitral institutions adopt stronger rules on transparency, such as the recently finalised UNCITRAL Rules on Transparency in Investor-State Arbitration (discussed under 'Transparency and precedent in international arbitration' on pages 112–113).⁶⁰⁰

PCA reach and expertise in environmental litigation

As mentioned, the PCA has already developed rules specific to environmental litigation: its 2001 Optional Rules for Arbitration of Disputes Relating to Natural Resources and/or the Environment. These are the first and only procedural arbitral rules drafted specifically with environmental disputes in mind, and they introduce several convenient innovations. States, inter-governmental institutions, NGOs, corporations and investors may bring claims to the PCA, provided the parties have agreed to do so. In addition, so long as there is agreement between the parties, multi-party disputes can be accommodated, which is particularly important in environmental matters.

The Rules also provide for the establishment of a specialised list of arbitrators considered to have expertise in environmental issues as well as the establishment of a list of scientific and technical experts who may be appointed as expert witnesses pursuant to the rules.⁶⁰¹ By incorporating environmental expertise into an existing forum, this mechanism directly addresses the criticism that arbitrators do not have the requisite experience and knowledge base to adjudicate environmental issues. Furthermore, the separation of environmental experts from the arbitral panel vitiates concerns over potentially inflexible focus on the environmental aspects of a claim. Finally, the expectation of parties' input in appointing arbitrators and experts increases the parties' confidence in the outcome.

A variety of other advantages exist, such as the Rules' emphasis on expeditious resolution of claims and condensed procedural timelines – something highly desirable given the potential time-sensitivity and irreversibility of environmental harms. Moreover, although it is often costly to appoint counsel to represent the parties, as well as hire expert advisers, together with arbitrators fees for hearings, the PCA can be more competitive vis-à-vis other arbitral institutions given the fact that the operating costs of its administrative organ are partially covered by annual contributions from its member states.

The PCA also provides registry, administrative and secretarial services at the parties' request according to its schedule of fees, which adopts hourly rates, or under any other fee arrangement that may be agreed. When the PCA administers an arbitration, it makes available its hearing and meeting rooms in the Peace Palace in The Hague and other locations around the world (including Argentina, Costa Rica, Mauritius, Singapore and South Africa) available to parties and tribunals free-of-charge. The PCA does not charge any fee for the registration of a case or any yearly administrative fee.

Of particular note is the fact that the PCA maintains a financial assistance fund aimed at assisting developing countries meet part of the costs involved in dispute settlement proceedings offered by the PCA. A 'qualifying state' may seek financial assistance to defray its costs in proceedings.⁶⁰²

In order to expand the accessibility of its services around the world, the PCA has adopted a policy of concluding Host Country Agreements (HCAs) with its member states.⁶⁰³ HCAs seek to establish a legal framework within which PCA-administered proceedings can be conducted in PCA member states under conditions similar to those guaranteed by the PCA's Headquarters Agreement with the Netherlands. The HCA seeks to secure the assistance of the host country in the provision of facilities and services required for PCA-administered proceedings. It regulates the privileges and immunities that are afforded by the host country to PCA staff and participants in PCA proceedings in order to protect the international character of the proceedings. The PCA has also concluded a wide network of cooperation agreements with all major international arbitration institutions.⁶⁰⁴

Further, the Secretary-General of the PCA has experience acting as designator of appointing authorities under the UNCITRAL Arbitration Rules. He may be called

upon by parties to act as appointing authority for the appointment of arbitrators, the determination of challenges, and the review of fee and deposit amounts under the PCA Rules of Procedure, the UNCITRAL Arbitration Rules or other rules of procedure.

Awards rendered in arbitrations concluded under the auspices of the PCA are enforceable under international law in accordance with the broadly accepted 1958 Convention on the Recognition and Enforcement of Foreign Arbitral Awards (also known as the New York Convention).⁶⁰⁵ Recommendations as to enhancing transparency in international arbitration, particularly in respect of the publishing of arbitral awards, can be found on pages 112–113.

Finally, as adjudication itself has been criticised as being an inadequate means of resolving international disputes in the climate change context,⁶⁰⁶ the PCA offers other dispute settlement methods such as review panel proceedings, fact-finding commissions, and mediation and conciliation capabilities.⁶⁰⁷ Procedures for the latter are stated in the PCA 2002 Optional Rules for Conciliation of Disputes Relating to Natural Resources and/or the Environment (2002).

Certainly, the key limitation with the PCA mechanism for the resolution of climate change-related disputes is that all parties must agree to be subject to proceedings under the PCA's auspices, whether these are suits brought by other states or by individuals. On the other hand, once gently induced to voluntarily participate in the settlement of international environmental disputes through the PCA, states could become more amenable to adopting more binding forms of dispute resolution. The PCA could therefore serve as a bridging institution, leading states towards incrementally greater adoption and participation through voluntary exposure both institutionally and procedurally.

Drawing on the PCA in existing treaty frameworks

In recommending greater reliance on the PCA where arbitral rather than judicial resolution is preferred for environmental disputes, the Task Force recognises the concerns set out above, and encourages states and other organisations to consent – including through domestic legislation and international commitments – to arbitration before the PCA. In doing so, states should ensure that proceedings are open and transparent. The Task Force further encourages states to apply the PCA Optional Rules for Arbitration of Disputes Relating to Natural Resources and/or the Environment and to take advantage of the PCA roster of environmental experts, in all arbitral disputes touching on climate justice, including those involving power generation and distribution and natural resource extraction, and in disputes involving investors.

To strengthen the incentives towards voluntary reliance on the PCA where arbitration is chosen, the Task Force further recommends that states and international organisations include the PCA as one of the relevant fora for dispute resolution in existing dispute resolution provisions in other international instruments. Several dozen of these environmental treaties allow for submission of disputes for international adjudication, but few contain actual procedures for arbitration, and even

fewer have secretariats well-resourced enough to conduct arbitration proceedings.⁶⁰⁸ Beneficially, the PCA already engages in regular discussions facilitated by the various UN convention secretariats, so as to encourage the incorporation of references to the PCA's environmental rules in the dispute resolution mechanisms of existing MEAs.⁶⁰⁹ This process should be further encouraged.

Most relevant for climate change-related disputes, the Task Force recommends that states make use of the UNFCCC dispute resolution provision (Article 14.2). Specifically, Article 14.2(a) of the UNFCCC provides for 'submission of the dispute to the International Court of Justice'; as an alternative, Article 14(b) provides for 'Arbitration in accordance with procedures to be adopted by the Conference of the Parties as soon as practicable, in an annex on arbitration.'⁶¹⁰ However, countries have yet to submit disputes to the ICJ, per Article 14.2(a), nor to adopt any such procedure or make provisions for arbitration, per Article 14.2(b). To resolve this state of inaction, the members of the UNFCCC should act according to the stipulation of the Convention, and meet to adopt arbitration procedures. Specifically, the Task Force recommends that the COP adopt the PCA as its preferred arbitral body, per Article 14.2(b), with the PCA adopting adequate rules of transparency in all such proceedings and, furthermore, adopt its Optional Rules on environmental disputes as the UNFCCC preferred dispute resolution procedure. This will make the UNFCCC dispute resolution mechanism more meaningful and give direction for parties seeking arbitration to make use of the PCA.

Similarly, UNCLOS provides dispute settlement procedures which can lead to a binding decision on States Parties.⁶¹¹ The forum to resolve the dispute depends on the choice of the parties, either a forum for disputes between states – the ICJ or the International Tribunal for the Law of the Sea (ITLOS) – or an arbitral tribunal. Pursuant to Article 287(3) of UNCLOS, arbitration under Annex VII of UNCLOS is the default means of dispute settlement if a state has not expressed any preference with respect to the means of dispute resolution available under Article 287(1) of UNCLOS (and has not expressed any reservation or optional exceptions pursuant to Article 298 of UNCLOS). Likewise, pursuant to Article 287(5) of UNCLOS, if the parties have not accepted the same procedure for the settlement of the dispute, arbitration under Annex VII is the default means of dispute settlement (again subject to the same exceptions or reservations pursuant to Article 298).

Since UNCLOS entered into force in 1994, 12 cases have been resolved through arbitration under Annex VII, and the PCA is acting, or has acted, as registry in almost all (11) of those cases.⁶¹² The Task Force therefore recommends that efforts continue to be made towards making the PCA the preferred arbitral forum for UNCLOS disputes in cases where States Parties have not opted for the jurisdiction of the ICJ or ITLOS. By strengthening the PCA mandate in both the UNFCCC and the UNCLOS regimes, the international community will lend both more legitimacy and force to the PCA system, and make it all the more attractive for states to rely upon.

Adoption of the PCA model arbitration clauses

Finally, in its efforts to promote arbitration of environmental disputes, the PCA offers model arbitration clauses designed specifically for use in contracts in order to bind parties to resorting to the PCA for environmental disputes.⁶¹³ The arbitration clause is simple, and states:

‘Any dispute, controversy, or claim arising out of or relating to the interpretation, application or performance of this agreement, including its existence, validity, or termination, shall be settled by final and binding arbitration in accordance with the Permanent Court of Arbitration Optional Rules for Arbitration of Disputes Relating to Natural Resources and/or the Environment, as in effect on the date of this agreement. The International Bureau of the Permanent Court of Arbitration shall serve as Registry for the proceedings.’⁶¹⁴

More generally, the PCA Arbitration Rules 2012 contain model arbitration clauses for contracts, treaties and other agreements. The arbitration clause for contracts reads:

‘Any dispute, controversy or claim arising out of or relating to this contract, or the breach, termination or invalidity thereof, shall be settled by arbitration in accordance with the PCA Arbitration Rules 2012.’⁶¹⁵

The arbitration clause for treaties and other agreements reads:

‘Any dispute, controversy or claim arising out of or in relation to this [agreement] [treaty], or the existence, interpretation, application, breach, termination, or invalidity thereof, shall be settled by arbitration in accordance with the PCA Arbitration Rules 2012.’⁶¹⁶

As a matter of form, and to facilitate ease of resorting to PCA arbitration by private parties, the Task Force also recommends that states adopt these clauses, as appropriate, in environmentally significant contracts and MEAs.

(iv) Other international arbitral fora

Although the Task Force recommends the PCA as a preferred forum for environmental and climate change-related disputes, the Task Force recognises the availability of multiple other arbitral fora which, depending on the nature of the case, may also be considered, including the LCIA, the ICC, and the Arbitration Institute of the Stockholm Chamber of Commerce, among others. The Task Force encourages all arbitral institutions to take appropriate steps to develop rules and/or expertise specific to the resolution of environmental disputes, including procedures to assist consideration of community perspectives.

(v) Transparency and precedent in international arbitration

Despite the many benefits of encouraging the use of arbitral fora to resolve environmental claims against states, a significant disadvantage of using arbitration as opposed to domestic courts is that arbitration decisions are often confidential to the parties and thus not available in any published form.⁶¹⁷

Even though there is no official system of binding precedent in arbitration, an unofficial system of precedent is increasingly common, particularly in investor-state arbitration instigated under BITs, where arbitral tribunals will be influenced by authoritative or well-regarded awards issued on similar issues.⁶¹⁸ In addition, in response to the criticism that these arbitral processes were too opaque, states and investors have, over the last decade, moved to make these arbitrations more accessible and transparent.

For example, in 2006, ICSID modified its rules so that ICSID was required to promptly publish excerpts of every award, and tribunals could consider requests from third parties to file *amicus curiae* briefs.⁶¹⁹ More recently, in April 2014, the UNCITRAL Rules on Transparency in Treaty-based Investor-State Arbitration went into effect. These rules apply to all treaties concluded after 1 April 2014, unless the contracting parties opt out. Under these rules, all hearings are open to the public, all awards will be published and tribunals may accept (as well as invite) third-party submissions.⁶²⁰ A number of countries, including Argentina, Australia, Canada, Mexico, Norway, South Africa and the US, reportedly support the universal application of these rules.⁶²¹

In particular, ensuring that awards from environmental or climate change arbitrations are published will allow future tribunals to have the benefit of earlier decisions, which will be particularly useful for developing principles of international environmental law and to show how complex scientific issues may be dealt with.⁶²²

In the short term, the Task Force endorses this move towards greater transparency in investor-state arbitrations and recommends that states participate in this trend. The Task Force recommends that arbitral awards and decisions affecting climate change issues should be made available publicly, on a timely basis, to ensure transparency and confidence in the arbitral system.

(vi) International Tribunal for the Environment

An additional, if longer-term, goal to enhance climate change justice would be the creation of an ICE, as described in Chapter 2. Despite various efforts, a specialised international legal forum dedicated to adjudicating environmental disputes does not yet exist. Yet it is likely that developing a focused scientific and technical expertise within an ICE could more efficiently and effectively address the pronounced challenges of climate change litigation. Indeed, although international courts and specialised tribunals increasingly address environmental matters, they face limitations: ‘standing to bring a claim is generally restricted to States, jurisdictions may overlap and contribute to fragmentation, and pronouncements are often of modest significance’.⁶²³

Therefore, in the long term, the Task Force supports proposals for the gradual development of an ad hoc arbitral body (ICE Tribunal), which would build towards a permanent formal judicial institution (ICE).⁶²⁴ A new ICE Tribunal could provide ‘an informal, ad hoc body with specialized environmental science and law subject matter expertise’.⁶²⁵ It could be modelled on the best practices of arbitration institutions such as the London Court of International Arbitration and the International Chamber of Commerce. Unlike other arbitration bodies, however, the ICE Tribunal would operate exclusively in the environmental issue area, ensuring its reliability and competence.

Moreover, the ICE Tribunal would ‘provide the conceptual template for how a Court could work in terms of decision-making, procedure and, above all, the application of a corpus of well-reasoned international environmental law’.⁶²⁶ In particular, an ICE Tribunal could ascertain and clarify environmental legal obligations of governments and businesses, facilitate harmonisation of and complement existing legislative and judicial systems and provide access to justice to a broad range of actors through open standing rules.⁶²⁷

Scholars and commentators have advanced a range of proposals to achieve these goals in an ICE Tribunal. At a minimum, both state and non-state actors, that is, organisations, individuals and corporations, should have standing before the tribunal, so as to grant broad airing of the potential complexity of issues and multiplicity of parties involved.⁶²⁸ This might be difficult, but as climate change-related disputes arise with greater frequency, states would be well advised to rely on more efficient non-state actors to identify and litigate cases that states themselves do not have the quickness or resources to bring. States could express their consent to allow non-state actors to bring claims either through treaties or some kind of ad hoc arrangement.

Secondly, in furtherance of better access, the tribunal’s procedures should allow the parties to choose the location for constituting a tribunal. Thirdly, states should ultimately be bound by the decisions of the tribunal. This goal might seem to be fraught with difficulties, but states have achieved widespread acquiescence to the authority of transnational tribunals when the costs of non-compliance outweighed that of mutually agreed compliance. The dispute settlement mechanisms of the WTO and the international investment arbitration framework are cases in point. Moreover, the ECtHR has demonstrated that compulsory international jurisdiction over states is possible even in the realm of public interest and human rights litigation.⁶²⁹

Finally, in terms of remedies, the ICE Tribunal should have broad powers to make findings of incompatibility between domestic legislation and MEAs, to order provisional measures, and to make final judgments that encompass both monetary awards and performance of tailored orders of environmental rehabilitation or restoration.⁶³⁰ As such, ICE would be empowered to fulfill a judicial review role, to make international environmental law, to police legislation for compliance with MEAs, and to adjudicate disputes.

Negotiating the creation of an ICE Tribunal and incorporating these measures into it may take a long time yet. Getting states to submit to compulsory jurisdiction, for example, might require the manifestation of even more acute climate change effects. However, if an ICE Tribunal came to fruition, the Task Force would recommend the standardisation of MEAs to incorporate the ICE Tribunal into their dispute resolution process to avoid fragmentation on environmental issues and to facilitate the use of an ICE Tribunal by private parties.

3.1.3 *Climate change justice and corporate responsibility*

Having considered the role of climate change justice for individuals, communities and states, we now turn to corporate responsibility. As discussed in Chapter 2, with respect to corporate responsibility, the current regulatory regime imposed by international environmental, human rights or trade law is, at best, inconsistent and at worst, ineffective. The impetus is on states and international organisations to come to coherent and consistent standards. As stated by John Ruggie, the (then) Special Representative of the Secretary-General on Human Rights and Transnational Corporations and Other Business Enterprises, ‘the State duty to protect against non-State abuses is part of the very foundation of the international human rights regime. The duty requires States to play a key role in regulating and adjudicating abuse by business enterprises, or risk breaching their international obligations.’⁶³¹

The Task Force strongly endorses the recent (December 2013) Report of John Knox, the Independent Expert to the UN Human Rights Council on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment, which recognises that the UN Guiding Principles on Business and Human Rights make it clear that states have an obligation to provide for remedies for human rights abuses caused by corporations, and that corporations themselves have a responsibility to respect human rights. In particular, the Report concludes that: ‘the human rights obligations relating to the environment also include substantive obligations to adopt legal and institutional frameworks that protect against environmental harm that interferes with the enjoyment of human rights, *including harm caused by private actors*’ (emphasis added).⁶³²

These statements are reflected in the position taken by the European Court, which has held that states are obligated to take positive steps to protect against environmental harm to the right to private and family life, whether the pollution was caused by governmental or private action.⁶³³ In addition, the recently published *ILA Draft Articles on Climate Change* articulate the obligation to ‘take all appropriate measures to anticipate, prevent or minimize the causes of climate change, especially through effective measures to reduce GHG emissions’.⁶³⁴

The Task Force supports the increasing international recognition of corporate responsibility for environmental and human rights harms. But that responsibility must be accompanied by development of coherent and clear regulatory standards that make

compliance possible. The impetus is on states and international organisations to come to coherent and consistent standards to regulate corporates and multinationals within their jurisdiction as part of their efforts to mitigate and adapt to climate change. In this regard, the Task Force recommends a multi-faceted approach to corporate responsibility that will increase the ability of corporations to self-regulate, including in response to increased regulation by states.

As a first step, corporations should adopt and promote the UN Guiding Principles on Business and Human Rights as they pertain to human rights and climate change.

Secondly, states need to clarify regulatory mechanisms relating to climate change, including for overseas violations and require increased transparency from corporations by requiring more detailed reporting of GHG emissions. This can be assisted by adoption of the recently published ISO technical specification on carbon footprint measurement.

Thirdly, multinational organisations should work to support these initiatives by increasing their external monitoring of corporations and endorsing corporations taking the most proactive measures.

Finally, sector specific initiatives promoting human rights and in particular environmental rights, as seen in the banking and finance sector, should be encouraged. All of these recommendations are discussed in detail below.

(i) Implementation of the UN Framework on Corporate Responsibility to Respect Human Rights in the context of climate change

Since the critical endorsement of the UN Guiding Principles on Business and Human Rights in 2011,⁶³⁵ corporate implementation of the Guiding Principles has been uneven, in part due to uncertainty on what policies or structures are required for compliance. In addition, there is no direct explanation in the Principles as to the interplay between climate change and human rights.

To address this uncertainty, the Task Force recommends that the OHCHR develop a model internal corporate policy, expanding upon its prior guidance from 2011.⁶³⁶ That guidance provides the outline for such a policy, emphasising the importance of conducting risk analysis before undertaking any major project, tracking performance and remediating any harms, while simultaneously integrating human rights concerns throughout the company.⁶³⁷

To advance corporate responsibility specifically in the context of climate change, a model policy should commit the corporation to take a number of concrete steps. First, the corporation should adopt an explicit policy that stipulates measures designed to prevent or mitigate adverse climate change impacts linked to its operations.⁶³⁸ Such measures must include due diligence of corporate projects, including the environmental practices of the company's affiliates, and as far as reasonably practicable, its major contractors and suppliers,⁶³⁹ as well as compliance with reporting obligations (discussed in the following).

Secondly, the corporation should implement a due-diligence process to identify, prevent, mitigate and account for its actual climate change impacts.⁶⁴⁰ While awareness

is the first step, the corporation must translate its awareness into active efforts to minimise or reverse the impacts of its actions on climate change and human rights.⁶⁴¹ The corporation should consider measures it can implement to assist in achieving the objective of limiting global warming to no more than a 2°C increase. The corporation's goal should be to implement the most advanced available technology to minimise its carbon footprint. In situations where negative impact on the environment is unavoidable given current technology or if the cost of such technology is prohibitive, the corporation bears responsibility for corresponding mitigation and remediation.

Thirdly, the corporation should implement remediation processes that allow for open communication with stakeholders most affected by the corporation's operations.⁶⁴² Strictly internal assessments of potential environmental or human rights impacts can fall short of a complete picture of the actual impact on nearby and distant communities.⁶⁴³ This complete picture is of particular importance in the context of climate change impacts, which are not strictly localised to any one area. The Task Force recommends that the IBA offers to collaborate with the Office of the High Commissioner or work in partnership with other stakeholders to develop a model internal corporate policy.

(ii) Reporting by corporations

Incorporation of ISO technical specification

In May 2013, the ISO published ISO/TS Technical Specification 14067, relating to the carbon footprint of products.⁶⁴⁴ This Technical Specification 'specifies principles, requirements and guidelines for the quantification and communication of the carbon footprint of a product', with the aim to enhance clarity and consistency of data for all stakeholders.⁶⁴⁵ This is an important step forward towards adopting uniform measurement of GHG emissions and will help promote best practices in environmental and energy management. The Task Force therefore recommends that corporations incorporate ISO standards in business GHG management programmes to ensure standardised quantification of GHG emissions and to promote good practice in environmental and energy management.

Promoting access to information through mandatory corporate reporting requirements

A growing number of companies voluntarily report on the impact of their business activities on climate change, in addition to their exposure to the adverse effects of climate change, in response to increased demand from governments, investors and civil society.

This emerging trend can be significantly extended by mandating corporate disclosure of GHG emissions. To date, a limited number of countries, including Australia,⁶⁴⁶ Canada,⁶⁴⁷ France, the UK and the US⁶⁴⁸ have introduced binding GHG disclosure requirements. Mandatory disclosure will be further increased by the recently-adopted

EU directive on non-financial narrative reports.⁶⁴⁹ This EU directive requires large public-listed companies to disclose GHG emissions, among other information relating to human rights and diversity policies.

By way of example, in 2008, the UK adopted the world's first act requiring specific GHG targets – the UK Climate Change Act 2008. The Act was considered a landmark bill because it provided for GHG emissions reductions targets that were intended to be legally binding, but it was also noteworthy because it included mandatory carbon reporting. The UK recently amended the Companies Act 2006 to introduce mandatory corporate reporting requirements on human rights and GHG emissions as part of its action plan to implement the UN Guiding Principles on Business and Human Rights. From October 2013, all quoted companies⁶⁵⁰ must prepare annual 'strategic reports', a narrative report containing non-financial information intended to enable company members to assess whether the company directors have performed their statutory duties, including reporting on GHG emissions.⁶⁵¹

The strategic report must include GHG emissions resulting from the combustion of fuel; the operation of any facility and from the purchase of heat, electricity, steam or cooling. The report must also contain information concerning methodology and the data from the previous year, for the purposes of comparison. While the company may decline to provide this information where it is not practicable to obtain the relevant information, it must explain what information is not included and why.

Using this as a model, the Task Force therefore encourages states and international organisations, in consultation with corporations, to develop and subsequently adopt clear and implementable objective standards for corporate reporting in respect of human rights issues pertaining to the environment. Reporting requirements could then be introduced through legislation governing annual company accounts, securities regulations, or corporate governance codes. As an initial step, states could lead the way by first requiring that all state-owned companies make GHG emissions disclosures. For example, in 2007, the Swedish Government required all state-owned companies to start sustainability reporting, including reporting on the company's risks and opportunities due to climate change.⁶⁵² NGOs could also undertake comparisons of the data released to ensure accountability.

In the short-term, the Task Force encourages states to require corporations to specifically disclose GHG emissions using the ISO or other promulgated standards already available. It is suggested that, in order to protect the competitiveness of small to medium enterprises, GHG disclosure should be limited to large corporations, in light of the high cost of reporting requirements and potential difficulty in determining emissions. If that approach is taken, states should consider how the pool of corporations required to disclose can be gradually extended.

Furthermore, in order to ensure that disclosure requirements are as effective as possible, disclosure requirements must extend to 'direct and indirect, current and future, corporate and product emissions'.⁶⁵³ Supply chains present a particular

challenge in this respect but must be addressed in order to prevent companies simply ‘outsourcing’ their carbon emission or carbon-intense aspects of their production to other suppliers or jurisdictions. To this end, the Task Force recommends that corporates should require full disclosure of evident climate change impacts arising from the actions of (i) all major subsidiaries and affiliates; and, as far as reasonably practicable, from (ii) the corporation’s supply chain (for example, by incorporating disclosure obligations into contractual provisions).

A further challenge presented by mandatory GHG reporting is how to effectively verify or monitor these reports. The recently adopted EU directive, for example, has been criticised by civil society organisations for omitting a clear monitoring mechanism or for failing to stipulate sanctions for non-compliance.⁶⁵⁴ With regard to sanctions, the UK has adopted the approach that directors may be subject to liability for misstatements in the company’s annual accounts; however, this provision is subject to ‘safe harbour’ limits, which confine liability to intentional or reckless statements.⁶⁵⁵ Monitoring could be entrusted to a specially created branch of the regulatory body which otherwise oversees company accounts, dedicated to reviewing sustainability and environmental reporting requirements.

Another potential solution that could improve the consistency and accuracy of corporate disclosures is the issuance of interpretative guidance. For example, in 2010, the SEC issued guidance for how the disclosure requirements in the Securities Exchange Act could apply to companies’ climate change risks and opportunities.⁶⁵⁶

Ultimately, if this is implemented, the Task Force recommends that states should require independent verification of corporations’ GHG emissions reporting, similar to auditing of financial statements, as well as independent verification of corporations’ broader human rights reporting pertaining to the environment in as rigorously objective manner as is practicable given the standards and guidance developed.

Institutional monitoring of corporate actors

International institutions have an important role to play in monitoring the activities of multinational corporations. While a globalised, interconnected world economy has allowed corporations to expand their reach beyond national boundaries, legal regimes remain largely fixed at national borders – as does regulators’ ability to oversee corporate activity. International institutions can help fill this governance gap by monitoring multinational corporations to identify those that significantly contribute to GHG emissions and determine compliance with applicable national laws and international treaties on human rights and GHG emissions limits. As the *ILA Draft Articles on Climate Change* provide, ‘States shall jointly monitor, through an appropriate international or regional organization, whether emission reduction standards are fulfilled and whether other preventative and adaptation measures are taken to address climate change.’⁶⁵⁷

Many prominent international institutions are fulfilling this important monitoring role. The FAO has reported on GHG emissions from the perspective

of agricultural business.⁶⁵⁸ Its mandate is sufficiently broad to cover all businesses that have significant GHG emissions.⁶⁵⁹ The IPCC also has a National Greenhouse Gas Inventories Programme that attempts to quantify GHG emissions on a nation-by-nation basis.⁶⁶⁰ Recently Oxfam published its report identifying ten food and beverage companies contributing significant GHG emissions through their supply chains.⁶⁶¹ The World Bank also already monitors GHG emissions.⁶⁶² This work should be expanded to more clearly define the norms in this space.⁶⁶³

However, international institutions with a wider array of tools to oversee and monitor corporate activity are needed to ensure comprehensive monitoring. The Task Force therefore encourages international institutions to increasingly monitor multinational corporations in respect of their compliance with GHG emissions limits. Such a development would allow those who work in the area of international human rights law to evaluate the human rights impact of those emissions on a case-by-case basis.

(iii) Regulation of corporations, at home and abroad

States have a primary role in protecting human rights, and robust regulation of corporations within each state's jurisdiction is an important factor.⁶⁶⁴

First, each state should take steps to develop sufficient 'judicial capacity to hear complaints and enforce remedies against all corporations *operating or based in their territory*'.⁶⁶⁵ This ensures that local capacity is developed to deal with events which happen in the local jurisdiction (ie, South African courts dealing with subsidiaries based in South Africa in relation to environmental and human rights breaches occurring in South Africa). But that responsibility must be accompanied by development of coherent and clear regulatory standards that make compliance possible.

Secondly, to ensure effective state-based regulation of corporations in their activities abroad, the Task Force recommends that states clarify regulatory mechanisms related to climate change, including for overseas violations by corporations or international subsidiaries. Private or semi-private corporate actors are directly responsible for the largest portion of GHG emissions⁶⁶⁶ and states cannot neglect their role in protecting human rights by failing to hold corporate actors to account.⁶⁶⁷ However, obligations on corporates must be clear so that corporates are able to put in place strategies to comply with regulation. It is important that states strike the proper balance between under- and over-regulation as they undertake measures designed to bring international climate change under the ambit of national law. Regulations characterised by gaps and loopholes will create enforcement difficulties and hamper the effectiveness of remedies.⁶⁶⁸ Just as problematic, however, is overregulation that can harm business interests essential to the domestic economy and broader economic growth.

In particular, states should increasingly seek to regulate corporations' impact on the climate through legislation requiring full disclosure of GHG emissions both at home and abroad. By basing jurisdiction on the presence of a parent or subsidiary

within the state's territory, such legislation can effectively render extraterritorial actions and harms subject to domestic regulation.

One example that already allows states to regulate corporations' activities abroad (in respect of anti-bribery) is the US Foreign Corrupt Practices Act.⁶⁶⁹ Importantly, once overseas actions are within the reach of domestic legislation, a company cannot circumvent the domestic regulation via offshore siting of high-emissions operations. An analogous approach that utilises domestic law to address actions abroad could therefore be used where a lack of local capacity meant that corporations' GHG emissions were not being regulated at all. Another US example is the disclosure requirements under the Dodd-Frank Wall Street Reform and Consumer Protection Act with respect to corporations' global supply chains for sourcing of certain 'conflict minerals'.⁶⁷⁰ Such measures would therefore provide access to domestic remedies for violations of climate change obligations, even if the violative conduct occurred in another country.⁶⁷¹

There are a number of significant benefits to allowing home-state regulation of corporations, perhaps most importantly that most corporations are ultimately based in first-world countries with well-developed and independent judiciaries.⁶⁷² Two such laws worth noting have been proposed; one in the US (Corporate Code of Conduct, HR 4596) and one in Australia (Corporate Code of Conduct Bill 2000).⁶⁷³ Under the proposed US Corporate Code of Conduct Act, US companies that employed more than 20 employees in a foreign country were required to establish a code of conduct based on US and internationally recognised standards in the areas of environmental protection, labour rights and human rights.⁶⁷⁴ In the Australian bill, companies employing more than 100 people in a foreign country were required to 'take all reasonable measures to prevent any material adverse effect on the environment'.⁶⁷⁵ While neither was adopted, they together demonstrate potential paths forward.

Although these provisions could be seen as essential to any long-arm environmental protection statute, they have several key omissions: (i) they did not affirmatively state the human rights standards applicable to corporations, instead incorporating treaties by reference; (ii) they were not clear as to the ability to sue a parent for the entirely extraterritorial actions of a subsidiary; and (iii) they did not allow for attachment of domestic assets in the event of foreign court judgments.⁶⁷⁶ Each of these features should ultimately be a part of statutory regulation of overseas corporate conduct.

(iv) Sector-specific initiatives: finance and banking

Under the auspices of the UNEP Finance Initiative, there has been much progress in the banking and financial sector to define human rights obligations. The UNEP Finance Initiative has contributed to the publication of the PRI and has developed the Principles for Sustainable Insurance.⁶⁷⁷ In addition, the Thun Group of Banks has been particularly active in progressing discussion of the UN Guiding Principles on Business and Human Rights.⁶⁷⁸

Furthermore, over 79 financial institutions have officially adopted the Equator Principles, a risk management framework for determining, assessing and managing environmental and social risk in projects, and which primarily seeks to provide a minimum standard for due diligence to support responsible risk decision-making. To this end, the Equator Principles implement environmental protection standards, and require the client to develop or maintain an environmental and social management system. Additionally, the Principles require that the client prepare an environmental and social management plan to address issues that were raised during the assessment process and incorporate actions required to comply with the applicable standards. If the applicable standards are not met to the satisfaction of the EPFI, the client together with it will agree on an Equator Principle Action Plan.⁶⁷⁹

In Europe, export credit agencies (ECAs) have been taking positive steps to recognise the threat of climate change. ECAs are private or quasi-governmental institutions that act as intermediaries between national governments and exporters to issue export financing. ECAs make it possible for corporations to do business abroad, mostly in places where the financial and political landscape is unpredictable. The financing can take the form of credits, credit insurance or guarantees. As financial institutions, ECAs can make their support to an exporter dependent on certain conditions being met.

In 2011, the EU adopted a Regulation on the application of certain guidelines in the field of officially supported export credits.⁶⁸⁰ The EU is party to the Arrangement on Officially Supported Export Credits (the 'Arrangement') of the OECD. The Arrangement regulates the financial terms and conditions that an ECA may offer in order to foster a level playing field for officially supported export credits. Regulation 1233/2011/EC provides that the guidelines contained in the Arrangement shall apply in the EU. In particular, Recital 4 of this Regulation provides that:

‘[T]he Member States should comply with the Union’s general provisions on external action, such as consolidating democracy, respect for human rights and policy coherence for development, *and the fight against climate change*, when establishing, developing and implementing their national export credit systems and when carrying out their supervision of officially supported export credit activities.’⁶⁸¹

As outlined, initiatives by both public and private actors show that there is ample room to effectively address climate change within the banking and financial sector. The Task Force encourages similar initiatives which promote addressing climate change issues through the banking and financial sector.

3.2 Capacity building and transparency

Drawing on the international regimes discussed in Chapter 2, it is clear that a number of opportunities exist for capacity building, skills and knowledge transfer to developing countries, whether through the IBA itself or through existing institutions such as the UN UPR process, as well as opportunities for increased transparency in environmental litigation and decision-making. Several key recommendations in this area are identified below.

3.2.1 *Knowledge and skills transfer*

Promoting developing countries' access to the full range of legal tools, remedies and resources to address climate change is a critical part of achieving climate change justice. The Task Force considers that this can be advanced through IBA-facilitated programming and training, the establishment of an IBA network of climate change counsel and within the UN UPR process.

(i) IBA and IBAHRI climate change initiatives and network of climate change counsel

The IBA is the global voice of the legal profession, with 55,000 lawyers and over 200 bar associations and law societies around the globe. Leveraging this resource, in the short-term, the Task Force recommends that the IBA consider innovative ways of raising attorney, judge and lawmakers' awareness of climate change and its adverse implications on human rights. For example, the IBA could spearhead training initiatives for lawyers and judges dealing with climate change and environmental and human rights issues.

In particular, the Task Force recommends that the IBA establish an international IBA network of climate change counsel. The creation of a more capable body of climate change lawyers in both the developed and developing worlds could increase access to justice and could serve as a resource for policy-makers, scientists and practitioners on climate change and human rights issues. Such a network would allow developed and developing nations to leverage the legal expertise of IBA members and to exchange ideas regarding environmental litigation and international law more efficiently. By acting as a central repository for climate change knowledge, the IBA network could assist local actors to avoid reinventing the wheel and empower them to achieve more lasting progress in their communities. The first initiatives in this arena could include a website, mailing list or other means through which parties on the ground could easily access relevant expertise for their particular needs.

In the medium-term, the Task Force recommends that the IBA integrate climate justice training and courses into its existing platform of legal education. Drawing upon the IBA commitment to providing educational programmes for those with an interest in the legal profession on a global scale, the IBA could include climate justice and human rights as part of the curricula of its Public and Professional Interest Division's Training Course Programme (on International Legal Business Practice),⁶⁸² its Online CLE programmes,⁶⁸³ and its LLM in International Legal Practice.⁶⁸⁴

A significant positive development would be for the IBA to add climate justice to the pertinent human rights issues that form the basis of the targeted capacity building and advocacy projects of its Human Rights Institute.⁶⁸⁵ Following the trend of the IBAHRI in other human rights contexts, it could include climate change justice issues in its training initiatives and annual reports and/or publish training manuals, papers, video interviews or reports. In particular, the Task Force recommends that in the medium-term the IBAHRI, together with other components of the IBA, including its Environment, Health and Safety Law Committee, integrate training on climate justice and human rights issues into the support and technical assistance provided to judiciaries, newly established and/or under-resourced bar associations and law societies worldwide. As has been done in the past, this could include workshops for judges, placement of a climate change and human rights specialist to work with the local bar association or law society to provide training for staff and members, and to build or strengthen links with international regional organisations.⁶⁸⁶

(ii) Increase technical assistance in UPR Reports

As another short-term measure, the Task Force recommends that UN Members lacking expertise or resources to address certain climate change issues should request technical assistance in their UPR country reports. Doing so would further cement the treatment of climate change as a human rights issue, while at the same time allowing individual countries to identify, and receive assistance for, the complex environmental problems that they face. After all, individual states are often in the best position to determine what climate threats should be given priority and what areas possess the greatest need for foreign expertise.

The UN Human Rights Council has overseen the UPR process since its creation in 2006. The UPR requires all 193 UN Member States to periodically report what actions they have taken to meet their human rights obligations under international treaties or prior voluntary pledges. It is a unique, state-driven process that aims to establish universal accountability among all UN Members by allowing countries to share their best practices, explain their challenges and request technical assistance.⁶⁸⁷

The enhancement of a state's technical capacity is one of the UPR explicitly stated objectives, and countries have utilised this process to ask for help in meeting their human rights obligations.⁶⁸⁸

By and large, the UPR process does not yet focus on the climate change effects on human rights directly, but countries most affected by climate change have raised the issue in their UPR reports. The Republic of the Marshall Islands, for instance, wrote in its national report to the Working Group on the UPR:

‘As an island nation with land only 2 meters above the sea-level, the adverse effects of climate change, particularly sea-level rise, are a human rights concern for the RMI. Not only are lives at risk, but livelihoods as well vis-à-vis food security, economic security, educational security and health security, amongst others. The jeopardy of livelihoods ultimately leads to poverty, loss of land, loss of custom and culture and loss of identity which more often than not targets the most vulnerable groups, i.e., women and children.’⁶⁸⁹

Encouraging other countries to likewise integrate climate concerns into their human rights submissions will increase transparency and accountability, and allow for a more targeted deployment of technical expertise on a national scale.

(iii) Use UPR Reports to highlight climate change justice issues

In the medium-term, the Task Force recommends that UPR stakeholder reports should be used to highlight domestic climate change justice concerns during the reviews of each UN Member State. This work would complement and reinforce states’ requests for technical assistance in their own UPR national reports; the more stakeholder advocates draw attention to climate change injustice through their UPR submissions, the more that countries will use the process to reach out for professional support.

Although the UPR review is largely state-driven, NGOs, national human rights institutions, human rights defenders, academic institutions, research institutes, regional organisations and other ‘stakeholders’ can also participate in the process.⁶⁹⁰ The UPR process specifically allows for such civil society organisations to submit their own reports to the UPR Working Group, which, along with the government-authored report, jointly serve as the factual basis for the review.

The Friedrich-Ebert-Stiftung Foundation and the Center for International Environment Law have suggested that the Human Rights Council make climate change challenges to human rights a standing part of the agenda in the UPR.⁶⁹¹ The UPR guidelines for written submissions already ask relevant stakeholders to keep in mind that the review is based on the ‘[v]oluntary pledges and commitments made by States’, which presumably include climate-focused treaties.⁶⁹² Having civil society

actors call nations to account for their failings to confront climate change will help identify problems to be addressed, and provide impetus for states to take action.

It must be noted, however, that a truly inclusive UPR reporting process is still far from reality for a number of developing nations, where significant barriers for an effective participation in the UPR regime still exist. For this reason, any recommendations for the inclusion of climate change concerns in human rights submissions must be accompanied by an urge for UN Member States to create a truly inclusive reporting system that goes beyond just holding public hearings.

3.2.2 Transparency

The principle of transparency in climate change governance and decision-making encompasses a range of procedural environmental rights, specifically the right to access information concerning the environmental and climate impacts of projects; the right of the public to participate in environmental decision-making; and the right to a remedy where environmental obligations are ignored or transgressed. John H Knox recognised in his 2013 Report to the UN Human Rights Council that:

‘Human rights law includes obligations relating to the environment. Those obligations include procedural obligations of States to assess environmental impacts on human rights and to make environmental information public, to facilitate participation in environmental decision-making, and to provide access to remedies. The obligation to facilitate public participation includes obligations to safeguard the rights of freedom of expression and association against threats, harassment and violence.’⁶⁹³

The Inter-American Court of Human Rights emphasised the importance of transparency to environmental decision-making by public authorities in the following terms:

‘[T]he State’s actions should be governed by the principles of disclosure and transparency in public administration that enable all persons subject to its jurisdiction to exercise the democratic control of those actions, and so that they can question, investigate and consider whether public functions are being performed adequately.’⁶⁹⁴

Transparency seeks to ‘involve, in the decision-making processes, individuals whose lives, health, property, and environment might be affected by providing them with a chance to present their views and be heard by those responsible for making the ultimate decisions’.⁶⁹⁵ In this manner, transparency enhances the legitimacy of environmental decision-making and government action by ensuring that the perspectives of a wide spectrum of stakeholders are taken into account. Further, procedural rights enhance climate justice by empowering the public and enhancing its role in the regulatory process. Participatory rights help to ensure more accountable, transparent and responsive governance and should encourage governments to ensure that climate change issues are considered at all stages of the procedure. Transparency is also closely related to EIAs, discussed further below.

The right to access environmental information and to public consultation has been enshrined in a number of international instruments, including, *inter alia*, Principle 10 of the Rio Declaration on Environment and Development,⁶⁹⁶ Article 6 of the UNFCCC, Articles 2(6) and 3(8) of the Espoo Convention⁶⁹⁷ and Article 13 of the ILC Draft Articles on Prevention of Transboundary Harm from Hazardous Activities.⁶⁹⁸

Furthermore, international human rights tribunals have recognised that the right to access environmental information and the right to take part in environmental decision-making are procedural components of other free-standing human rights. For example, these procedural rights have been found to be integral to the right to freedom of expression, which encompasses the right to seek, receive and impart information,⁶⁹⁹ the right to life⁷⁰⁰ and to private life,⁷⁰¹ the property rights of indigenous communities,⁷⁰² the right to a healthy environment, and the right to development,⁷⁰³ among others.

At the vanguard of developments with regard to the international principle of transparency in environmental decision-making is the Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters,⁷⁰⁴ better known as the Aarhus Convention.

(i) The Aarhus Convention

The Aarhus Convention was adopted under the auspices of the UNECE and entered into force in 2001. It has 46 States Parties, including the EU.⁷⁰⁵ The Aarhus Convention contains three ‘pillars’ that build on the procedural rights set out in Principle 10 of the 1992 Rio Declaration. The first pillar is the right to access environmental information,⁷⁰⁶ pursuant to which all public authorities are obliged to provide information upon request and, in certain circumstances, to actively disseminate certain types of information. Secondly, the Convention sets out the right of the public to participate in environmental decision-making in respect of activities relating to the energy sector, metal and mineral production and waste management, among others,⁷⁰⁷ in addition to projects, policies and regulations relating to the environment.⁷⁰⁸ Thirdly, it protects the right to access environmental justice, by ensuring that individuals have the right to seek independent or judicial review of environmental decisions.

The relationship between transparency and climate change justice is reflected in Article 1 of the Convention, which sets out the objective of the Convention to ‘contribute to the protection of the right of every person of present and future generations to live in an environment adequate to his or her health and well-being’.

Article 3.7 of the Aarhus Convention imposes a novel obligation on states to ‘promote the application of the principles of this Convention in international environmental decision-making processes and within the framework of international organizations in matters relating to the environment’.⁷⁰⁹ This, in effect, imposes a positive duty on states to ‘export’ the principles of the Convention when entering into negotiations with other states and when concluding international agreements. One commentator has described this obligation to promote the Convention’s principles as a ‘duty of evangelism’.⁷¹⁰

Another innovative feature of the Aarhus Convention is its compliance mechanism which, fittingly, incorporates the principles of public participation, transparency and environmental citizenship. The Convention supplements a traditional inter-state dispute settlement procedure⁷¹¹ with a non-judicial compliance mechanism, the Aarhus Convention Compliance Committee (ACCC).⁷¹² The ACCC, which became operational in 2002,⁷¹³ is a non-judicial, independent committee of experts with a mandate to report on compliance, monitor implementation and make recommendations to the Meeting of the Parties. The Meeting of the Parties may in turn endorse the ACCC recommendations.

Significantly, the compliance mechanism is open to members of the public or NGOs who may – in addition to states – petition the ACCC when they believe that a party is not in compliance with the Convention. Citizens and NGOs have seized this opportunity with great enthusiasm; the ACCC has received over 100 communications from 2003 to the present.⁷¹⁴ Through its decisions, the ACCC has recommended legislative programmes and reform, capacity-building and development of implementation mechanisms.⁷¹⁵ For example, in a remarkable recent decision,⁷¹⁶ the ACCC held that the existing jurisprudence of the CJEU on individual standing⁷¹⁷ was ‘too strict to meet the criteria of the Convention’.⁷¹⁸ If the CJEU persists in applying this case law,⁷¹⁹ the ACCC recommended that the EU amend the EU treaties’ restrictive rules on individual standing before the CJEU in order to ensure compliance with the Convention and specifically the right of access to justice.⁷²⁰

(ii) Encouraging the adoption of international and regional instruments guaranteeing environmental procedural rights

The parties of the Aarhus Convention are all European states (although it is possible for non-European states to accede).⁷²¹ The Aarhus Convention is a powerful climate change justice instrument because it takes a human-centred, local community-empowered approach to addressing environmental problems. Despite its current regional scope, the Aarhus Convention has been recognised as having the ‘potential to serve as a global framework for strengthening citizens’ environmental rights’.⁷²² In the medium-term, the Task Force recommends the extension of the principles enshrined in the Aarhus Convention – which reflect Principle 10 of the Rio Declaration – to other regions and countries. The Task Force urges non-European states to take advantage of the right to accede the Aarhus Convention. States can also create new, parallel regional conventions.

On this note, it is encouraging to observe that the Economic Commission for Latin America and the Caribbean signalled their intent to adopt a similar regional instrument. In June 2012, ten countries adopted the Declaration on the application of Principle 10 of the Rio Declaration on Environment and Development in which they committed to drafting and implementing a Plan of Action on adopting the right to access information, public participation and access to environmental justice by 2014.⁷²³

Meanwhile, the UNEP has encouraged individual states to implement environmental procedural rights through domestic legislation. To this end, it has adopted Guidelines for the Development of National Legislation on Access to Information, Public Participation

and Access to Justice in Environmental Matters in 2010.⁷²⁴ In the short term, the Task Force endorses these Guidelines and urges states to implement them in their domestic legislation.

(iii) Enforcing the duty to promote the principles of transparency in international negotiation

In the short-term, the Task Force also endorses the Aarhus Convention's citizen-focused compliance mechanism as a useful model in other regional agreements promulgating environmental procedural rights and in other MEAs more generally. The ACCC represents a move away from a coercive model of enforcement towards a persuasive or management model, whereby states are encouraged to comply with environmental standards as a result of public scrutiny and pressure, which leads them to the conclusion that it is in their interest to comply.

In addition to the right of the public to make complaints, the independence of the ACCC is a particularly salient feature that has contributed to its success and must be retained in future compliance regimes enable citizens to petition it. The ACCC is not composed of state delegates but is comprised of eight individual experts who serve in their personal capacity. Moreover, NGOs may also nominate experts for election to the Committee. The independence of experts not only precludes state interference in independent decision-making but also ensures the continuity of the composition of the Committee by ensuring that its members remain the same.

In contrast to the ACCC, the compliance mechanism under NAAEC also allows citizens to make complaints but it does not guarantee the same independence as the CEC, which oversees compliance, is an international organisation composed of state representatives. This structural weakness can allow the state to interfere with the work of the Commission, for example, by delaying or limiting the scope of CEC reports.

(iv) Environmental impact assessments

EIA is a risk management process that identifies and evaluates the environmental consequences of a proposed project before the project is authorised. EIA is not only integral to the principle of transparency, but also to the environmental principles of prevention and precaution, by enabling states to anticipate and address the environmental risks (and in particular, transboundary risks) of planned projects in advance. Strategic environmental assessment (SEA) complements EIA by considering sustainable development in policy, plan and programme development.

A number of MEAs and other international treaties incorporate EIA-type provisions, such as Article 206 UNCLOS;⁷²⁵ Article 14(1) of the Convention on Biological Diversity; and Article 4(2) (f) of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal. In fact, the ICJ recently held that it is now considered a requirement under general international law to undertake an EIA where there is a risk that the proposed industrial activity may have a significant adverse impact in a transboundary context, in particular, on a shared resource.⁷²⁶

At a regional level, the Espoo Convention and the ASEAN Agreement on the Conservation of Nature and Natural Resources, among others, incorporate EIA requirements. The Espoo Convention, in particular, and its Protocol on SEA (not yet in force), sets out detailed procedural standards for EIA.⁷²⁷ The EU also requires Member States to conduct EIAs for any projects adopted by national and local authorities,⁷²⁸ and in 2013 released Guidelines on Integrating Climate Change and Biodiversity into Environmental Impact Assessment and also on Integrating Climate Change into Strategic Environmental Assessment. The Task Force also notes that the *ILA Draft Articles on Climate Change* usefully include at Draft Article 7B.5 the provision that ‘[w]here there is a reasonably foreseeable threat that a proposed activity may cause serious damage to the environment of other States or areas beyond national jurisdiction, including serious or irreversible damage through climate change to vulnerable States, an environmental impact assessment on the potential impacts of such activity is required’.⁷²⁹

The Task Force recommends that states incorporate obligations to conduct EIA and/or SEA into national (and, where appropriate, provincial, state and regional) legislation for significant projects with potential climate change or transboundary impact. States are encouraged to go beyond their obligation under customary international law to conduct EIAs for projects with transboundary effects, and to extend the duty to conduct EIAs, with specific reference to potential impacts on climate change, to all public projects. To be most effective, this legislation should require, first, that all EIAs include a detailed discussion of the GHG emissions that will be caused directly or indirectly by the project, and of the opportunities available to reduce the project’s GHG footprint, both by increasing its energy efficiency and its use of low-carbon energy sources. Where practicable, these opportunities should be taken and, if they are not taken, a detailed explanation should be provided. Secondly, all EIAs should include a discussion of the effects that projected future climate conditions will have on them throughout the life of the proposed facility. For example, if a project is to be built along a coastline and is expected to last for 75 years, the EIA should discuss the facility’s ability to survive the sea level and storm surge conditions that are anticipated in 75 years. And thirdly, all EIAs should be posted online so that everyone has the benefit of the analysis and projections.

(v) Transparency in international arbitrations

Specific recommendations to increase transparency in international arbitrations can be found on page 145.

3.3 Institutional measures

In addition to the legal strategies already discussed, the multilateral arena has a number of opportunities within the UNFCCC negotiations, the WTO and broader trade negotiations to assist in promoting climate justice. This remaining section outlines the recommendations for states when engaging in bilateral, regional and multilateral trade negotiations, as well as more institutional WTO reforms. It also sets out specific recommendations for states and other actors engaging in the UNFCCC process. Finally, the emerging area of oceans governance, as well as climate change-related migration, food security and technological transfer, present new chances to formally progress *adaptation* to climate change, as distinct from the traditional focus on mitigation.

3.3.1 WTO reforms

As identified in Chapter 2, the underlying objective of the WTO is trade liberalisation, not environmental protection, and consequently there has been tension between climate change policies and the WTO disciplines. However, there is a real opportunity for the WTO, an organisation with a broad membership and effective dispute resolution system, to evolve to accommodate states' 'pro-climate' policies within the bounds of WTO law and, in addition, to actively promote climate change and environmental objectives.

The WTO-UNEP Report on Trade and Climate Change argues that 'mitigation measures should be designed and implemented in a manner that ensures that trade and climate policies are "mutually supportive"'.⁷³⁰ This is endorsed by the ILA *Draft Articles on Climate Change*, which suggest that in ongoing or future negotiations under the WTO and the climate change regime, states should be guided by the principle of 'mutual supportiveness' to prevent any inconsistencies or potential conflicts between future international agreements.⁷³¹ The Task Force endorses this approach, but also explores different approaches that can be taken to actively promote climate change and environmental objectives within the WTO system by: (i) enhancing the WTO Committee on Trade and Environment; (ii) reconciling existing WTO law with domestic and international climate change rules; and (iii) over the longer term, proposing amendments to the WTO agreements themselves.

(i) Enhancing the CTE

The CTE was established by a decision of the Meeting of Ministers in 1994 and conferred with a broad mandate to promote sustainable development by identifying the relationship between trade and environment and 'to make appropriate recommendations on whether modifications of the multilateral trading system are required'.⁷³² However, the CTE has thus far failed to issue any guidance on how WTO rules could be amended to accommodate climate change measures. By revamping its mandate to ensure it plays a more active role,

the CTE could contribute to the reconciliation of WTO rules and climate change measures.

First, the Task Force recommends that the CTE establish a notification procedure for climate change measures. States wishing to adopt climate change measures but that have concerns about the compatibility of the measures with WTO disciplines could refer the measures to the CTE prior to their promulgation to seek advice on their WTO-compatibility.⁷³³ In this manner, potential trade issues arising from the measures can be addressed upstream and political solutions in a non-judicial context can be sought while receiving guidance from dedicated experts in this field.

Secondly, the Task Force recommends that the CTE strengthen its relationship and collaboration with the secretariats of other MEAs through the establishment of a series of memoranda of understanding. At present, several MEAs have observer status in the CTE,⁷³⁴ and MEA secretariats have participated in CTE work. Improving these arrangements would enhance cooperation between the WTO and other MEAs, allowing coordination of reporting and monitoring, and facilitating continued dialogue. For example, the CTE could play a coordinating role in respect of the elaboration of uniform environmental technical standards by facilitating and coordinating discussions with a view to reaching international consensus. This is an important issue since Article 2.4 of TBT establishes a presumption that technical standards comply with the TBT Agreement if they are based on an existing international standard (there are no such standards concerning climate change measures, although the ISO has recently adopted ISO/TS Technical Specification 14067, relating to the carbon footprint of products, discussed further in section 3.1.3 on page 147). Uniform international standards would remove the risk of protectionist domestic standards, provide certainty for regulators and advance the position of producers in developing countries which presently must have regard to a myriad of domestic standards when exporting. While this standardisation would take place outside the WTO system, the CTE could assume a central coordinating role.

(ii) Greening the WTO disciplines: reconciling existing WTO provisions with climate change measures

As discussed in Chapter 3, climate change measures that cause adverse effects on trade in goods may fall foul of GATT disciplines unless they can be justified under a GATT Article XX exception. While GATT Article XX enumerates ten public policy rationales, including measures adopted in pursuit of human, animal or plant life, and the conservation of natural resources, it does not expressly encompass climate change policies. This issue has not yet been considered by the WTO Dispute Settlement Body and, while it is likely that climate change measures will be accommodated within one of these provisions, an element of uncertainty remains.

A further unresolved doctrinal issue relates to the application of the GATT Article XX exceptions to other WTO agreements such as the TBT and the SCM

agreement; the latter does not contain any exceptions carving out regulatory space for domestic public policy. This uncertainty can have a chilling effect on potential climate change measures as states have difficulty ascertaining the compatibility of measures with WTO law.

Short of amending the WTO agreements, an affirmative clarification of some of these ambiguities would provide important security for states when adopting climate change measures, for example, by expressly confirming that climate change falls under the GATT Article XX exceptions or that the GATT Article XX exceptions can be relied upon in respect of other WTO agreements. This could either be achieved by ‘greening’ the jurisprudence of the Appellate Body or, alternatively, through a formal clarification through the Ministerial Conference, both of which are now discussed in detail.

Appellate Body jurisprudence

The Appellate Body could clarify the scope of the general exceptions by expressly acknowledging that climate change measures fall within the existing exceptions, namely GATT Article XX(g) or Article XX(b), and by showing a greater willingness to resolve conflicts between trade and the environment in favour of the latter. As discussed in Chapter 2, the Appellate Body has begun to take steps in this direction, for example, by relaxing the ‘necessity’ test under GATT Article XX. However, further progress can be made.

Specifically, a clear statement on the compatibility of PPMs with the principle of non-discrimination would be welcome. The Appellate Body is also encouraged to place greater emphasis on regulatory purpose when determining whether a measure violates the principle of discrimination.

Further clarification of the relationship between WTO law and other branches of international law, particularly international environmental law, is desirable. While the Appellate Body has held that the WTO agreements must not be ‘read in clinical isolation from public international law’⁷³⁵ and must be read in conjunction with ‘any relevant rules of international law applicable in the relations between the parties’,⁷³⁶ in *EC-Biotech*, a panel refused to consider international environmental agreements, particularly the Convention on Biological Diversity and the Biosafety Protocol, when interpreting the relevant WTO agreements.⁷³⁷ The Task Force would therefore welcome a clarification of the Appellate Body’s position on the relationship between obligations arising under both international environmental law and MEAs and WTO law. Similarly, the Appellate Body should expressly endorse the precautionary principle, an emerging principle of customary international law, enabling states to invoke ‘precaution’ when demonstrating that a trade-restrictive climate change measure is justified or the least-restrictive alternative where the scientific evidence is not yet definitive. To date, the Appellate Body has confined reliance on the precautionary principle to a specific provision of the SPS Agreement.⁷³⁸

Conversely, the paucity of cases litigated on these issues to date suggests that the judicial development of this area may be too slow in light of the urgency characterising the present climate change debate. Furthermore, there may be concerns about the legitimacy of ‘greening’ the WTO disciplines through an adjudicative organ.

Clarification of the scope of the Article XX exceptions by an authoritative interpretation of the WTO Ministerial Conference

Alternatively, the Task Force recommends that WTO Members ask the Ministerial Conference of the WTO to adopt an interpretive decision defining and clarifying the contours and scope of application of GATT Article XX. The power to adopt interpretive decisions is derived from Article IX(2) of the WTO Agreement, which provides that the Ministerial Conference and General Council ‘shall have the exclusive authority to adopt interpretations’ of the multilateral trade agreements, by a majority of three-fourths of members.

A decision by enhanced majority of the highest political body of the WTO, which binds all members, has the advantage of conferring a high degree of legitimacy and certainty on the decision. In addition, unlike the Appellate Body, which can only provide guidance on an issue when a dispute on that issue is presented to it, the Ministerial Conference is not so constrained and therefore is positioned to provide a more timely response to this pressing problem. The 2001 Doha Declaration on the TRIPS Agreement and Public Health⁷³⁹ – which clarified aspects of TRIPS, and could impact on states’ right to protect public health and expressly recognised certain measures that states could take to promote access to medicines for all – is a useful precedent in this regard.

(iii) Amending the WTO agreements

The WTO agreements may be amended by a two-thirds majority of the Ministerial Conference or General Council. The amendment must then be submitted to each WTO Member State for approval in accordance with national constitutional requirements.

First, a relatively simple and effective reform would be to extend the list of exceptions in GATT Article XX to explicitly allow climate change measures, in line with the discussion herein. An alternative option would be to extend the list of exceptions in GATT Article XX to permit measures taken in accordance with Member States’ obligations under Multilateral Environmental Agreements approved by the Ministerial Conference.⁷⁴⁰ In the long-term, the Task Force recommends that WTO Members work towards adopting such amendments.

Secondly, reform of the SCM Agreement could have a significant impact on climate change measures. There are a number of potential avenues for reform.

Clarify the definition of a subsidy and facilitate the procedure for challenging subsidies

The definition of a subsidy pursuant to the SCM Agreement can be criticised for being both under- and over-inclusive, prohibiting local-content subsidies while allowing production subsidies, despite the fact that they often produce similar effects.⁷⁴¹ The indeterminacy of the subsidy definition leads to uncertainty. For example, uncertainty about whether the free allocation of emissions allowances will be considered subsidies for the purposes of the SCM, while renewable energy feed-in-tariffs were recently found to be out of the SCM Agreement because it was not possible to determine whether they conferred a benefit.⁷⁴² Subsidies for green products may be challenged or countervailed by another country if it believes its own production is being adversely affected.

A more targeted definition would not only bring greater clarity to this area, thus affording states the certainty that renewable energy subsidies will be upheld and supporting states' efforts to transition their economies and energy systems away from a dependence on fossil fuels, but also provide impetus to states to challenge questionable fossil fuel subsidies.

Establish a category of 'non-actionable' subsidies

As discussed in Chapter 2, the category of non-actionable subsidies lapsed in 1999 and was not renewed. Therefore, in the absence of any public policy exceptions under the SCM Agreement, a subsidy that is *prima facie* prohibited or actionable cannot be exempted or justified, regardless of its positive impact on the environment or climate change.

The Task Force recommends redefining and reinstating a category of non-actionable subsidies, including an express category of renewable energy and climate change subsidies. Scholars suggest that this could be simply achieved by defining non-actionability in terms of the Kyoto Protocol commitments or policies.⁷⁴³ For example, the EU adopted special guidelines in relation to its state aid rules, which provide carve-outs for the production of renewable energy and in relation to the emission trading system⁷⁴⁴ – these may provide guidance on this issue. Alternatively, the GATT Article XX exceptions could be expressly extended to the SCM, as discussed herein.

Adopt an agreement on climate change, the environment or sustainable energy

Over the long-term, the Task Force supports the consideration of a standalone environmental or climate change agreement within the framework of the WTO. This would evidently provide the greatest coherency of all of the proposed WTO reforms, since it would address the range of issues discussed in a single text. Conversely, the range of issues to be addressed signifies that consensus could be elusive. As a starting point, a potential agreement could incorporate issues identified in paragraph 31 of the Doha Ministerial Declaration with regard to trade and the environment, one of 21 subjects listed for negotiation. Paragraph 31 of the Doha Ministerial Declaration provides for negotiations on: (i) the relationship between WTO disciplines and the obligations in MEAs; (ii) provision for regular information exchange with other WTO committees; and

(iii) the reduction or, as appropriate, elimination of tariff and non-tariff barriers to EGS.

Liberalisation of EGS has received the most attention to date. However, states have differed markedly on how to define EGS, namely whether to define a list of EGS by reference to their contribution towards climate change goals, by reference to 'environmentally preferable products', or an 'environmental project approach'.⁷⁴⁵ As we have seen, this has led to a small group of states forging ahead with a proposed agreement on green goods, building on the APEC list of EGS (as discussed in Chapter 2). Meanwhile, elimination of non-tariff barriers, such as subsidies, technical standards and eco-labelling, for example, has received little attention. The agreement must also address issues such as the relationship and linkages with other WTO agreements and between WTO disciplines and the trade obligations arising under MEAs.

Evidently, there is a long way to go in this process. However, trade reform to accommodate climate change measures is an increasingly urgent issue, requiring a prompt response. For this reason, incremental and bottom-up changes may, at this stage, be the most effective way forward.

3.3.2 Bilateral and regional trade agreements

Bilateral and regional FTAs, whether RTAs or bilateral FTAs, such as the current TPP or TTIP negotiations, are increasingly being used by states to negotiate trade advantages and secure investor protection *outside* the traditional multilateral WTO negotiating rounds. In an encouraging trend, states are using these smaller negotiations to include a number of pro-environmental measures in trade and investment agreements. Bilateral and plurilateral agreements could become a powerful climate change tool by enhancing commitments made under environmental chapters and ensuring their effectiveness through legally binding commitments to uphold and improve climate change measures.

This issue is particularly salient in light of ongoing negotiations concerning the TPP between the countries of the Asia-Pacific region,⁷⁴⁶ and TTIP between the EU and the US, two landmark trade agreements that will cover huge sections of global trade. Collectively, these agreements present an unrivalled opportunity to develop synergies between trade and climate change by incorporating robust climate change measures into a trade agreement. However, recent reports suggest that the proposed Environment Chapter of the TPP has been significantly watered down due to disagreements between the parties and that it will not be enforceable.⁷⁴⁷ This would be a significant missed opportunity.

In particular, incorporating climate change measures into trade and investment regimes, which traditionally have better enforcement mechanisms, will enhance and incentivise compliance. There are few incentives for one state to punish another state for defaulting from reciprocal climate change obligations; conversely, the risk of trade sanctions will have a strong deterrent effect. There are a number of pro-environment provisions that are being incorporated into bilateral, regional and plurilateral trade

and investment agreements, including both substantive undertakings and enforcement mechanisms, discussed in turn below.

(i) Clauses supporting environmental non-derogation measures

Recent BITs and FTAs have included introductory and hortatory provisions that signal the parties' commitment to sustainable development and combating climate change. In addition, many trade agreements contain 'non-derogation' provisions which require parties to refrain from weakening or waiving their environmental rules in order to encourage or incentivise foreign investment. For example:

- The Japan-Switzerland Economic Partnership Agreement states in its preamble that the parties are '[d]etermined, in implementing this Agreement, to seek to preserve and protect the environment, to promote the optimal use of natural resources in accordance with the objective of sustainable development and to adequately address the challenges of climate change'; and Article 9 of the same agreement includes a more substantive obligation to 'encourage trade and dissemination of environmental products and environmental-related services' in pursuit of a 'climate-change related goal'.⁷⁴⁸
- Similarly, the Korea-EU FTA includes an obligation in Article 13.6(2) to 'strive to facilitate and promote trade and foreign direct investment in EGS, including environmental technologies, sustainable renewable energy, energy efficient products and services and eco-labeled goods'.⁷⁴⁹
- In Articles 1701 and 1702 of the Canada-Colombia FTA, the parties recognise that 'each Party has sovereign rights and responsibilities to conserve and protect its environment and affirm their environmental obligations under their domestic law, as well as their international obligations under multilateral environmental agreements to which they are party.' This agreement further recognises that 'the mutual supportiveness between trade and environment policies and the need of implementing this Agreement in a manner consistent with environmental protection and conservation and sustainable use of their resources' and that '[n]either Party shall encourage trade or investment by weakening or reducing the levels of protection afforded in their respective environmental laws'.⁷⁵⁰
- The 2012 US Model BIT (which is used as a template for future treaty negotiations and which has recently been updated to address and prioritise environmental concerns)⁷⁵¹ stipulates that parties must not derogate from their domestic environmental laws, or fail to 'effectively enforce' them, in order to attract investment.⁷⁵²
- The renegotiated Canada and Czech Republic BIT provides in Article II that '[t]he Contracting Parties recognize that it is inappropriate to encourage investment

by relaxing domestic health, safety or environmental measures. Accordingly, a Contracting Party should not waive or otherwise derogate from, or offer to waive or otherwise derogate from, such measures as an encouragement for the establishment, acquisition, expansion or retention in its territory of an investment of an investor.⁷⁵³

- Canada's 2004 model foreign investment promotion and protection agreement includes a general exception 'to protect human, animal or plant life or health' and a requirement that parties should not relax their environmental measures in order to encourage investment.⁷⁵⁴

These recent BITs and FTAs show a clear trend towards a balanced approach that, in protecting foreign investments, public interest values such as the environment and, consequently, climate change matters have to be taken into consideration, particularly where so-called 'non-derogation clauses' are used, such as that used in the Canada-Czech BIT, previously referred to in this report. The Task Force encourages all states when negotiating BITs and FTAs to include provisions supporting domestic climate change measures, including non-derogation clauses requiring the States Parties to refrain from weakening or waiving their environmental rules in order to encourage or incentivise foreign investment.

(ii) Environmental chapters and side agreements

Many bilateral, preferential and regional trade agreements have begun to incorporate specific climate change and environmental chapters and side agreements (in contrast, only a limited number of international investment agreements have incorporated climate change language).⁷⁵⁵ NAFTA was the first agreement to include such a side agreement on the environment, the NAAEC, which entered into force in 1994 at the same time as NAFTA. The NAAEC was designed to allay concerns that NAFTA would generate economic growth at the expense of the environment.

Usefully, in some existing RTAs, states have undertaken to work together to adopt and implement climate finance instruments, to pursue capacity and institution-building activities in pursuance of CDM and REDD+ projects or to assist in the creation of domestic carbon markets. Other fruitful areas of collaboration include technical regulation, standard-setting, for example, with regard to energy-efficiency calculation or conformity assessment, exchange of information and best practices and the promotion of scientific exchanges on climate change adaptation and mitigation. The EU has included commitments to collaborate on clean technology transfer in a number of its agreements.⁷⁵⁶

Unfortunately, the commitments made in such environmental chapters and side agreements are rarely supported by binding legal obligations and have been largely confined to preambular undertakings to act in a manner consistent with environmental protection, or weak or hortatory commitments to cooperate. The effectiveness of the above measures will depend on the establishment of a strong enforcement and compliance mechanism which

provides for recourse to trade sanctions. For example, NAAEC, the environmental side agreement to NAFTA, provides for an inter-state dispute resolution mechanism whereby a state may initiate a claim against another state on the grounds that it has not observed its environmental laws. An arbitral tribunal may impose an action plan or fines and may ultimately suspend NAFTA benefits if the state refuses to comply.

In the long-term, the Task Force endorses efforts by states to ensure that commitments to the environment and climate change justice made in separate chapters and side agreements are subject to strong enforcement and compliance mechanisms.

(iii) Supporting existing obligations under multilateral environmental agreements

States are supporting existing obligations under MEAs (such as the UNFCCC) in their bilateral trade and investment agreements.

For example, the Peru-US Trade Promotion Agreement stipulates that the parties ‘shall adopt, maintain, and implement laws, regulations, and all other measures’ to fulfil their obligations under a specified list of MEAs.⁷⁵⁷ This is the first trade agreement to directly incorporate environmental agreements into a dispute settlement-enforced system.⁷⁵⁸ The obligation to comply is confined, however, to failure to fulfill an obligation under an MEA ‘in a manner affecting trade or investment’ between the two parties to the agreement.

The Task Force encourages states to consider including in future trade or investment agreements a specific recognition that obligations arising under MEAs take precedence over conflicting trade measures.⁷⁵⁹

3.3.3 UNFCCC negotiations

The UNFCCC process currently represents the greatest effort among nations to collectively combat the effects of human-induced climate change, and remains the most promising framework for attaining a global international agreement. As such, any serious attempt to address climate change justice must be integrated within the UNFCCC negotiations, despite the ‘ambition gap’⁷⁶⁰ between current emission reduction pledges and the UNFCCC stated goal to limit global temperature rise to 2°C above pre-industrial levels.⁷⁶¹

(i) Endorsing the UNFCCC process and a 2015 agreement

The ADP was established in 2011 within the negotiations as the body to develop a global instrument under the UNFCCC. It is critical that states should support the urgent work of the ADP as it represents the most promising initiative of the UNFCCC process to implement a long-term coordinated reduction in global GHG emissions. The ADP mandate is to, inter alia, develop ‘a protocol, another legal instrument or an agreed outcome with legal force under the Convention applicable to all Parties’.⁷⁶² Such legal

instrument or outcome is to be adopted at the Paris Conference in 2015 to enter into effect by 2020, and is intended to include all existing parties to the UNFCCC.

Although there is some emerging common ground amongst states that a hybrid architecture combining nationally determined contributions or commitments with ‘top down’ elements such as rules on transparency and accounting, as well as an assessment/consultative process will be the architecture of a 2015 agreement, there is less common ground on the cross-cutting issues of differentiation between states and equity (incorporating the significant controversy around historical responsibility, respective capabilities and development imperatives).⁷⁶³ Equity and differentiation have proven to be deeply contentious in the UNFCCC negotiations, but states must perceive the agreement to be equitable if they are to accept it. One achievable option for progressing the focus on climate justice and equity is for the 2015 instrument to reference the impact of climate change on human rights, for example in the preamble of the instrument. The Task Force supports ongoing attempts in the negotiations to achieve this.

Additionally, while the 2015 instrument is intended to include all states, rather than the more limited group of parties to the Kyoto Protocol, it is important that States Parties to the Kyoto Protocol strive to ratify the Doha Amendment. The Doha Amendment establishes net emission reductions for the second commitment period between 2013 and 2020 (the Kyoto Protocol contemplates specific carbon emission reductions over two commitment periods: the first from 2008 to 2012, and the second from 2013 to 2020).⁷⁶⁴ Pursuant to the Doha Amendment, the Kyoto Protocol parties taking on commitments during this eight-year period are required to reduce their aggregate emissions by 18 per cent below 1990 levels by the end of 2020 (eg, the EU, as a whole, is required to reduce its emissions by 20 per cent).⁷⁶⁵ However, currently, only nine nations have ratified the Doha Amendment.⁷⁶⁶

(ii) Tracking states’ climate change prevention and mitigation commitments

In 2010, the COP in Cancun reached a significant decision by formally recognising the emissions reduction pledges proposed in the Copenhagen Accord. For the first time, the COP formally recognised both (i) quantified economy-wide emissions reductions targets (self-stated targets from Annex I countries);⁷⁶⁷ and (ii) nationally appropriate mitigation actions by non-Annex I developing countries.⁷⁶⁸ This was a breakthrough in recognising non-binding and self-stated commitments under the formal UNFCCC process, in sharp contrast to the Kyoto Protocol, where only Annex I developed nations had formally recognised commitments.

Aside from emphasising the need for more ambitious and widespread targets, in the short-term the Task Force endorses the COP efforts to develop a coherent international framework for measuring, reporting and verifying national efforts of all states to combat climate change. For example, a series of technical papers have been issued seeking to

develop a series of common metrics for clarifying various Annex I party commitments while taking into account individual national circumstances.⁷⁶⁹ As Australia observed in its 2013 report, clarifying ex ante how ‘2020 pledges’ are defined and their expected mitigation effects is critically important to build trust and confidence between states, to support increased ambition, to understand the level of collective emissions reductions for the period to 2020 and to promote full international recognition of the mitigation being undertaken by parties.⁷⁷⁰

(iii) Expanding aid for domestic migration adaptation programmes

Much, if not most, of climate change-related migration will be internal to national borders.⁷⁷¹ Funding to help developing countries resettle people internally is greatly needed. Many LDCs have drafted NAPAs under the UNFCCC process, identifying priority activities that respond to urgent adaptation needs.⁷⁷² The UNFCCC Least Developed Countries Fund finances the preparation and implementation of NAPAs.⁷⁷³ Being resource-scarce, most LDC NAPAs focus on reducing migration flows, viewing it as a symptom of failed development or a barrier to adaptation, rather than recognising migration as a vital adaptation strategy.⁷⁷⁴ Better funding from the LDC Fund and other sources would help countries deal with internal migration, such as by improving destination cities’ and regions’ abilities to absorb migrants and resist flooding and extreme weather themselves. Funding would also help integrate NAPAs into national poverty reduction strategies and other development assistance programmes. Accordingly, the Task Force recommends the international community make medium-term efforts to increase funding for NAPAs and national adaptation plans through the LDC Fund.

(iv) Improving the UNFCCC process: REDD+ and the CDM

As discussed in other sections, although the COP has recognised that ‘parties to the [Framework Convention] should, in all climate change-related actions, fully respect human rights’,⁷⁷⁵ there are no practical mechanisms to ensure accountability. In light of the justice concerns raised regarding the REDD, REDD+ and CDM programmes discussed in Chapter 1, the Task Force supports efforts to address these issues to promote improved integration of and enforcement of rights and accountability in climate mitigation efforts.

First, the prevailing developmental thrust for REDD programmes, REDD+ goes beyond reforestation to include conservation, sustainable management of forests and enhancing forests’ carbon storage capacity.⁷⁷⁶ Globally, parties to the Framework Convention agreed in 2010 to specific safeguards that must be promoted for REDD+ activities. These social and environmental protections include: (i) consistency with international obligations; (ii) respect for the rights of indigenous peoples and local communities; (iii) full and effective participation of stakeholders; (iv) good governance systems; and (v) avoided damage to biodiversity and ecosystems.⁷⁷⁷

While these safeguards represent an important initial step, there remains a need to articulate universal principles that justify the REDD+ safeguards and provide a template for future efforts.⁷⁷⁸ These universal safeguard principles can and should be developed at two distinct levels. At the international level, institutions like the Centre for Biological Diversity should work to articulate safeguards applicable across climate change adaptation and mitigation mechanisms that affect communities and human rights. These generally applicable principles should be developed and discussed in a cross-sectorial effort that reasonably and efficiently accounts for the common human rights issues implicated by development mechanisms, to prevent an endless proliferation of principles applicable only in narrow venues.⁷⁷⁹ Efforts should be taken at the country level to translate these universal principles into specific safeguards, keeping in mind the lessons of other, similar countries and mechanisms.⁷⁸⁰

For example, one primary universal safeguard should be effective monitoring of programme effectiveness to ensure that resources are not wasted on programmes with poor track records. Under the Warsaw Framework, developing countries seeking to receive results-based payments must provide summaries of the way their programmes address and respect applicable safeguards.⁷⁸¹ However, there is no mechanism for payments to be refused, reduced or disputed based on poor performance, so long as a summary is provided. Consideration should be given to ensuring that future resource allocation decisions take the findings of these summaries into account as a means of ensuring that safeguards are respected in practice. As universal safeguard principles are established, they should be used as benchmarks to evaluate the effectiveness of country programmes, including as a means of ensuring that safeguards are respected in practice by ceasing funding for poor performers.

Secondly, over the longer term, to meet the concerns regarding the poor human rights record of certain CDM projects, the Task Force recommends that the CMP should consider how best to recognise existing applicable human rights obligations for CDM projects, and adopt explicit and binding language to protect human rights during climate change-related activities.⁷⁸²

In 2011, the CDM Executive Board expressly reported that it had been ‘confronted with the issue of human rights, specifically the rights of people affected or potentially affected by a CDM project’ and that, as a result, it had initiated work to improve CDM rules, in particular the extent to which stakeholder comments are solicited and taken into account in the vetting of a project.⁷⁸³ The Task Force endorses the adoption of specific tools to foster human rights protection, which could include the disclosure of environmental assessments, an increase in the number of channels available for public participation (as well as the widening of existing ones), the monitoring of compliance, and a system for redress of human rights violations to service those negatively affected by the projects.⁷⁸⁴

Thirdly, the Task Force recommends the development of a dispute-settlement mechanism or grievance procedure to address human rights contentions concerning the CDM approval process.⁷⁸⁵ Such a mechanism would permit affected parties, project

investors, organisations constructing and managing the project, as well as designated national authorities of the host country to challenge decisions on project eligibility.⁷⁸⁶ Since 2010, the Framework Convention implementation body has been working on consecutive drafts on a framework procedure for CDM appeals against rulings by the Executive Board regarding requests for registration of projects or issuance of certificates.⁷⁸⁷ Standing for lodging complaints should be broadly construed to permit any interested or affected stakeholder to file an appeal.⁷⁸⁸ This could allow appeal by affected parties against the approval of projects that are expected to cause human rights violations, or for appeal against the denial of projects that would substantially contribute to the furtherance of basic human needs.⁷⁸⁹

In particular, the Task Force applauds those proposals that have developed from a narrow appellate system, where only project participants and national authorities were allowed to appeal the rejection or alteration of a given project,⁷⁹⁰ towards a broader framework, which would allow for any interested party to file an appeal.⁷⁹¹ This is consistent with access to justice principles, standing rights, rights of public participation in appeals, and judicial review that many states require as part of their development consent process. Moreover, this development serves to ensure that human rights concerns are embedded in climate change mitigation measures.

Although these proposals relate to CDM and REDD+ specifically, the Task Force endorses applying such measures – in particular dispute resolution mechanisms and procedural rights – across the board to all climate mechanisms.

(v) Regulation of global fossil fuel reserves and the cumulative carbon budget

There is a growing consensus that in order to keep global warming below 2°C, the world must take steps to limit the development of fossil fuels by creating a finite ‘carbon budget’. As previously noted, even a 2°C increase carries risk of negative impact.⁷⁹² The IPCC has recently concluded that total carbon emissions should be capped at one trillion tonnes if humanity is to avoid the grave consequences of anthropogenic climate change.⁷⁹³ A research team led by James Hansen, formerly the head of the NASA Goddard Institute for Space Studies and now at the Columbia University Earth Institute, found that an even lower limit of 600 billion tons would be necessary to safeguard the climate system for future generations.⁷⁹⁴

Estimated cumulative emissions since industrialisation are currently well over half of the IPCC budget – the IPCC found that 515 billion tonnes of carbon had already been emitted by 2011.⁷⁹⁵ About half of cumulative anthropogenic CO₂ emissions between 1750 and 2010 have occurred in the last 40 years.⁷⁹⁶ The IPCC projected in its latest report that without additional mitigation measures, the planet will experience global temperature increases of 3.7°C to 4.8°C above pre-industrial levels.⁷⁹⁷

Burning most of our known fossil fuel reserves, especially GHG-intense coal and oil, would easily put the world over the carbon budget, with global average temperatures

soaring past the IPCC target.⁷⁹⁸ The International Energy Agency has asserted in their flagship 2012 report that two-thirds of proven reserves must stay in the ground in order to meet the 2°C target.⁷⁹⁹ Other estimates have stated that up to 80 per cent of the current fossil fuel reserves must remain unused in order to avoid a 2°C rise in global temperature.⁸⁰⁰

Little work has been done to consider the regulation of oil reserves on a global level. The ADP, as discussed,⁸⁰¹ remains the most likely avenue through which to incorporate a cumulative carbon budget into an international framework. Scholars have also advanced subsidy reform as an effective option for climate change mitigation under ADP Workstream 2, whereby developing countries could implement subsidy reforms as nationally appropriate mitigation actions.⁸⁰² The G20, the APEC and the Kyoto Protocol itself all assert that these fossil fuel subsidies should be eliminated.⁸⁰³ The UN Secretary General's High Level Panel on Global Sustainability unequivocally called for their removal.⁸⁰⁴ In light of this, the Task Force recommends that the UNFCCC Conference of Parties take account of the increasing calls for hard measures on fossil fuels to ultimately recognise a cumulative carbon budget, including more stringent regulation of global fossil fuel reserves.

3.3.4 Multilateral adaptation measures

As identified in Chapter 2, there is significant need for even greater multilateral engagement on adaptation to climate change. Although the Framework Convention recognised the necessity of adaptation, the development of adaptation law and policy has thus far lagged behind that of mitigation, and States Parties to the Framework Convention have undertaken few concrete commitments. To address the complexities of adaptation, the Task Force recommends: (i) increased regulation of emerging carbon engineering technologies; (ii) engaging UN expertise on the issues of rising sea levels; and (iii) the creation of an IBA Working Group on the Legal Aspects of Adaptation.

(i) Increased regulation of emerging carbon engineering technologies

Among the most radical solutions to climate change are proposals to combat it through human ingenuity. Geo-engineering seeks to utilise radical advances in technology and our understanding of the atmosphere, along with humanity's immense industrial capacity, to 'engineer' the reversal of climate change effects or the sequestration of atmospheric GHGs on a planetary scale.

Numerous such technologically ambitious proposals exist, which fall under two major categories: carbon dioxide removal (which seeks to control or reduce GHGs) and solar radiation management (which seeks to control solar radiation – the source of the heat captured by GHGs). Within these categories, proposals range from the currently feasible carbon capture and sequestration, ocean fertilisation, afforestation and use of stratospheric sulfate aerosols, to highly radical plans for space-based reflectors.⁸⁰⁵

Unsurprisingly, reactions to engineering projects of such global magnitude have

been cautious. As their aim is no less than to modify the balance of the earth's climatic systems, the consequences of failure or mistakes are dire. Thus, while there is no policy consensus as to where to take these proposals, governments are in agreement that they should not be carried out without experimentation and oversight.⁸⁰⁶

Of the major carbon dioxide removal proposals, some of the most well-known are 'ocean-based carbon capture and sequestration' and 'ocean fertilisation'. Specifically, oceanic carbon capture and sequestration efforts are aimed at capturing carbon dioxide for permanent storage in large sub-seabed geological formation, for example, depleted petroleum reservoirs.⁸⁰⁷ Ocean fertilisation, on the other hand, seeks to add nutrients such as iron to the ocean on an enormous scale, so as to expedite the growth of phytoplankton, which consume carbon dioxide as a part of their life cycles.⁸⁰⁸ Of the two, ocean fertilisation is by far the more controversial proposal, due to its unpredictable consequences for marine eco-systemic balance and human health.⁸⁰⁹

The ocean is among the most important frontiers in the global struggle to address climate change as it stores over a quarter of anthropogenic carbon emissions,⁸¹⁰ therefore the intelligent and thoughtful management of the oceans is critical. The IMO has led the way in organising global efforts to regulate oceanic geo-engineering. The IMO is charged with enforcing the 1972 Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (the 'London Convention') and a related 2006 protocol (the 'London Protocol') which regulate marine pollution. Parties to the London Convention and Protocol meet annually within the IMO to discuss issues related to oceanic pollution. More recently, the IMO has included in the parties' agenda the topic of marine geo-engineering, which it defines as 'a deliberate intervention in the marine environment to manipulate natural processes, including to counteract anthropogenic climate change and/or its impacts, and that has the potential to result in deleterious effects, especially where those effects may be widespread, long-lasting or severe'.⁸¹¹

As testament to their efforts at understanding and regulating geo-engineering, in 2006 the parties to the London Protocol adopted rules allowing and regulating the sub-seabed sequestration of carbon dioxide.⁸¹² In 2008, after observing the caution advised by scientific advisors, the parties to the London Convention further adopted a resolution disallowing ocean fertilisation, except for the purposes of legitimate research.⁸¹³ In 2010, the parties to the London Convention adopted an Assessment Framework for Scientific Research Involving Ocean Fertilization. Developed by scientific groups, the framework is designed to assess whether proposals for ocean fertilisation constitute legitimate scientific research, and listed 'criteria for an initial assessment of a proposal and detailed steps for completion of an environmental assessment, including risk management and monitoring'.⁸¹⁴

Finally, in 2013, parties to the London Protocol adopted amendments to the Protocol that seek to generally regulate marine geo-engineering activities, including specifically ocean fertilisation. The amendments prevent the placement of matter into the sea for listed marine geo-engineering activities, unless the listing provides that the activity may be authorised under a permit.⁸¹⁵ A further annex specifies an assessment framework used to determine which geo-engineering activities are permitted or prohibited.⁸¹⁶

The IMO and the London Convention and Protocol's parties' efforts towards creating a regulatory framework for marine geo-engineering, and the resulting regulations, make the London Protocol one of the most advanced international regulatory instruments on oceanic geo-engineering. However, only 87 states are parties to the London Convention, and 44 to its Protocol. While all the wealthy industrialised countries capable of conducting geo-engineering projects are parties to the Convention, several are not parties to the Protocol, and many of those states most vulnerable to climate change – whose voice matters even though they do not conduct geo-engineering – are members of neither.⁸¹⁷ The Task Force therefore recommends that, over the medium-term, more states accede to the London Convention and Protocol and adopt the IMO regulations and that, in the short-term, all states abide by the IMO Assessment Framework.

Like carbon dioxide removal, solar radiation management has the potential to mitigate the impact of climate change on the environment but carries significant risks of severe transboundary harms.⁸¹⁸ Unlike marine geo-engineering, however, solar radiation management technologies to mitigate climate change effects have not been subject to international agreement. Currently, the most feasible form of solar radiation management involves the use of stratospheric sulfate aerosols to counteract the impacts of climate change by reflecting light back into space.⁸¹⁹

The relatively low cost of solar radiation management technology – possibly just a few billion dollars per year⁸²⁰ – makes it possible for one mid-sized nation to implement it unilaterally, with potentially serious consequences for other states as well as for future generations.⁸²¹ The effects of solar geo-engineering will not be evenly distributed across the globe; instead, the deflection of solar radiation is likely to be magnified towards the equator, increasing the likelihood of drought in those regions.⁸²² Further, commentators caution that successful implementation of solar radiation management is likely to shift international efforts away from emissions reduction strategies.⁸²³ This would bind future generations to continued use of solar radiation management to stave off the rapid and catastrophic warming that would occur if the atmosphere were to once again absorb current levels of solar radiation.⁸²⁴

The widespread and potentially severe collateral effects of solar radiation management have prompted commentators to call for the adoption of a global governance arrangement to regulate research and deployment of such technologies.⁸²⁵ Although the UN Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques (ENMOD) is applicable only to the use of geo-engineering in armed conflict, commentators have suggested that its definition of deliberate environmental modification and complaint mechanism could provide the basis for a further international agreement on geo-engineering in the context of climate change mitigation.⁸²⁶ ENMOD prohibits the use in armed conflict of 'any technique for changing... the dynamics, composition or structure of the Earth, including its biota, lithosphere, hydrosphere and atmosphere, or of outer space.'⁸²⁷ It calls upon States Parties to cooperate in the preservation of the environment⁸²⁸ and

provides for the creation of a committee of consultative experts to adjudicate disputes arising under the Convention.⁸²⁹

Civil society organisations have further recognised that the development of a governance framework for solar radiation management must involve stakeholders from developing countries as well as those from various disciplines, including government, natural and social science, and development.⁸³⁰ Accordingly, organisations such as the Solar Radiation Management Governance Initiative, an international NGO-driven project co-convened by Environmental Defense Fund, the Royal Society and The World Academy of Sciences have convened stakeholder workshops in Africa and Asia.⁸³¹ Therefore, the Task Force recommends that states work towards the creation of international legal obligations governing research, development and implementation of solar radiation management.

(ii) Engaging UN expertise on challenges posed by rising sea levels

The Task Force is cognisant that climate change has various effects through sea-level rise, the chief among them the loss of territory. With a raised global sea level, states' coastal features may change or disappear, creating uncertainty in the existing legal framework governing states' maritime borders, the UNCLOS. For low-lying states, particularly low-lying island states, there are concerns that sea-level rise will negatively impact their maritime zones or, in some cases, lead to a loss of significant territory.⁸³²

The Task Force supports the international community relying on *existing* institutions to foster attentiveness, knowledge and political will around this issue. For example, one way of approaching the issue of global sea level rise would be for the UN General Assembly to adopt a resolution recognising that rising sea levels should not threaten the permanence of all states current maritime zones (including exclusive economic zones).⁸³³ 'Freezing' maritime zones in this way for all states may be more palatable than freezing the zones just for low-lying nations threatened by the loss of land.

Other UN organs that may be able to address concerns include the special rapporteurs (appointed by Special Procedures of the UN Human Rights Council), who can address pressing areas in human rights on which they possess expertise. Their job is to research, report, raise awareness and exhort.⁸³⁴ The General Assembly can also request that the Secretary-General commission a report, as was done in 2009, when the General Assembly commissioned a report on climate change and its possible security implications.⁸³⁵

However, neither the Human Rights Council nor the General Assembly has appointed a rapporteur or commissioned a report that offers detailed multilateral solutions to concerns raised by rising sea levels. And although the Pacific Small Island Developing States have been persistent in their efforts to have the Security Council address these issues, their efforts have produced little by way of concrete solutions.⁸³⁶

The Task Force recommends that, in the medium-term, the Human Rights Council task a special rapporteur to comprehensively research human security issues triggered by sea-level rises caused by climate change and to recommend multilateral solutions to these challenges.

(iii) IBA Working Group on the Legal Aspects of Climate Change Adaptation

As discussed in Chapter 2, as the experience of climate change becomes increasingly real, the challenge of developing appropriate and adequate adaptation policies has gained in importance at international, national, regional and local levels. However, relatively little attention has so far been paid to the legal dimensions of climate adaptation.⁸³⁷ The Task Force recommends, in the short-term, the creation of an IBA Working Group on the Legal Aspects of Adaptation to develop effective and practical solutions for global adaptation problems. The Working Group's mandate would be to explore and propose legal and policy recommendations in the critical adaptation areas, including, but not limited to: (i) climate change-related migration; (ii) food security; and (iii) access to adaptation technologies. For each adaptation challenge, the Working Group's Terms of Reference would include analysing the existing protections in international law and proposing areas for improvement in the law.

Climate change-related migration

The UNHCR has succinctly articulated the important role that international cooperation must play in addressing climate change-related migration. In 2011, the UNHCR explained:

'The primary, albeit non-exclusive, duty and responsibility of states is to prevent and protect people from displacement, mitigate its consequences, provide protection and humanitarian assistance and find durable solutions. The context of climate change, however, raises particular questions around shared state responsibilities and international cooperation. As climate change is a global phenomenon, and climate-related displacement will affect many countries, collaborative approaches and partnerships based on principles of international cooperation and burden-and responsibility-sharing are called for.'⁸⁸⁸

As discussed in Chapter 2, the international refugee framework and national immigration laws are ill-suited to addressing climate change-related cross-border migration and internal displacement. In light of these limitations, some commentators have called for a variety of legal reforms, ranging from the revision of the 1951 Refugee Convention⁸⁸⁹ to the creation of a multi-disciplinary legal instrument to address all aspects of climate change-related displacement.⁸⁴⁰ However, others have questioned the ultimate usefulness and political viability of such proposals, and cautioned that they fail to account for the nature of climate-related movement based on existing empirical evidence.⁸⁴¹

One of the more promising developments in migration protection has been the wide endorsement and approval of the UN Guiding Principles on Internal Displacement.⁸⁴² Scholars have noted that the Guiding Principles raise international awareness of the looming crisis of climate change-induced internal displacement and support future policy formulation.⁸⁴³ Encouragingly, the international community has endorsed the principles at the 2005 World Summit and in the United Nations General Assembly and Human Rights Council.⁸⁴⁴ The Guiding Principles have been adopted at the national

and regional levels as well, with the most significant regional advancement taking place in Africa where the Guiding Principles have been recognised in the African Union Convention for the Protection and Assistance of Internally Displaced Persons in Africa and the Kampala Convention.⁸⁴⁵ In 2011, the Special Representative of the Secretary-General on the Human Rights of Internally Displaced Persons noted that ‘there are some indications that the Guiding Principles are emerging as customary law, providing a binding interpretation of the international legal norms upon which they are based.’⁸⁴⁶ However, the Guiding Principles do not specifically reference climate change.

Building on the Guiding Principles on International Displacement, in 2013 a group of climate change experts and international lawyers adopted the Peninsula Principles on Climate Displacement Within States, which attempts to offer ‘a comprehensive normative framework, based on principles of international law, human rights obligations and good practice, within which the rights of climate displaced persons can be addressed’.⁸⁴⁷ The Peninsula Principles apply to internal displacement and call upon states, among other things, to prevent and avoid conditions that might lead to climate displacement, provide assistance to affected individuals, implement national climate displacement prevention programmes and coordinate adaptation assistance with other states and international agencies.⁸⁴⁸ The Principles also offer institutional planning guidance, including for climate displacement risk management, participation and consent of affected individuals, land identification and post-displacement and return.⁸⁴⁹ However, the principles lack formal endorsement from international organisations or states.

Quite a few international organisations and a handful of states have initiatives examining climate change migration. For example, the International Labour Organization has partnered with Economic and Social Commission for Asia and the Pacific and UNDP to develop the ability of Pacific Island countries to address the impacts of climate change on migration ‘through well-managed, rights-based migration schemes and policy frameworks, supported by comprehensive research and knowledge building’.⁸⁵⁰ The project is aimed at assisting the most vulnerable states in developing tools and building capacities to adapt effectively to climate change migration. And the International Organization for Migration, along with the UNEP and others, established the Climate Change, Environment and Migration Alliance, which aims ‘to bring migration considerations to the environment, development, and climate change agendas and vice versa’.⁸⁵⁷

The Nansen Principles and the Nansen Initiative are important state-led efforts that bear mentioning. In 2011, the Norwegian Government held a conference with more than 220 academics and international organisation and government officials on climate change and displacement, which resulted in an agreement on a general set of recommendations known as the Nansen Principles.⁸⁵² The Nansen Principles offer a set of ten broad but succinct guiding principles relating to the management and prevention of unnecessary displacement.⁸⁵³ These principles, covering states’ and the international community’s duties and highlighting areas for improvement, provide a helpful frame of reference from which participants in the process may draw guidance.⁸⁵⁴ The Principles

recognised that '[a] more coherent and consistent approach at the international level is needed to meet the protection needs of people displaced externally owing to sudden-onset disasters.'

To address this challenge, the governments of Norway and Switzerland developed the Nansen Initiative on Disaster-Induced Cross-Border Displacement, with the aim of developing consensus on the key principles and action items on the national, regional and international levels with respect to the protection of displaced persons.⁸⁵⁵ The Nansen Initiative will take place over a three-year period and involves a series of regional and sub-regional consultation meetings, including government officials, civil society representatives, the UNHCR and experts. Experts have recognised the Nansen Initiative as the most practicable approach to coordinated international action on climate change-induced cross-border migration.⁸⁵⁶ Nansen Initiative regional consultations have highlighted the need for a range of local initiatives, including improving the resilience of communities through risk assessments, planning and preparing for population movements, and reviewing existing admission and immigration policies to permit climate change related-migrants to voluntarily migrate.⁸⁵⁷ These consultations have also affirmed the need for regional and international coordination and cooperation in addressing climate change-related displacement.⁸⁵⁸

Similarly, governments at the 2010 Global Forum on Migration and Development acknowledged the benefits of cooperative agreements between neighbouring states to assist with climate change-related migration.⁸⁵⁹ Several states have already used bilateral programmes to facilitate migration in nearby or neighbouring states in the face of environmental disasters. For example, the Temporary and Circular Labour Migration project, originally conceived as a way to facilitate seasonal agricultural labour migration from Spain to Colombia, was used in the aftermath of volcanic eruptions in southwestern Colombia in 2006 to provide a migration opportunity for thousands of displaced Colombians. The programme was subsequently expanded to rural populations whose lands are especially vulnerable to floods, droughts and other environmental disruptions.⁸⁶⁰ Similarly, when Cyclone Heta destroyed infrastructure on the tiny Pacific island of Niue in 2003, New Zealand offered to resettle the island's entire population of over 1,000. While some relocated, many chose to remain on the island and rebuild with the help of aid. Some returned to the island after reconstruction and three years after the hurricane, the population matched pre-disaster levels.⁸⁶¹ These programmes may provide useful starting points or models for climate change-related migration agreements or programmes.

Therefore, on the topic of cross-border migration and internal displacement, the Working Group should consider, among other issues, whether:

- the Guiding Principles on Internal Displacement, the Peninsula Principles on Climate Displacement Within States, the Nansen Principles, and/or the Nansen Initiative are models for more expansive, global efforts in the area of climate change-related migration. And if so, can the international legal community use these models,

in coordination with existing initiatives and without duplicating efforts, to build consensus toward new norms, institutions and coordinated action;

- the international community should promote the adoption of bilateral and regional agreements and programmes and/or local initiatives, such as reconsideration of domestic immigration laws, to assist with climate change-related migration; and
- the international community and individual states can facilitate opportunities for migration as a form of adaptation.

Food security

Food security has emerged as a primary justice concern connected with climate change and is foregrounded in the IPCC *Fifth Assessment Report* in 2014.⁸⁶² The links between food security and climate change are many and complex, and their legal dimensions are only now coming under scrutiny. Food production and distribution today take place within a global context in which producers and consumers may be located tens of thousands of miles apart, each vulnerable in different ways to shocks to the wider food system. As detailed in Chapter 2, climate-related shocks to food security may be direct and immediate, such as those directly attributable to climate change (ocean acidification affecting fish stocks, droughts leading to ruined harvests, damaged transport and supply links). On the other hand, they may be indirect, the knock-on effects of other policies intending to alleviate climate change (such as agrofuels or REDD+) or simply to the responses of international markets to the unfolding uncertainties surrounding climate change. Additionally, agriculture itself is a major source of GHG emissions.

To take one example, when the EU and US adopted policies in 2007 to support agrofuel production, one result was food price spikes that led to riots in a number of countries and lifted the number of hungry in the world to a new high at over one billion persons.⁸⁶³ Research undertaken since then by a slew of international agencies, including the World Bank, the Food and Agricultural Organization of the United Nations (FAO) and other UN bodies, has begun to untangle the complexities of these events, establishing that agrofuel policy was a contributory factor, along with increased energy prices, land-use pressures and commodity speculation.⁸⁶⁴ Increased reliance on agrofuels displaces land that is otherwise used for crop production, reducing supply and driving up prices. This in turn results in price volatility on international food commodity markets, a main cause of reduced food accessibility for vulnerable populations.⁸⁶⁵ Moreover agrofuels are generally sourced in developing countries, leading to competition over land and water resources as well as land speculation and ‘land grabs’, all of which in turn exacerbate food insecurity.⁸⁶⁶

The 2008 crisis was eventually contained, albeit too late for many thousands of affected persons. But it illustrated the propensity for severe domino effects in a highly interconnected international food regime and the degree to which millions of individuals and communities are vulnerable to climate-related food insecurity due to circumstances entirely beyond their control. In conditions of climate change, where crops are likely to

fail and energy prices to rise, while commodity markets remain volatile, the probability that crises such as that of 2008 will be repeated or surpassed are inordinately high.⁸⁶⁷

For the Task Force, an obvious way into the link between climate change and food security is provided by the internationally protected human right to adequate food. Some research has been undertaken to determine the degree to which climate change poses a threat to the right to food, notably that undertaken by the most recent UN Special Rapporteur on the Right to Adequate Food, Olivier de Schutter. An IBA Working Group on the Legal Dimensions of Climate Change Adaptation would be well placed to further that work, identifying the pressures on food security due at least in part to a combination of legal regimes. This includes a focus on areas other than the by now well-documented areas of direct climate impacts, on one hand, and agrofuel support, on the other. For example, forest preservation measures of the type foreseen in REDD+ programmes raise similar concerns about food security, as they will tend to put lands used for informal food production off limits.⁸⁶⁸ There is also the larger question of the governance of international food supply chains, which were shown in the recent horsemeat scandal that rocked the UK and other European countries to be extraordinarily poorly governed even within the highly regulated space of the EU.⁸⁶⁹ Further examination is also required in the recently established field of 'water law' as well as the emerging consensus on the need to monitor, predict and pre-empt price volatility on international commodity markets and questions of security of tenure in large-scale international land transactions.

One available approach would be to pursue the implications of the human right to adequate food for international food regime governance. The FAO has already articulated a right to food in the context of food security⁸⁷⁰ and there are indications that such a synthesis between human rights and food insecurity is emerging on regional and national levels.⁸⁷¹ The international climate-change regime could similarly adopt a rights-based perspective that would be responsive to the food security needs of the most vulnerable populations while addressing the need for mitigation measures including alternative fuel sources and forest preservation. Commentators have suggested that a rights-based approach would provide both the practical and conceptual framework for effective international action.⁸⁷² A human rights perspective would elucidate the harm to the individual, draw attention to the most vulnerable populations, emphasise monitoring and accountability, and establish clear procedural guarantees by identifying rights-holders and duty-bearers.⁸⁷³ Further, linking climate change to the right to food would bring additional human rights mechanisms and institutional resources to bear on the international effort to adapt to climate change.⁸⁷⁴ International human rights courts and non-judicial bodies could 'treat climate change as the immediate threat to human rights that it is', taking states to task when their policies focus too narrowly on their own populations at the expense of the world's most vulnerable.⁸⁷⁵ In each case, a full understanding of the threats to the right to food necessitates scrutiny of the relevant bodies of international law and governance that render individual rights vulnerable in the context of climate change.

Therefore, on the topic of food security, the Working Group should identify and scrutinise the bodies of law relevant to food security in the context of climate change with a view to making recommendations on how to integrate a right-based approach into the climate change regime. This would include an assessment of current legal protections related to food security and how these might be used and strengthened to inform rights-based approaches to climate change policy-making.

Technology transfer

As discussed in Chapter 2, international environmental law has not adequately promoted the transfer of mitigation or adaptation technologies and may in some cases work at cross-purposes with international intellectual property protections. However, some experts have suggested that intellectual property rights need not impede effective technology transfer; many of the relevant technologies do not involve significant patent royalties.⁸⁷⁶ At the same time, commentators agree that an international solution to facilitate cross-border transfer of mitigation and adaptation technologies must establish linkages across various environmental and trade regimes⁸⁷⁷ and strike a balance between incentivising innovation and investment and facilitating widespread diffusion of necessary adaptation technologies.⁸⁷⁸

Accordingly, the international community should, among other actions, ‘move forward proactively with incentives and subsidies to promote patent pools and open licensing for the development of adaptation technologies for both mitigation and adaptation’.⁸⁷⁹ Developing countries have called for increased flexibility within the TRIPS regime.⁸⁸⁰ Some experts have suggested that this may include the creation of exemptions to patentability and patent rights for technologies in the public interest, as well as compulsory licensing for certain patented technologies.⁸⁸¹

Where multilateral negotiation breaks down, the international community should consider alternative unilateral, bilateral or regional approaches to technology transfer.⁸⁸² To this end, the international community should also facilitate cooperation among various stakeholders, including civil society, the private sector, governments and multilateral institutions. This may entail multilateral agreements and programmes, including public-private partnerships and partnerships between developed and developing countries.⁸⁸³ For example, ‘[m]ajor companies including IBM and Pitney-Bowes have agreed to allow free use of thirty-one patents that can reduce pollution’.⁸⁸⁴ In Sierra Leone, a coalition of organisations, including the West African Research Development Association and Sierra Leonean farmers and agricultural researchers, developed a new variety of mangrove rice and distributed it to local communities.⁸⁸⁵ Finally, Brazil has signed agreements with states in Africa, Latin America and the Caribbean under which Brazil will offer its expertise in converting sugarcane husks and straw into ethanol.⁸⁸⁶ In exchange, Brazil may expand its ethanol market.⁸⁸⁷

Finally, the international community should consider methods to further incentivise and enforce compliance with climate change-related technology transfer. To this effect,

commentators have suggested that the international community should ‘explore the degree to which obligations undertaken through the Framework Convention, human rights treaties, or elsewhere may leave States or private entities liable for actions that have blocked or failed to facilitate technology transfer with human rights consequences’.⁸⁸⁸ In particular, some scholars have suggested that human rights norms and the ‘polluter pays’ principle in environmental law establish a duty on the part of developed states to facilitate the transfer of climate change-related technologies.⁸⁸⁹

On the topic of technology transfer, the IBA Working Group should consider, among other issues:

- how the international environmental and trade regimes may be brought into conformity with each other to promote technology transfer;
- how the international environmental law framework be reformed to incentivise innovation while facilitating technology transfer; and
- how the international legal community can promote and facilitate cooperation among various stakeholders.

Notes

- 464 Notable exceptions are the African [Banjul] Charter on Human and Peoples' Rights, Art 24, see n 201, and the San Salvador Protocol to the American Convention on Human Rights, Art 11, adopted 17 November 1988, 28 ILM 156 (1989), entered into force 16 November 1999 ('(1) Everyone shall have the right to live in a healthy environment and to have access to basic public services. (2) The States Parties shall promote the protection, preservation, and improvement of the environment.'). See generally Chapter 2, section 2.2.
- 465 See, for example, Arab Charter on Human Rights (2004) Art 38 adopted 22 May 2004, Int'l Hum Rts Rep 893 (2005), entered into force 15 March 2008 ('Every person has the right to an adequate standard of living for himself and his family, which ensures their well-being and a decent life, including food, clothing, housing, services and the right to a healthy environment. '); ASEAN, Human Rights Declaration para 28, n196 ('Every person has the right to an adequate standard of living for himself or herself and his or her family including: . . . the right to a safe, clean and sustainable environment. '); Convention on the Rights of the Child Art 24 para 2(c) (recognising the 'dangers and risks of environmental pollution' that threaten the provision of 'adequate nutritious foods and clean drinking-water'); ICESCR Art 12 para 2(b) (recognising that the 'right of everyone to the enjoyment of the highest attainable standard of physical and mental health' can only be fully realised by '[t]he improvement of all aspects of environmental and industrial hygiene.').
- 466 See, for example, UN OHCHR, *Report on the relationship between climate change and human rights*, 15 January 2009, UN Doc A/HRC/10/61 paras 20–41; UN General Assembly Resolution 45/94, 68th plenary meeting, 14 December 1990, UN Doc A/RES/45/94 ('[A] better and healthier environment can help contribute to the full enjoyment of human rights by all.' The plenary meeting also saw the airing of support for the idea that environmental protection is itself a human right, as evinced by the statement: 'all individuals are entitled to live in an environment adequate for their health and well-being').
- 467 As set out in more detail below, various human rights bodies 'have found that environmental harm can give rise to violations of rights to life, health, property and privacy, among others'. See n 190, para 24. See generally *ibid* at para 19; see also n 206, Knox, 194–195.
- 468 See n 34, 29–30.
- 469 See n 190, paras 12–13.
- 470 *Ibid*.
- 471 See n 193, UN OHCHR, para 18.
- 472 CESCR, General Comment 14, The Right to the Highest Attainable Standard of Health para 4, 11 August 2000, UN Doc E/C.12/2000/4.
- 473 See n 190, paras 32, 37, 49, 56, 64.
- 474 *Öneryildiz v Turkey*.
- 475 *Guerra and Others v Italy* para 60, 1998-I ECHR (1998); *Lopez Ostra v Spain* para 58, App No 16798/90 (9 December 1994); see also *Arrondelle v UK*, (1980) 19 DR 186; (1982) 26 DR 5; *Baggs v UK*, (1985) 44 DR 13; (1987) 52 DR 29.
- 476 *Öneryildiz v Turkey*, see n 474.
- 477 See *Tyrer v UK* para 31, App No 5856/72 (1978).
- 478 *Marangopoulos Foundation for Human Rights (MFHR) v Greece* paras 195–96 (6 December 2006).
- 479 See n 214.
- 480 See n 190, para 38.
- 481 *Ibid*, 69.
- 482 See n 193, UN OHCHR; Human Rights Council Resolution 10/4, Human rights and climate change, 10th Session, 25 March 2009, UN Doc A/HRC/RES/10/4; Human Rights Council Resolution 18/22, Human rights and climate change, 18th Session, 7 October 2011, UN Doc A/HRC/RES/18/22; Human Rights Council Resolution 13/17, The Social Forum, 15 April 2010, UN Doc A/HRC/RES/13/17.
- 483 See n 38, Human Rights Council Resolution.
- 484 *Ibid*.
- 485 Human Rights Council, 26th Session, Agenda Item 3, Human Rights and Climate Change, 23 June 2014, A/HRC/26/L.33 paras 6–7.

- 486 See, for example, n 190, para 29, quoting Principle 10 of the 1992 Rio Declaration ('Environmental issues are best handled with the participation of all concerned citizens, at the relevant level. At the national level, each individual shall have appropriate access to information concerning the environment that is held by public authorities, including information on hazardous materials and activities in their communities, and the opportunity to participate in decision-making processes. States shall facilitate and encourage public awareness and participation by making information widely available. Effective access to judicial and administrative proceedings, including redress and remedy, shall be provided.');
- see also Ecuador Const Art 398 ('All state decision or authorization that could affect the environment shall be consulted with the community, which shall be informed fully and on a timely basis... The State shall take into consideration the opinion of the community on the basis of the criteria provided for by law and international human rights instruments.')
- (English translation available at <http://pdba.georgetown.edu/Constitutions/Ecuador/english08.html>); 155/96 *Social and Economic Rights Action Center (SERAC) and Center for Economic and Social Rights (CESR) v Nigeria (Ogoniland case)*, para 53, available at <http://caselaw.ihra.org/doc/155.96/view>; n 190, para 41.
- 487 For more detail on the Aarhus Convention, see section 3.2.2, page 158 of this report.
- 488 UN Rio Declaration on Environment and Development (Rio, 13 June 1992) 31 ILM 874 (1992).
- 489 International Law Commission, 'Draft articles on Prevention of Transboundary Harm from Hazardous Activities Art 13' *Y Bk Int Law Com Vol II, Part 2* (2001).
- 490 UN General Assembly Resolution, Declaration on the Right and Responsibility of Individuals, Groups and Organs of Society to Promote and Protect Universally Recognized Human Rights and Fundamental Freedoms, 8 March 1999, A/RES/53/144.
- 491 See n 190, para 46.
- 492 Human Rights Council Resolution 17/4, Human rights and transnational corporations and other business enterprises para 1, 17th Session, 6 July 2011, UN Doc A/HRC/RES/17/4 (endorsing the Guiding Principles on Business and Human Rights, HR/PUB/11/04).
- 493 See n 204, Guiding Principles, 3.
- 494 For an overview of environmental provisions in national constitutions and their effectiveness, see generally David Richard Boyd, *The Environmental Rights Revolution: A Global Study of Constitutions, Human Rights, and the Environment* (University of British Columbia Press, 2011) 233.
- 495 See n 201, *Ogoniland case*, para 52.
- 496 See generally, n 494; see, for example, South Korea Const Art 35 ('(1) All citizens shall have the right to a healthy and pleasant environment. The State and all citizens shall endeavor to protect the environment. (2) The substance of the environmental right is determined by Act. (3) The State shall endeavor to ensure comfortable housing for all citizens through housing development policies and the like.').
- 497 See Portugal Const Art 66: 'In order to ensure enjoyment of the right to the environment within an overall framework of sustainable development, acting via appropriate bodies and with the involvement and participation of citizens, the state shall be charged with: b) Conducting and promoting town and country planning with a view to a correct location of activities, balanced social and economic development and the enhancement of the landscape').
- 498 Ecuador Const Art 27 (guaranteeing '[t]he right to live in a healthy environment that is ecologically balanced, pollution-free and in harmony with nature'); *Ibid* Portugal Const, ('In order to ensure enjoyment of the right to the environment within an overall framework of sustainable development, acting via appropriate bodies and with the involvement and participation of citizens, the state shall be charged with: a) Preventing and controlling pollution and its effects and the harmful forms of erosion.').
- 499 Treaty on European Union Art 6.1 ('The Union recognises the rights, freedoms and principles set out in the Charter of Fundamental Rights of the European Union of 7 December 2000, as adapted at Strasbourg, on 12 December 2007, which shall have the same legal value as the Treaties.').
- 500 For ECtHR cases referring to the Charter, see *I v UK* para 80, App No 25680/94 (11 July 2002); *Christine Goodwin v UK* para 100, App No 28957/95 (11 July 2002). For a CJEU case referring to the Charter, see Case C-540/03 *Parliament v Council* para 38, ECR I-05769 (2006).

- 501 K Lenaerts and K Vanvoorde, 'The right to property in the case law of the Court of Justice of the European Communities' in H Vandenbergh (ed), *Property and Human Rights* (de Keure, 2006) 211; *Roquette Frères* para 29, Case No C-94/00, ECR I-9011 (2002); *Hoechst v Commission* para 18, Case Nos 46/87, 227/88, ECR 2859 (1989).
- 502 *Ibid*, K Lenaerts and K Vanvoorde.
- 503 UN Secretary-General, Report on Intergenerational Solidarity and the Needs of Future Generations para 3, 68th Session, 5 August 2013, UN Doc A/68/x.
- 504 See n 92.
- 505 Mary Robinson Foundation, *Climate Justice: An Intergenerational Approach* (Mary Robinson Foundation, November 2013) 1–2.
- 506 UNFCCC Art 3.
- 507 See, for example, Mary Christina Wood, Stephen Leonard, Daniel Bartz and Nicola Peart, 'Securing Planetary Life Sources for Future Generations: Legal Actions Deriving from the Ancient Sovereign Trust Obligation' in Michael B Gerrard and Gregory E Wannier (eds), *Threatened Island Nations: Legal Implications of Rising Seas and a Changing Climate* (Cambridge University Press, 2013); *Robinson Twp v Pennsylvania*, 83 A.3d 901, 954–59, 978–79 (Pa 2013) (holding that private citizens could bring suit under the Public Trust doctrine, as enshrined in Art 1 s 27 of Pennsylvania's constitution, that the beneficiaries of the trust were "all the people" of Pennsylvania, including generations yet to come' and that a law requiring municipalities to include oil and gas operations in all zoning districts was a violation of Art 1 s 27 and therefore unconstitutional).
- 508 See n 84, 1.
- 509 World Future Council, 'National Policies & International Instruments to Protect the Rights of Future Generations', Legal Research Paper (World Future Council and CISDL) 9.
- 510 *Ibid*, 28–29.
- 511 See generally Sébastien Jodoin and Yolanda Saito, 'Crimes Against Future Generations: Harnessing the Potential of Individual Criminal Accountability for Global Sustainability' (2011) 7(2) McGill Int'l J of Sustainable Development L & Pol'y 117; see also Andrew C Revkin, 'A Push to Stop Crimes Against the Future' *New York Times Blog* (1 June 2009) <http://dotearth.blogs.nytimes.com/2009/06/01/>; Gregory Unruth, 'Climate Crimes Against Humanity?' *Forbes* (29 October 2012) at www.forbes.com/sites/csr/2012/10/29/climate-crimes-against-humanity/; Bianca Jagger, Address at the International Bar Association Climate Change Justice Showcase (2013), at www.ibanet.org/Article/Detail.aspx?ArticleUId=a22aa038-40ac-4fc3-be79-f560fcb65955.
- 512 *Ibid*, Jodain and Saito, 148–149 (stating that even if crimes against future generations are recognised via a standalone convention 'the question that remains [...] is whether the concept of crimes against future generations could ever generate enough support among States to become binding international law.').
- 513 See n 492, 233.
- 514 See, for example, James R May and William Romanowicz, 'Environmental Rights in State Constitutions' in James R May (ed), *Principles of Constitutional Environmental Law* (American Bar Association, 2011) 315–321 at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1932753 (Outlining the environmental rights available in various state constitutions.) For example, Art XX, s 21 of New Mexico's constitution states, '[t]he state's beautiful and healthful environment is hereby declared to be of fundamental importance to the public interest, health, safety and the general welfare. The legislature shall provide for control of pollution and control of despoilment of the air, water and other natural resources of this state, consistent with the use and development of these resources for the maximum benefit of the people.' Art XI, s 1 of the Virginia constitution states that, '[t]o the end that the people have clean air, pure water, and the use and enjoyment for recreation of adequate public lands, waters, and other natural resources, it shall be the policy of the Commonwealth to conserve, develop, and utilize its natural resources, its public lands, and its historical sites and buildings. Further, it shall be the Commonwealth's policy to protect its atmosphere, lands, and waters from pollution, impairment, or destruction, for the benefit, enjoyment, and general welfare of the people of the Commonwealth.'
- 515 See n 201.

- 516 Protocol to the African Charter on Human and Peoples' Rights on the Rights of Women in Africa Art 18, Adopted by the 2nd Ordinary Session of the Assembly of the Union, Maputo, CAB/LEG/66.6 (13 September 2000), entered into force 25 November 2005.
- 517 See n 201, San Salvador Protocol Art 11.
- 518 Parliamentary Assembly, Council of Europe, Drafting an additional protocol to the ECHR concerning the right to a healthy environment para 10.1, Recommendation 1885 (2009).
- 519 The nine treaties concern: (i) civil and political rights, set out in the ICCPR; (ii) economic, social and cultural rights, set out in the ICESCR; (iii) torture and cruel, inhuman, or degrading treatment or punishment, defined in the Convention against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment; (iv) racial discrimination, proscribed by the International Convention on the Elimination of All Forms of Racial Discrimination; (v) gender discrimination, defined in the Convention on the Elimination of All Forms of Discrimination against Women; (vi) rights of persons with disabilities, set out in the Convention on the Rights of Persons with Disabilities; (vii) protection of all persons from enforced disappearance, established by the International Convention for the Protection of All Persons from Enforced Disappearance; (viii) rights of migrants workers and members of their families laid down by the International Convention on the Protection of the Rights of All Migrant Workers and Members of their Families; and (ix) rights of the child, contained in the Convention on the Rights of the Child and its Optional Protocols.
- 520 Human Rights Council Resolution 5/1, Institution-building of the United Nations Human Rights Council, 18 June 2007 at para 85.
- 521 See n 472 and accompanying text.
- 522 See n 201, *Ogoniland* case, para 52.
- 523 See n 460 and accompanying text.
- 524 See, for example, Victoria Nuland, 'ASEAN Declaration on Human Rights' US Department of State (20 November 2012) at www.state.gov/r/pa/prs/ps/2012/11/200915.htm ('Concerning aspects include: the use of the concept of "cultural relativism" to suggest that rights in the UDHR do not apply everywhere; stipulating that domestic laws can trump universal human rights; incomplete descriptions of rights that are memorialized elsewhere; introducing novel limits to rights; and language that could be read to suggest that individual rights are subject to group veto.').
- 525 ASEAN, Human Rights Declaration para 28, n 195.
- 526 See Tan Hsien-Li, 'ASEAN's Impact on Myanmar's Transformation: Human Rights and Beyond' (2013) 107 *Am Soc'y Int'l L Proc* 293, 295 ('None of the human rights documents in relation to AICHR – the ASEAN Human Rights Declaration, Terms of Reference (TOR), Blueprints, Rules of Procedure, and Work Plan – is binding, and they are not intended to become so in the foreseeable future.'). Viti Muntarbhorn, 'Asean must boost protection work' *Bangkok Post* (1 July 2014): www.bangkokpost.com/opinion/opinion/418249/asean-must-boost-protection-work ('AICHR has not yet agreed to receive complaints from victims, nor undertaken investigations on key situations, even though its [Terms of Reference] opens the door to these possibilities – if [...] interpreted purposively.').
- 527 UN News Centre, *Arab rights charter deviates from international standards, says UN official* (30 January 2008): www.un.org/apps/news/story.asp?NewsID=25447 ('The Arab Charter on Human Rights contains provisions that do not meet international norms and standards, including the application of the death penalty for children, the treatment of women and non-citizens and the equating of Zionism with racism, the United Nations human rights chief said today. UN High Commissioner for Human Rights Louise Arbour issued a statement saying that her office "does not endorse these inconsistencies [and] we continue to work with all stakeholders in the region to ensure the implementation of universal human rights norms."').
- 528 See n 465, Arab Charter on Human Rights (2004) Art 38.
- 529 See Mohamed Y Mattar, 'Article 43 of the Arab Charter on Human Rights: Reconciling National, Regional, and International Standards' (2013) 26 *Harv Hum Rts J* 91, 94.
- 530 Christoph Schwarte, 'International Climate Change Litigation And The Negotiation Process' (October 2010) FIELD 5–6 (eg, breach of international law obligations such as UNFCCC commitments, UNCLOS pollution control, 'no harm' rule); Maxine Burkett, 'Legal Rights and Remedies' in Michael B Gerrard and Katina Fischer Kuh (eds), *The Law of Adaptation to Climate Change: US and International Aspects*

- (American Bar Association, 2012) 822–829 (eg, US Alien Tort Claims Statute; common law tort claims, common law negligence claims, public nuisance claims).
- 531 Howard Holtzmann and Joseph Neuhaus, *A Guide to The UNCITRAL Model Law on International Commercial Arbitration* (Kluwer, 1989); see also UNCITRAL Model Law on International Commercial Arbitration (1985), with amendments as adopted in 2006 at www.uncitral.org/uncitral/en/uncitral_texts/arbitration/1985Model_arbitration.html.
- 532 See, for example, T Merrill, 'Global Warming as a Public Nuisance' (2005) 30 Colum J Envir L 293 (discussing standing issues of federal case adjudicating global warming as a public nuisance).
- 533 See *Friends of the Earth, Inc v Laidlaw Envir Servs*, 528 US 167, 180–81 (2000) (discussing *Lujan v Defenders of Wildlife*, 504 US 555 (1992)).
- 534 In New South Wales, Australia, for example, as the Hon Justice Brian J Preston, Chief Judge of the Land and Environment Court has written: 'Increasingly, however, environmental legislation is making specific provision for citizens and non-governmental organisations to have standing to bring civil proceedings to remedy or restrain breaches of the legislation. The most liberal provisions are those which effectively abolish the common law standing requirement and instead allow open standing to any person. An example of the use of the open standing provisions is in the *Gray v Macquarie Generation* case. The applicant brought proceedings under the open standing provision, seeking an order that the respondent electrical power generator cease disposing of waste through the emission of carbon dioxide into the atmosphere in contravention of s 115(1) of the POEO Act [Protection of the Environment Operations Act 1997 (NSW)], which states that it is an offence to wilfully or negligently dispose of waste in a manner that harms or is likely to harm the environment.' Hon Justice Brian J Preston, Chief Judge of the Land and Environment Court, *Enforcement of Environmental and Planning Laws in New South Wales*, 77–78 (2011) 16 LGLJ 72. See also the Ontario *Environmental Bill of Rights*, 1993, SO 1993, c 28, which provides for the rights of person to participate in environmental decision-making and appeals from decisions by 'persons resident in Ontario'.
- 535 *Oposa et al v Fulgencio S Factoran Jr et al*, Supreme Court of the Philippines (30 July 1993) 10–11, www.elaw.org/node/1343.
- 536 See, eg, US National Climate Assessment at <http://nca2014.globalchange.gov>.
- 537 See, eg, R Pavoni, 'Environmental Jurisprudence Of The European And Inter-American Courts Of Human Rights: Comparative Insights', in B Boer (ed), *The Environmental Dimension of Human Rights* (Oxford University Press, forthcoming) 19–22.
- 538 See n 134, Humphreys, 31.
- 539 See n 214, The Inuit Petition before the IACHR.
- 540 See n 528, Burkett, 828–829 ('Perhaps the biggest challenge for any climate change claimant – whether under human rights theory, the Law of the Sea, or tort law – is proving the causal link between a defendant's action and the costs for which the claimant seeks compensation or the impacts to which the claimant seeks to successfully adapt.').
- 541 *Ibid*, 829 ('A simple causal chain does not readily exist to prove actual or proximate cause.');
- Christina Voigt, 'State Responsibility for Climate Change Damages' (2008) 77 (1–2) Nordic Journal of International Law 15–16; Schwarte, n 530, 10.
- 542 *Massachusetts v EPA*, 549 US 497, 127 S Ct 1438 (2007).
- 543 See n 87, 43–45.
- 544 See n 530, Schwarte, 10–11; Simon Marr, 'The Southern Bluefin Tuna Cases: The Precautionary Approach and Conservation and Management of Fish Resources' (2000) 11 European J Int'l Law, 815; Alexander Yankov, 'Current Fisheries Disputes and the International Tribunal for the Law of the Sea' in Myron H Nordquist and John Norton Moore (eds), *Current Marine Environment Issues and the International Tribunal for the Law of the Sea* (Martinus Nijhoff Publishers, 2001) 223.
- 545 See n 214, The Inuit Petition before the IACHR.
- 546 Mossman and Marchant, 'Precautionary Principle & Radiation Protection' (Spring 2002) 13 Risk: Health, Safety & Environment 137, 139–140; *Case Concerning Pulp Mills on the River Uruguay (Argentina v Uruguay)*, 2010 ICJ (20 April 2010) para 164 ('Pulp Mills').

- 547 Cf McDonald, 'Paying the Price of Adaptation: Compensation for Climate Change Impacts' in T Bonyhady, A Macintosh and J McDonald (eds), *Adaptation to Climate Change Law and Policy* (Federation Press, 2010) 243.
- 548 *Trail Smelter case (US v Canada)*, 3 UN Rep Int'l Arb Awards 1905 (1941); Restatement (Second) of Torts s 431; see n 530, Burkett, 829.
- 549 *Ibid*; Restatement (Second) of Torts s 431.
- 550 *Ibid*; see n 547, 243.
- 551 See n 3, 17.
- 552 *Ibid*, 164, n 16.
- 553 *Ibid*, 7, tbl.SPM 1. 'Low confidence' for 'human contribution' to 'increases in intensity and/or duration of drought' since the middle of the 20th century. 'Low confidence' for 'human contribution' to 'increases in intense tropical cyclone activity' since the middle of the 20th century. 'Medium confidence' for 'human contribution' to 'heavy precipitation events' since the middle of the 20th century.
- 554 *Ibid*, 119. 'It is very likely that the mean rate of global averaged sea level rise was 1.7 [1.5 to 1.9] mm yr⁻¹ between 1901 and 2010, 2.0 [1.7 to 2.3] mm yr⁻¹ between 1971 and 2010 and 3.2 [2.8 to 3.6] mm yr⁻¹ between 1993 and 2010. It is likely that similarly high rates occurred between 1920 and 1950.'
- 555 *Id.* at 7, tbl.SPM1 note L.
- 556 See n 530, Burkett, 828–829. (A climate change plaintiff 'will have to prove specific causation – that the anthropogenic emissions have caused the plaintiff's particular injuries.'). However, a recent study conducted by Carbon Majors was able to attribute 63 per cent of the carbon dioxide and methane emitted between 1751 and 2010 to just 90 entities. For further details on this study, see Richard Heede, 'Tracing Anthropogenic Carbon Dioxide and Methane Emissions to Fossil Fuel and Cement Producers, 1854–2010' (22 November 2013) Climatic Change 234.
- 557 See n 190, para 47.
- 558 *Ibid*, para 49.
- 559 *Ibid*, para 81.
- 560 R Verheyen and P Roderick, *Beyond Adaptation: The legal duty to pay compensation for climate change damage* (WWF-UK, 2008); International Law Commission, Articles on Responsibility of States for Internationally Wrongful Acts, Art 39, 53 UN GAOR Supp (No 10) 43, UN Doc A/56/83 (2001) ('ILC Articles on State Responsibility'), Art 39 ('In the determination of reparation, account shall be taken of the contribution to the injury by willful or negligent action or omission of the injured State or any person or entity in relation to whom reparation is sought.').
- 561 See n 530, Schwarte, 10–11.
- 562 Daniel Farber, 'Adapting to Climate Change: Who Should Pay' 23 J Land Use & Envir Law 1 (Fall 2007); n 530, Burkett, 822.
- 563 *Ibid*, 19.
- 564 See n 209, Heede.
- 565 11, 14; See n 530, Schwarte, *Legality of the Threat or Use of Nuclear Weapons*, Advisory Opinion, ICJ Reports para 30; ILC Draft Articles on State Responsibility, Arts 35, 39.; Cf *Legality of the Threat or Use of Nuclear Weapons*, Advisory Opinion, ICJ Reports para 30.
- 566 See n 190, paras 62–68.
- 567 As discussed in Chapter 2, section 2.1.3, states have international environmental obligations under both treaties and customary international law, such as for example, the principle that states must ensure that activities in their territory must respect the environment of other states, as recognised by the ICJ. See *Corfu Channel (United Kingdom of Great Britain and Northern Ireland v Albania)*, ICJ Reports 1949, 4, 22, where the Court identified the obligation of every state 'not to allow knowingly its territory to be used for acts contrary to the rights of other States'; *Legality of the Threat or Use of Nuclear Weapons*, ICJ Reports 1996, para 29. See also the principle set out in the *Trail Smelter case*, 35 AJIL 1941 at 1965.
- 568 See generally n 560, *ILC Draft Articles on State Responsibility*.
- 569 *Ibid*, Commentary to ILC Articles on State Responsibility, Art 1, 33.
- 570 *Barcelona Traction, Light and Power Company Limited, Judgment*, ICJ Reports 1970, 3 at 32, para 33.
- 571 *Ibid*.

572 See n 560, *ILC Draft Articles on State Responsibility*, Art 48.

573 See generally n 146, 130–132.

574 See also UNCLOS, 16 November 1994, 1833 UNTS 3, 397; 21 ILM 1261 (1982) (UNCLOS), Annex V; Convention on Environmental Impact Assessment in a Transboundary Context, 25 February 1991, 1989 UNTS 309 ('Espoo Convention'), Art 4.

575 However, pursuant to n 560 above, ILC Articles on State Responsibility, Art 49, only an *injured* state may take countermeasures against a state responsible for an internationally wrongful act. Therefore, unilateral countermeasures may not be lawfully taken by a third state seeking to enforce global climate change responsibilities.

576 The Charter of the United Nations, Chapter XIV at www.un.org/en/documents/charter. The ICJ is one of six principal organs of the UN and the principal judicial organ.

577 See n 71, UNFCCC, Art 14(2) provides '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 number of inter-state environmental disputes have been determined by ad hoc arbitration, see for example, *Trail Smelter*; *Lac Lanoux*.

578 See, for example n 71, UNFCCC, Art 14(2); n 166, UNCLOS, Part XV 'Settlement of Disputes.'

579 See, for example, the grant of interim measures in a case of armed conflict in *Georgia v Russia*, www.icj-cij.org/docket/index.php?p1=3&p2=3&k=4d&case=140&code=GR&p3=4. (See ECHR Application No 38263/08 *Georgia v Russia* (13 December 2011)).

580 There are three known cases: *Peru v Chile*; *Italy v Cuba*; *Ecuador v US*.

581 However, environmental state-to-state disputes cannot be brought under Arts 6(7), 19(2), 27(2) of the Energy Charter Treaty, which expressly excludes disputes concerning the environment and competition from the purview of the inter-state dispute-settlement mechanism; these disputes must instead be settled by way of mediation.

582 See generally Malcolm N Shaw, *International Law* (6th edn, Cambridge University Press, 2008), 853 and following.

583 See n 146, 179; *ibid*, 851.

584 Decision X/10: Review of the non-compliance procedure, Tenth Meeting of the Parties (Cairo, 23–24 November 1998).

585 The Implementation Committee was first established on an interim basis by Decision II/5: Non-compliance, Second Meeting of the Parties to the Protocol (London, 27–29 June 1990). It was established on a permanent basis by Decision IV/5: Non-Compliance Procedure (Copenhagen, 23–25 November 1992).

586 Annex IV: Non-compliance procedure, Fourth Meeting of the Parties (Copenhagen, 23–25 November 1992). The Committee can consider and report on submissions alleging non-compliance with the Protocol and can ultimately make recommendations to the Meeting of Parties on measures that should be taken to support compliance, ranging from provision of technical or financial assistance, issuance of a caution or suspension. Annex V: Indicative list of measures that might be taken by a Meeting of the Parties in respect of non-compliance with the Protocol, Fourth Meeting of the Parties (Copenhagen, 23–25 November 1992).

587 Espoo Convention Art, n 574 above, 14 ('Review of Compliance') and Art 15 ('Settlement of Disputes')

588 Megan Chapman, 'Climate Change And The Regional Human Rights Systems' (Spring 2010) *Sus Dev L & Pol'y* 37.

589 See Conference Report, 'The George Washington University Law School Conference on International Environmental Dispute Resolution' (2000) 32 *GW J Int'l L & Econ*, 325, 326–27; see also Phillipe Sands, 'Litigating Environmental Disputes: Courts, Tribunals and the Progressive Development of International Environmental Law' (2007) 37(2–3) *Environmental Pol'y & L*.

- 590 See, for example, the criticisms raised in Stephen Hockman QC, 'The Case for an International Court for the Environment' (2011) *Effectus Newsletter* 14.
- 591 See Alfred Rest, 'The indispensability of an international Environmental Court' (1998) 7(1) *Rev of Eur Com & Int'l Envtl L*, 65; see also Vespa, 'An Alternative to an International Environmental Court? The PCA's Optional Arbitration Rules for Natural Resources and/or the Environment' (2003) 2 *Law & Prac Int'l Cts & Tribunals*.
- 592 See Final Conference Resolution, Conference at George Washington University (15–17 April 1999), in Amedeo Postiglione, *Global Environmental Governance* (Bruylant, 2010) 241–242.
- 593 These cases include four contractual disputes conducted pursuant to the PCA *Optional Rules for Arbitration of Disputes Relating to Natural Resources and/or the Environment* (none of which are public), and arbitrations arising under various treaties, including five Annex VII UNCLOS arbitrations (*Ireland v United Kingdom* or 'The MOX Plant Case', *Barbados v Trinidad and Tobago*, *Guyana v Suriname*, *Malaysia v Singapore*, *Mauritius v United Kingdom*), the OSPAR Convention (*Ireland v United Kingdom* or 'The OSPAR Convention'), the Rhine Chlorides Convention (*The Netherlands and France*), NAFTA (*Bilcon of Delaware et al v Canada*, *Vito G Gallo v Canada*), various BITs (eg, *Chevron Corporation and Texaco Petroleum Company v The Republic of Ecuador* (PCA Case No 2007-2), *Chevron Corporation and Texaco Petroleum Corporation v The Republic of Ecuador* (PCA Case 2009-23), and disputes arising under other arbitration agreements or compromise (eg, *Eritrea v Yemen*, *The Abyei Arbitration*). For further information on PCA past and pending cases, visit www.pca-cpa.org/showpage.asp?pag_id=1029.
- 594 See Art 1(1) of the PCA *Optional Rules for Arbitration of Disputes Relating to Natural Resources and/or the Environment*: 'Where all parties have agreed in writing that a dispute that may arise or that has arisen between them shall be referred to arbitration under the Permanent Court of Arbitration Optional Rules for Arbitration of Disputes Relating to Natural Resources and/or the Environment, such disputes shall be settled in accordance with these Rules subject to such modification as the parties may expressly agree upon in writing. The expression "agreed upon in writing" includes provisions in agreements, contracts, conventions, treaties, the constituent instrument of an international organization or agency or reference upon consent of the parties by a court. The characterization of the dispute as relating to natural resources and/or the environment is not necessary for jurisdiction where all the parties have agreed to settle a specific dispute under these Rules'; Art 1(1) of the PCA Arbitration Rules 2012: 'Where a State, State-controlled entity, or intergovernmental organization has agreed with one or more States, State-controlled entities, intergovernmental organizations, or private parties that disputes between them in respect of a defined legal relationship, whether contractual, treaty-based, or otherwise, shall be referred to arbitration under the Permanent Court of Arbitration Arbitration Rules 2012, then such disputes shall be settled in accordance with these Rules subject to such modification as the parties may agree'; www.pca-cpa.org/showpage.asp?pag_id=1188.
- 595 See n 327, Vespa, 305–306; see also Dapo Akande, 'The Peace Palace Heats Up Again: But Is Inter-State Arbitration Overtaking the ICJ?' *EJIL Blog* (17 February 2014) at www.ejiltalk.org/the-peace-palace-heats-up-again-but-is-inter-state-arbitration-overtaking-the-icj.
- 596 See generally M Indlekofer, *International Arbitration and the Permanent Court of Arbitration* (Kluwer, 2013).
- 597 Charles Qiong Wu, 'A Unified Forum? The New Arbitration Rules for Environmental Disputes Under the Permanent Court of Arbitration' (2002) 3 *Chi J Int'l L* 263.
- 598 The Structure of the Permanent Court of Arbitration at www.pca-cpa.org/showpage.asp?pag_id=1039.
- 599 Members of the Court – Panels of Arbitrators at www.pca-cpa.org/showpage.asp?pag_id=1041.
- 600 See, for example, Lise Johnson and Nathalie Bernasconi-Osterwalder, 'New UNCITRAL Arbitration Rules on Transparency: Application, Content and Next Steps' *Investment Treaty News* (18 September 2013).
- 601 See n 591, Vespa, 307–08.
- 602 In order to qualify for financial assistance, a state must (i) be a PCA Member State, (ii) have agreed to dispute settlement proceedings administered by the PCA, and (iii) be listed on the 'DAC List of Aid Recipients' prepared by the OECD. See Financial Assistance Fund at www.pca-cpa.org/showpage.asp?pag_id=1179.
- 603 See, for example, Art 41, 1907 Hague Convention at http://avalon.law.yale.edu/20th_century/pacific.asp. See also HCAs: www.pca-cpa.org/showpage.asp?pag_id=1280.

- 604 Including ICSID, the International Council for Commercial Arbitration, the Multilateral Investment Guarantee Agency, the American Arbitration Association, the Singapore International Arbitration Centre, the IACHR, the Organization of American States (OAS), the Australian Centre for International Commercial Arbitration, the Asian Patent Attorneys Association, the China International Economic and Trade Arbitration Commission, the Hong Kong International Arbitration Centre, and the Dubai International Arbitration Centre.
- 605 United Nations Conference on Trade and Development, *Dispute Settlement: Permanent Court of Arbitration*, United Nations (2003), UNCTAD/EDM/Misc.232/Add.26, 31.
- 606 See generally Anna Spain, ‘Beyond Adjudication: Resolving International Resource Disputes in an Era of Climate Change’ (2011) 30 *Stan Envtl LJ* 343.
- 607 In addition to these forms of dispute settlement, in 2013, the PCA administered proceedings concerning natural fishing resources conducted by a Review Panel established under Article 17 and Annex II of the Convention on the Conservation and Management of High Seas Fishery Resources in the South Pacific Ocean. For more information, visit www.pca-cpa.org/showpage.asp?pag_id=1520.
- 608 See n 597, Wu, 266–267; see also n 327, Vespa, 298.
- 609 For example, following on from previous work undertaken under the auspices of the UNEP in 1998–1999, an Advisory Group convened by UNEP and the PCA met at the Peace Palace in The Hague on 2–3 November 2006 to consider recent developments, including the work of PCA, in the field of dispute avoidance and settlement concerning environmental issues. The working group issued a report dated 2–3 November 2006 at www.pca-cpa.org/showpage.asp?pag_id=1058. The PCA also engages in scholarly discussion on dispute resolution mechanisms and protection of the environment (see, eg, ‘International Investments and the Protection of the Environment: The Role of Dispute Resolution Mechanisms’ (May 2001) Peace Palace Paper Series Volume 2 at www.pca-cpa.org/showpage.asp?pag_id=1180).
- 610 See n 71, UNFCCC, Art 14.2(b).
- 611 See n 166, UNCLOS, Art 286.
- 612 The eleven UNCLOS cases are: *The Duzgit Integrity Arbitration (Malta v São Tomé and Príncipe)*; *The Arctic Sunrise Arbitration (the Netherlands v the Russian Federation)*; *The Atlanto-Scandian Herring Arbitration (Denmark in respect of the Faroe Islands v the European Union)*; *Philippines v China*; *Mauritius v United Kingdom*; *Bangladesh v India* (the ‘Bay of Bengal Maritime Boundary Arbitration’); *Argentina v Ghana*, (the ‘ARA Libertad Arbitration’); *Barbados v Trinidad and Tobago*; *Guyana v Suriname*, *Malaysia v Singapore*, and *Ireland v United Kingdom* (the ‘MOX Plant Case’).
- 613 PCA Model Arbitration Clauses for Use in Connection with the Permanent Court of Arbitration Optional Rules for Arbitration of Disputes Relating to Natural Resources and/or the Environment at www.pca-cpa.org/showpage.asp?pag_id=1189.
- 614 *Ibid.*
- 615 Permanent Court of Arbitration Arbitration Rules 2012 at www.pca-cpa.org/showpage.asp?pag_id=1188.
- 616 *Ibid.*
- 617 For example, Swiss Chambers Arbitration Institution and the Hong Kong International Arbitration Centre do not publish any awards, and the American Arbitration Association Rules expressly prevent the disclosure of confidential information. The ICC publishes extracts or summaries of awards and procedural orders in its *Bulletin*, but the extracts do not identify the parties or arbitrators and redact facts that would tend to identify the parties. The PCA only identifies the parties and publishes awards or other information in proceedings under PCA auspices where the parties have so agreed. ICSID also only publishes awards with consent of the parties involved, but may publish excerpts of the legal reasoning in an award where a party does not wish to publish that award. Although the rules of the LCIA permit it to publish awards with consent of the parties, it has not done so in practice. For a summary of the standing practice of international tribunals on the publication of their awards, see *Report by New York City Bar Committee on International Commercial Disputes, Publication of International Arbitration Awards and Decisions* (February 2014) at www.nycbar.org/pdf/report/uploads/20072645-PublicationofInternationalArbitrationAwardsandDecisions.pdf. See, for example, Julian D M Lew, ‘The Case for the Publication of Arbitration Awards’ in Jan C Schultsz and Albert Jan van den Berg, *The Art of Arbitration* (Kluwer, 1982) 223–232 and Thomas E Carbonneau, ‘Rendering Arbitral Awards with Reasons: The Elaboration of a Common Law of

- International Transactions' (1985) 23 Colum J Transnat'l L 579. A more recent discussion on the issue can be found in Gary B Born and Ethan G Shenkman, 'Confidentiality and Transparency in Commercial and Investor-State International Arbitration' in Catherine A Rogers and Roger P Alford (eds), *The Future Of Investment Arbitration* (Oxford University Press, 2009) 5–42. Recently, some scholars have even proposed compelling publication of awards over party objection. See, for example, Cindy G Buys, 'The Tensions Between Confidentiality and Transparency in International Arbitration' (2003) 14 Am Rev Int'l Arb 121 (arguing for a presumption in favour of publication that can only be overcome by objection by both parties); Dora Marta Gruner, 'Accounting for the Public Interest in International Arbitration: The Need for Procedural and Structural Reform' (2003) 41 Colum J Transnat'l L 923, 960 (proposing establishment of an official international regulatory body to require and oversee award publication except in those cases involving exclusively 'issues of a private, consensual nature').
- 618 For a comprehensive study on the issue, see Emmanuel Gaillard and Yas Banifatemi, *Precedent in International Arbitration* (Juris, 2008). On the specific practice of the ICSID; Jeffery P Commission, 'Precedent in Investment Treaty Arbitration' (2007) 24(2) J Int'l Arb 129.
- 619 Rules of Procedure for Arbitration Proceedings, ICSID Convention, Regulations and Rules (10 April 2006) at <https://icsid.worldbank.org/ICSID/StaticFiles/basicdoc/partF.htm>.
- 620 UNCITRAL Rules on Transparency in Treaty-based Investor State, Arts 3–6.
- 621 Douglas Thomson, 'UNCITRAL adopts transparency rules for investor-state cases' (16 July 2013) Global Arbitration Review at <http://globalarbitrationreview.com/news/article/31747/uncitral-adopts-transparency-rules-investor-state-cases>.
- 622 On the benefits of a system of precedent in international arbitration, see, for example, Tai-Heng Cheng, 'Precedent and Control in Investment Treaty Arbitration' (2006) 30(4) Fordam Int'l L J 1014; W Mark C Weidemaier, 'Toward a Theory of Precedent in Arbitration' (2009) 51 Wm Mary L Rev 1895.
- 623 See n 335 above, Riches and Bruce, 1.
- 624 See, generally, n 335, Hey (2000); *ibid*; see also n 327; Stephens, 58–59 and Vespa, 304. See also n 146, Birnie, Boyle and Redgwell, 255–257 ('In practice there seems no good reason why the present approach of locating environment-related cases within the existing system of international courts and tribunals should not continue to work, provided the system is used intelligently and appropriately.').
- 625 See n 335, Riches and Bruce, 3.
- 626 *Ibid*, 4.
- 627 *Ibid*, 3.
- 628 See n 335, Carroll.
- 629 *Ibid*.
- 630 See n 335, , Hoffman.
- 631 A/HRC/4/35, para 18, cited in A/HRC/25/53 at para 58.
- 632 See n 190 at para 61.
- 633 *Ibid*.
- 634 See n 92, 7A (2).
- 635 See n 204.
- 636 See OHCHR, *A Guide for Business: How to Develop a Human Rights Policy* (United Nations Global Compact Office and Office of the United Nations High Commissioner for Human Rights, 2011) at www.ohchr.org/Documents/Publications/DevelopHumanRightsPolicy_en.pdf.
- 637 *Ibid*, 24–25.
- 638 See, for example, Hitachi, *Respect for Human Rights* (2013) at www.hitachi.com/csr/society/respect ('In May 2013, we adopted the Hitachi Group Human Rights Policy to supplement the Hitachi Group Codes of Conduct. In this policy, we clarify our understanding of human rights to be, at a minimum, those outlined in the International Bill of Human Rights and the International Labour Organization's Declaration on Fundamental Principles and Rights at Work.').
- 639 See n 636, OHCHR, 24.

- 640 Special Representative of the Secretary-General on the issue of human rights and transnational corporations and other business enterprises, Protect, Respect, and Remedy: A Framework for Business and Human Rights, Human Rights Council, UN Doc A/HRC/8/5 (7 April 2008), 17 (by John Ruggie). For an example of a model due diligence policy, see, for example, Int'l Council on Mining & Metals, *Integrating Human Rights Due Diligence into Corporate Risk Management Processes* (March 2012) at www.icmm.com/document/3308.
- 641 See Dodd Ctr at U Conn, Roundtable Report: Implementing the UN Guiding Principles on Business and Human Rights, 20, at www.wilmerhale.com/uploadedFiles/WilmerHale_Shared_Content/Files/PDFs/Roundtable%20Report%20FINAL_to%20print.pdf ('The discussion during the Roundtable showed that, despite this general advice, many companies are still grappling with the issue of how best to track their responses to the actual and potential human rights impacts they identify through their due diligence processes.').
- 642 See n 640, Ruggie, 18; n 636, OHCHR, 24.
- 643 *Ibid*, Ruggie, 24–25. For an example, see Telenor Group, *Human Rights* at www.telenor.com/sustainability/human-rights ('We also believe that dialogue between governments, the industry, NGOs and others has great value when facing human rights challenges.').
- 644 Herbert Hirner, 'Greenhouse Gas Emissions—ISO 14067 to Enable Worldwide Comparability of Carbon Footprint Data' ISO (11 May 2012) at www.iso.org/iso/home/news_index/news_archive/news.htm?Refid=Ref1643.
- 645 *Ibid*.
- 646 National Greenhouse and Energy Reporting (NGER) Act 2007 (Cth) (Austl).
- 647 Canadian Environmental Protection Act of 1999, SC 1999, c 33 (Can). For example, see Canada's Renewable Fuels Regulations (SOR/2010-189), which aim to reduce GHG emissions by mandating an average five per cent renewable fuel content based on the gasoline volume. The Regulations are estimated to result in an incremental reduction of GHG emissions of about 1 MT CO₂e per year and create a demand for renewable fuels in Canada. See also the Reduction of Carbon Dioxide Emissions from Coal-Fired Generation of Electricity Regulations (SOR/2012-167), which set a stringent performance standard for new coal-fired electricity generation units and those that have reached the end of their useful life.
- 648 See Céline Kauffmann et al, 'Corporate Greenhouse Gas Emission Reporting: A Stocktaking of Government Schemes' (2012) OECD Working Papers on International Investment No 2012/1, at www.oecd.org/daf/investment/workingpapers.
- 649 European Commission, Proposal for a Directive amending Council Directives 78/660/EEC and 83/349/EEC as regards disclosure of non-financial and diversity information by certain large companies and groups, COM (2013); www.cdsb.net/news/337/european-parliament-votes-favor-non-financial-reporting-annual-reports; http://europa.eu/rapid/press-release_IP-13-330_en.htm.
- 650 Quoted companies refers to all UK incorporated companies listed on the main market of the London Stock Exchange, a European Economic Area market or whose shares are dealing on the New York Stock Exchange or NASDAQ. See Companies Act (2006), c 46, s 385 (UK).
- 651 See www.legislation.gov.uk/ukxi/2013/1970/pdfs/ukxi_20131970_en.pdf.
- 652 Swedish Ministry of Enterprise, Energy and Communications, Guidelines for External Reporting by State-owned Enterprises (11 December 2011) 3.
- 653 Organisation for Economic Co-operation and Development, OECD Guidelines for Multinational Enterprises (2011) 29.
- 654 See www.eurochambres.be/objects/3/Files/EUROCHAMBRES_Position_Paper_Disclosure_Non-Financial_Diversity_Information.pdf.
- 655 Companies Act (2006), c 46, s 414D (UK).
- 656 SEC, *Commission Guidance Regarding Disclosure Related to Climate Change*, 17 CFR Parts 211, 231 and 241 (8 February 2010).
- 657 See n 92, at 8.5.

- 658 See Food and Agriculture Organization of the UN, *Monitoring and Assessment of Greenhouse Gas Emissions and Mitigation Potential in Agriculture* (2013) at www.fao.org/climatechange/micca/ghg/en.
- 659 See FAO of the UN, *Statistics at FAO*, at www.fao.org/statistics/en/ ('FAO has a decentralized statistical system and statistical activities cover the areas of agriculture, forestry and fisheries, land and water resources and use, climate, environment, population, gender, nutrition, poverty, rural development, education and health as well as many others.').
- 660 See Committee on Methods for Estimating Greenhouse Gas Emissions, National Research Council, *Verifying Greenhouse Gas Emissions* (The National Academies Press, 2010) 22 ('The IPCC methodologies are intended to yield national GHG inventories that are transparent, complete, accurate, consistent over time, and comparable across countries.').
- 661 Oxfam, *Standing on the Sidelines* (20 May 2014) at www.oxfam.org/en/grow/research/standing-sidelines ('If together they were a single country, these 10 famous companies would be the 25th most [GHG] polluting country in the world').
- 662 See World Bank, *GHG net emissions/removals* at <http://data.worldbank.org/indicator/EN.CLC.GHGR.MT.CE>.
- 663 See n 640 above, Ruggie, para 3 ('The root cause of the business and human rights predicament today lies in the governance gaps created by globalization – between the scope and impact of economic forces and actors, and the capacity of societies to manage their adverse consequences.').
- 664 *Ibid*, paras 4, 9.
- 665 *Ibid*, para 23.
- 666 See Carbon Majors, *New Study Traces Two-Thirds of Industrial Emissions to Just 90 Institutions* (21 November 2013) at <http://carbonmajors.org/carbon-majors-press-release> ('Investor owned entities comprised 315 gigatonnes of carbon dioxide equivalent, while government-run industries, contributed 312 gigatonnes. State-owned companies produced 288 gigatonnes.').
- 667 See n 640, Ruggie, para 9 (discussing 'the diverse array of policy domains through which States may fulfill this duty [to protect human rights] with respect to business activities, including how to foster a corporate culture respectful of human rights at home and abroad').
- 668 See Transparency Int'l, *Global Corruption Report: Climate Change* (2011) 50, http://issuu.com/transparencyinternational/docs/global_corruption_report_climate_change_english?e=2496456/2568825.
- 669 US Foreign Corrupt Practices Act, 15 USC ss 78dd-1, et seq.
- 670 15 USCA s 78m.
- 671 See, for example, Jonathan Remy Nash, 'The Curious Legal Landscape of the Extraterritoriality of U.S. Environmental Laws' (2010) 50 Va J Int'l L 997, 998 ('Moreover, international environmental law is clear in at least one respect: sovereign states must not allow polluting activities that have adverse effects in other sovereign states.').
- 672 See generally Surya Deva, 'Acting Extraterritorially to Tame Multinational Corporations for Human Rights Violations: Who Should "Bell the Cat"?' (2004) 5 Melbourne J Int'l L 37.
- 673 Corporate Code of Conduct Act, HR 4596, 106th Cong, s 3(c)(5) (2000) (US); Corporate Code of Conduct Bill 2000 (Cth) s 4 (Aust).
- 674 Corporate Code of Conduct Act, HR 4596, 106th Cong, (2000) (US).
- 675 Corporate Code of Conduct Bill 2000 (Cth) s 7 (1) (Aust).
- 676 See n 672, 56–57.
- 677 See, for example, UNEP Finance Initiative, *PRI Annual Report 2013* (August 2013) 35 at www.unpri.org/publications; UNEP Finance Initiative, *PSI Principles for Sustainable Insurance* (June 2013) at www.unepfi.org/psi/category/publications/core_psi-documents.
- 678 See The Thun Group of Banks, UN Guiding Principles on Business and Human Rights (The Thun Group of Banks, Discussion Paper for Banks on Implications of Principles 16–21 October 2013).
- 679 The Equator Principles Association, *The Equator Principles III* (June 2013) 8, www.equator-principles.com.
- 680 Council Regulation 1233/2011/EC 2011 OJ (L 326) 45.
- 681 *Ibid* (emphasis added).

- 682 Public and Professional Interest Division's Training Course Programme, IBA at www.ibanet.org/Education_and_Internships/PPID_Training_Course_Programme.aspx.
- 683 Online CLE Programmes, IBA at http://westlegaledcenter.com/search/displaySearchResults.jsf?sc_cid=null.
- 684 LL.M in International Legal Practice, IBA at www.ibanet.org/Education_and_Internships/LLM/LLM_Home.aspx.
- 685 International Bar Association's Human Rights Institute, IBA at www.ibanet.org/IBAHRI.aspx.
- 686 Capacity building/technical assistance, IBA at www.ibanet.org/Human_Rights_Institute/About_the_HRI/HRI_Activities/Capacity_building.aspx; Training, IBA, Capacity building/technical assistance, IBA at www.ibanet.org/Human_Rights_Institute/About_the_HRI/HRI_Activities/Capacity_building.aspx.
- 687 UN OHCHR, *Universal Periodic Review* at www.ohchr.org/en/hrbodies/upr/pages/uprmain.aspx.
- 688 UN Human Rights Council, 5/1, Institution-building of the United Nations Human Rights Council, Annex cl 4(c) (18 June 2007) at www.ohchr.org/en/hrbodies/upr/pages/BackgroundDocuments.aspx. For example, the island nation of Tuvalu sought technical assistance in setting up its own human rights institution and in harmonising its national legislation with international human rights instruments. Jamaica's national report noted that it required technical assistance with respect to human rights-related training and education, as well as the collection of disaggregated data. See UNGA Nat'l Report Submitted in Accordance with Paragraph 5 of the Annex to Human Rights Council Resolution 16/21, Tuvalu, para 92, UN Doc A/HRC/WG.6/16/TUV/1 (25 January 2013); UNGA Nat'l Report Submitted in Accordance with Paragraph 15 (a) of the Annex to Human Rights Council Resolution 5/1, Jamaica, para 103, UN Doc A/HRC/WG.6/9/JAM/1 (20 August 2010).
- 689 UNGA Nat'l Report Submitted in Accordance with Paragraph 15 (a) of the Annex to Human Rights Council Resolution 5/1, Marshall Islands, para 52, UN Doc A/HRC/WG.6/9/MHL/1/Rev 1 (9 November 2010).
- 690 UN OHCHR, *Universal Periodic Review: Information and Guidelines for Relevant Stakeholders' Written Submissions* para 4 (3 October 2013) at www.ohchr.org/Documents/HRBodies/UPR/TechnicalGuideEN.pdf.
- 691 Center for International Environmental Law and Friedrich-Ebert-Stiftung, *Human Rights and Climate Change: Practical Steps for Implementation* (CIEL and Friedrich-Ebert-Stiftung, 25 February 2009) 22.
- 692 See n 687.
- 693 See n 190, 8.
- 694 *Claude Reyes and Others v Chile*, Case 12.108, IACHR, Judgment (19 September 2006), para 86.
- 695 International Law Commission, 'Commentary to Article 13 of the International Law Commission, Draft Articles on Prevention of Transboundary Harm from Hazardous Activities' (2001) YBk Int Law Com Vol II, part 2, 165.
- 696 n 149 above, UN Rio Declaration on Environment and Development. Principle 10 provides: 'Environmental issues are best handled with the participation of all concerned citizens, at the relevant level. At the national level, each individual shall have appropriate access to information concerning the environment that is held by public authorities, including information on hazardous materials and activities in their communities, and the opportunity to participate in decision-making processes. States shall facilitate and encourage public awareness and participation by making information widely available. Effective access to judicial and administrative proceedings, including redress and remedy, shall be provided.'
- 697 See n 574, Espoo Convention.
- 698 See n 489, Art 13 provides that: 'States concerned shall, by such means as are appropriate, provide the public likely to be affected by an activity within the scope of the present articles with relevant information relating to that activity, the risk involved and the harm which might result and ascertain their views.'
- 699 See n 694; *Sdružení Jihočeské Matky v Czech Republic* (decision on admissibility), App No 19101/03, 10 July 2006, Eur Ct HR (2006). See also Human Rights Committee, *General Comment No 34 – Article 19: Freedoms of opinion and expression*, 12 September 2011, CCPR/C/GC/34 at para 18.
- 700 *Öneryildiz v Turkey*, see n 474, paras 62, 89.

- 701 *Giacomelli v Italy*, App No 59909/00, 2006-XII Eur Ct HR para 83; *Taskin and Others v Turkey*, App No 46117/99 Eur Ct HR 179, para 119; *Guerra and Others v Italy*, judgment of 19 February 1998, Reports 1998-I Eur Ct HR, at 228, para 60.
- 702 *Sara People v Suriname*, Inter-American Court of Human Rights, Judgment (28 November 2007, para 129; *Minority Rights Group (on behalf of Endorois Welfare Council)*, African Commission on Human and Peoples' Rights (2009), 289.
- 703 *Ibid*, *Minority Rights Group*, para 289.
- 704 Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters, 25 June 1998, 2161 UNTS 447 ('Aarhus Convention').
- 705 *Ibid*, Art 17 states that the Convention is open for signature by 'regional economic integration organizations' constituted by European sovereign state to the state of elements of the environment, such as air, water, soil and land, for example; any factor affecting or liable to affect the elements of the environment, and human health and safety in so far as they may be affected by elements of the environment.
- 706 'Environmental information' is broadly defined in Art 2(3) of the Convention, and relates to information pertaining to the state of elements of the environment, such as air, water, soil and land, for example; any factor affecting or liable to affect the elements of the environment, and human health and safety in so far as they may be affected by elements of the environment.
- 707 Annex I of the Aarhus Convention sets out a list of activities to which the right to participation enshrined in Art 6 applies.
- 708 See n 704, Aarhus Convention, Arts 7 and 8.
- 709 *Ibid*, Art 3.7.
- 710 E Dannenmaier, 'A European Commitment to Environmental Citizenship: Article 3.7 of the Aarhus Convention and Public Participation in International Forums' (2007) 18 Oxford Yearbook of International Environmental Law 32, 49.
- 711 See n 704, Art 16 (establishing an inter-state dispute settlement procedure which provides for submission of disputes which cannot be resolved through negotiation to the ICJ or a stipulated arbitration procedure).
- 712 See n 704, Art 15.
- 713 Decision I/7 of the First Meeting of the Parties, *Review of Compliance* (21–23 October 2002) ECE/MP.PP/2/Add.8.
- 714 See list of Communications from the Public published by the UNECE at www.unece.org/env/pp/pubcom.html.
For a summary of cases considered by the ACCC until 2011, see A Andruskevych, T Alge, C Konrad (eds), *Case Law of the Aarhus Convention Compliance Committee: 2004–2011* (2nd edn, RACSE, 2011) at www.unece.org/fileadmin/DAM/env/pp/Media/Publications/ACCC_Jurisprudence_Ecoforum_2011.pdf.
- 715 S Kravchenko, 'The Aarhus Convention and Innovations in Compliance with Multilateral Environmental Agreements' (2007) 18 Colorado Journal of International Environmental Law and Policy 5, 1.
- 716 Communication ACCC/C/2008/32 in Report of Thirty-second meeting of the Compliance Committee of the Aarhus Convention (11–14 April 2011) ECE/MP.PP/C.1/2011/4 at www.unece.org/fileadmin/DAM/env/pp/compliance/CC-32/ece.mp.pp.c.1.2011.4.add.1_as_submitted.pdf.
- 717 ClientEarth, an NGO, supported by a number of other individuals and NGOs, submitted a communication to the Commission alleging that this requirement violated the right to access justice protected by Art 9(2-5) of the Convention.
- 718 See n 716, para 87.
- 719 Prior to the adoption of the Treaty of Lisbon in 2009, Art 230, para 4, TEC required that private individuals demonstrate 'direct and individual concern' in order to petition the CJEU. As amended by the Treaty of Lisbon, private individuals must demonstrate that the regulatory act they wish to challenge is of 'direct concern' to them (Art 263, para 4, Treaty on Functioning of the European Union). The ACCC declined to make a finding on the compliance of the post-Lisbon regime with the Convention, as the CJEU had not, at the time of the ACCC decision, interpreted the amended rules on individual standing under the post-Treaty of Lisbon regime. *Ibid*, paras 86–87.

720 See n 716, para 97.

721 Aarhus Convention, n701 above, Art 19(3) provides that: ‘Any other State, not referred to in paragraph 2 above, that is a Member of the United Nations may accede to the Convention upon approval by the Meeting of the Parties.’

722 Kofi Annan, ‘Foreword’ in *The Aarhus Convention – An Implementation Guide* (United Nations, ECE/CEP/72, 2000) v.

723 On 17 April 2013, ECLAC approved an action plan for 2014 toward the conclusion of a regional instrument implementing Principle 10 of the UN Rio Declaration on Environment and Development; see ECLAC Press Release, *Region’s Countries Approve 2014 Action Plan to Strengthen Rights of Access in Environmental Matters*, (18 April 2013) at www.eclac.cl/cgi-bin/getProd.asp?xml=/prensa/noticias/comunicados/0/49670/P49670.xml&xsl=/prensa/tpl-i/p6f.xsl&base=/prensa/tpl-i/top-bottom.xsl.

724 UNEP, Guidelines for the Development of National Legislation on Access to Information, Public Participation and Access to Justice in Environmental Matters, adopted by the Governing Council of the United Nations Environment Programme in decision SS.XI/5, part A, 26 February 2010.

725 See n 166 above, UNCLOS, Art 206 provides: ‘When States have reasonable grounds for believing that planned activities under their jurisdiction or control may cause substantial pollution of or significant and harmful changes to the marine environment, they shall, as far as practicable, assess the potential effects of such activities on the marine environment and shall communicate reports of the results of such assessments in the manner provided in article 205.’ See also *Ireland v United Kingdom* (the ‘MOX Plant Case’), Order, ITLOS Case No 10 (3 December 2001), which ordered the parties to exchange information concerning consequences.

726 *Pulp Mills on the River Uruguay (Argentina v Uruguay) Judgment*, ICJ Reports 2010, 14 at 83, para 204.

727 UNECE, *Protocol on SEA* (3 July 2013) at www.unece.org/env/eia/sea_protocol.html.

728 Directive 2001/42/EC of the European Parliament and of the Council of 27 June 2001 on the assessment of the effects of certain plans and programmes on the environment OJ L 197/30 (21 July 2001).

729 ILA, Resolution 2/2014 Declaration of Legal Principles Relating to Climate Change, Washington DC, 7–11 April 2014, para 5.

730 L Tamiotti et al, *Trade and Climate Change, A report by the United Nations Environment Programme and the World Trade Organisation* (WTO, 2009) 88.

731 *Ibid*, 35.

732 Meeting of Ministers, *Decision on Trade and the Environment* (15 April 1994): www.wto.org/english/docs_e/legal_e/56-dtenv.pdf.

733 See generally Tracey Epps and Andrew Green, *Reconciling Trade and Climate: How the WTO Can Help Address Climate Change* (Edward Elgar, 2011) 255. The authors recommend assigning such a notification procedure to a specially constituted Climate Change Committee, modelled on the SPS and TBT Committees, and composed of members and supported with experts in climate change. The presence of climate change experts would ensure accuracy and efficiency and would enhance legitimacy.

734 WTO Secretariat, Existing Forms of Cooperation and Information Exchange Between UNEP/MEAS and the WTO (16 January 2007), TN/TE/S/2/Rev/2/ at 10.

735 Appellate Body Report, *US-Standards for Reformulated and Conventional Gasoline*, WT/DS2/AB/R, adopted 20 May 1996.

736 Vienna Convention on the Law of Treaties, Art 31(3)(c).

737 Panel Report, *EC – Measures Affecting the Approval and Marketing of Biotech Products*, DS291/P/R, DS292/P/R, DS293/P/R, circulated 16 September 2006, at 336, para 7.75. The panel held the Convention and the Protocol are not applicable because some parties to the dispute are not parties to these Agreements. The panel, however, did not take a stand on whether a multilateral WTO agreement should be interpreted in the light of other international agreements to which all parties to the dispute are parties but not all WTO Members are.

738 Appellate Body Report, *Japan – Measures Affecting the Importation of Apples*, WT/DS245/AB/R, adopted 10 December 2003, para 233 (noting that the Appellate Body has acknowledged the relevance of the precautionary principle in the context of the SPS Agreement in *EC – Hormones*).

- 739 WTO Ministerial, *Declaration on the TRIPS agreement and public health* WT/MIN(01)/DEC/2 (14 November 2001) at www.wto.org/english/thewto_e/minist_e/min01_e/mindecl_trips_e.htm.
- 740 Shinya Murase, 'Büdingen Conference – Trade and the Environment: With Particular Reference to Climate Change Issues' (2005) 2 Manchester J Int'l Econ L 18, 25.
- 741 Andrew Green, 'Trade Rules and Climate Change Subsidies' (2006) 5(3) World Trade Review 377, 401.
- 742 See Appellate Body Report, *Canada – Measures Relating to the Feed-in Tariff Program*, WT/DS426/AB/R, adopted 24 May 2013.
- 743 Robert Howse, *Climate Mitigation Subsidies and the WTO Legal Framework: A Policy Analysis* (International Institute for Sustainable Development, May 2010) 21.
- 744 See European Commission, *Communication: Guidelines on State Aid for Environmental Protection 2014–2020* (9 April 2014).
- 745 Thomas Cottier and Donah Baracol-Pinhao, 'Environmental goods and services: the Environmental Area Initiative approach and climate change' in Cottier, et al (eds), *International Trade Regulation and the Mitigation of Climate Change* (Oxford University Press, 2009) 397.
- 746 The TPP is being negotiated between Australia, Brunei Darussalam, Canada, Chile, Japan, Malaysia, Mexico, New Zealand, Peru, Singapore, the US and Vietnam; 9 February 1998, Reports 1998-I Eur Ct HR, 228, para 60. *Minority Rights Group*, n 702 above, para 289.
- 747 Jane Kelsey, *TPPA Environment Chapter & Chair's Commentary Posted by Wikileaks – Issues for NZ* (16 January 2014) at <http://wikileaks.org/tppa-environment-chapter.html>.
- 748 Japan-Switzerland Economic Partnership Agreement (19 February 2009).
- 749 Free Trade Agreement between the European Union and its Member States, of the one part, and the Republic of Korea, of the other part (6 October 2010).
- 750 Canada-Colombia Free Trade Agreement (DATE), Chapter Seventeen – Environment (2011).
- 751 US Department of State, *Model Bilateral Investment Treaty, Fact Sheet* at www.state.gov/r/pa/prs/ps/2012/04/188199.htm.
- 752 US Model BIT (2012), Art 12(2).
- 753 See Agreement between Canada and Czech Republic for the Promotion and Protection of Investments, (6 May 2009).
- 754 Canadian Model Foreign Investment Protection and Promotion Agreement (2004), Art 10(1) and Art 11.
- 755 K Gordon and J Pohl, 'Environmental Concerns in International Investment Agreements: a Survey' (2011) OECD Working Papers on International Investment No 2011/1, 9.
- 756 See n 749, Korea-EU FTA, Art 13.6; Agreement on Trade, Development and Cooperation between the European Community and its Member States, of the one part, and the Republic of South Africa, of the other part (2004), Art 84.
- 757 Peru-US Trade Promotion Agreement, Art 18.2.
- 758 T Werge, 'Environmental Standards under the Peru FTA: A Template for the WTO?' (2010) 23 Georgetown Int'l Envtl Law Review 71, 82.
- 759 Consider Korea-EU FTA, Art 137 (see n 749).
- 760 The UNEP has noted that even if countries fully implemented their Copenhagen commitments, which they currently have yet to do, the world would only be about halfway towards the emission reductions necessary to ensure global temperatures do not warm more than 2°C. See UNEP, *Bridging the Emissions Gap: A UNEP Synthesis Report* (UNEP, 2013) xii.
- 761 At the Cancun Climate Change Conference in 2010, the Parties to the UNFCCC agreed to commit to a maximum temperature rise of 2°C above pre-industrial levels, and to consider lowering that maximum to 1.5°C in the near future. See n 454, UNFCCC (2010), para 4.
- 762 UNFCCC, *Report of the Conference of the Parties*, (15 March 2012), UN Doc FCCC/CP/2011/9/Add.1, Decision 1/CP.17 para 2.
- 763 L Rajamani, 'The Warsaw Climate Negotiations: Emerging Understandings and Battle Lines on the Road to the 2015 Climate Agreement' (2014) 63(3) ICLQ 721–740. See also L Rajamani, 'The Durban Platform for Enhanced Action and the Future of the Climate Regime' (2012) 61(2) ICLQ 501–518.
- 764 See n 71, Kyoto Protocol.
- 765 Raj Bavishi, 'The Doha Outcomes Part 1 – The Doha Amendment to the Kyoto Protocol' (15 April 2013) Legal Response Initiative 2.

- 766 As of 21 April 2014, only Bangladesh, Barbados, Honduras, Kenya, Mauritius, Micronesia, Monaco, Sudan and the United Arab Emirates has accepted the Doha amendment. See http://unfccc.int/kyoto_protocol/doha_amendment/items/7362.php.
- 767 See UNFCCC, *Compilation of Economy-wide Emission Reduction Targets to be Implemented by Parties Included in Annex I to the Convention*, 7 June 2011, UN Doc FCCC/SB/2011/INF.1/Rev 1.
- 768 See UNFCCC, *Compilation of Information on Nationally Appropriate Mitigation Actions to be Implemented by Parties not Included in Annex I to the Convention*, 18 March 2011, UN Doc FCCC/AWGLCA/2011/INF.1 The NAMA registry was set up for developing countries seeking international support and to facilitate the matching of finance, technology and capacity-building assistance. However, the NAMA registry was not designed to perform functions of measurement, reporting and verification of mitigation actions and support.
- 769 The papers are based on submissions from the parties and their contributions to workshops and events, and contain updated information of current pledges by Annex 1 countries. See UNFCCC, *Quantified Economy-wide Emission Reduction Targets by Developed Country Parties to the Convention: Assumptions, Conditions, Commonalities and Differences in Approaches and Comparison of the Level of Emission Reduction Efforts*, 18 October 2013, UN Doc FCCC/TP/2013/7, 9–18 (Tables 1 and 2).
- 770 See Australia's Submission on the Work Programme on Clarification of Targets for Developed Country Parties (May 2013) at www.climatechange.gov.au/sites/climatechange/files/files/international/unfccc/submission/Submission-on-the-work-programme-on-clarification-of-targets-for-developed-country-Parties.pdf.
- 771 See n 363, McAdam (2011).
- 772 UNFCCC, *Report of the Conference of the Parties on its Seventh Session, Addendum. Part two: Action Taken by the Conference of the Parties*, Marrakesh, 29 October–10 November 2001, FCCC/CP/2001/13/Add.4, Volume IV, Decision 28/CP.7, 7.
- 773 *Ibid.* FCCC/CP/2001/13/Add.1, Volume I, Decision 5/CP.7, 35.
- 774 Jon Sward and Samuel Codjoe, *Human Mobility and Climate Change Adaptation Policy: A Review of Migration in National Adaptation Programmes of Action* (Working Paper) (6 March 2012) 31–32.
- 775 See n 39, UNFCCC, para 8.
- 776 UN-REDD Programme, *About REDD+*, at www.un-redd.org/aboutredd/tabid/102614/default.aspx.
- 777 See n 17, Center For Int'l Environmental Law (2011) 2, 11.
- 778 See, for example, Jessica Boyle and Deborah Murphy, *Designing Effective REDD+ Safeguard Information Systems: Building on Existing Systems and Country Experiences* (IISD, 22 October 2012): www.iisd.org/publications/designing-effective-redd-safeguard-information-systems-building-existing-systems-and-1.
- 779 See, for example, UN-REDD Programme, *Policy Brief: Putting REDD+ Safeguards and Safeguard Information Systems Into Practice*, at www.unredd.net/index.php?option=com_docman&task=doc_download&Itemid=53.
- 780 See, for example, World Resources Institute, *Safeguarding Forests and People: A Framework for Designing a National System to Implement REDD+ Safeguards* (WRI, November 2012) at www.wri.org/publication/safeguarding-forests-and-people.
- 781 UN Framework Convention on Climate Change, Action taken by the COP at its nineteenth session, Decision 9, (31 January 2014), UN Doc FCCC/CP/2013/10/Add. 1, 24–27.
- 782 Alyssa Johl and Sebastien Duyck, 'Promoting Human Rights in the Future Climate Regime' (October 2012) 15(3) *Ethics, Policy and Environment* 2–3.
- 783 UNFCCC, *Annual report of the Executive Board of the clean development mechanism to the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol (Part I)* 17 November 2011, UN Doc FCCC/KP/CMP/2011/3, 8.
- 784 See n 782, Johl and Duyck, 2–4; see also n 17, Center For Int'l Environmental Law (2011), 10
- 785 See Doelle et al, 'Conclusion: Promoting Compliance in an Evolving Climate Regime' in Lavanya Rajamani, Jutta Brunnée and Meinhard Doelle, *Promoting Compliance in an Evolving Climate Regime* (Cambridge University Press, 2012) 455–456; Ruth Mackenzie, 'The Role of Dispute Settlement in the Climate Regime' in Lavanya Rajamani, Jutta Brunnée and Meinhard Doelle, *Promoting Compliance in an Evolving Climate Regime* (Cambridge University Press, 2012) 405.
- 786 *Ibid.*, Mackenzie, 406.

- 787 UNFCCC, *Annual report of the Executive Board of the clean development mechanism to the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol*, 3 November 2010, UN Doc FCCC/KP/CMP/2010/10, 36-48. For all drafts, see UNFCCC, *Subsidiary Body for Implementation, Report of the Subsidiary Body for Implementation, Addendum, Draft text under consideration by the Subsidiary Body for Implementation*, 7 March 2013, UN Doc FCCC/SBI/2012/33/Add.1, 4-10.
- 788 See Project Developer Forum, *Appeals Under the CDM: Submissions by Project Developer Forum to Parties Attending SBI/CMP, 1*, at www.pd-forum.net/files/5efaddb08ab7fb816dba08af224b01ac.pdf (noting that NGOs and some Annex 1 parties support a broad based process whereby any decision by the EB could be appealed by any interested stakeholder).
- 789 On appeals' filing fees generally, see n 783, UNFCCC, 45-46.
- 790 See UNFCCC/CCNUCC, *CDM-Executive Board, Draft procedure for appeals against adverse rulings by the CDM Executive board regarding requests for registration or issuance, EB 56, Proposed Agenda – Annotations, Annex 7*, 1-2.
- 791 See UNFCCC, *Subsidiary Body for Implementation, Report of the Subsidiary Body for Implementation, Addendum, Draft text under consideration by the Subsidiary Body for Implementation*, 7 March 2013, UN Doc FCCC/SBI/2012/33/Add.1, 9-10 ('Any Party, project participant [or Designated Operational Entity] directly involved in [or stakeholder or organization referred to in decision 3/CMP.1, annex, paragraph 40(c), which has submitted comments with regard to] a CDM project activity or a proposed CDM project activity with respect to which the Executive Board has [registered or] made a rejection or alteration decision relating to the registration of such a project activity or the issuance of CERs ("petitioners") may file, individually or jointly, a petition for appeal against such a decision.').
- 792 J. Hansen, P. Kharecha, et al, 'Assessing "Dangerous Climate Change": Required Reduction of Carbon Emissions to Protect Young People, Future Generations and Nature' (2013) 8(12) Plos One, www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0081648.
- 793 See n 3, IPCC (2013), 27.
- 794 See n 792, Hansen et al, 20.
- 795 See n 3, IPCC (2013), 27. A website of Oxford University counts the estimated cumulative emissions from fossil fuel use, cement production, and land-use change since industrialization began, at www.trillionthtonne.org.
- 796 See n 6, IPCC (2014) *Summary for Policymakers*, 6-7.
- 797 *Ibid.*, 8.
- 798 *Ibid.*; see also Andrew Freedman, *Study Rebuts IPCC, Calls For More Severe Emissions Cuts* (3 December 2013), at www.climatecentral.org/news/study-proposes-far-more-stringent-carbon-emissions-cuts-16794.
- 799 Lorne Stockman, *IEA acknowledges fossil fuel reserves climate crunch* (12 November 2012) at <http://tinyurl.com/brcd4aw>; International Energy Agency, *North America leads shift in global energy balance, IEA says is latest World Energy Outlook* (12 November 2012): www.iea.org/newsroomandevents/pressreleases/2012/november/name,33015,en.html.
- 800 See, for example, Carbon Tracker, *Unburnable Carbon 2013: Wasted Capital and Stranded Assets* (the Grantham Research Institute on Climate Change & the Environment at the London School of Economics, 2013) 4, at <http://carbontracker.live.kiln.it/Unburnable-Carbon-2-Web-Version.pdf> ('[Investors] need to understand that 60-80 per cent of coal, oil and gas reserves of listed firms are unburnable.').
- 801 See n 39, UNFCCC, 17.
- 802 Virginia Benninghoff, 'Prioritizing Fossil-Fuel Subsidy Reform in the UNFCCC Process: Recommendations for short-term actions' (August 2013) International Institute for Sustainable Development: www.iisd.org/gsi/sites/default/files/pb16_prioritizing.pdf.
- 803 See n 71, Kyoto Protocol, Art 2.1(a)(v) ('Each Party included in Annex 1, 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: ... (v) Progressive reduction or phasing out of market imperfections, fiscal incentives, tax and duty exemptions and subsidies in all GHG emitting sectors that run counter to the objective of the Convention and application of market instruments'); G20 Leaders Statement: The Pittsburgh Summit (25 September 2009), at www.g20.utoronto.ca/2009/2009communique0925.html#energy; APEC, 2010 Leaders' Declaration (14 November 2010), www.apec.org/Meeting-Papers/Leaders-Declarations/2010/2010_aelm.aspx.

- 804 UN Secretary General's High Level Panel on Global Sustainability, *Resilient People Resilient Planet: A Future Worth Choosing* (2012) recommendation 27f, 18.
- 805 See Kelsi Bracmort and Richard K. Lattanzio, 'Geoengineering: Governance and Technology Policy' (26 November 2013) Congressional Research Service Report.
- 806 *Ibid*, 3–4.
- 807 IMO, 'New International Rules to allow storage of CO₂ Under the Seabed' (9 February 2007) IMO Briefing.
- 808 See n 802, Bracmort and Lattanzio, 12.
- 809 IMO, 'Scientific Groups Cautious Over Iron Fertilization of the Oceans to Sequester Co₂' (22 June 2007) IMO Briefing.
- 810 The Earth Institute, 'Oceans' Uptake of Manmade Carbon May Be Slowing' (18 November 2009) Columbia University Earth Institute at www.earth.columbia.edu/articles/view/2586.
- 811 IMO, 'Marine Geoengineering Including Ocean Fertilization to be Regulated Under Amendments to International Treaty' (18 October 2013) IMO Briefing.
- 812 See n 807, IMO (2007).
- 813 IMO, 'Ocean Fertilization Operations Should be Allowed Only for Research, Say Parties to International Treaties' (31 October 2008) IMO Briefing.
- 814 IMO, 'Assessment Framework For Scientific Research Involving Ocean Fertilization Agreed' (20 October 2010) IMO Briefing.
- 815 See n 811, IMO (2013).
- 816 *Ibid*.
- 817 See Convention on the Prevention of Marine Pollution by Dumping of Waste and Other Matter and its Protocol, 30 August 1975, 26 UST 2403, 1046 UNTS 120, 11 ILM 1294 (1972).
- 818 Vishal Garg, 'Engineering as a Solution to Climate Change: Suggestions for an International Treaty Regime Governing Geoengineering' (2014) *Univ Ill J L & Tech* 197, 201.
- 819 *Ibid*, 200.
- 820 William C G Burns, 'Geoengineering of the Climate: An Overview of Solar Radiation Management Options' (2012) 46 *Tulsa L Rev* 283, 290 (internal citations omitted).
- 821 Michael C MacCracken, 'Beyond Mitigation: Potential Options for Counterbalancing the Climactic and Environmental Consequences of the Rising Concentrations of Greenhouse Gases' (2009) World Bank Policy Research Working Paper 27.
- 822 See n 818, Garg (2014) (internal citations omitted).
- 823 See n 821, MacCracken (2009), 26.
- 824 *Ibid*, 26.
- 825 See, for example, Ralph Bodle, 'Geoengineering and International Law: the Search for a Common Legal Ground' (2010) 46 *Tulsa L Rev* 305, 312; n 818, MacCracken (2014), 33.
- 826 *Ibid*, Bodle, 312.
- 827 Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques, 10 December 1976, A/RES/31/72, 5 October 1978, Art II.
- 828 *Ibid*, Art III(2).
- 829 *Ibid*, Art V, Annex.
- 830 Solar Radiation Management Governance Initiative at www.srmgi.org/.
- 831 *Ibid*.
- 832 See, for example, Clive Schofield and David Freestone, 'Options to Protect Coastlines and Secure Maritime Jurisdictional Claims in the Face of Global Sea Level Rise' in Michael B Gerrard and Gregory E Wannier (eds), *Threatened Island Nations: Legal Implications of Rising Seas and a Changing Climate* (Cambridge University Press, 2013); Rosemary Rayfuse, 'Sea Level Rise and Maritime Zones: Preserving the Maritime Entitlements of Disappearing States' in Michael B Gerrard and Gregory E Wannier (eds), *Threatened Island Nations: Legal Implications of Rising Seas and a Changing Climate* (Cambridge University Press, 2013); Charles Di Leva and Sachiko Morita, 'Maritime Rights of Coastal States and Climate Change: Should States Adapt to Submerged Boundaries' Law & Development Working Paper Series No 5, The World Bank 12–15.
- 833 *Ibid*, Rayfuse (2013), 167, 187; David D Caron, 'When Law Makes Climate Change Worse: Rethinking the Law of Baselines in Light of a Rising Sea Level' (1990) 17 *Ecology L Q* 621, 623, 640–641.

- 834 UN OHCHR, *Special Procedures of the Human Rights Council*, at www.ohchr.org/EN/HRBodies/SP/Pages/Welcomepage.aspx.
- 835 See UN General Assembly Resolution 63.281; *Report of Secretary General, 'Climate Change and its Possible Security Implications'*, A/64/350, 11 September 2009.
- 836 Richard Jordan, 'UN Security Council Debates Risk of Climate Change for Small Islands, Wider Debate on the Function of the Main UN Organs' *South-South News* (21 July 2011): <http://southsouthnews.com/Pages/NewsDetails.aspx?NewsId=147af1fa-8c4e-4dec-a48e-642f2793a398>.
- 837 A first step in this direction is Jonathan Verschuuren (ed), *Research Handbook On Climate Change Adaptation Law* (Edward Elgar, 2013).
- 838 UNHCR, *Summary of Deliberations on Climate Change and Displacement* (UN Bellagio, April 2011).
- 839 Benjamin Glahn, 'Climate Refugees? Addressing the International Legal Gaps' (June 2009) 63(3) *Int'l Bar News* 17; Siobahn McNerny Lankford, et al, *Human Rights and Climate Change* (World Bank, 2011) 63.
- 840 Bonnie Docherty and Tyler Giannini, 'Confronting a Rising Tide: A Proposal for a Convention on Climate Change Refugees' (2009) 33(2) *Harv Envtl L Rev* 349, 372.
- 841 See, for example, Michele Klein Solomon and Koko Warner, 'Protection of Persons Displaced as a Result of Climate Change: Existing Tools and Emerging Frameworks' in Michael B Gerrard and Gregory E Wannier (eds), *Threatened Island Nations: Legal Implications of Rising Seas and a Changing Climate* (Cambridge University Press, 2013) 273–5. Jane McAdam, 'Climate Change Displacement and International Law: Complementary Protection Standards' (May 2011) UNHCR Legal and Protection Policy Research, Division of International Protection 56; see generally Jane McAdam, 'Swimming Against the Tide: Why a Climate Change Displacement Treaty Is Not the Answer' (2011) 23 *Int'l J Refugee L* 2.
- 842 See n 362, Solomon and Warner, 267–268.
- 843 *Ibid*, 266.
- 844 *Ibid*, 267.
- 845 *Ibid*, 267–270.
- 846 UNGA, *Report of the Representative of the Secretary-General on the Human Rights of Internally Displaced Persons*, Doc A/HRC/12/21.
- 847 *The Peninsula Principles on Climate Displacement Within States*, (18 August 2013), Principle 1: <http://displacementsolutions.org/peninsula-principles/>.
- 848 *Ibid*, Principles 5–6.
- 849 *Ibid*, Principles 9–11, 17.
- 850 International Labour Organization, *Enhancing the Capacity of Pacific Island Countries to Address the Impacts of Climate Change on Migration* (ILO, 24 June 2014) at www.ilo.org/suva/what-we-do/projects/WCMS_191552/lang-en/index.htm.
- 851 International Organization for Migration, *Migration, Climate Change and the Environment*, at www.iom.int/cms/en/sites/iom/home/what-we-do/migration-and-climate-change/partnerships.html.
- 852 The Nansen Conference, The Nansen Principles, Norwegian Ministry of Foreign Affairs and the Environment (2011), at www.nanseninitiative.org/nansen-conference-nansen-principles.
- 853 *Ibid*.
- 854 Norwegian Refugee Council/Internal Displacement Monitoring Centre (NRC/IDMC), *The Nansen Conference: Climate Change and Displacement in the 21st Century* (7 June 2011).
- 855 See The Nansen Initiative on Disaster-Induced Cross-Border Displacement: www.nanseninitiative.org/.
- 856 Jane McAdam, *Creating New Norms? The Nansen Initiative on Disaster-Induced Cross-Border Displacement* (Brookings, 10 April 2013) at www.brookings.edu/research/opinions/2013/04/01-nansen-displacement-mcadam.
- 857 Conclusions: Nansen Initiative Pacific Regional Consultation (24 May 2014) 2–3.
- 858 Natural Hazards, Climate Change, and Cross-border Displacement in the Greater Horn of Africa, The Nansen Initiative Regional Consultation (21–23 May 2014) 6–7; *ibid* 3; Disasters and Cross-Border Displacement in Central America: Emerging Needs, New Responses, Conclusions: Nansen Initiative Regional Consultation (2–3 December 2013) 3–4, 5.
- 859 Michelle Leighton, 'Population Displacement, Relocation, and Migration' in Michael B Gerrard and Katrina Fischer Kuh (eds), *The Law of Adaptation to Climate Change: US and International Aspects* (American Bar Association, 2012) 710.

- 860 Nicole de Moor, 'Temporary Labour Migration for Victims of Natural Disasters: the Colombia-Spain Model' in Michelle Leighton, Xiomeng Shen and Koko Warner (eds), *Climate Change and Migration: Rethinking Policies for Adaptation and Disaster Risk Reduction* (United Nations University Institute for Environment and Human Security, 2010) 94.
- 861 Fanny Thornton, 'Regional Labour Migration as Adaptation to Climate Change: Options in the Pacific' in Michelle Leighton, Shen and Warner (eds), *Climate Change and Migration* (2010) 86 (see n 860).
- 862 John R Porter and Liyong Xie, 'Chapter 7, Food Security and Food Production Systems' in IPCC, *Climate Change 2014: Impacts, Adaptation, and Vulnerability*.
- 863 FAO, Right to Food Issues Brief 1: Food Price Volatility and the Right to Food (2011) 1.
- 864 FAO High Level Panel of Experts, *Biofuels and food security. A report by the High Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security* (2013); Olivier de Schutter, *Note on the Impacts of EU Biofuel Policy on the Right to Food* (OHCHR, 23 April 2013): www.srfood.org/images/stories/pdf/otherdocuments/20130423_biofuelsstatement_en.pdf.
- 865 Interagency Report to the G20, *Price Volatility in Food and Agricultural Markets: Policy Responses*, Policy Report including contributions by FAO, IFAD, IMF, OECD, UNCTAD, WFP, the World Bank, the WTO, IFPRI and the UN HLTf (2 June 2011); Donald Mitchell, 'A Note on Rising Food Prices' (2008) World Bank Policy Research Working Paper 4682; Asbjørn Eide, *The Right to Food and the Impact of Liquid Biofuels (Agrofuels)*, (FAO, 2008).
- 866 Lorenzo Cotula, Nat Dyer and Sonja Vermeulen, *Fuelling Exclusion? The Biofuel Boom and Poor People's Access to Land* (IIED and the FAO, 2008), at www.iied.org/pubs/pdfs/12551IIED.pdf; Rachel Smolker, et al, 'The Real Cost of Agrofuels: Impacts on food, forests, peoples and the climate' (2008) Global Forest Coalition and Global Justice Ecology Project.
- 867 See, specifically, FAO, IFAD, IMF, OECD, UNCTAD, WFP, the World Bank, the WTO, IFPRI and the UN HLTf, *Interagency Report to the G20 – Price Volatility in Food and Agricultural Markets: Policy Responses* (2011).
- 868 See, for example, n 414, Carlane and Eagle (2012), 796–97.
- 869 UK National Audit Office, *Food safety and authenticity in the processed meat supply chain, Report by the Comptroller and Auditor General HC 685* (The Food Standards Agency, Department for Environment, Food & Rural Affairs, Department of Health, October 2013), at www.nao.org.uk/wp-content/uploads/2014/10/10255-001-Food-safety-and-authenticity.pdf.
- 870 FAO Council, *Voluntary Guidelines to support the progressive realization of the right to adequate food in the context of national food security* (FAO, 2005).
- 871 Bali Declaration on Human Rights and Agribusiness in Southeast Asia, Adopted after the international conference on 'Human Rights and Business: Plural Legal Approaches to Conflict Resolution, Institutional Strengthening and Legal Reform' – Bali, Indonesia, 28 November–1 December 2011.
- 872 See, for example, María Julia Oliva, *Promoting the Transfer of Technologies for Adaptation in Agriculture: a Role for the Right to Food?* (Working Paper) 32; Columbia Law School Human Rights Clinic, *Climate Change and the Right to Food: A Comprehensive Study* (Heinrich Böll Foundation, 2009) 39.
- 873 *Ibid*, Columbia Law School Human Rights Clinic, 41; Olivier de Schutter, 'The FAO Must Do More to Promote Food as a Basic Human Right' *The Guardian* (4 March 2013), www.theguardian.com/global-development/poverty-matters/2013/mar/04/fao-food-basic-human-right.
- 874 See n 414, Carlane and Eagle (2012), 793.
- 875 Olivier de Schutter, 'Climate Change is a Human rights Issue – and That's How we Can Solve It' *The Guardian* (24 April 2012), www.theguardian.com/environment/2012/apr/24/climate-change-human-rights-issue.
- 876 International Council on Human Rights Policy, *Beyond Technology Transfer: Protecting Human Rights in a Climate-Centered World* (ICHRP, 2011) 3.
- 877 Keith E Maskus and Ruth L Okediji, *Intellectual Property Rights and International technology Transfer to Address Climate Change: Risks, Opportunities, and Policy Options* (ICTSD Global Platform on Climate Change, Trade Policies, and Sustainable Energy, 2010) 22.
- 878 Elizabeth Burleson, 'Energy Policy, Intellectual Property, and technology Transfer to Address Climate Change' (2009) 18 *Transnat'l L and Contemp Probs* 69, 84; Bradley J Condon and Tapen Sinha, 'The Role of International Economic Law in Addressing Climate Change' in WTO, *Connecting to Global Markets* (WTO, 2013) 120.

879 See n 87, ICHRP, 5.

880 Council for Trade-Related Aspects of Intellectual Property Rights – Minutes of meeting – Held in the Centre William Rappard on 25–26 February 2014, IP/C/M/75.

881 International Council on Human Rights Policy, n87 above, 70; María Julia Oliva, *Promoting the Transfer of Technologies for Adaptation in Agriculture: a Role for the Right to Food?* (Working Paper) 17.

882 See n 878, Condon and Sinha (2013), 120.

883 See n 87, ICHRP, 5.

884 See n 878, Burleson (2009), 69, 83.

885 IPCC 2001, ‘Report on Methodological and Technical Issues in Technology Transfer’, in Columbia Law School Human Rights Clinic, *Climate Change and the Right to Food: a Comprehensive Study* (Heinrich Böll Foundation, 2009) 83.

886 UN Department of Economic and Social Affairs, *Climate Change: Technology Development and Technology Transfer* (November 2008) 32.

887 *Ibid.*

888 See n 87, ICHRP, 6.

889 See n 438, Carney (2011) 23.

Index

Index

- Aarhus Convention 19, 95, 138, 159–160
 - compliance mechanism 160
 - ECtHR ruling on 130
 - obligation to promote principles of 159
 - parties to 160
 - provisions on healthy environment 122
 - transparency under Article 1 of 159
- Aarhus Convention Compliance Committee (ACCC) 160–161
- Absolute liability 134
- Access to justice, adopting optional protocols to enhance 125–126
- Actio popularis* 137
- Actionable rights 128
- Ad Hoc Working Group on the Durban Platform for Enhanced Action (ADP), UNFCCC 22, 171, 176
- Adaptation 45
 - areas of focus for 87
 - attempts by UNFCCC to achieve agreement on 44
 - climate change 4
 - funding measures 51
 - human rights concerns 4
 - international law on 87–96
 - justice implications 51
 - multilateral measures 23–24, 176–179
 - overview of international law on 7
 - resource allocation 48
 - technology transfer 185
 - UNFCCC recognises necessity of 87
- Adaptation Committee, UNFCCC 87
- Adequacy, concept of 93
- Advisory opinions, ICJ 12
- Afforestation 176
- Africa,
 - displacement 90
 - litigation 83
- African Charter on Human and Peoples' Rights (Banjul Charter) 66, 68, 117, 122, 125–126
- African Commission on Human and Peoples' Rights 67
 - right to healthy environment 122
- African Court on Human and Peoples' Rights 67
- African Union Convention for the Protection and Assistance of Internally Displaced Persons in Africa
 - (Kampala Convention) 91–92, 181
- Agreement on the Conservation of Nature and Natural Resources, ASEAN 162
- Agreement on Subsidies and Countervailing Measures (SCM), WTO 71, 166
 - Article 8 74
 - objectives 74
- Agreement on Technical Barriers to Trade (TBT) 71
- Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS), WTO 96, 185
- Agriculture
 - GHG emissions 152
 - impact of climate change on 41
 - seasonal migration of labour 182

- Agrofuels 183
 - production 92
 - shift to 94
- Aguan Biogas project 49
- Aid, domestic migration adaptation programmes 172
- Air pollution
 - Geneva Convention on Long-range Transboundary Air Pollution (1979) 64
 - India 81–82
- Air quality 41
- Air Transport Agreement between the European Community and the US (Open Skies Agreement) 2007
- 83
- Air Transport Association of America 82
- Air Transport White Paper (2003) 83
- Aircraft, emissions from 82
- Airports 83
- Alto Maipo hydroelectric project 80
- Ambassadors for Responsibility on Climate Change 85
- American Convention on Human Rights 66, 117
- American Electric Power Co v Connecticut (AEP)* 78
- Anthropogenic climate change 39, 46
- Appellate Body, WTO 6, 21
 - Brazil - Measures Affecting Imports of Retreaded Tyres* 73
 - Canada - Measures Relating to the Feed-in Tariff Program* 74
 - Dominican Republic - Measures Affecting the Importation and Internal Sale of Cigarettes* 72
 - Korea - Measures Affecting Imports of Fresh, Chilled and Frozen Beef* 73
 - United States - Import Prohibition of Certain Shrimp and Shrimp Products* 73
 - United States - Measures Affecting the Production and Sale of Clove Cigarettes* 72
 - United States - Standards for Reformulated and Conventional Gasoline* 73
- Arab Charter on Human Rights 126
- Arbitration Institute of the Stockholm Chamber of Commerce 144
- Arbitration Rules (1976), UNCITRAL 140
- Arbitration Rules (2010), UNCITRAL 140–142
- Arbitration Rules (2012), PCA 140
- Arctic 131
- Argentina
 - Argentina v Uruguay* (Pulp Mills case) 85
 - litigation 79–80
 - Native Community of the Wichi Hoktek T'Oi People v Environment and Sustainable Development Secretariat* 79
 - PCA located in 141
 - policy on environmental migrants 92
 - Salas, Dino et al v Province of Salta and National Government* 79–80
- Asia
 - litigation 81–82
- Asia-Pacific Economic Cooperation (APEC) 70
- Asia-Pacific region, trade agreements 168
- Assessment Framework for Scientific Research Involving Ocean Fertilization, IMO 23, 177–178
- Association of South Asian Nations (ASEAN)
 - Agreement on the Conservation of Nature and Natural Resources 162
 - Declaration on Human Rights 66, 126
 - Intergovernmental Commission on Human Rights 126
 - Political-Security Community Blueprint 88

- Asylum law 89
- Atmospheric pollution 64
- Attribution, climate change 68
- Australia
 - binding GHG disclosure requirements 149
 - coastal management 81
 - Corporate Code of Conduct Bill (2000) 153
 - corporate reporting 17
 - leave to bring proceedings 130
 - litigation 80–81
 - mining 81
- Aviation 82

- Bali Action Plan, UNFCCC 95
- Banks
 - environmental initiatives 18
 - regulation in respect of compliance with GHGs emissions limits 17
- Barcelona Traction, Light and Power Company Ltd* 137
- Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal 161
- Bilateral investment treaties (BITs) 14, 75–76, 137–138, 170
- Bilateral trade agreements 21, 168
- Biodiversity 173
 - loss of 39, 41
- biofuels 94
- Brazil
 - environmental law 80
 - signatory to Kyoto Protocol 63
 - transfer technology 185
- Brazil - Measures Affecting Imports of Retreaded Tyres* 73
- Burden-sharing 63

- California Cap-and-Trade Programme 50
- California, emissions trading 50
- Canada
 - binding GHG disclosure requirements 149
 - corporate reporting 17
 - drought 2, 34
 - emissions trading 50
 - Environmental Assessment Act 79
 - Kyoto Protocol Implementation Act (KPIA) 79
 - litigation 78–79
 - low temperature 2, 34
 - Model Foreign Investment Promotion and Protection Agreement 170
- Canada - Measures Relating to the Feed-in Tariff Program* 74
- Canada-Colombia Tree Trade Agreement 169
- Canada-Czech Republic Bilateral Investment Treaty 169–170
- Cancun Adaptation Framework (CAF), UNFCCC 89, 91
- Capacity 69
- Capacity building 18–19, 155–158
 - climate justice 8
- Carbon budget 50, 175

- Carbon capture 23, 176
 - ocean-based 177
- Carbon dioxide (CO₂)
 - concentrations 132
 - emissions 39–40, 134, 175
 - EPA proposes regulations cutting emissions 77–78
 - permanent storage 177
 - removal 176
 - removal proposals 177
 - storage 23
- Carbon engineering
 - emerging technologies 176–179
- Carbon footprint, measurement 148
- Carbon leakage 63, 70
- Carbon Majors 134
- Carbon markets, potential for linking 50
- ‘Carbon sinks’ 4
- Carbon-light trade policies 6
- Cartagena Declaration on Refugees (1984) (Cartagena Declaration) 90
- Case concerning Gab ikovo-Nagymaros Project (Hungary/Slovakia)* 86
- Causation 128
 - addressing issues of 130–132
 - climate change 68–69
 - establishing 131
 - legal standard for 132
 - relevance of knowledge to 132–133
- Central Europe, temperature 2, 34
- Centre for Biological Diversity 174
- Centre for International Environmental Law 19, 157
- Charter of Fundamental Rights of the European Union 123
- Charter of the United Nations 46
- Children, increased health risks to 43
- Chile
 - Environmental Regional Commission 80
 - litigation 80
- China
 - emissions trading 50
 - no provision for private law liability for climate change-related harm 82
 - signatory to Kyoto Protocol 63
- Claimants, recognising potential across geographic boundaries 129
- Claims
 - applicable fora to determine international against states 138–139
 - competing 128
 - interrelationship of 135
 - limitation periods 128, 135
 - pursuing 131
- Class actions 129
- Clean air, WTO ruling on 73
- Clean Development Mechanism (CDM) 4, 22, 49–50, 63–64, 170, 173–175
 - objectives 49
- Climate Change 2014: Mitigation of Climate Change* 38
- Climate change
 - adaptation 4

- anthropogenic 39, 46
- background to 34
- clarification of human rights obligations relating to 118–126
- contributors to 2
- definition under IPCC 44
- definition under UNFCCC 44–45
- development imbalances 46
- domestic litigation 76–83
- global nature of 45
- human rights consequences of 36
- impact on communities 43
- impact on natural resources 40–41
- liability 76
- link with food security 93
- migration related to 24, 88–92, 180–183
- mitigation 4
- need for combined action 45–47
- reasons for 40
- role of WTO in combating 69–70
- science of 38–40
- scope of effects 34
- subsidies 167
- Climate Change Act (2008) 83, 150
- Climate Change, Environment and Migration Alliance 181
- Climate change injuries, as human rights injuries 118
- Climate change justice
 - agenda for 3
 - capacity building 8
 - definition 2, 35
 - enhancing legal systems to achieve 7–24
 - gender equity 47
 - importance of 45–47
 - institutional measures 8
 - intergenerational equity 47
 - international dispute resolution 12
 - legal challenges 5–7, 62–96
 - legal measures 8
 - measure for individuals and communities 9–11
 - scope of 3–4
 - transparency 8
 - understanding 3–5
- Climate models 39
- Climate policy
 - domestic 70
 - realities of international 3
 - WTO 8
- Climate science, certainties 3
- Climate system changes 2
- Climate-friendly policies, trade-related 74
- Climate-vulnerable groups 46
- Coal 175
- Coastal flooding 40
- Coastal management, Australia 81

- Codes of practice 65
- Colombia, volcanic eruptions 182
- Columbia University Earth Institute 175
- Commission for Environmental Cooperation (CEC) 12, 138
- Committee on Economic, Social and Cultural Rights (CESCR), ICESCR 67, 93
- Committee of Ministers, Council of Europe 125
- Committee on Trade and Environment (CTE), WTO 20, 163–164
- Commodity markets 92
- ‘Common but differentiated responsibilities’ (CBDR) 4, 46, 63, 91
- Communities
 - climate change justice measures for 117
 - impact of climate change on 43
- Companies Act (2006) 150
- Compensation 134
 - distribution of 135
- Competing claims 128
- Compliance Committees
 - Montreal Protocol 12
 - NGOs’ ability to petition 19
- Conference of the Parties (COP)
 - UNFCCC 13, 22, 44, 47, 64, 143, 172
- Conflict 34
- Constitutional protections 68
- Constitutions, environmental rights recognised in some 69
- Convention on Biological Diversity 161, 165
- Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) 93, 119, 125
- Convention on Environmental Impact Assessment in a Transboundary Context (Espoo Convention) 138, 162
- Convention Governing the Specific Aspects of Refugee Problems in Africa (1969), OAU (OAU Convention) 90
- Convention on International Civil Aviation (Chicago Convention) 1944 82–83
- Convention on the Law of the Sea (UNCLOS), UN 12–13, 23, 76, 85
 - Annex VII 143
 - Article 206 161
 - Article 287(3) 143
 - Article 287(5) 143
 - dispute settlement mechanism 138, 143
- Convention of the Pacific Settlement of International Disputes 130
- Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (London Convention), IMO charged with enforcing 177–178
- Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques (ENMOD), UN 178
- Convention for the Protection and Assistance of Internally Displaced Persons in Africa (Kampala Convention) 91–92, 181
- Convention for the Protection of Human Rights and Fundamental Freedoms *see* European Convention on Human Rights
- Convention Relating to the Status of Refugees (1951) (Refugee Convention), UN 89–90, 180
- Convention on the Rights of the Child (UNCRC), UN 93, 119, 125

- Convention on the Rights of Persons with Disabilities (CRPD), UN 125
- Convention on Social, Economic and Cultural Rights 10
- Copenhagen Accord 172
- Corporate Code of Conduct Act (United States) 153
- Corporate Code of Conduct Bill (2000) (Australia) 153
- Corporate reporting 17, 149–151
 - interpretive guidance 151
- Corporate responsibility 16–18, 147–154
 - advancing 148
- Corporations
 - international dispute resolution 13
 - jurisdiction to deal with 152
 - parent and subsidiary 152
 - regulation 17–18, 152–153
 - remediation 149
 - state-based regulation 152
- Costa Rica, PCA located in 141
- Costs awards 128, 136
- Council of Europe
 - Committee of Ministers 125
 - European Social Charter 120
- Court of Justice of the European Union (CJEU) 123
- Crops 41
- Cross-border migration 89
 - climate change-related 24, 180–183
- Cross-border technology transfer 185
- Cultures, impact of climate change on 43
- Cumulative carbon budget 175–176
- Customary international law, constraints of 65–66
- Cyclone Heta 182
-
- Damages 129, 133
- de Schutter, Oliver 92, 184
- Decision-making, transparency 19–20
- Declaration on the Application of Principle 10 of the Rio Declaration on Environment and Development 19
- Declaration on Human Rights, ASEAN 66, 126
- Declaration on Human Rights Defenders, UN 122
- Declaration of rights 133
- Deforestation 130
 - lack of controls on 64
- Deserts 41
- Destabilisation, effect on health 42
- Destruction of property 117
- Developing countries 64, 70
 - skills transfer 155–158
- Developing nations, effects of climate change on 45–46
- Development
 - concessions to needs of 4
- Development imbalances 3, 46
- Direct discrimination 71
- Directive 2001/55 on minimum standards for giving temporary protection in the event of a mass influx of

- displaced persons (Temporary Protection Directive) 92
- Directive 2003/87 establishing a scheme for greenhouse gas emission allowance trading 82
- Directive 2004/101 amending Directive 2003/87 establishing a scheme for greenhouse gas emission allowance trading within the Community, in respect of the Kyoto Protocol's project Mechanisms (Linking Directive) 50
- Directive 2009/28 on the promotion of the use of energy from renewable sources 94
- Disaster preparation 94
- Disclosure 135
 - pre-trial 128
- Discovery 135
 - pre-trial 128
- Displaced persons, mass influx 92
- Displacement 34, 51, 88–92
 - Africa 90
 - effect on health 42
- Dispute resolution 12, 86
 - international 13, 137–138
 - WTO 69
- Dispute Settlement Body, WTO 12
- Dodd-Frank Wall Street Reform and Consumer Protection Act (2010) (United States) 153
- Doha Amendment, Kyoto Protocol 172
- Doha Declaration on the TRIPS Agreement and Public Health (2001) 166
- Doha Round, WTO 6, 70, 167
- Dominican Republic - Measures Affecting the Importation of Internal Sale of Cigarettes* 72
- Draft Articles on Legal Principles Relating to Climate Change (2014), ILA 11, 47–48, 124, 128, 151, 162–163
- Draft Articles on Prevention of Transboundary Harm from Hazardous Activities, IBA 19, 122
- Drinking water 41
- Drought 2, 34, 40, 94
- Due diligence 148
 - responsibility for failures 69
- Durban Platform for Enhanced Action 64
- Duties, developing minimum core 120–124
- Eastern Europe
 - economies in transition 46
 - temperature 2, 34
- EC - Measures Affecting the Approval and Marketing of Biotech Products* 165
- Economic Commission for Latin America and the Caribbean, UN 19, 160
- Economic development 64
- Economic Partnership Agreement, EU-CARIFORUM 75
- Economic and Social Commission for Asia and the Pacific cooperation with ILO and UNDP 181
- Economies in transition, Eastern Europe 46
- 'Ecosystem collapse' 41
- Ecosystems 173
 - impact of climate change on 41
- Ecuador, toxic herbicides 85
- Emissions 175
 - aircraft 82
 - disclosure of GHGs 17
 - historical 63

- independent verification of GHGs emissions 17
- limitations under Kyoto Protocol 44
- provisions of Kyoto Protocol on 63–64
- reporting 148
- standardised quantification 149
- targets 63
- US Supreme Court affirms EPA's authority to regulate GHG 77
- Emissions allowances, need for WTO clarification on 21
- Emissions trading 5, 50, 64
 - established under Kyoto Protocol 49
- Emissions Trading Scheme (ETS), EU 5, 50, 82, 123
- Energy efficiency 70
- Energy poverty 50
- Enforcement, environmental obligations 137
- Environment, corporate responsibility 147–154
- Environment Programme Finance Initiative, UN 18
- Environmental Assessment Act (Canada) 79
- Environmental Bill of Rights (Ontario) 78
- Environmental decision-making
 - transparency 19–20
- Environmental Defense Fund 179
- Environmental disputes 86
- Environmental goods and services (EGS), liberalisation of 168
- Environmental impact assessment (EIA) 20, 158, 161–162
 - EU requirement for 162
 - international law on 162
- Environmental law 62–66
 - Brazil 80
 - development of framework for 62
 - international framework 62
 - overview 5
- Environmental obligations
 - enforcement 137
 - international 137
- Environmental protection
 - EU 123
 - international treaties 62
 - constraints on 63–65
 - judicial support for 81
- Environmental Protection Act (India) 81
- Environmental Protection Agency (EPA), US 77, 131
 - proposes regulations to cut carbon dioxide emissions 77–78
 - Supreme Court affirms authority to regulate GHG emissions 77
- Environmental reforms, WTO 20–21
- Environmental Regional Commission, Chile 80
- Environmental reporting 151
- Environmental rights
 - development of 6, 69
 - pressure to adopt 9
- Equator Principles 18
 - adopted by financial institutions 154
- Ethanol market 185
- Ethics 46

EU-CARIFORUM, Economic Partnership Agreement 75

Europe

heatwave in 2014 2, 34

litigation 82

European Convention on Human Rights (ECHR) 66, 85, 117, 123, 125

does not include concept of peoples' rights 130

power to grant interim measures in inter-state disputes 137

right to life provisions 120

right to private and family life provisions 120

European Court of Human Rights (ECtHR) 12, 67, 84, 138, 147

case law 123

ruling on Aarhus Convention 130

ruling that environmental degradation may violate right to life 120

standing 130

European Social Charter, Council of Europe 120

European Union

Charter of Fundamental Rights of the European Union 123

Court of Justice of the European Union (CJEU) 123

Directive 2001/55 on minimum standards for giving temporary protection in the event of a mass influx of

displaced persons (Temporary Protection Directive) 92

Directive 2003/87 establishing a scheme for greenhouse gas emission allowance trading 82

Directive 2004/101 amending Directive 2003/87/EC establishing a scheme for greenhouse gas emission allowance trading within the Community, in respect of the Kyoto Protocol's project

Mechanisms (Linking Directive) 50

Directive 2009/28 on the promotion of the use of energy from renewable sources 94

Emissions Trading Scheme (ETS) 5, 50, 82, 123

environmental protection 123

'Green Goods Agreement' 70

Guidelines on Integrating Climate Change and Diversity into Environmental Impact Assessment 162

legal order 123

Lisbon Treaty 123

proposal for directive on non-financial narrative reports 150

Regulation 1233/2011 on the application of certain guidelines in the field of officially supported export

credits 154

requirement on Member States to conduct EIAs 162

Treaty on the Function of the European Union (TFEU) 123

Extreme weather events 2–3

Federal Clean Air Act (United States) 77–78

Fifth Assessment Report, IPCC 4, 131–132

Finance Initiative, UNEP 153

Financial institutions

adoption of Equator Principles 154

regulation in respect of compliance with GHG emissions limits 17

Financial sector, environmental initiatives 18

Finland

Parliamentary Committee for the Future 124

policy on environmental migrants 92

Fish Stocks Agreement, UN 117

Fisheries, climate-related damage to 117

- Floods 40
- Food, right to 7
- Food and Agriculture Organization (FAO) 93, 151, 183–184
- Food crisis 2008 42
- food prices 94
- Food production 39
- Food security 7, 24, 51, 92–94, 183–185
 - decline in 42
 - human rights dimension 184
 - link with climate change 93
 - need for mitigation 184
 - rights-based approach to 184
- Food sources, traditional 131
- Foreign Corrupt Practices Act (1972) (United States) 153
- Foreign investment 137
- Foreseeability 128
- Forest preservation 92
- Fossil fuels
 - limiting extraction 50
 - reduction in consumption 94
 - regulation of reserves 175–176
 - subsidy reform 70
- France
 - binding GHG disclosure requirements 149
 - corporate reporting 17
 - heatwave 2003 42
- Free trade areas (FTAs) 76, 170
- Friedrich-Ebert-Stiftung Academic Foundation 19, 157
- Friends of the Earth 79
- Frivolous claims
 - discouraging 136
 - safeguards to prevent 129
- Future generations, obligations owed to 123
- Gbemre v Shell Petroleum Development Co Nigeria Ltd* 83
- Gender equity 47
- General Agreement on Tariffs and Trade (GATT) 21, 71–72
 - Article IX(2) 166
 - Article XX 73, 75, 164–165
 - scope 166
 - subsidies under provisions of 167
 - Article XX(b) 165
 - Article XX(g) 165
- General Agreement on Trade in Services (GATS) 21, 71
- General Assembly, UN 85, 124, 179–180
- General Council, WTO 166
- Geneva Convention on Long-range Transboundary Air Pollution (1979) 64
- Geo-engineering 23, 176
- George Washington University, Third Annual Environmental Law Conference 86
- Global commons, protection of 137
- Global Forum on Migration and Development (2010) 182
- Global warming, historical context 38–39
- Goddard Institute for Space Studies, NASA 175

- Good faith 74
- Governing Body of the Kyoto Protocol (CMP) 22
- Grassland 41
- Gray v Minister for Planning, Director-General of the Department of Planning and Centennial Hunter Pty Ltd* 80–81
- Green Climate Fund 64
- Green Energy Act (Ontario) 74
- ‘Green Goods Agreement’, EU 70
- Greenhouse gases (GHGs) 4, 39–40, 45–46, 48, 63, 116
 - agriculture 152
 - capping 49
 - challenges presented by mandatory reporting 151
 - coordinated reduction in 171
 - disclosure of emissions 17
 - emissions classified as danger to public health, safety and welfare in US 77
 - independent verification of emissions 17
 - limitations under Kyoto Protocol 44
 - management programmes 149
 - reporting emissions 148
 - standardised quantification of emissions 149
 - US Supreme Court affirms EPA’s authority to regulate emissions 77
 - violation of emission caps under Kyoto Protocol 117
- Ground-water pumping 94
- Guidelines 65
- Guidelines for the Development of National Legislation on Access to Information, Public Participation and Access to Justice in Environmental Matters 20, 160–161
- Guidelines on Integrating Climate Change and Diversity into Environmental Impact Assessment, EU 162
- Guiding Principles on Business and Human Rights, UN 16, 18, 68, 91, 122, 147–148, 150, 153
 - implementation 148–149
- Guiding Principles on Internal Displacement, UN 24, 89, 180–182
- Guterres, António 90

- Habitats, changing 40
- Hague Peace Conference 130
- Hansen, James 175
- Harm, foreseeability of 128
- Harmonisation, international arbitration 127
- Harvard Project on Climate Agreements 50
- Hazardous materials, regulation 123
- Health 41
 - protection of 120
 - right to 42
- Health hazards, adopting measures against 133
- Healthy environment
 - procedural rights 122
 - recognising freestanding right to 124–126
 - right to 120, 122
 - transparency 122
- Healthy housing, right to 122
- Heathrow Airport, proposals for expansion 83
- Heatwaves 2, 39

- Herbicides 85
- Historical emissions 63
- Honduras, Aguan Biogas project 49
- Hong Kong, temperature 2, 34
- Host Country Agreements (HCAs) 141
- Housing, healthy 122
- Human rights
 - clarification of obligations relating to climate change 118–126
 - concerns over adaptation 4
 - consequences of climate change 36
 - corporate responsibility 147–154
 - demonstrating violations 69
 - food security 184
 - ‘greening’ of 9, 119–120
 - impact of climate change on 2
 - independent verification of reporting pertaining to environment 17
 - interference with enjoyment of 16
 - redress for breaches 67
 - strengthening regional bodies 126
- Human Rights Council, UN 9, 23, 42, 67–68, 120, 122, 156, 158, 179–180
 - Complaints Procedure 125–126
 - developing core rights and duties 121
- Human Rights Declaration, ASEAN 66
- Human rights defenders 122
- Human rights injuries, climate change injuries as 118
- Human Rights Institute, IBA 155–156
- Human rights law
 - constraints 67–69
 - optional protocols for free-standing right to healthy environment 125
 - overview 5
 - regimes 66–69
- Hungary
 - Case concerning Gabčíkovo-Nagymaros Project (Hungary/Slovakia)* 86
 - Parliamentary Commissioner for Future Generations 124
- Hunger 93
- Hurricane Katrina 42
- Hurricanes 39, 42
- Hydroelectric power stations 86
- Immigration law 180
- Independent Expert, UN 68, 119–121, 125
 - Report (2013) 9
- Independent verification, GHGs emissions 17
- India
 - air pollution 81–82
 - Environmental Protection Act 81
 - litigation 81
 - MC Mehta v Union of India* 81–82
 - signatory to Kyoto Protocol 63
- Indigenous peoples 173
- Indirect discrimination 71
- Individuals
 - climate change justice measures for 117

- impact of climate change on 41–43
- Indonesia, litigation 81
- Information
 - access to through mandatory corporate reporting requirements 149
 - constraints on access to 94–96
 - right to in international law 95
- Initiative on Reducing Emissions from Deforestation and Forest Degradation (REDD), UNFCCC 94
- Institutional measures, climate justice 8
- Institutional reform, required to deal with climate change 2
- Integration, international judicial and arbitral fora 13
- Intellectual property
 - role in climate change mitigation 96
 - technology transfer and 185
- Inter-American Commission on Human Rights (IACHR) 41–42, 67, 138
 - Inuit Petition on climate change to 120, 126, 131
- Inter-American Court of Human Rights 158
- Inter-state disputes 12
- Intergenerational equity 47
- Intergovernmental Commission on Human Rights, ASEAN 126
- Intergovernmental institutions, international dispute resolution 13
- Intergovernmental Panel on Climate Change (IPCC) 38–39, 48, 87, 93
 - budget 175
 - definition of climate change 44
 - Fifth Assessment Report 4, 131–132, 183
 - targets 176
- Interim measures, ECHR power to grant 137
- Internal migration, climate change-related 24
- International arbitration
 - harmonisation 127
 - precedent 145
 - transparency 145, 162
- International Bar Association (IBA)
 - climate change initiatives 155–156
 - Draft Articles on Legal Principles Relating to Climate Change (2014) 11, 47–48, 124, 128, 151, 162–163
 - Draft Articles on Prevention of Transboundary Harm from Hazardous Activities 122
 - Human Rights Institute 155–156
 - network of climate change counsel 18
 - Public and Professional Interest Division 155
 - recommendation on creating Working Group on the Legal Aspects of Adaptation 8
 - Task Force on Climate Change Justice and Human Rights 2–3, 5
 - action matrix 26–31
 - establishment of 34
 - Model Statute for Legal Remedies for Climate Change 7–8, 11, 127–136
 - objectives of report by 34–36, 47
 - purpose of report 3
 - recommendations 3
 - summary recommendations 8
 - Working Group on Climate Change Justice 127
 - Working Group on the Legal Aspects of Climate Change Adaptation 24, 176, 180–186
- International Bill of Human Rights 67
- International Centre for Settlement of Investment Disputes (ICSID), World Bank 14

- International Chamber of Commerce 144
 - International Court of Arbitration 14–15
- International Civil Aviation Organization 83
- International climate policy 3
- International Convention for the Regulation of Whaling 85
- International corporations, regulation in respect of compliance with GHGs emissions limits 17
- International Court of Arbitration, International Chamber of Commerce 14–15
- International Court for the Environment Foundation (ICEF) 85–86
- International Court of Environmental Arbitration and Conciliation (ICEAC) 13, 86, 139
 - constraints of proposed 85–86
 - negotiations on 147
 - proposals for 6, 15
 - transparency 86
- International Court of Justice (ICJ) 6, 76, 84, 86, 143, 161
 - Barcelona Traction, Light and Power Company Ltd* 137
 - constraints 84–85
 - inter-state disputes 12
 - international dispute resolution 13
 - jurisdiction 137, 139
- International Covenant on Civil and Political Rights (ICCPR) 42, 67, 117, 119–120, 125–126
 - General Comment 12 93
- International Covenant on Economic, Social and Cultural Rights (ICESCR) 66–67, 93, 117, 119, 125–126
 - Article 11 93
 - Committee on Economic, Social and Cultural Rights 67
 - Operational Protocol 67, 126
 - relevance to climate change 119–20
- International Covenant on the Elimination of all Forms of Racial Discrimination (ICERD) 119
- International Criminal Court (ICC) 124
- International Energy Agency 50, 176
- International environmental law
 - ad hoc development 65
 - scope 5
- International human rights law
 - jurisdictional issues 68
 - multinational corporations not bound by 68
- International investment law 21
- International judicial and arbitral fora, possible integration of 13
- International Labour Organization (ILO), cooperation with Economic and Social Commission for Asia and the Pacific and UNDP 181
- International law
 - adaptation 87–96
 - overview on climate change adaptation 7
 - right to information in 95
 - state responsibility 84
- International Law Commission (ILC)
 - appointment of Rapporteur on the Protection of the Atmosphere 64
 - Draft Articles on Prevention of Transboundary Harm 19
- International Maritime Organization (IMO) 23
 - Assessment Framework for Scientific Research Involving Ocean Fertilization 177–178
 - enforcement of Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (London Convention) 177–178
 - regulation of ocean fertilisation 64

- International obligations 173
- International Organization for Migration 42, 181
- International Organization for Standardization (ISO) 17
 - Technical Specification 14067 149, 164
 - technical specification on carbon footprint measurement 148
- International organizations, application of human rights law to environmental issues 9
- International refugee law 89
- International trade law 69–76
- International trade, liberalisation 69
- International treaties
 - environmental protection 62
 - constraints on 63–65
- International Tribunal for the Environment (ICE) 145–147
 - potential functions of 146
 - powers of 146
 - procedures 146
 - proposal for 116
- International Tribunal for the Law of the Sea (ITLOS) 6, 84, 143
 - international dispute resolution 13
 - jurisdiction 139
- Inuit, petition to IACHR on climate change 120, 126, 131
- Investors, international dispute resolution 13
- Ioane Teitiota v Chief Executive of Ministry of Business, Innovation and Employment* 89
- Irrigation 41

- Japan
 - emissions trading 50
 - litigation 81
 - temperature 34
 - whaling 85
- Japan-Switzerland Economic Partnership Agreement 169
- Joint and several liability 135
- Judicial relief 128
- Judicial review 83, 133
 - United Kingdom 130
- Jurisdiction 86, 128, 136
- Justice, impact of climate change on 2

- Kampala Convention *see* Convention for the Protection and Assistance of Internally Displaced Persons in
- Africa
- Kazakhstan, emissions trading 50
- King, Sir David 88
- Kiribati, *Ioane Teitiota v Chief Executive of Ministry of Business, Innovation and Employment* 89
- Knowledge, relevance to accrual of cause of action 132–133
- Knox, John H. 9, 16, 18, 95, 119, 133, 158
- Knox Report 133, 147
- Korea - Measures Affecting Imports of Fresh, Chilled and Frozen Beef* 73
- Korea-EU Free Trade Agreement 169
- Kyoto Protocol 4, 95
 - Annex I 64
 - Article 2(2) 83
 - Article 8 138

- Article 3 64
 - criticised for lack of ambition 63
 - Doha Amendment 172
 - emissions trading established under 49
 - Governing Body (CMP) 22
 - non-compliance procedure under 138
 - parties to 63
 - provisions on emissions reduction 63–64
 - scope 44
 - subsidies 167
 - violation of GHG emissions caps under 117
- Kyoto Protocol Implementation Act (KPIA) (Canada) 79
- Lakes 40
- Lamy, Pascal 70
- Land, impact of climate change on 41
- Land grabs 183
- Land transactions, monitoring of large-scale international 184
- Law reform, required to deal with climate change 2
- Least Developed Countries Fund, UNFCCC 173
- Least developed countries (LDCs)
 - aid for domestic migration adaptation programmes 173
 - concessions to needs of 4
 - transfer technology to 96
- Legal challenges, climate justice 5–7
- Legal measures, climate justice 8
 - strengthening for climate change justice 116
- Legal order, European Union 123
- Legal standing 128
 - climate change 68
 - need for clear definition of 129–130
- Legal systems, enhancing to achieve climate justice 7–24
- Liability 128
 - climate change 76
 - development of regimes for 117
 - establishing 134–135
 - overview 6
 - standards of 128
 - state 134
- Liberalisation
 - EGS 168
 - international trade 69
- Life, sustaining 41
- Limitation periods, claims 128, 135
- Lisbon Treaty 123
- Litigation
 - domestic 76–83
 - obstacles to 117
- London Convention and Protocol on the Prevention of Marine Pollution 23
- London Court of International Arbitration (LCIA) 14–15, 144
- Maldives Islands, likely loss to rise in sea levels 51
- Malé Declaration on the Human Dimension of Global Climate Change 42, 88

- Malnutrition 39, 93
- 'Mapping reports' 119
- Marine eco-system balance 177
- Marine environment, climate-related damage to 117
- Market share liability, approach to climate change 69
- Marshall Islands 156–157
- Mary Robinson Foundation 3, 46
- Mass influx, displaced persons 92
- Massachusetts v EPA* 77, 131
- Mauritius, PCA located in 141
- MC Mehta v Union of India* 81–82
- Measurement, carbon footprint 148
- Memoranda of understanding 164
- Methane 40, 134
- Mexico 86
 - drought 2, 34
- Middle East, litigation 83
- Migration
 - aid for expanding 173
 - changing patterns of 88–89
 - climate change-related 24, 43, 88–92, 180–183
- Migration patterns, changes dangerous to health 42
- Mining, Australia 81
- Ministerial Conference, WTO 21, 166
- Minority rights 43
- Mitigation 45, 87
 - attempts by UNFCCC to achieve agreement on 44
 - climate change 4
 - justice implications 48–51
 - resource allocation 48
 - role of intellectual property in 96
- Model Foreign Investment Promotion and Protection Agreement (Canada) 170
- Model Law on International Commercial Arbitration, UNCITRAL 8, 11, 127
- Model Statute of the International Environmental Agency and the International Court of the Environment 85–86
- Model Statute on Legal Remedies for Climate Change
 - proposal for 116, 127–136
 - scope of proposed 11
- Monitoring 151–152
- Montreal Protocol on Substances that Deplete the Ozone Layer 64, 138
 - Compliance Committees 12
- Mountains 41
- Multilateral environment agreements (MEAs) 20, 146, 161, 166–168
 - relationship with WTO 21
 - supporting existing obligations under 171
- Multilateral measures, adaptation 23–24
- Multilateral treaties (MEAs) 64, 138, 164
- Multinational corporations (MNCs), not bound under international human rights law 68
- Nairobi Work Programme, UNFCCC 87
- Nansen Principles/Nansen Initiative on Disaster-Induced Cross-Border Displacement 24, 91, 181–182

- National adaptation programmes of actions (NAPAs) 4, 173
- Native Community of the Wichi Hoktek T'Oi People v Environment and Sustainable Development Secretariat* 79
- Natural disasters 89
 - increasing frequency of 39
 - preparation for 94
- Natural resources
 - evolutionary nature of 73
 - extraction 13
 - impact of climate change on 40–41
 - WTO ruling on scope of 73
- 'Necessity' test 73
- Negligence, common law principles 83
- Negotiation 74
 - duty to promote transparency in 161
- Netherlands
 - Headquarters Agreement (PCA) 141
 - Urgenda Foundation v Netherlands* 82
- New South Wales, *Gray v Minister for Planning, Director-General of the Department of Planning and Centennial Hunter Pty Ltd* (Anvil Hill case) 80–81
- New Zealand 182
 - emissions trading 50
 - Ioane Teitiota v Chief Executive of Ministry of Business, Innovation and Employment* 89
- Nigeria
 - Gbemre v Shell Petroleum Development Co Nigeria Ltd* 83
 - litigation 83
 - Social and economic Rights Action Center (SERAC) and Center for Economic and Social Rights (CESR) v Nigeria* (Ogoniland case) 122, 126
- Niue, Cyclone Heta 182
- 'No harm' principle 5, 45–46
 - scope 65–66
- Non-actionable subsidies 167
- Non-compliance, sanctions 151
- Non-derogation measures 169–170
- Non-discrimination 133
- Non-discrimination principle, WTO 71–72
- Non-governmental organizations (NGOs)
 - ability to petition Compliance Committee 19
 - international dispute resolution 13
 - reporting 150
- Non-refoulement principle 90
- North Africa, temperature 2, 34
- North American Agreement on Environmental Cooperation (NAAEC) 76, 138, 161, 170–171
- North American Free Trade Agreement (NAFTA) 12, 76, 138, 170–171
- Norway 91, 181
- Nuisance, common law principles 83
- Obligation-creation 131
- Obligations, to future generations 123
- Ocean based carbon capture and sequestration 23
- Ocean fertilisation 64, 176–177
- Ocean-based carbon capture 177
- Oceans, regulating fertilisation 23

- Office of the High Commissioner for Human Rights (OHCHR) 9, 16, 67, 90–91, 94
- Oil 175
- Ontario, Environmental Bill of Rights 78
- Opinio juris* 65
- Oposa v Factoran*, 130
- Optional Rules for Arbitration of Disputes Relating to Natural Resources and/or the Environment, PCA 7, 13, 136, 139–144
- Organization of African Unity, Convention Governing the Specific Aspects of Refugee Problems in Africa (1969) (OAU Convention) 90
- Ozone layer depletion, Vienna Convention for the Protection of the Ozone Layer (1985) 64

- Pacific islands 181
 - threat to 40
- Pacific Small Island Developing States 179
- Palau 85
- Parent companies 152
- Parliamentary Commissioner for Future Generations, Hungary 124
- Parliamentary Committee for the Future, Finland 124
- Patent rights 185
- Peace, threat to 88
- Pembina Institute for Appropriate Development 79
- Peninsula Principles on Climate Displacement Within States 24, 181–182
- Permanent Court of Arbitration (PCA) 6, 14, 84, 86, 139–144
 - administration 141
 - Administrative Council 139
 - adoption of model arbitration clauses 144
 - Arbitration Rules (2012) 140, 144
 - background to 140
 - function of 140
 - Headquarters Agreement 141
 - international dispute resolution 13
 - locations of 141
 - Optional Rules for Arbitration of Disputes Relating to Natural Resources and/or the Environment 13, 136, 140–144
 - Optional Rules specific to environmental disputes 7, 116
 - reach and expertise 140–142
 - transparency 140
- Persecution, concept of 89
- Peru-US Trade Promotion Agreement 171
- Philippines
 - litigation 81
 - Oposa v Factoran* 130
 - typhoons 2, 34, 39, 42
- Phytoplankton growth 23
- Policy-making, informing 52
- Political-Security Community Blueprint, ASEAN 88
- Pollution
 - localised effects 45
 - policies for reducing and eliminating 133
 - right to be free of unhealthy levels of 123
- Post-carbon world, transition to 46

- Poverty, climate change and 2
- Power generation and distribution 13
- Precautionary principle 21, 64, 82, 131
- Precedent 14
 - international arbitration 145
- Precipitation patterns 40
- Principles 65
- Principles of Responsible Investment (PRI) 18, 153
- Principles for Sustainable Insurance 153
- Private litigation, not permitted under EU law 83
- Pro-climate policies, WTO 20–21
- Procedural rights 160–161
- Proceedings, leave to bring 130
- Process and production methods (PPMs), WTO 72–73, 165
- Products, distinguishing between 72
- Proof, standard of 131
- Proportionality 135
- Protectionism 74
- Protocol to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter 177–178
- Protocol to Convention Relating to the Status of Refugees (1967), UN 89
- Public health, GHG emissions classified as danger to in US 77
- Public interest
 - international law of 137
 - litigation 129
- Public nuisance 117
 - US litigation US 78
- Public and Professional Interest Division, IBA 155
- Public trust
 - doctrine of 124
 - litigation, US 78
- Quebec, emissions trading 50
- Quebec Cap-and-Trade Programme 50
- Rainforests 41
- Rainwater harvesting 94
- Rapporteur on the Protection of the Atmosphere appointed by International Law Commission 64
- Reducing Emission from Deforestation and Forest Degradation (REDD+) 4, 40, 170, 173–175, 183
- Refugee law 180
- Regional Greenhouse Gas Initiative (RGGI), US 50
- Regional trade agreements (RTAs) 21, 75–76, 168, 170
- Regional trade law, framework 75–76
- Regulation 1233/2011 on the application of certain guidelines in the field of officially supported export credits 154
- Relief 128
 - award of 133–134
- Remediation, corporations 149
- Remedies 128
- Renewable energy
 - investment 137
 - subsidies 167
- Report on Intergenerational Solidarity and the Needs of Future Generations, UN 47, 124

- Report on Trade and Climate Change, WTO-UNEP 163
- res judicata* doctrine 130
- Resolutions 65
- Resource allocation, mitigation and adaptation 48
- Resource constraints 3
- Resource efficiency 70
- Responsibility, climate change 69
- 'Responsibility capacity index', suggestion for 69
- Reynolds, Michael 34
- Right to food 7, 51
- Right to health 42
- Right to life 42
 - ruling by ECtHR that environmental degradation may violate 120
- Right to private and family life, ECHR provisions on 120
- Rights, developing minimum core 120–124
- Rio Declaration on Environment and Development (1992) 19, 95, 122
 - Principle 10 122, 160
- Rio Earth Summit (1992) 46
- Rising sea levels 23, 132
 - engaging UN expertise on challenges posed by 179
- River Danube, hydroelectric power stations 86
- Rome Declaration on World Food Security 93
- Royal Society 179
- Ruggie, John 68, 147
- Rules on Transparency in Treaty-based Investor-State Arbitration, UNCITRAL 14, 140, 145
- Russia
 - heatwaves 2, 39, 42
 - temperature 34
- Safety, GHG emissions classified as danger to in US 77
- Salas, Dino et al v Province of Salta and National Government* 79–80
- San Salvadore Protocol to the American Convention on Human Rights 125
- Sanctions, non-compliance 151
- Savannah 41
- Sea levels 2–3, 23, 132
 - engaging UN expertise on challenges posed by rising 179
- Seasonal agricultural labour migration 182
- Security Council, UN 88
- Security, threat to 88
- Sequestration 23, 176–177
- Shoreline erosion 40
- Sierra Leone 185
- Singapore, PCA located in 141
- Skills transfer, developing countries 155–158
- Slovakia, *Case concerning Gab ikovo-Nagymaros Project (Hungary/Slovakia)* 86
- Social development 64
- Social and Economic Rights Action Center (SERAC) and Center for Economic and Social Rights (CESR) v Nigeria* (Ogoniland case) 122, 126
- 'Soft law' 65
- Solar radiation 178–179
- Solar Radiation Management Governance Initiative 179
- South Africa, PCA located in 141
- South America, litigation 79–80

- Southeast Asia, temperature 2, 34
- Space-based reflectors 176
- Special Rapporteur on Internally Displaced Persons, UN 43
- Special Rapporteur on the Right to Adequate Food, UN 92, 95, 184
- Special Representative for Climate Change, UN 88
- Standard of proof 131
- State
 - impact of climate change on 43
 - liability 134
 - procedural duties 122
- State responsibility 69, 76, 117
 - international law 84
 - overview 6
- States Parties to the Kyoto Protocol striving to ratify the Doha Amendments, UNFCCC 22
- Statute of the International Court of Justice 137
- Stockholm Chamber of Commerce 14
- Storage, carbon dioxide (CO₂) 177
- Storms/storm surges 2, 132
- Strategic environmental assessment (SEA) 161
- Stratospheric sulfate aerosols 176
- Strict liability 134
- Subsidiary companies 152
- Subsidies 167
 - definition of 167
 - fossil fuel 70
- Subsidies and Countermeasures Agreement, WTO 21
 - constraints of 74
- Sustainability
 - monitoring 151
 - reporting 150
- Sustainable development 122
- Sweden
 - policy on environmental migrants 92
 - sustainability reporting 150
- Switzerland 91
 - emissions trading 50
- Task Force on Climate Change Justice and Human Rights, IBA 2–3, 5
 - action matrix 26–31
 - establishment of 34
 - Model Statute on Legal Remedies for Climate Change 7–8, 11, 127–136
 - objectives of report by 34–36, 47
 - purpose of report 3
 - recommendations 3
 - summary of recommendations 8
- Technical Barriers to Trade (TBT) Agreement 164
- Technology transfer 24, 64, 185–186
 - constraints on 94–96
 - cross-border 185
 - intellectual property and 185
 - lack of legal obligations on 95
- Temperature 2, 34
 - projected rise in 39

- Temporary and Circular Labour Migration project 182
- Temporary protection, displaced persons 92
- Third Annual Environmental Law Conference, George Washington University 86
- Thun Group of Banks 153
- Tides 40
- Tokyo, emissions trading 50
- Tort claims 117
- Trade agreements, environmental chapters and side agreements 170–171
- Trade law 92
 - overview 6
- Trade policies, unilateral 70
- Traditional food sources 131
- Trans-Pacific Partnership (TPP) 21
 - negotiations 168
- Transatlantic Trade and Investment Partnership (US-EU) (TTIP) 21
 - negotiations 168
- Transboundary harm 122
- Transboundary pollution 64
- Transparency 14, 138
 - climate justice 8
 - duty to promote in international negotiation 161
 - environmental decision-making 19–20
 - healthy environment 122
 - international arbitration 145, 162
 - international judicial and arbitral fora 13
 - PCA 140
 - principle in climate change governance and decision-making 158–162
 - Rules on Transparency in Investor-State Arbitration, UNCITRAL 140
 - under Article 1 of the Aarhus Convention 159
- Treaty on the Function of the European Union (TFEU) 123
- Tropical cyclones 34
- Trust Fund for Human Security, UN 88
- Tuvalu, likely loss to rise in sea levels 51
- Typhoon Haiyan 2, 34, 39, 42
- Typhoons 42

- United Kingdom 84
 - binding GHG disclosure requirements 149
 - Climate Change Act (2008) 83, 150
 - Companies Act (2006) 150
 - corporate reporting 17
 - judicial review 130
 - proposals for expansion of Heathrow Airport 83
- United Nations
 - Charter 46
 - Convention on the Law of the Sea (UNCLOS) 12–13, 23, 64, 76, 84, 117, 179
 - Annex VII 143
 - Article 206 161
 - Article 298 143
 - Article 287(3) 143
 - Article 287(5) 143
 - dispute settlement mechanism 138, 143
 - Convention on the Prohibition of Military or Any Other Hostile Use of Environmental

- Modification Techniques (ENMOD) 178
- Convention Relating to the Status of Refugees (1951) (Refugee Convention) 89–90, 180
- Convention on the Rights of the Child (UNCRC) 119, 125
- Declaration on Human Rights Defenders 122
- Economic Commission for Latin America and the Caribbean 19, 160
- engaging expertise on challenges posed by rising sea levels 179
- Environment Programme Finance Initiative 18
- Fish Stocks Agreement 117
- Food and Agriculture Organization (FAO) 93
- General Assembly 85, 124, 179–180
- Guiding Principles on Business and Human Rights 16, 18, 68, 91, 122, 147–148, 150, 153
implementation 148–149
- Guiding Principles on Internal Displacement 24, 89, 180–182
- Human Rights Council 9, 23, 42, 67–68, 120, 122, 156, 159, 179–180
developing core rights and duties 121
- Independent Expert 68, 119, 125
- Office of the High Commissioner for Human Rights (OHCHR) 9, 16, 67, 90–91
- Protocol to Convention Relating to the Status of Refugees (1967) 89
- Reducing Emission from Deforestation and Forest Degradation (REDD+) 4, 49
- Report on Intergenerational Solidarity and the Needs of Future Generations 47, 124
- Security Council 88
- Special Rapporteur on Internally Displaced Persons 43
- Special Rapporteur on the Right to Adequate Food 92, 95, 184
- Special Representative for Climate Change 88
- Trust Fund for Human Security 88
- Universal Periodic Review (UPR) process 8, 19, 155–156
Reports to highlight climate change justice issues 157, 159
- United Nations Commission on International Trade Law (UNCITRAL)
 - Arbitration Rules (1976) 140
 - Arbitration Rules (2010) 140–141
 - Model Law on International Commercial Arbitration 8, 11, 127
 - Rules on Transparency in Investor-State Arbitration 140
 - Rules of Transparency in Treaty-based Investor-State Arbitration 14, 145
- United Nations Committee on Economic, Social and Cultural Rights 67
- United Nations Conference on Environment and Development (UNCED) 85–86
- United Nations Development Programme (UNDP) 87, 93
cooperation with ILO and Social Commission for Asia and the Pacific 181
- United Nations Economic Commission for Europe (UNECE) 19, 159
- United Nations Environment Programme (UNEP) 19, 38
adopts Guidelines for the Development of National Legislation on Access to Information, Public Participation and Access to Justice in Environmental Matters 160–161
- Finance Initiative 153
- United Nations Framework Convention on Climate Change (UNFCCC) 4, 19, 38, 42–43, 49, 52, 63–64, 68, 95, 124, 133, 143, 171
 - Ad Hoc Working Group on the Durban Platform for Enhanced Action (ADP) 22, 171, 176
Article 3 64
 - Adaptation Committee 87
 - Article 4 7
 - Article 4(1) 4, 46
 - Article 4(2) 46
 - Article 4(7) 4
 - Article 14(2) 137

- Article 14(b) 143
- Article 14.2(a) 143
- Article 14.2(b) 143
- attempts to achieve agreement on mitigation and adaptation 44
- background to 35
- Bali Action Plan 95
- Cancun Adaptation Framework (CAF) 89, 91
- Conference of the Parties (COP) 13, 22
- definition of climate change 44–45
- dispute resolution mechanisms for human rights protections 8
- endorsing process 171–172
- improving 173–175
- Initiative on Reducing Emissions from Deforestation and Forest Degradation (REDD) 94
- Least Developed Countries Fund 173
- Nairobi Work Programme 87
- negotiations 22, 171–176
- Paris Conference (2015) 172
- primary purpose of 93
- recognition of necessity of adaptation 87
- scope 44–45
- States Parties to the Kyoto Protocol striving to ratify the Doha Amendments 22
- United Nations Framework on Corporate Responsibility to Protect Human Rights 16–18
- United Nations High Commissioner for Refugees 42, 91, 94, 180–183
- United Nations University 42
- United States
 - American Electric Power Co v Connecticut (AEP)* 78
 - climate change litigation 77–78
 - Convention on the Rights of Persons with Disabilities (CRPD) 125
 - Corporate Code of Conduct Act 153
 - corporate reporting 17
 - Dodd-Frank Wall Street Reform and Consumer Protection Act (2010) 153
 - drought 2, 34
 - emissions trading 50
 - Environmental Protection Agency (EPA) 77
 - Federal Clean Air Act 77
 - Federal regulatory litigation 77
 - Foreign Corrupt Practices Act (1972) 153
 - GHG emissions classified as danger to public health, safety and welfare in 77
 - hurricanes 39, 42
 - low temperatures 2, 34
 - Massachusetts v EPA* 77, 131
 - public nuisance litigation 78
 - public trust litigation 78
 - Regional Greenhouse Gas Initiative (RGGI) 50
 - US Supreme Court affirms EPA's authority to regulate GHG emissions 77
 - United States - Import Prohibition of Certain Shrimp and Shrimp Products* 73
 - United States - Measures Affecting the Production and Sale of Clove Cigarettes* 72
 - United States - Standards for Reformulated and Conventional Gasoline* 73
 - Universal Declaration of Human Rights (UDHR) 66, 93
 - Universal Periodic Review (UPR) process, UN 8, 19, 155–156
 - reports to highlight climate change justice issues 157–158
 - Urban planning 122
 - Urgenda Foundation v Netherlands* 82

- Uruguay, *Argentina v Uruguay* (Pulp Mills case) 85
- US Model Bilateral Investment Treaty (2012) 169
- Vector-borne diseases 42
- Venezuela, weather events 42
- Verification
 - GHGs emissions 17
 - human rights reporting pertaining to human rights 17
- Vienna Convention for the Protection of the Ozone Layer (1985) 64
- Volcanic eruptions, Columbia 182
- Warsaw Framework for REDD+ 63–64, 174
- Water levels 40
- Water scarcity 39
- Waterways 40
- Welfare, GHG emissions classified as danger to in US 77
- West African Research Development Association 185
- Western Climate Initiative 50
- Whaling 85
- Wichi Native Community 79
- Wildlife 41
- Women, increased health risks to 43
- Working Group on Climate Change Justice, IBA 127
- Working Group on the Legal Aspects of Climate Change Adaptation, IBA 24, 176, 180–186
 - recommendation for 8
- World Academy of Sciences 179
- World Bank 51, 93, 183
 - International Centre for Settlement of Investment Disputes (ICSID) 14
- World Food Programme 92
- World Health Organization (WHO) 93
- World Meteorological Organization 38
- World Trade Organization (WTO) 6, 85
 - Agreement on Subsidies and Countervailing Measures (SCM) 71, 166
 - Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) 96, 185
 - amending agreements 166–168
 - Appellate Body 21, 164, 167
 - Brazil - Measures Affecting Imports of Retreaded Tyres* 73
 - Canada - Measures Relating to the Feed-in Tariff Program* 74
 - Dominican Republic - Measures Affecting the Importation and Internal Sale of Cigarettes* 72
 - EC - Measures Affecting the Approval and Marketing of Biotech Products* 165
 - Korea - Measures Affecting Imports of Fresh, Chilled and Frozen Beef* 73
 - United States - Import Prohibition of Certain Shrimp and Shrimp Products* 73
 - United States - Measures Affecting the Production and Sale of Clove Cigarettes* 72
 - United States - Standards for Reformulated and Conventional Gasoline* 73
 - climate policy 8
 - Committee on Trade and Environment (CTE) 20, 163–164
 - consideration of standalone environmental or climate change agreement within framework of 167–168
 - dispute resolution mechanism 69
 - Dispute Settlement Body 12, 164
 - Doha Round 6, 70, 167
 - environmental reforms 20–21
 - General Council 166

- general exceptions to obligations 73–74
- greening disciplines 164–166
- Ministerial Conference 21, 166
- need for clarification on emissions allowances 21
- non-discrimination principle 71–72
- objectives 20
- obstacles to states' domestic climate change regimes 71
- Preamble to Agreement establishing 69
- pro-climate policies 20–21
- process and production methods (PPMs) 72–73, 165
- reforms 163–168
- relationship with MEAs 21
- role in combating climate change 69–70
- Subsidies and Countermeasures Agreement 21
- World Trade Organization-United Nations Environment Programme
Report on Trade and Climate Change 163

‘Through this report the legal community embraces climate justice, elucidates the links between climate change and human rights and makes clear recommendations on ways to secure justice for those affected by climate impacts.’

Mary Robinson *President, Mary Robinson Foundation – Climate Justice;
United Nations Secretary-General’s Special Envoy for Climate Change*

‘On the basis of a comprehensive review of the relevant domestic and international law, this report suggests concrete steps towards achieving climate justice that are both far-reaching and eminently sensible. Its analysis and recommendations should be read by everyone involved in climate policy.’

Professor John H Knox *UN Independent Expert on Human Rights and the Environment;
Professor of International Law, Wake Forest University School of Law*

‘This ground-breaking report by a remarkable group of lawyers, judges and scholars from around the world draws on the weaknesses inherent in current domestic and international law to identify opportunities for reform by governments, UN bodies, the WTO, human rights tribunals, courts, corporations and individuals to reduce greenhouse gas emissions and provide justice to those most affected by climate change.’

Michael B Gerrard *Andrew Sabin Professor of Professional Practice;
Director, Sabin Center for Climate Change Law, Columbia Law School, New York*



the global voice of
the legal profession