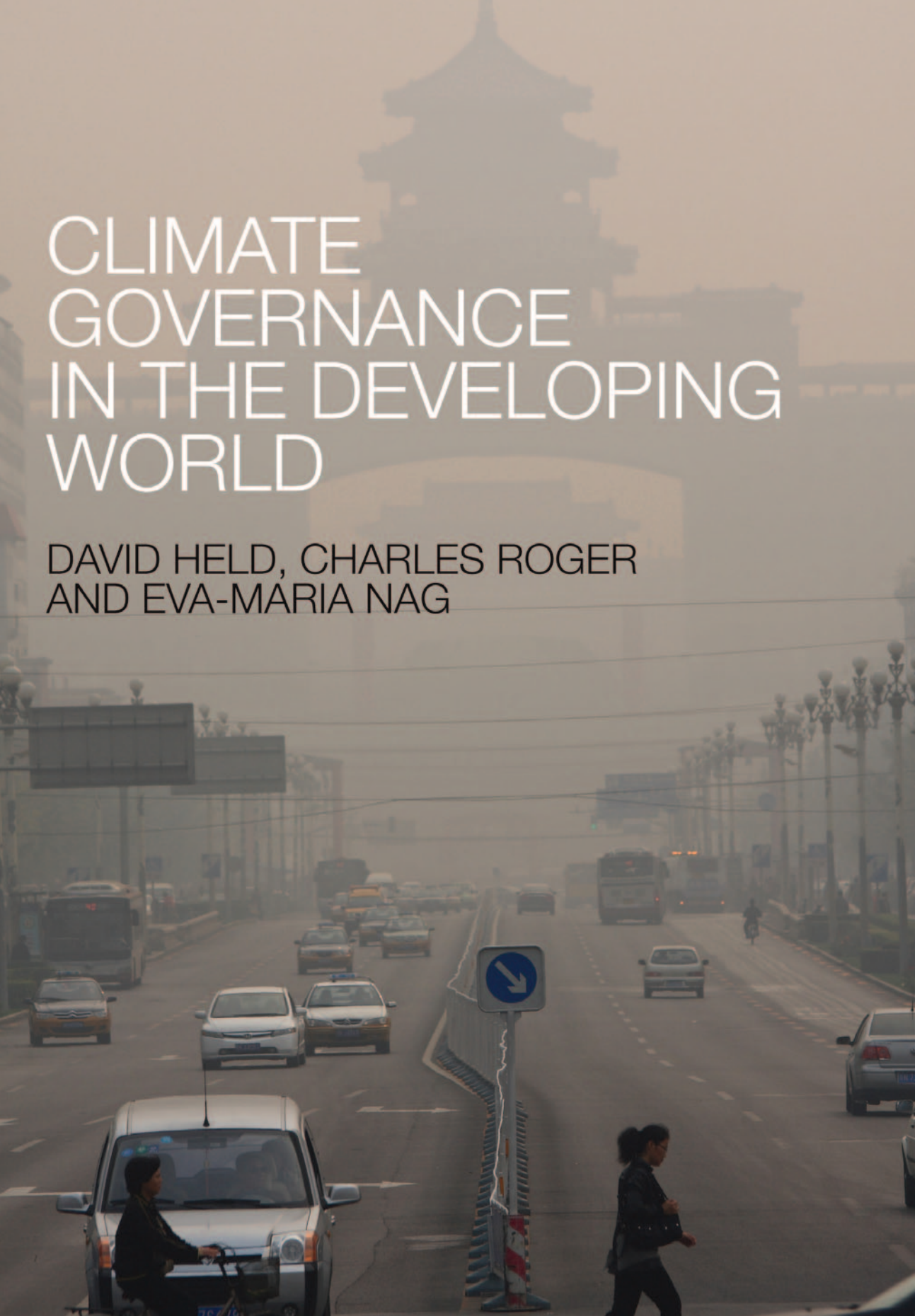
CLIMATE GOVERNANCE IN THE DEVELOPING WORLD

DAVID HELD, CHARLES ROGER AND EVA-MARIA NAG



Climate Governance in the Developing World

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Edited by
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Preface

The problem of climate change cannot be overstated. It is an issue of global significance with far-reaching transnational as well as intergenerational consequences for the life chances of people across the world. The brute fact is that greenhouse gas emissions are rising at an alarming rate and we have done far too little to reverse this shocking trend. We seem to be racing towards a tipping point after which the risks of climate change become tragic, irreversible realities. Having said this, there have been many important efforts, locally, nationally and globally, to address this threat. Some have been more promising than others, but where there have been some successes it is important to understand how this has occurred and to try and build on these relative achievements. By understanding what works and what does not we shed light on a path to more effective climate governance.

The responsibility for addressing climate change has conventionally been placed on the shoulders of the industrialized world. Indeed, this notion is more or less enshrined in the United Nations Framework Convention on Climate Change and, especially, in the Kyoto Protocol. Since the dawn of industrialization, now-developed states have contributed immensely to global stocks of greenhouse gas, and they must take action to mitigate future climatic changes and reduce the effects of those already imminent. However, with the rapid development of Asia and many other regions of the world, developing countries are now becoming major contributors to climate change as well. China has become the largest single emitter of greenhouse gases; Brazil, India and Indonesia now produce more greenhouse gas emissions individually each year than Japan or Germany; and South Korea and Mexico's emissions outstrip those of France and Italy. As a result, the prospects for addressing climate change without major efforts by states in the developing world are rapidly diminishing. It is essential for them to shift their emissions trajectories downwards as they grow.

It is striking and encouraging that some developing countries have established sophisticated responses to climate change. This is a trend that warrants much greater attention. China, Brazil, South Korea, Mexico and others are increasingly on the frontline of climate policymaking and can be considered global leaders in a number of significant ways. Some of the actions they are taking are comparable to the finest efforts made by the wealthier, industrialized world.

Others, such as Argentina and South Africa, are clearly laggards, and most developing states probably come closer to their poorer record. Yet this observation gives rise to an important question: how are some developing countries becoming more ambitious and successful than others in responding to climate change? Since many – perhaps most – developing countries remain unprepared for climate change and face immense political and economic barriers, the answer to this question is not obvious. This book explores this issue by closely analysing the experiences of twelve different countries in three regions of the globe, in Asia, the Americas and Africa. By examining these countries, it offers the most comprehensive study thus far on climate governance in the developing world.

The research undertaken in this book initially developed as a result of a generous grant provided to the editors by L'Agence Française de Développement (AFD). We are very grateful to the AFD for having provided the resources to conduct this work, which was undertaken over a three-year period and involved extensive travel, interviews and data gathering in several countries. While the original AFD-funded research focused on only a subset of those countries covered in this book, it revealed empirical complexities that had gone largely unnoticed and, in our view, presented a number of interesting puzzles. Thus, we expanded the project's scale and scope by bringing a series of additional researchers on board in order to examine these new dimensions of climate policymaking across a wider range of countries.

The editors would like to thank the many people who have contributed to the development of this volume and the research that underpins it. Above all, the contributors have been more than generous in sharing their expertise for the benefit of this book. Working alongside them has been a learning experience in the best sense. Many more were involved in producing this book in other ways. For their support and/or for very helpful comments and discussion at various stages of research and writing, we would like to thank Richard Balme, Satishkumar Belliethathan, Jean-Marc Coicaud, Olivier Charnoz, Björn Conrad, Robert Falkner, Tony Giddens, Tom Hale, Jin Xiaoting, Vannina Pomonti, Eduardo Viola, Robert Wade, Anna Wishart, Zha Daojiong and Zhang Haibin. Angus Hervey and Kyle McNally are also to be thanked for providing important research support, as well as Aida Kowalska, Danielle Da Silva and Dave Steinbach. Finally, we would like to thank everyone at Polity for all they did to turn the manuscript into the book that is now in your hands.

David Held
Charles Roger
Eva-Maria Nag

5 November 2012

Abbreviations

AAP	Africa Adaptation Programme
ABD	Arab-British Dynamics Company
ADII	Association of Comprehensive Indigenous Development
AFE	average fuel economy
AIJ	activities implemented jointly
AMCEN	African Ministerial Conference on the Environment
ANC	African National Congress
AOI	Arab Organization for Industrialization
AOSIS	Alliance of Small Island States
AU	African Union
AusAID	Australian Agency for International Development
AWG-LCA	Ad Hoc Working Group on Long-Term Cooperative Action
BAPPENAS	National Development Planning Agency
BASIC	Brazil, South Africa, India, China
BAU	business-as-usual
BCCF	Brazilian Climate Change Forum
BRICS	Brazil, Russia, India, China, South Africa
C40	C40 Cities Climate Leadership Group
CAHOSCC	Conference of African Heads of State and Government on Climate Change
CANAECO	National Ecotourism Chamber of Commerce
CANE	Coalition Against Nuclear Energy
CAS	Chinese Academy of Sciences
CATIE	Centro Agronómico Tropical de Investigación y Enseñanza
CBD	Convention on Biological Diversity
CCA	Center for Atmospheric Sciences
CCGC	National Board for the Coordination of Disaster Management
CCS	carbon capture and sequestration
CDF	Clean Development Fund
CDM	Clean Development Mechanism
CER	certified emissions reduction
CFE	Comision Federal de Electricidad

CFL	compact fluorescent lamp
CI	Conservation International
CICC	Inter-Ministerial Commission on Climate Change
CIM	Inter-Ministerial Committee for Climate Change
CIMGC	Inter-Ministerial Commission on Climate Change
CMA	China Meteorological Administration
CNA	National Environment Commission
CO_2e	carbon dioxide equivalent
COFEMA	Federal Council of the Environment
COMEGEI	Climate Change Office
CONCAMIN	Mexican Federation of Chambers of Commerce
COP	Conference of the Parties
CRE	Energy Regulation Commission
CRGE	climate-resilient green economy
CSE	Centre for Science and Environment (ch. 3); Conservation Strategy of Ethiopia (ch. 11)
CSP	Country Studies Program
CTGC	Technical Council for Disaster Management
CTL	coal-to-liquid
DANIDA	Danish International Development Agency
DEA	Department of Environment
DEAT	Department of Environment and Tourism
DME	Department of Minerals and Energy
DNPI	National Council on Climate Change
DOE	Department of Energy
EACP	East Asia Climate Partnership
EC	European Community
ED	Environmental Defense
EDRI	Ethiopian Development Research Institute
EEAA	Egyptian Environmental Affairs Agency
EECCHI	Energy Efficiency and Conservation Clearing House Indonesia
EIUG	Energy Intensive User Group
ENCC	National Strategy on Climate Change
EPA	Environmental Protection Authority
EPACC	Ethiopian Programme of Adaptation to Climate Change
ESCO	energy service company
EU	European Union
FCPF	Forest Carbon Partnership Facility
FDI	foreign direct investment
FONAFIFO	National Fund for Forestry Financing
FORESTA	Forest Resources for a Stable Environment
FRELIMO	Front for the Liberation of Mozambique

FUNDECOR	Fundación para el Desarrollo de la Cordillera Volcánica Central
FYP	Five-Year Plan
G8	Group of 8
G20	Group of 20
G77	Group of 77
GDP	gross domestic product
GEF	Global Environment Facility
GGGI	Global Green Growth Institute
GHG	greenhouse gas
GIR	Greenhouse Gas Inventory and Research Center
GIZ	German Agency for International Cooperation
Gt	gigatonne
GTP	Growth and Transformation Plan
GW	gigawatt
GWh	gigawatt-hours
IBA	important bird area
IBAMA	Brazilian Institute of Environment and Renewable Natural Resources
IBSA	India, Brazil, South Africa
ICCSR	Indonesia Climate Change Sectoral Roadmap
IEA	International Energy Agency
IFCA	Indonesian Forest Climate Alliance
IFI	international financial institution
IGCCC	Intergovernmental Committee on Climate Change
IMCCC	Inter-Ministerial Committee on Climate Change
IMF	International Monetary Fund
INAM	National Meteorological Institute
INBio	National Biodiversity Institute
INC	Intergovernmental Negotiating Committee (ch. 9); Initial National Communication (ch. 12)
INE	National Ecology Institute
INGC	National Institute for Disaster Management
IPCC	Intergovernmental Panel on Climate Change
IPM	integrated pest management
IREP	Integrated Rural Energy Programme
JI	Joint Implementation
JICA	Japan International Cooperation Agency
KBIZ	Korean Federation of Small and Medium Business
KCCI	Korean Chamber of Commerce and Industry
KCER	Korea Certified Emissions Reduction
KEF	Korea Employers Federation
KITA	Korean International Trade Association

KP	Kyoto Protocol
kWh	kilowatt-hour
LDC	least developed country
LED	low emissions development
LEDS	Low Emissions Development Strategy
LOI	letter of intent
LSE	London School of Economics and Political Science
LTMS	Long Term Mitigation Scenarios
LUCF	land use change and forestry
LULUCF	land use, land use change and forestry
MCT	Ministry of Science and Technology
MDM	Democratic Movement of Mozambique
MEMR	Ministry of Energy and Mineral Resources
MENA	Middle East and North Africa
MICOA	Ministry for the Coordination of Environmental Affairs
MINAG	Ministry of Agriculture
MINEAT	Ministry of Environment, Energy and Telecommunications
MMA	Ministry of the Environment
MME	Ministry of Mines and Energy
MOARD	Ministry of Agriculture and Rural Development
MoE	Ministry of Environment
MOFA	Ministry of Foreign Affairs
MOFED	Ministry of Finance and Economic Development
MOST	Ministry of Science and Technology
MOTC	Ministry of Transport and Communication
MOTI	Ministry of Trade and Industry
MOWE	Ministry of Water and Energy
MPD	Ministry of Planning and Development
MRV	measuring, reporting and verification
Mt	megatonne
MW	megawatt
NAMA	Nationally Appropriate Mitigation Action
NAPA	National Adaptation Programme of Action
NAPCC	National Action Plan on Climate Change
NBCI	National Biomass Cookstove Initiative
NCCCC	National Coordination Committee on Climate Change
NCCCLSG	National Climate Change Coordinating Leading Small Group
NCCS	National Climate Change Strategy
NDRC	National Development and Reform Commission
NEA	National Energy Administration
NEC	National Energy Commission
NEEDS	National Environment, Economic and Development Study

NELG	National Energy Leading Group
NEPA	National Environmental Protection Agency
NGO	non-governmental organization
NLCCC	National Leading Committee on Climate Change
NMA	National Meteorology Agency
NRDC	Natural Resources Defense Council
NREA	New and Renewable Energy Authority
ODA	official development assistance
OECD	Organization for Economic Cooperation and Development
PARP	Poverty Reduction Action Plan
PASDEP	Plan for Accelerated and Sustained Development for Ending Poverty
PBMR	Pebble Bed Modular Reactor
PCA	Partnership for Climate Action
PCGG	Presidential Committee on Green Growth
PCN	Paz con la Naturaleza
PCSD	Presidential Commission on Sustainable Development
PECC	Special Climate Change Programme
PES	payment for environmental services
PND	National Development Plan
PNMC	National Policy on Climate Change
PPCR	Pilot Programme for Climate Resilience
PPP	purchasing power parity
PQG	Five-Year Plan
PRI	Institutional Revolutionary Party
PROALCOOL	National Alcohol Programme
PSA	Pago por Servicios Ambimentales (payment for environmental services)
PV	photovoltaic
R&D	research and development
RAN-GRK	National Action Plan for Greenhouse Gases Reduction
REDD	Reducing Emissions from Deforestation and Forest Degradation
REDD+	Reducing Emissions from Deforestation and Forest Degradation Plus
RENAMO	Mozambique National Resistance
Rs	Indian rupees
RWA	Rural Women's Assembly
SACP	South African Communist Party
SAGARPA	Ministry of Agriculture, Livestock and Rural Development
SANCO	South African National Civic Organization
SAP	structural adjustment programme

SAPCC	State Action Plan on Climate Change
SCT	Ministry of Communications and Transport
SDPC	State Development Planning Commission
SEA	Strategic Environmental Assessment
SECOFI	Ministry of Commerce and Industrial Development
SEDESOL	Ministry of Social Development
SEDUE	Ministry of Ecology and Urban Development
SEMARNAP	Ministry of Environment
SEMARNAT	Ministry of Environment
SENER	Ministry of Energy
SEO	State Energy Office
SIDS	small island developing state
SINAC	National System of Protected Areas
SME	small and medium-sized enterprise
SRE	Ministry of Foreign Relations
SSTC	State Science and Technology Commission
SUP	Structural Adjustment Programme
SWEG	Elsewedy for Wind Energy Generation
TERI	The Energy and Resources Institute
TFCA	Tropical Forest Conservation Act
TNA	Technology Needs Assessment
TNC	The Nature Conservancy
TPES	total primary energy supply
UAE	United Arab Emirates
UK	United Kingdom
UKP4	President's Delivery Unit for Development Monitoring and Oversight
UN	United Nations
UNAM	Universidad Nacional Autónoma de México
UNCED	United Nations Conference on Environment and Development
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UN ESCAP	United Nations Economic and Social Commission for Asia and the Pacific
UNFCCC	United Nations Framework Convention on Climate Change
UN-REDD	United Nations collaborative initiative on Reducing Emissions from Deforestation and Forest Degradation
UNWTO	United Nations World Tourism Organization
US	United States (of America)
USAID	United States Agency for International Development
VA	voluntary agreement
VCO	voluntary carbon offset

WBCSD	World Business Council for Sustainable Development
WRI	World Resources Institute
WWF	World Wide Fund for Nature

1

Editors' Introduction: Climate Governance in the Developing World

David Held, Charles Roger and Eva-Maria Nag

For most of the period since the early 1990s, the locus of action on climate change has largely been in the industrialized world. The 1997 Kyoto Protocol is, for example, the most ambitious international effort to establish quantitative limits on countries' greenhouse gas (GHG) emissions. During the first commitment period, it obliged a group of thirty-seven countries to reduce their emissions collectively to 5 per cent below 1990 levels by 2008–12. Yet this only applied to industrialized states, known as 'Annex I' countries in the United Nations Framework Convention on Climate Change (UNFCCC). Developing countries, known as 'non-Annex I states',[1] were effectively excluded from any binding obligations. Within the industrialized world, the European Union in particular has been at the forefront of efforts to govern climate change. The European Emissions Trading System, the world's first multinational emissions trading scheme, was launched in 2005, and a range of other Europe-wide climate policies have been enacted since then. Many European states, like the United Kingdom, Denmark and Germany, have also established policies to promote the adoption of renewable sources of energy, created policies to encourage energy efficiency, or implemented national carbon taxes designed to put a price on carbon and abate emissions.

Action in the industrialized world is, of course, not confined to the European continent and the British Isles. Outside of Europe, Japan has created a range of climate mitigation policies, New Zealand operates a mandatory emissions trading system, and Australia now plans to establish one as well. National policies in North America are much less developed and coherent, but individual states, provinces and municipalities in the United States and Canada have taken the lead and created their own climate change policies despite the dearth of action at the national level. California, for instance, has set a goal of reducing its emissions to 1990 levels by 2020 and has established a statewide cap-and-trade system to meet it; Quebec and British Columbia (in Canada) have implemented carbon taxes, while Alberta operates a baseline-and-credit emissions trading scheme;

and a number of cities in both the United States and Canada have established climate action plans. Finally, many sub-national governments in North America have also worked together through regional carbon trading schemes such as the Western Climate Initiative and the Regional Greenhouse Gas Initiative.

Even though the above developments in the industrialized world have been insufficient to meet the challenge of global warming, they have traditionally constituted the 'frontline' in the global battle against climate change. By contrast, developing countries since the early 1990s have consistently maintained that they have little obligation to take immediate action. In the international climate change negotiations, they have proven deeply reluctant to adopt binding mitigation targets similar to those adopted by industrialized states under Kyoto. Doing so, they have argued, would reduce the space for economic growth and development, which are viewed as overriding priorities. Further, since currently developed states did not have to curb emissions during their own industrialization experience, it would be patently unfair for developing countries to have to do so, even if this were for the 'global good'. They should be allowed to emit more in order to meet their legitimate socio-economic and developmental needs. Thus, the domestic climate change policies of most developing countries have traditionally been thought to be much less proactive than those in the industrialized world. While they occasionally took actions that had the side-effect of abating emissions (by reducing energy subsidies, for example; see Reid & Goldemberg 1998), one early review of climate change policies in low income countries by an analyst from the United Nations Development Programme (UNDP) summed up its findings by explaining that 'most developing countries are neither prepared to address nor interested in climate change' (Gómez-Echeverri 2000). Climate considerations have, for the most part, hardly figured in plans for economic development, policy-making has been limited, and those actions that have been taken have often been driven by multilateral and transnational actors from wealthier countries, with little domestic ownership (Olsen 2006).

To be sure, most developing states, especially least developed states, are still unprepared for, if not uninterested in, climate change. Yet, over the past several years, one of the most remarkable developments in the arena of climate change has been the growing number of non-Annex I states that have made unilateral commitments to mitigate emissions within their borders. China has recently pledged in its 12th Five-Year Plan to reduce the carbon intensity of its economy by 40–5 per cent from 2005 levels by 2020. Brazil, likewise, now aims to reduce national emissions by 36–9 per cent below its baseline emissions scenario by 2020. Mexico has announced that it intends to reduce emissions by up to 20 per cent from business-as-usual (BAU) by 2020, and plans to reduce emissions by 50 per cent by 2050. South Africa has set a goal of reducing emissions by 34 per cent below BAU by 2020 and by 42 per cent by 2025. Even Ethiopia, after playing a leading role rep-

resenting Africa in the climate negotiations, has established a target of becoming 'carbon free' by 2022. Beyond the elaboration of such targets, however, many developing states have also been creating a welter of more specific plans, programmes and policies for meeting them. These include, for instance, policies for encouraging the use of renewable sources of energy, improving energy efficiency, reducing rates of deforestation and land use change, and raising emissions standards in manufacturing, buildings and vehicles, to name just a few. Some, such as China and South Korea, have even announced plans to establish emissions trading schemes of their own.

Despite these growing commitments, most developing states have not yet adopted more conciliatory negotiating positions at the international level. Many continue to argue that they should not be obliged to adopt binding targets and timetables. Nonetheless, the commitments that developing countries have been making can be seen in the many declarations of Nationally Appropriate Mitigation Actions (NAMAs) that were submitted to the UNFCCC Secretariat after the signing of the Copenhagen Accord in 2009. By the end of 2012, a total of forty-four developing states had submitted NAMAs, in addition to commitments by forty-two industrialized countries.[2] NAMAs are, essentially, a set of targets or policies or actions that a country intends to undertake voluntarily in order to reduce their emissions. They do not establish binding international obligations and there are no legal requirements for states to follow through on their promises. Further, NAMAs vary considerably in their level of detail and ambition. Some set out precise quantitative emissions targets, such as those mentioned above, while others simply list actions without specifying their proposed scope and expected impact. Having said this, NAMAs do broadly offer a rough indicator of the growing scale of the commitments developing states have been making. Together, the commitments made by developed and developing countries cover more than 80 per cent of global emissions, and, if delivered, could reduce emissions from BAU by 6.7–7.7 billion tonnes (Stern & Taylor 2010). But, most interestingly, there now appears to be 'broad agreement' that the actions that have been proposed by developing countries may do more to reduce future global emissions than those pledged by industrialized states (Kartha & Erickson 2011).

Of course, not all plans are likely to be successful. Developing countries continue to face a number of challenges that make implementation especially difficult. In some countries, targets are also far less ambitious, meaningful and credible than elsewhere. Estimates of the stringency of seemingly ambitious plans have been questioned as well. Some, such as Fatih Birol, chief economist of the International Energy Agency, have optimistically estimated that China's recent commitment may reduce projected emissions by as much as one gigatonne or 25 per cent of the total world reduction needed to stabilize average global temperature rise at 2 °C (see AFP 2009). Critics of China's target argue, on the other hand, that its pledge represents

nothing of the sort and, in fact, is little more than the continuation of current policies and measures. This is certainly an important matter for empirical investigation and debate. What is undeniable, however, is that there appears to be a new level of interest in climate change in certain parts of the developing world, a host of new unilateral commitments, and, in some places, seemingly ambitious domestic policies and programmes for achieving them. The locus of climate change policymaking appears to be shifting.

While the contexts within which developing and emerging economies are making their plans and commitments are different, as are their intentions and abilities to achieve them, we argue that there seems to be a new political dynamic underlying this remarkable set of developments that deserves careful scrutiny by both scholars and policymakers. Once considered perennial laggards, some developing countries are now widely regarded as climate policy leaders. Some commentators have even argued that a number of these countries are taking actions that are comparable to – or even more ambitious than – almost anything being done in the industrialized world. Our aim in this book is to explore such claims by closely examining the experiences of twelve important countries across three different regions: Asia, the Americas and Africa. In Asia we look at China, India, Indonesia and South Korea; in the Americas, Argentina, Brazil, Costa Rica and Mexico; and in Africa, Egypt, Ethiopia, Mozambique and South Africa. Together, these countries account for around 50 per cent of the world's population, about 25 per cent of global gross domestic product (GDP) and almost 40 per cent of the world's annual emissions of GHGs at present (when land use change is taken into account) (see table 1.1).

Four of the countries analysed in this book – Brazil, China, India and Indonesia – are 'major' emitters, accounting for almost 85 per cent of all the emissions produced by the countries we consider. They are all among the top ten annual emitters of GHGs globally, and account for over 50 per cent of the developing world's total emissions. These states are therefore intrinsically important from a normative or policy perspective, and have attracted a great deal of interest in scholarly and policymaking communities. Five of the countries – Argentina, Egypt, Mexico, South Africa and South Korea – are 'middle range' producers of GHGs. Their annual emissions are often comparable to those of many European states in absolute and, in some cases, per capita terms (South Korea, for instance). Although they are not individually decisive, the participation of a large number of such states in global mitigation efforts is essential, as they account for a significant share of emissions as a group. Together, the annual emissions produced by these five are similar to India's or Brazil's. Finally, we also consider several smaller 'minor' emitters – Costa Rica, Ethiopia and Mozambique – which are interesting precisely because they are not decisive, and yet (at least in the cases of Costa Rica and Ethiopia) have announced commitments to becoming 'carbon neutral' or 'carbon free' in the near future.

Table 1.1 Descriptive statistics: population, GDP and GHG emissions

			GHG emissions total (2005)[a]			GHG emissions per capita (2005)[a]	
	Population (billions) (2011)	GDP (trillion US$) (2011)	Mt CO_2e	Rank	Percentage of world total	Tonnes CO_2e	Rank
Asia							
China	1.3	7.3	7,194.8	1	16.7	5.5	94
India	1.2	1.9	1,865.0	7	4.3	1.7	152
Indonesia	.2	.8	2,035.5	5	4.7	9.0	58
South Korea	.1	1.1	567.8	14	1.3	11.8	35
Total	2.8	11.1	11,663.1		27.0		
Americas							
Argentina	.0	.4	361.4	27	.8	9.3	55
Brazil	.2	2.5	2,840.5	4	6.6	15.3	19
Costa Rica	.0	.0	9.9	135	.0	2.3	139
Mexico	.1	1.2	671.0	11	1.6	6.3	82
Total	.3	4.1	3,882.8		9.0		
Africa							
Egypt	.1	.2	227.2	33	.5	3.1	121
Ethiopia	.1	.0	73.5	68	.2	1.0	172
Mozambique	.0	.0	24.4	104	.1	1.2	164
South Africa	.0	.4	422.6	23	1.0	9.0	59
Total	.2	.6	747.7		1.8		

CO_2e = carbon dioxide equivalent. GDP = gross domestic product. GHG = greenhouse gas.
Mt = megatonne.
[a] Includes land use change.

Sources: World Bank (2012); WRI (2012).

The cases we have chosen are not of course representative of the total 'universe' of developing countries. Indeed, several lacunae should be immediately apparent. We do not analyse countries from West and Central Asia, some of which may fall into the category of 'middle range' emitters, nor do we consider small island developing states, some of which have made commitments to carbon neutrality (the Maldives and Tuvalu, for example). Exploring the dynamics of climate governance in such states offers an opportunity for future research and comparative analysis, but they are not dealt with in this study. Our cases were chosen primarily because they have submitted NAMAs or made unilateral commitments of various kinds to taking action on climate change. Overall, only 30 per cent of all non-Annex I countries have submitted NAMAs to the UNFCCC secretariat. Of the

twelve analysed in this book, only Mozambique and Egypt have not developed NAMAs, though their experiences are interesting in other highly suggestive ways, discussed further below. These cases therefore constitute a unique group, but one which is intended to be broadly representative of the subset of developing countries that claim to be taking a more ambitious approach to the climate. The aim of each chapter is to examine the international and domestic contexts within which these commitments have been made, the interests at stake, the actors involved and the strategies and policies that have been developed.

In the rest of this introductory chapter, we first discuss why it is increasingly essential to understand the way climate governance is evolving in the developing world. We argue that it is important, above all, because developing countries are having a much greater effect on the climate than in previous decades. However, there are major theoretical issues at stake as well, as current theories of climate politics are not optimistic about the potential for effective climate governance in developing states. Thus, the finding that developing countries are taking action on the issue seems fundamentally to overturn some widely held assumptions about climate and environmental politics in the developing world. Having explored these issues, we then provide a brief overview of the individual cases, highlighting some of the most salient or interesting features and findings that they bring to light. Finally, we conclude by discussing some broad themes that appear across a number of the cases, and which bear upon the theoretical and policy-oriented questions that motivate this book.

What is at Stake?

Understanding how and why some developing countries have become more ambitious with respect to climate change is important, first of all, from a policy or normative perspective. Some developing countries are now major contributors to climate change on a number of measures. Indeed, the annual contributions of some developing states to total annual greenhouse gas emissions are comparable to or even greater than those of states in the developed world. China's share of total annual CO_2 emissions rose from 11 per cent in 1990 to nearly 24 per cent by 2006, and it is now the world's single largest emitter of GHGs. Individually, Brazil, India and Indonesia each now produce more GHGs each year than Japan or Germany, Asia's second largest and Europe's largest economy. South Korea produces more GHGs than France or Italy. Iran produces more GHG in absolute terms than all of Australia. Although many smaller developing countries are not yet major producers of GHGs, if we look at another measure – per capita emissions – it is clear that many are relatively large contributors on a per person basis. The list of top per capita emitters includes a great number of non-Annex I states, such as Belize, Guyana, Qatar and

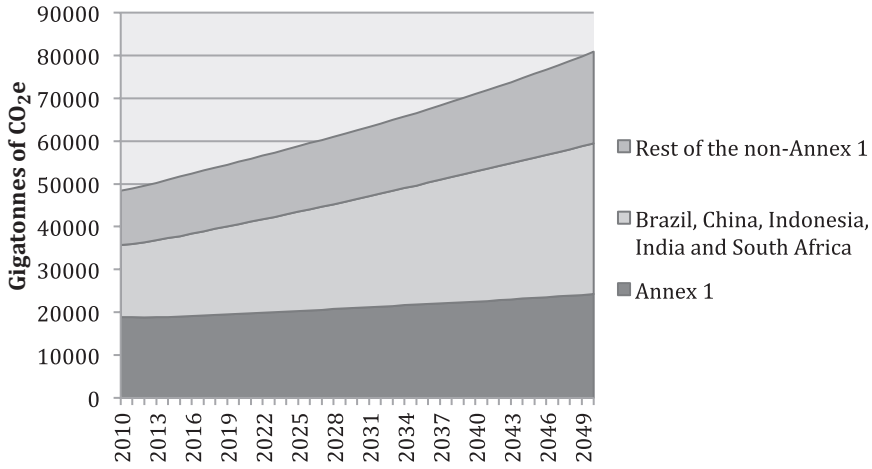

Figure 1.1 Projected global emissions, 2010–50

Source: Based on data from the figure 'GHG emissions: baseline, 2010–2050' from OECD Environmental Outlook Baseline; output from IMAGE/ ENV-Linkages.
CO_2e = carbon dioxide equivalent.

Malaysia. Among industrialized states, only Australia (the ninth largest per capita emitter in the world) makes the top ten.

In total, non-Annex I states currently account for just over half of all GHG emissions in absolute terms, with a few states like China, Brazil and India making up about half of that number in turn. Yet, as economies in the developing world grow, their contributions are only likely to get much larger if major changes do not take place today. As figure 1.1 shows, annual emissions from Annex I states are expected to be relatively stable between now and 2050. Emissions in the United States and Canada are rising and will continue to do so, while emissions in the European Union are expected to fall, though not nearly fast enough for the total level for all Annex I countries to decline. Annual emissions from non-Annex I states, on the other hand, are expected to grow by around 45 per cent. Emissions from Asia are likely to rise by about 53 per cent while those from Latin America and Africa will rise by about 26 per cent each, albeit from very different bases. Thus, developing states will naturally comprise a much larger share of total annual GHG emissions in a relatively short period of time, and their participation in mitigation efforts will be absolutely necessary if global levels of GHGs are to be stabilized at safe levels. In fact, emissions in the developing world are expected to grow so fast according to most 'business-as-usual' scenarios that, even if the industrialized world managed to reduce its emissions to zero by 2040, total global emissions will still be higher than they are today if no changes are made. At the very least, therefore, developing states will have to shift downward the trajectory of their emissions pathways, though many will need to make absolute reductions as well (for further discussion of required non-Annex I commitments see Elzen & Höhne 2008).

One of the best known and most often heard claims about climate change is that it is the historical emissions of industrialized countries that are largely responsible for triggering climate change. For this reason, the UNFCCC states that it is the now-developed world that 'should take the lead in combating climate change and the adverse effects thereof' (UN 1992, p. 4). Historical emissions in developing countries, it also states, are relatively low, and therefore their share of global emissions should be allowed to grow in line with their developmental needs. This picture of things constitutes the 'conventional wisdom' on climate change and undergirds the principle of common but differentiated responsibilities and respective capabilities that is enshrined in the UNFCCC: since developed countries have largely been responsible for the problem of climate change and developing states are expected to feel the worst effects, the former have a duty to mitigate and compensate for the harm to the latter by shouldering the main burden of abating emissions and providing funds for adaptation. Undoubtedly, there are important truths here. Yet this picture is swiftly becoming more complex and, in some places, outdated. Some developing states are already among the greatest contributors to global stocks of GHGs, and in upcoming years the historical contributions of many more will be on a par with industrialized states, as their emissions grow at unprecedented rates (Botzen et al. 2008). This is especially true when emissions arising from deforestation and land use change are taken into account, since they are primarily a phenomenon confined to the developing world (Baumert et al. 2005). Thus, many have come to argue that certain developing states have important ethical obligations to reduce their impact on the climate as well (Posner & Weisbach 2010; Harris 2011).

Given the burgeoning absolute, per capita and historical emissions of the developing world as a whole, proactive climate change policies by developing countries – and especially by several large developing states – are becoming increasingly urgent and, in some cases, ethically appropriate. The world can no longer afford the rigid division of responsibilities among Annex I and non-Annex I states that became entrenched in the UNFCCC and the Kyoto Protocol at the First Conference of the Parties (COP1) in Berlin in 1995. To some extent, this has begun to change after COP16 in 2011 in Durban, where developing countries agreed to negotiate an agreement with 'legal force' that will be applicable to all parties by 2015. The Durban Platform for Enhanced Action contains no mention of the terms 'Annex I' and 'non-Annex I', suggesting that this distinction may be on its way out. This is a promising step, but one that underlines the need to understand why some developing states are becoming climate leaders while others are remaining laggards. Gaining insights into how some developing countries have managed to shift towards, if not attain, a low carbon, climate-resilient development trajectory can help us to understand how climate laggards might become leaders