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### PROOF

# Introduction: Global Governance and Climate Change

Timothy Cadman

#### Purpose of this book

In this volume of edited chapters, the contributors evaluate how the various institutional arrangements, actors and agendas that comprise what has been referred to as the global climate regime complex impact governance quality. Considering the fundamental features of the climate regime complex – notably interests and power – governing the management of climate change is a very fragmented affair. It has been further argued that this fragmentation might actually have advantages over other formations, particularly with regard to adaptability and flexibility – but only if the right conditions are in place (Keohane and Victor 2010: 25). Using an approach based on governance analysis, this book explores these conditions to determine the institutional legitimacy of contemporary responses to anthropogenic climate change.

# Institutions and instruments in the governance of climate change management

The role institutions play in tackling the problem of climate change and how they help or hinder the actions taken have become increasingly significant in recent years (Barnett 2010: 316). The establishment of the Intergovernmental Panel on Climate Change (IPCC) in 1991 set the intellectual framework for global climate deliberations. Once the United Nations Framework Convention on Climate Change (UNFCCC) came into force in 1994, IPCC's largely technocratic approach was heavily influenced by the neo-liberal market order, exemplified by three flexibility mechanisms of the Kyoto Protocol (KP): international emissions trading (IET), joint implementation (JI) and the Clean Development

#### 2 Introduction: Global Governance and Climate Change

Mechanism (CDM). Since 2005 there has also been a European Union Emissions Trading Scheme (EU ETS), linked since 2008 to the purchase of carbon credits from JI and CDM projects. Between the Conference of Parties (COP) 7 in Marrakesh in 2001 and COP 12 in Nairobi in 2006, the original IPCC focus on mitigating atmospheric processes and mean global temperatures began to be supplanted by discussions around vulnerability and adaptation issues (Bäckstrand and Lövbrand 2007: 126-130). Although advocates for environmental justice and southern countries had argued on this perspective for some time previously, the eventual policy shift led to climate change no longer being simply framed as an environmental problem, but as a societal problem with an environmental component (Barnett 2010: 15). This has resulted in a growing interest in strengthening the capacity of southern, developed countries to respond to climate change. Although this has not greatly affected developed countries' actions regarding implementation of the KP, it has added further uncertainty regarding the shape of the post-2012 climate policy landscape (Bäckstrand and Lövbrand 2007: 128-129).

The problem of climate change governance is made more difficult by the ever-increasing and/or evolving numbers of new bodies, mechanisms and proposals relating to policy development and implementation. Climate change management constitutes one of the most significant and normatively embedded post-1992 Rio 'Earth' Summit 'meta' institutions, and the UNFCCC has its own sets of institutional arrangements, replete with a variety of governance systems to tackle the problem of climate change through market-based or other sustainable development initiatives. However, multilateral environmental agreements are no longer the only, or even central, mechanism for global environmental governance and they sit alongside a range of other forms, both public and private, functioning on many different levels and layers of authority and including many different actors - not just governments (Andonova et al. 2009: 52). Although it is mostly state actors who exercise authority on the basis of their control at the national level, climate change governance is simultaneously global and local, state and non-state, and it is characterised by the existence of many forms of authority through which different constellations of actors interact to shape policy outcomes (ibid: 67; Betsill et al. 2006: 141). Consequently, understanding governance more in terms of multi-level, multi-spatial networks is likely to better assist in determining how negotiations between national governments and non-state stakeholders can more effectively contribute to sustainable development post-2012 (Bumpus and Cole 2010: 543). Governance analysis has therefore seen a

Timothy Cadman 3

move away from international relations as the sole lens through which to examine the phenomenon, and comparative politics, political economy and a range of political science approaches are being applied to interpret and shape developments (Bulkeley 2010: 311).

# Interests and issues in the governance of climate change management

The substantive output of Rio, Agenda 21, embedded non-state participation in the normative framework of international environmental policy and the role of non-state interests in environmental decision-making at all levels was formally acknowledged (United Nations 1992: 230–235). The expectation for increased citizen participation in decision-making that these developments have brought about therefore raises some dynamic tensions between state and non-state actors in the creation of global environmental policy. A range of participants are involved in the governance of climate change management, from both the geo-political and sectoral spheres, from the local through to the international, each of which is influencing the other (Bulkeley 2010: 312). Local government, for example, is taking initiatives in its own right and within national and international arenas (Andonova et al. 2009: 52–53; Koehn 2010: 405). The trend is now for transnational cooperation across governmental levels, regions and within networks that include non-governmental organisations (NGOs) and corporations. Non-state actors, previously outside the formal decision-making arenas, are now playing a role in the formation of public policy, and their participation is challenging traditional conceptions of power and authority (Andonova et al. 2009: 52–53). This has implications for the nature of relations between state, society and the economy, and for previous notions of legitimacy and accountability (Bulkeley 2010: 312). Given the cross-border nature of the issue, its complexity and the number of players involved, climate change policymaking has lent itself to this type of governance. The KP in particular has opened up climate change to market mechanisms, creating governance structures that require cooperation between state and non-state actors, even if it is the nation state that ultimately endorses them (Andonova et al. 2009: 57-58).

Sustainable development has been identified as the bridging mechanism for integrating climate change and development policies. This nexus will be highly important in the post-2012 agreement, especially in the provision of financial and technical support (Metz and Cox 2008: 99–100). This is especially the case for the emerging 'Post-Kyoto'

#### 4 Introduction: Global Governance and Climate Change

mechanism to reduce emissions from deforestation and forest degradation (REDD or REDD+). Following the Rio model of engagement, such mechanisms allow for multi-stakeholder participation in the governance of climate change management and enhance local capabilities. However, current arrangements are providing the West with a cheap way to avoid taking action itself, while at the same time privatising the global commons – and making nature the subject of private property rights through the market. These realities reinforce the domination of rich countries over poor, while alienating the poor from their land and decision-making over common resources (Okereke 2010: 470).

There is consequently an inherent and ongoing tension between sustainable development and the governance of climate change management. Contradictions are evident in the KP and the CDM in particular. On the sustainable development side of the equation it promotes specialisation and North/South technology transfer and provides an efficient way of tackling emissions reduction cost-effectively. Developing countries argue that developed countries should take the lead in reducing emissions; developed countries in return argue that they were unaware of the impacts of emissions previously and that it is fairer to allocate burden sharing on the basis of current emission levels (Okereke 2010: 470). The contradictions surrounding sustainable development and North/South relations reveal underlying geo-political tensions about global governance and climate change management. It is usually the case that the more powerful the country, the greater influence it has on international policy positions that best suits it (Okereke 2010: 464). The current regulatory carbon-related framework and its North to South market-based models of capital transfer and carbon finance mechanisms have been characterised as distributing development unevenly. It has even been claimed that the management of sinks through the CDM represents the 're-territorialization' of Northern control over the South. Whoever has the responsibility and authority over 'sinks spaces' – specifically plantations and the management of trees – is especially relevant and is creating a form of global environmental governance that is effectively imperial, an 'empire of carbon management and control' (Paterson and Stripple 2007: 163).

Nevertheless, the formation of intergovernmental climate change policy has also been influenced by a reformist movement led by NGOs and small island states, particularly in the case of Kyoto after 2001, and once the United States withdrew from negotiations. Greater attention is now being given to participation, accountability and transparency in the implementation of Kyoto mechanisms, which has led to some increase

Timothy Cadman 5

in support for carbon markets, voluntary partnerships and ETS among previously hostile stakeholders. This in turn has resulted in greater alignment with the agenda for North/South equity in climate policy. However, whether new governance practices that balance sustainable development, market efficiency and North/South equality will emerge remains to be seen (Bäckstrand and Lövbrand 2007: 136–141).

#### Responses beyond the climate regime

As the discussions above have indicated, there is no single global climate change regime. Rather, the principles, norms, rules and decision-making procedures are spread across a wide range of initiatives operating at the international, plurilateral, bilateral and national levels and promoted by both public and private actors. While there is a tendency to focus on intergovernmental policy responses, these constitute only some of the elements of the broader regime complex. Important plurilateral initiatives include the Asia Pacific Partnership (APP) and the Major Emitters Forum (MEF). Bilateral efforts include collaboration by the United Kingdom and China on technologies for coal combustion and the United States and India on nuclear power (Keohane and Victor 2010: 3-8). In addition, there are a range of subnational, market and civil society initiatives, including the Chicago Climate Exchange (CCE), the International Council for Local Environmental Initiatives (ICLEI) campaign Cities for Climate Protection (CCP) and standards for voluntary offset projects, such as the World Wildlife Fund's Gold Standard.

Other critical policy areas are impacted by climate change, one of the most significant being human services. In the case of health, the well-being of millions of people will be affected by extreme weather events, changes in the spatial distribution of infectious diseases and the ability to maintain key services such as public health and health care, education and health-related infrastructure (Sterling 2010: 20–21). The World Health Organisation (WHO), the coordinating public authority for global health, has already estimated, using available data commencing in the 1970s, that global climate change-related deaths had reached 150,000 per annum by 2000 (WHO in Patz et al. 2005: 13). During roughly the same period, a nexus between climate change and migration was observed by a number of commentators, with the term environmental refugee first appearing in the 1970s, a term reinforced by further studies in 1985 and again in 1995. The studies estimated the number of refugees to be at 25 million, but it could rise to as many as 200 million

#### 6 Introduction: Global Governance and Climate Change

by 2025 (Marquina 2010a; 2010b: 192–193). Despite these predictions, policy response to date has been labelled insufficient and the governance of migration incoherent (ibid: 203; Betts and Loescher 2010: 1). Water availability, both in terms of quality and quantity, is a further predicted consequence of climate change, and impacts on agriculture and food availability for local populations are seen as being particularly pressing. Addressing water-related legal, regulatory and institutional arrangements is therefore essential, and some policy reform is already underway (Mustafa 2010: 35–43). In Europe, preparing for water scarcity is an acknowledged element of adaptation to climate change and a component in the European Union's latest White Paper, which is itself a follow-up to a 2007 Green Paper, where it was acknowledged that changes in temperature of between 2°C and 3°C could affect the water resources of as many as three billion people (Monreal and Amelin 2010: 70–74).

These and other issues have made climate change a major human security priority for the international community. But although everybody appears to accept this is a looming problem, there is at present no consensus on how to deal with it. This is not only partly due to issues of complexity, as every country will have different local manifestations, but also due to divergent agendas on climate change-related factors such as greenhouse gas (GHG) emissions, deforestation and environmental degradation generally, and economic growth (Caballero-Anthony 2010: 393). Nevertheless, there is recognition that one response arising out of existing mitigation and adaptation policy approaches is that of conflict prevention. Here the discussion regarding climate change inevitably cycles back to governance, particularly in terms of responsibility, decision-making and problem solving, all of which are identified as critical determinants of institutional legitimacy (German Advisory Council on Global Change 2008: 167 and 183).

#### Evaluating institutional governance legitimacy: Developments in research and analysis

While the necessity of mitigating and adapting to the impacts of climate change has been debated at length, this has generally not been the case for the institutions themselves that are charged with governing the formation of the necessary policy responses in an effective and responsible way (Thynne 2008: 327–329). Furthermore, despite the many dimensions of climate change being tackled at the global policy level, there continues to be no integrating approach to governance.

Timothy Cadman 7

The problem is made more difficult by the institutional framework at the global level, which is often compartmentalised, whereas climate change is a cross-sectoral issue. Concerns about institutional effectiveness have been voiced at numerous negotiations, and there have been widespread calls for reform of the existing governance arrangements for both climate change management and sustainable development generally. But the development of international environmental policy still does not take place in an arena where all ideas are welcomed and adopted. Nevertheless, there has been a shift in the international climate regime towards a greater recognition of norms and principles that stress standards of behaviour, although justice and equity remain contested terms within the international climate regime (Okereke 2010: 463). One of the key governance challenges is therefore how to design policies that combine normative expectations of 'good' behaviour with conventional power politics (ibid: 471).

There is a growing recognition that more research is needed to explore the dimensions of governance quality in climate mechanisms (Corbera and Schroeder 2011; Thompson et al., 2011). A second, equally important, and related observation is that greater attention should be paid to evaluating the success of climate change policies on the basis of the social processes that drive decision-making (Barnett 2010). This is all the more pressing in view of the fact that governance, as opposed to government, is increasingly acknowledged as a primary means by which social and political interaction can be understood in the global context of state, society and the market. This perspective is predicated on recognising the significance of the social-political nature of stakeholder interactions within contemporary governance systems and the structures and processes that underpin them (Kooiman 2000). This grounds theory and practice within the normative assumption that structures and processes are fundamental to understanding the quality of contemporary governance.

Concerns about the quality of climate change governance often centre upon gaps in legitimacy, and not just specific institutional or technical aspects, particularly among developing country stakeholders (Streck et al. 2009). It has been argued that 'a greater degree of self-awareness might help us to ascertain just what it is we are doing when we use a word like legitimacy, and help us see more clearly what changes this betokens in the discourses of international politics' (Mulligan 2006: 375). Legitimacy has become a core analytical problem for governance scholars, but its study is still in its infancy (Biermann and Gupta 2011; Biermann et al. 2009). Two theories currently dominate.

#### 8 Introduction: Global Governance and Climate Change

Legitimacy can be 'input oriented': that is, derived from the consent of those being asked to agree to the rules and concerning such procedural issues as the democratic arrangements underpinning a given system. Legitimacy can also be 'output oriented': derived from the efficiency of rules, or criteria for 'good' governance, and demonstrated by substantive outcomes (Kjaer 2004). Output-oriented legitimacy can be achieved in climate mechanisms, but a higher degree of input-oriented legitimacy is also necessary, which may require a trade-off between the two (Lederer 2011). It is only through significant interaction that stakeholder interests can be aligned from the local community level to international negotiations. The best way to enable this alignment is to examine how stakeholder interaction is facilitated in climate processes (Thompson et al. 2011). Legitimacy is framed quite specifically in the approach adopted in this volume, as it is conceived as the end point of activity within an institution. It is determined by the degree of successful interaction between the structural and procedural components of the institution's governance system, that is, an integrating model, as depicted in Figure I.1.

The institutional arrangements, underpinning the interactions between the various participants in policy regimes, also have a bearing on governance quality (Koenig-Archibugi 2006: 24). These arrangements refer to commonly identified attributes such as interest representation, decision-making and implementation. One of the major problems with

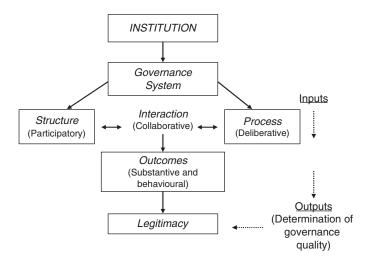


Figure I.1 Theoretical model for evaluating contemporary global governance Source: Cadman 2011: 5

Timothy Cadman 9

studies that examine governance quality is that the attributes chosen for investigation are often limited in number or quite arbitrary and not always reflective of the whole suite of arrangements necessary for investigating institutional performance as a whole. The current focus (almost obsession) on accountability and transparency is a good example. Recent work on the quality and legitimacy of global governance addresses these criticisms through the development of a comprehensive analytical approach based on two core governance arrangements: structure and process. Here, contemporary governance is conceived in terms of 'participation as structure' and 'deliberation as process' (Cadman 2011: 4-5). This is an extension of the existing idea that governance is now to be understood in terms of both structure and process (Pierre and Peters 2000: 14). In such a context, participation and deliberation have a functional significance beyond their particular expression in a given institution; it is not the institution per se but rather how participation and deliberation occur within it that determines the effectiveness of its governance. In totality, the interactions within a given institution represent the major components of what can be termed governance systems, and what structures and processes these systems utilise yield important information about the capacity of a specific institution under investigation to combat climate change.

The structural features of governance focus on which actors are viewed as valid participants. In contrast, process requirements focus on the means employed to reach decisions and implement them. Two principles have been created to emphasise those normative values underpinning participation and deliberation: participation is expected to be *meaningful* (that is, that involvement is genuine rather than tokenistic); deliberation is expected to be productive (that is, that discussion and dialogue are fruitful and actually deliver outputs that can be acted upon). Based on this division between structure as participation and process as deliberation, the meaning of these two principles is elaborated by developing criteria and indicators to examine the degree to which they are achieved in a given institutional policy context. Principles and criteria are not usually capable of being measured directly, but they are formulated to provide a determination on the degree of compliance. They are consequently linked to indicators that are hierarchically lower, represent quantitative or qualitative parameters, and describe conditions indicative of the state of the governance system as they relate to the relevant criterion. The intention behind the placement of these attributes within such a framework is to ensure that they are located at the right level, to allow for a consistent top-down analysis from principles, to criteria, and subsequently to indicators. Consistency in this context relates to the correct location within the framework: it is important that elements are placed at the appropriate level and do not overlap or duplicate those at another and are linked back to the appropriate parameter at a higher level (Lammerts van Bueren and Blom 1997).

Meaningful participation is demonstrated through two criteria: interest representation and organisational responsibility. Interest representation has been linked to three elements of governance that function on the indicator level: inclusiveness, demonstrating who participates in a governance system; equality, indicating the nature of the relationship between participants; and resources, referring to the economic, technical or institutional capacity of participants to represent their interests within the system. Organisational responsibility comprises two indicators: accountability and transparency. These indicators, usually treated together in the literature, refer to the extent to which the behaviour of participating organisations can be called to account both inside the institution and externally by the public at large, as well as being visible or open to scrutiny by other actors within the institution and beyond. Productive deliberation is demonstrated through two criteria: decision-making and implementation. Three indicators are linked to decision-making: democracy, referring not to a specific mode of democracy but rather to the extent to which a system can be deemed to be functioning democratically; agreement, referring to the method in which decisions are reached (for example voting or consensus); and dispute settlement, indicating the system's capacity to manage conflict when there is no agreement or there are challenges to decisions made. Another three indicators are linked to implementation: behaviour change, used to determine whether the implementation of agreements or substantive outcomes results in changed behaviour regarding the problem that the system was created to address; problem solving, referring to the extent to which the system has solved the problem it was created to address; and durability, capturing the two related elements of adaptability and flexibility, as well as longevity (Table I.1).

It should be noted that the key governance concept of legitimacy, identified by many scholars, is not directly included, as it is understood, as Figure I.1 demonstrates, as the end point of activity within the institution. The normative concept being stressed is that the ends and means are equally important. Both are related and consequential to one another and both play a role in legitimacy.

In this book, 'good' governance is therefore not attributed to any single institutional arrangement, such as accountability or transparency

Timothy Cadman 11

Table I.1 Hierarchical framework for the assessment of governance quality

Principle	Criterion	Indicator
'Meaningful participation'	Interest representation	Inclusiveness Equality Resources
	Organisational responsibility	Accountability Transparency
'Productive deliberation'	Decision-making	Democracy Agreement Dispute settlement
	Implementation	Behavioural change Problem solving Durability

Source: Cadman (2011: 17)

and so forth, even though these are of course important. Rather than evaluating the performance of an institution on the basis of a few individual attributes, the approach adopted consequently looks at institutional governance at a systemic level. This provides important information concerning some of the broader parameters affecting quality of governance and their impact on policy responses to climate change.

#### Content and key findings

It could be argued that the approach adopted in this study is partly constructivist in nature, particularly regarding the behaviour of actors within institutional venues (Haas 2002: 74). This perspective shares an interest with state-centric regime theory regarding the effectiveness of global environmental governance, particularly as these relate to intergovernmental organisations (Koenig-Archibugi 2006: 3–12). However, the case studies in this volume examine a wider range of institutional types and systems, both state and non-state, and are not confined to any one critical approach, state-centric or otherwise.

The first four chapters focus on some of the 'big picture' debates associated with climate change. *Chris Taylor* explores how the various discourses within the governance of climate change management arose, and what this has meant for various stakeholders. He finds that once responsibility for climate change management moved from the scientific to the government realm, it became elitist and exclusionary. *Fred Gale* explores the limits of the intergovernmental approach to the

#### 12 Introduction: Global Governance and Climate Change

governance of climate change management. He identifies inadequate structures and processes for meaningful participation and productive deliberation and argues that these deficiencies have led to the current negotiating impasse. Non-state actors, in particular, are unable to significantly influence outcomes. Effective change is more likely to be achieved by refocusing pressure directly on market actors than on attempts to control them via intergovernmental regulation. Focusing specifically on gender as a 'stakeholder' in climate deliberations, Lauren Eastwood elaborates how the ideological and rhetorical components associated with both gender and climate change are used strategically by non-state actors as they attempt to represent their interests in new ways and influence policymaking processes. Adopting a state-centric perspective, Geoff Cockfield investigates the controversy around the merits of adaptation to, or mitigation of, climate change. He predicts that liberaldemocratic states will struggle to accommodate the demands of those who want climate change policy to be focused on mitigation. As a result, state responses will include non-decision-making, compromised mitigation programmes, weak implementation and a lack of accountability in pursuing outcomes and targets. Recognising these problems, he explores the limits and possible costs of relying more on adaptation as a response to climate change.

The next three chapters look at a number of issues surrounding the centrepiece of climate change policy - market-based carbon offset management. In two related chapters Timothy Cadman and Tek Maraseni apply the analytical governance framework outlined in this Introduction to two key policy instruments, the emergent REDD+ programme and the now well-established CDM. After a background discussion on the emergence, architecture and institutional expression of carbon offset mechanisms, Cadman finds that stakeholder perceptions of the governance of UNFCCC REDD+-related negotiations vary considerably among participants from the Global North and South and across stakeholder sectors, with implications for the current design and future directions in market-based approaches to climate change management. Maraseni focuses on the CDM. He identifies two interrelated problems concerning the implementation capacity of the CDM to foster the behaviour change necessary for sustainable development and solve the problem of enhanced GHG emissions. CDM projects have not been able to capitalise on sustainable development objectives because of the distracting incorporation of hydrofluorocarbon projects within the Mechanism and problems associated with the socalled 'unilateral' CDM policy. In addition, despite the disproportionate

Timothy Cadman 13

level of attention, emissions of GHGs have been growing faster in developing countries than elsewhere. Those who have most extensively adopted CDM projects, namely China and India, show little slowdown in domestic emissions, and other developing countries have missed out on CDM investment. Given the importance of investment in such market-based environmental policy instruments, *Matthew Haigh* looks at climate finance and how financial institutions, such as pension funds and insurance companies, have interpreted and used UN-issued climate change management policies. While policymakers have been eager to appropriate the discourse of financial services, they are yet to supply guidance on how policies might best be applied to wealth portfolios. Financial institutions have been left to arrive at determinations without the basic architecture that usually accompanies their decision-making.

The next four chapters comment on four critical policy arenas outside the formal climate change space, but which are nevertheless affected by climate change and climate policies. Jeff Gow explores the impacts of climate change on health systems and the governance of service provision. He concludes that the risks to health of climate change will be incremental, increasing the burden of already occurring diseases like malaria and dengue fever and increasing the incidence of other major killers like diarrhoea and malnutrition. He contrasts the governance of the campaign against Human Immunodeficiency Virus Infection/Acquired Immunodeficiency Syndrome (HIV/AIDS) with health responses within the climate regime, which are fragmented, subject to special interests, uncoordinated and in dire need of integration. Jamie Pittock looks at water availability, which now afflicts a vast portion of the globe, and nearly a third of the world's people lack adequate access to water and sanitation. It is little appreciated that many policy responses to climate change are having perverse impacts on water resources and freshwater ecosystems. He finds little interplay between UNFCCC and other water-related environmental agreements and offers some pointers for governance reform to maximise the integration of climate change responses with sustainable water management. In the context of climate change and its impacts on food availability, Nick Rose provides a critical analysis of the differences between the 'food security' and the 'food sovereignty' approaches to the production, distribution and allocation of food resources and looks to alternative governance models to provide a solution to neo-liberal, market-driven systems. Guilherme Lambais and Guilherme Gonçalves challenge the legitimacy of contemporary energy governance in the context of climate change. They suggest instead a multi-level, multi-stakeholder approach based on renewable

energy innovation and co-evolution of supply and demand, which they believe will kick-start renewable energy markets.

The last four chapters look at the ways in which a variety of societal actors are affected by, or influence, the institutional responses to the governance of climate change management. In two related chapters, Richard Hil and Andrea Berringer explore climate change and conflict and the effects on displaced persons. Hil describes the emerging relationships between climate change, conflict and displacement and provides two specific case studies: Papua New Guinea and Italy. In crafting policy responses to avoiding conflict, he stresses the need to acknowledge socio-cultural differences and an appreciation of the capacity of these differences to generate all manners of disruptions between and within nations. Berringer investigates climate change-induced migration and the ability of conventional refugee regimes to tackle this emerging problem. She provides a number of recommendations as to how to make sure that the needs of climate-related migrants are more effectively represented within these regimes into the future. Heather Zeppel looks at the role of local government in responding to climate change. She looks at the ICLEI and its CCP programme. She finds that an application of a governance analysis reveals who holds the power and influence with such networks. While there is much positive news in local and municipal action, the global climate agenda is dominated by developed countries, and greater effort is needed to integrate developing countries more meaningfully. Julie Cotter discusses how the NGO sector can exert pressure on GHG-emitting organisations by increasing the transparency of climate change management, while simultaneously shaping behavioural norms among major stakeholder groups. She looks at the development of the Climate Disclosure Standards Board as an NGO initiative to establish a comprehensive reporting framework for climate change information. Integration of this framework into mainstream corporate reporting represents a potentially significant improvement in institutional governance while also cementing the role of non-state interests in climate change management.

In the Conclusion, the contributors to this volume summarise their observations on the regimes investigated and provide a series of recommendations with a view to increasing the institutional legitimacy of the governance of the climate regime complex.

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Timothy Cadman 15

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