Changing Climates in North American Politics

Institutions, Policymaking, and Multilevel Governance

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Changing Climates and Institution Building across the Continent

Henrik Selin and Stacy D. VanDeveer

Introduction

Global climate change engenders complex and seemingly contradictory policy responses and outcomes. Whereas the U.S. federal government of George W. Bush rejected the Kyoto Protocol and opposed mandatory greenhouse gas (GHG) restrictions, California simultaneously developed some of the world's most comprehensive climate change laws and regulations. While Canada's federal government ratified the Kyoto Protocol in 2002, Canadian GHG emissions increased faster than U.S. national emissions over the past decade. Many major North American firms fiercely opposed climate change policy in the 1990s and early 2000s, but recently a growing number of corporate leaders have joined governors, premiers, mayors, and civil society representatives from all over the continent to call on federal policymakers to establish national cap-and-trade schemes to regulate GHG emissions. In Mexico, the state-owned oil company was among the first to engage constructively in climate change issues in the 1990s, in stark contrast to leading U.S. and Canadian oil firms.

The causes of climate change play out at multiple governance scales as GHG emissions result from actions and choices of individuals influenced by a range of institutions, from the local to the global. Impacts of climate change are also experienced at global, regional, national, and local levels (DiMento and Doughman 2007). As such, climate change governance involves and links multiple levels of political authority. Much has been written on governance of climate change at the global level (Dessler and Parson 2006; Luterbacher and Sprinz 2001; Miller and Edwards 2001). Recently, scholars have paid more attention to expanding regional, national, and local climate change mitigation (e.g., GHG reduction) and adaptation (e.g., making societies less vulnerable to climatic changes) efforts developing in parallel to global politics and policymaking (Bulkeley and Moser 2007; Harrison and Sundstrom 2007; Selin and VanDeveer 2007). This volume examines causes and implications of climate change–related political action in North America, from continental to

local governance levels, involving a wide range of public, private, and civil society actors.

Climate change politics and policymaking have grown increasingly complex and dynamic across North America during the early years of the twenty-first century. Many of these actions are developing against the backdrop of growing scientific certainty about human influence on the global climate system (Cowie 2007), following trends in climate change–related policy developments in many other regions of the world (Fisher 2004; Harrison 2004; Low 2005; Schreurs 2002; Weart 2003). In its latest set of reports, the Intergovernmental Panel on Climate Change (IPCC) (2007a; 2007b; 2007c) stated that the current warming trend is primarily caused by anthropogenic releases of GHGs and that political and social actions are necessary to avert potentially disastrous effects. Continuing warming may, for example, affect precipitation and storm patterns, alter seasonal patterns, and accelerate melting of the polar ice caps thereby causing rising sea levels. Collectively, these and other climate-related changes would have considerable impacts on human societies and ecological systems worldwide.

Concern among prominent climate scientists about human-induced climate change dates back several decades, but most international and domestic policy debates began in the 1980s (Weart 2003). By 1992, when the world's governments gathered at the United Nations Conference on Environment and Development in Rio de Janeiro, Brazil, climate change was firmly established on the global political agenda. There, governments adopted the United Nations Framework Convention on Climate Change (UNFCCC), which sets the goal of "stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system" (UNFCC 1992, article 2). Five years later, the much-debated Kyoto Protocol was adopted under the legal framework of the UNFCCC, setting mandatory individual-emission targets on carbon dioxide (CO_2) and five other GHGs for thirty-nine industrialized countries and countries with economies in transition, but not for developing countries.

Countries with GHG emission targets that have ratified the Kyoto Protocol are obliged to meet these no later than 2012. Of the three North American countries, only Canada and Mexico ratified the Kyoto Protocol (see table 1.1). Under the Kyoto Protocol, Canada has taken on a legally binding commitment to reduce emissions by 6 percent below its 1990 levels. Mexico, as a developing country, is exempted from mandatory emission reductions. One thing that all three countries have in common, however, is that their national emissions have grown since 1990 (see table 1.2).[1] In general, North American GHG emissions grew about 1 percent per year after 1990 (U.S. Climate Change Science Program 2007). Although Mexican and Canadian emissions have grown faster than those of the United States, the aggregate growth in U.S. emissions exceeds the combined increase of Canada and Mexico.

Table 1.1
North American signatures and ratifications of global climate change agreements

	Canada	United States	Mexico
1992 Framework Convention Adopted: June 1992 Entry into force: March 1993	S: 6/12/1992 R: 12/4/1992	S: 6/12/1992 R: 10/5/1992	S: 6/13/1992 R: 3/11/1993
1997 Kyoto Protocol Adopted: December 1997 Entry into force: February 2005	S: 4/29/1998 R: 12/17/2002	S: 12/11/1998	S: 6/9/1998 R: 9/7/2000

Notes: S = signed; R = ratified. Source: http://unfccc.int.

Table 1.2
North American and global GHG emissions

	Canada	United States	Mexico
Total emissions (CO_2 equivalent) 1990	599 megatons	6109 megatons	383 megatons
Total emissions 2004	758 megatons	7074 megatons	643 megatons*
Total emissions increase since 1990	26.5%	15.8%	67.9%
Per capita emissions (tons CO_2 equivalent) (2000)	22.1	24.5	5.2
Global ranking of per capita emissions (2000)	7th	6th	76th
Population (2000)	31 million	280 million	100 million
Percent of total global emissions (2000)	2.0%	20.6%	1.5%

Notes: * Mexico figure is for 2002. Sources: U.S. Environmental Protection Agency 2006; Environment Canada 2004; UNFCCC 2005; and Baumert, Herzog, and Pershing 2005.

The United States is the world's largest GHG emitter in absolute, cumulative terms. China recently surpassed the United States as the leading global emitter on a yearly basis, but U.S. annual GHG emissions remain high compared to other countries. Furthermore, Canada and the United States have some of the highest per capita emissions in the world. It should also be noted that the U.S. Energy Information Administration (2007) projects that U.S. and Canadian CO_2 emissions will grow by about 1 percent annually through 2030 (absent policy interventions or other changes), while Mexico's emissions are projected to grow by an average of 2.3 percent during the same period. These projections would mean an increase in the three countries' total CO_2 emissions by over 36 percent by 2030.

At a meeting in Bali in December 2007, almost all of the world's countries—including all three North American ones—launched the difficult political process of negotiating a new climate change agreement intended to take effect in 2012, when the Kyoto Protocol expires. Much of North American politics is influenced by the fact that Canada, the United States, and Mexico are pursuing deeper economic integration and higher economic growth under the North American Free Trade Agreement (NAFTA). While there are distinct differences among the North American countries in national attitudes toward the future of global climate change policy and characteristics of federal climate change action, complexities and divergences of climate change policymaking and action are even greater at the subnational level. Climate change policy initiatives are discussed and developed in a multitude of states, provinces, municipalities, and firms.

These many initiatives shape ongoing political debate and policy change at local, federal, and international levels. To better understand North American climate politics and policymaking, it is necessary to move the focus of debate to issues beyond the Kyoto Protocol. The changes in climate policy in North America are driven by continental, national, and local political developments and ongoing climate change and energy initiatives within civil society and private sector organizations. This volume examines four broad questions critical to understanding dynamic and continuing developments in North American climate change politics and policymaking. Some of the volume's chapters speak to all four questions, while others focus primarily on one or two.

1. What are the new or emerging institutions, policies, and practices in the area of climate change governance under development in North America?
2. What roles do major public, private, and civil society actors play, and how do they interact to shape policy and governance?
3. Through which pathways are climate change policies and initiatives diffused across jurisdictions in North America?
4. To what extent can North American climate change action be characterized as existing or emerging multilevel governance, and are local and federal institutions across the continent facilitating or impeding such developments?

North American GHG emissions are quite significant in both absolute and per capita terms (see table 1.2). Quickly stabilizing and then reducing North American emissions is necessary (but not sufficient) to prevent a doubling in atmospheric concentrations of CO_2 from preindustrial levels (which many scientists believe is important). As such, analysts and policymakers interested in short-term political actions and long-term solutions to the climate challenge should pay close attention to the plethora of efforts associated with climate change mitigation across North America

and critically assess the potential accomplishments and limitations of these efforts. North American countries, firms, and citizens are often identified as laggards on GHG reduction efforts. This volume demonstrates, however, that more climate change mitigation politics and policymaking are taking place across the continent than is frequently believed. A rapidly growing number of public- and private-sector actors in North America are preparing for, and often trying to help create, a future of higher costs of carbon emissions where more stringent policies limit the release of GHG emissions.

North American Climate Change Politics in Brief

Multilevel governance across different levels of social organization has attracted growing analytical attention (Bache and Flinders 2004; Finger, Tamiotti, and Allouche 2006; Hooghe and Marks 2003; Young 2002). Multilevel climate change governance is developing simultaneously in multiple jurisdictions as policymaking and regulatory authority are dispersed among actors operating across global, continental, national, and local levels (Betsill and Bulkeley 2006; Bulkeley and Moser 2007; Harrison and Sundstrom 2007). North American climate change governance includes extensive horizontal and vertical interaction among federal, state, provincial, and municipal policymakers, private sector leaders, and civil society representatives. In contrast to European Union (EU) multilevel governance, North American climate change politics has not included strong national government leadership or much effort to coordinate policies across jurisdictions. As such, North American climate change governance has seen much more of bottom-up dynamics and noticeably less of top-down policymaking than has the EU.

There is a century-long history of intense and complex bilateral ecopolitics between U.S. and Canadian federal and state/provincial authorities covering a wide range of pollution and natural resource issues (Dorsey 1998; Le Prestre and Stoett 2006). The U.S.-Mexican border region has also played host to transnational and interstate environmental politics for several decades (Mumme 2003). In addition, Canadian, U.S., and Mexican trade and environmental issues—especially in the context of impacts of NAFTA—have received much scholarly attention (Audley 1997; Deere and Esty 2002; Gallagher 2004; Markell and Knox 2003). However, developing North American multilevel climate change governance appears to involve a greater number of actors, jurisdictions, and institutions than most other areas of transcontinental environmental policymaking and cooperation.

All three North American countries have federal structures. Climate change policies are under debate, enactment, and implementation at the federal level, in states and provinces, in municipalities, and in many firms across the continent. North

American civil society has also become more active and engaged in climate change mitigation and advocacy efforts since the 1990s. However, decision-making authority is divided differently in each of the three federal systems. Furthermore, many federal divisions of authority remain unsettled, as demonstrated by a series of ongoing lawsuits between U.S. states and the federal government and the spirited debates between Canadian provinces and federal authorities around climate change policymaking. As such, issues of federal- and local-level relations must be taken into consideration when examining North American climate change politics. This section briefly summarizes such developments, setting the context for subsequent chapters.

Federal Politics and Policymaking

In the United States, the Bush administration consistently opposed mandatory GHG emission reductions; the previous Clinton administration favored climate change policy action but enacted very little of it. Instead, federal policy focused on voluntary programs with a goal of reducing the GHG intensity of the U.S. economy as measured by national emissions/gross domestic product. However, this policy did not prevent absolute increases in GHG emissions. U.S. federal policy has also favored scientific study of climate change and the development of emissions-reducing technologies. One of the great ironies of climate change politics is that the Bush administration funded more climate change research than any other country—only to ignore most of its findings. The Climate Change Science Program (CCSP) and the Climate Change Technology Program (CCTP) were created in 2002 (Victor 2004). The CCSP was established to support climate monitoring and research on causes of climate change and outlines a plan for development of tools to aid policymaking, while the CCTP is tasked with creating and implementing a research and development program for climate change–related technology.

Throughout the 1990s and the early years of the twenty-first century, the U.S. Congress consistently opposed mandatory GHG controls with strong opposition from post-1994 Republican leaders. In July 1997, the Senate passed the Byrd-Hagel resolution by 95–0, stating its opposition to an international climate change treaty that did not include meaningful participation and commitments from developing countries. According to most senators, the Kyoto Protocol did not pass this test. Senator James Inhofe, former chair of the Senate Committee on Environment and Public Works, famously described global warming as "the greatest hoax ever perpetrated on the American people" (Kolbert 2005). In the early 2000s, the Senate voted down several proposals to establish mandatory national GHG regulations. Proposed GHG emission reductions typically faced even stronger opposition in the House of Representatives.

There are, however, signs of political change in Washington. The 2006 congressional elections resulted in narrow Democratic majorities in both the House of Representatives and the Senate, paving the way for several new initiatives in the 110th Congress (2007–2009). The ruling by the U.S. Supreme Court in April 2007 that the Clean Air Act gives the U.S. Environmental Protection Agency the authority to regulate CO_2 emissions from vehicles was a critical event acting as an important driver of federal policy change. In December 2007, Congress passed a bill increasing Corporate Average Fuel Economy (CAFE) standards for vehicles. While this increase was rather modest, setting the target of thirty-five miles per gallon by 2020, it was the first increase in CAFE standards by Congress in over thirty years. The higher CAFE standards were signed into law by President Bush in the Energy Independence and Security Act of 2007, which also included new efficiency standards for light bulbs and appliances along with substantial subsidies and mandates designed to increase the use of corn-based ethanol and biofuels.

With enhanced majorities of the Democratic Party, leaders in the Senate and the House of Representatives vowed that climate change will receive sustained attention in the 111th Congress (2009–2011), organizing multiple committee hearings on scientific and political aspects of climate change. A host of legislative proposals targeting GHG emissions are under development in both the House of Representatives and the Senate. Several of these bills build on proposals defeated by earlier Congresses and draw on state initiatives. Furthermore, the arrival of President Barack Obama's administration in January 2009 means that supporters of more aggressive climate change policy and action (both domestically and internationally) currently control both ends of Pennsylvania Avenue (i.e., the executive and legislative branches of the federal government).

Canada's national parliament, after lengthy debate, ratified the Kyoto Protocol in 2002. Canada was an early supporter of global climate policy. For example, Canada convened the World Conference on the Changing Atmosphere in Toronto in 1988, which set the "Toronto Target" calling on states to reduce their CO_2 emissions by 20 percent below 1988 levels by 2005 (a goal widely missed by all North American countries). In 1998, four years before ratifying the Kyoto Protocol, the Canadian federal government launched a national process to address climate change. In October 2000, the ministers of Energy and Environment Canada jointly announced a National Implementation Strategy on Climate Change. This Strategy created a framework for Canada's federal, provincial, and territorial governments to collaborate and develop a series of action plans and initiatives to be taken individually and collectively.

As a part of the Strategy, the first National Climate Change Business Plan, released in 2000, set general objectives for research on alternative energy, adaptation, and

education. In 2002, the federal government released a Climate Change Plan for Canada, which contained more specific information including a goal of reducing annual GHG emissions by 240 megatons. In addition, Canada's federal government concluded a series of voluntary initiatives. This action plan was updated in 2005, outlining a series of regulatory and incentive-based efforts to reduce GHG emissions (Pew Center on Global Climate Change 2005). Nevertheless, Canada has steadily increased its GHG emissions since 1990, and Canadian government officials acknowledged in 2006 (and repeatedly thereafter) that Canada will not meet its Kyoto commitments. Several additional federal-level proposals to reduce national GHG emissions were developed in 2007 and 2008, but it remains unclear what will eventually be enacted by Parliament and implemented by the federal government.

Compared to Canada and the United States, climate change has been subject to less political debate in Mexico. Mexico's federal government became engaged on climate change issues largely as a result of the entry into force of the UNFCCC in 1993 and the start of the Kyoto Protocol negotiations in 1995. Since then, successive Mexican governments have publicly recognized the threat of climate change but formulated little federal policy designed to reduce GHG emissions. However, Mexico is increasingly developing projects under the Kyoto Protocol's Clean Development Mechanism (CDM).[2] Mexico is one of only two members of the Organisation for Economic Co-operation and Development (OECD) that did not accept mandatory GHG emission reduction goals under the Kyoto Protocol (the other is South Korea). Mexico is likely to come under sustained pressure to accept future international obligations under the global climate regime during the post-Kyoto negotiations. As such, the role of Mexico in North American and global climate change policy and GHG reduction is likely to increase in the future.

States, Provinces, and Municipalities

U.S. states and Canadian provinces are forging ahead with climate change plans and policymaking beyond what is mandated by federal authorities. Many states and provinces have done so precisely because of what local political leaders, policymakers, and officials see as federal inaction on climate change (Rabe 2004; Rabe 2008; Selin and VanDeveer 2007). These local and regional policy developments are significant as many states and provinces emit GHG emissions at the level of industrialized countries and large developing countries. Together, state and provincial climate change policies and support for renewable energy add up to serious GHG reductions if fully implemented (Byrne, Hughes, Rickerson, et al. 2007; Lutsey and Sperling 2008). Furthermore, just as state and provincial GHG emission levels and trends vary substantially, so too do the enacted policies and political debates across these many jurisdictions (Jiusto 2008; Rabe 2008).

Several states and provinces have adopted GHG reduction targets. For example, the six New England states (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont) and five eastern Canadian provinces (New Brunswick, Newfoundland and Labrador, Nova Scotia, Prince Edward Island, and Québec) in 2001 committed to reduce GHG emissions to 1990 levels by 2010 and to 10 percent below 1990 levels by 2020. They also pledged to ultimately decrease emissions to levels that do not pose a threat to the climate, which according to an official estimate would require a 75 to 85 percent reduction from 2001 emission levels. In 2005, Governor Schwarzenegger committed to reduce California's GHG emissions to 2000 levels by 2010 and to reach 1990 levels by 2020, with the long-term goal of reducing emissions to 80 percent below 1990 levels by 2050. In 2006, the state passed AB32, putting into state law the target of reaching 1990 levels by 2020. Other states—including Connecticut, Hawaii, New Jersey, and Washington—followed suit, writing similar GHG reduction goals into state law.

A majority of U.S. states have initiated a series of policy initiatives designed to reduce their GHG emissions. Both the number of states developing climate change policies and the stringency of their actions have increased over time. Specific actions include the issuing of statewide climate change action plans, mandating that electric utilities generate a specific minimum amount of power from renewable energy sources (so-called renewable portfolio standards) to be increased over time, and establishing public funds to support energy efficiency and/or renewable energy development. In fact, by 2008 over half of U.S. states had enacted renewable portfolio standards and a host of other incentives for renewable energy, helping states like Texas and California to become wind and solar energy leaders (Krauss 2008; Rabe 2004; Richtel and Markoff 2008). Many states have also developed building and product standards and issued rules for public sector purchasing designed to reduce energy use and CO_2 emissions.[3] In addition, California has formulated controls on CO_2 emissions from vehicles and launched a regulatory process designed to produce standards that lower the carbon content of gasoline and other fuels. Several other states are poised to adopt these standards if they survive ongoing legal challenges.

While some Canadian provinces also have stated intentions to reduce GHG emissions, their efforts have typically been fewer in number and more modest in scope than those in many U.S. states. For example, the five eastern Canadian provinces that signed onto a regional action plan with the six New England states in 2001 have taken less action to implement this plan compared to their U.S. counterparts (Selin and VanDeveer 2005). Since 2003, however, Ontario has pursued a series of policies designed to expand renewable energy generation (Rowlands 2007). In 2007, British Columbia, Ontario, New Brunswick, Alberta, Saskatchewan, and Manitoba announced new climate change initiatives and GHG reduction targets. Canada's

western provinces have also accelerated climate change cooperation with states in the western United States (Point Carbon 2007b). By 2008, British Columbia had established itself as the provincial climate change leader with enactment of aggressive GHG reduction goals and a broad-based carbon taxation scheme.

Much public sector debate involving extensive state and provincial participation focuses on the establishment of GHG emissions trading schemes in North America. In 2003, states in the U.S. northeast launched a policy process, which created a regional CO_2 trading scheme involving ten states under the Regional Greenhouse Gas Initiative (RGGI). Joint structures for GHG emission trading are also under development among western U.S. states and some Canadian provinces. Finally, ideas about a possible CO_2 trading system under NAFTA have been raised by a number of actors. These various developments and proposals are drawing technical and policy lessons from existing North American regional and national trading schemes for SO_2 and NO_x (Aulisi, Farrell, Pershing, et al. 2005) as well as experiences with the EU Emissions Trading Scheme, which was formally launched in 2005 covering over 11,500 different installations in all twenty-seven EU member states (Skjærseth and Wettestad 2008).

A growing number of North American municipalities are also initiating climate change action. Many are members of the International Council for Local Environmental Initiatives (ICLEI) and its Cities for Climate Protection (CCP) program. By 2007, the CCP program had over 260 members from the United States, Canada, and Mexico. In joining the CCP program, municipalities commit to, among other things, establishing local GHG emission reduction targets and working toward their implementation. In addition, by 2008, over 800 U.S. mayors from all fifty states and representing approximately 80 million Americans had signed a declaration stating their goal to meet or exceed the U.S. emissions reductions called for in the Kyoto Protocol (7 percent reduction below 1990 emissions levels by 2012). In Canada, the Federation of Canadian Municipalities, with over 1,400 members from all ten provinces and three territories, plays a similar role.

Private Sector Initiatives and Civil Society Engagement

In the 1990s, many North American corporations and trade associations led the opposition against mandatory GHG emission reductions nationally and internationally (Levy 2005; Skjærseth and Skodvin 2001). For example, the Coal Association of Canada ran full-page ads in major newspapers during the final stages of Kyoto Protocol negotiations that read: "Some Japanese terms Canadians ought to know: Seppuku: Ritual suicide with honor. Kyoto: Economic suicide by ignorance" (Macdonald and Smith 1999–2000, 107). Similarly, an industry-funded campaign in the United States portrayed Kyoto as unfair to the United States because developing countries were not required to make GHG reductions.

During the 2000s, however, a growing number of North American firms are taking significant measures to reduce GHG emissions. In doing so, many corporate leaders are discovering that they can save substantial amounts of money in the process. Corporate executives also prepare for a future carbon-constrained economy by, for example, increasing their investments in the development of more energy efficient products and technologies that reduce GHG emissions. More aggressive climate change policy, moreover, creates opportunities for companies in renewable energy generation. The market for consultancy and accounting firms offering their services to private and public organizations that want to participate in credit and/or offset schemes for CO_2 reductions is also growing sharply. In addition, climate change offers both financial challenges and business possibilities to the insurance and reinsurance sector. Thus, in contrast to the 1990s, many large corporations (outside of the oil and automobile sectors) have added their voices and lobbyists to those advocating more serious climate change mitigation and adaptation polices.

Another North American private sector initiative is the creation of a voluntary market for CO_2 emissions permits, the Chicago Climate Exchange (CCX), which opened in December 2003. Membership, which increased from twenty-three firms in late 2003 to seventy by mid-2008, includes U.S. and Canadian corporate giants such as DuPont, Motorola, and Manitoba Hydro. Members commit to reducing their North American emissions by one percent every year for four years, but face no penalties if they do not meet their targets. Some have already made considerable progress, with DuPont reducing its emissions by over 70 percent below 1990 levels by the early 2000s (Goodell 2006). Members join CCX because they recognize the climate change problem, but they also participate for strategic reasons. By joining, companies gain valuable experience in managing GHG emissions, they position themselves at the frontline for a future mandatory trading system they believe is likely, and they hope to reap public relations benefits. The number of traded permits doubled between 2006 and 2007 to 23 million, but prices have remained low (Point Carbon 2008, 4). Further, CCX launched a California division designed to develop financial instruments to serve the California market.

Yet, there remains considerable North American private and public sector opposition and ambivalence to more stringent GHG policy as firms can exercise considerable influence over environmental policymaking (Kraft and Kamieniecki 2007). Although a few continue to question the science behind human-induced climate change, the larger group of skeptics argues that the costs of regulating CO_2 emissions will be too high. Opposition strategies include a host of measures, as evident in the political and legal challenges by the U.S. automotive industry to California's state law to regulate CO_2 emissions from vehicles, which would be copied by at least sixteen other states. The lawsuit by the auto industry was rejected by a federal judge in December 2007, but enforcement was delayed by the U.S. Environmental

Protection Agency's procrastination in granting California the necessary waiver (Egelko 2007). The Competitive Enterprise Institute launched an aggressive media campaign against efforts to control CO_2 emissions with the slogan "They call it pollution; we call it life." Many U.S. states have also yet to commit to long-term measures to reduce GHG emissions. In Canada, Alberta has voiced strong opposition to Canada's Kyoto commitments and at the same time invested heavily in tar sands oil extraction. In the United States, environmental advocacy groups, despite growing membership, have had relatively little impact on federal climate change policy and the national debate even as opponents of climate change policy stepped up their activities in Washington, D.C.

Nevertheless, recent increases in civil society activity around climate change issues include multiple initiatives by nongovernmental organizations (NGOs), and a growing social movement around climate change issues can be identified (Moser 2007). Private foundations and universities also show growing support for North American climate change initiatives. Such support has helped to sponsor state, provincial, and municipal efforts to address climate change. In addition, the sharp increase in local-level climate change action is receiving greatly expanded media coverage and editorial support. In fact, by 2008, about 50 percent of the U.S. population lived in a state or municipality with stated GHG reduction goals. Furthermore, local U.S. governments have taken a "prescribed pattern of inventorying their emissions, establishing climate change action plans, setting emission reduction targets similar to those of the Kyoto Protocol, enacting state-level regulations and standards explicitly targeting GHGs, and forging multi-government alliances to reinforce and support their actions" (Lutsey and Sperling 2008, 673). Much the same can be said of growing Canadian provincial and municipal action.

The Way Forward

This volume analyzes the dynamism and innovation of contemporary climate change policies across North America, including those involving many U.S. states and Canadian provinces, large corporations, NAFTA bodies, universities, NGOs and private firms. The chapters examine issues critical to our understanding of climate change politics in North America, focusing on a multitude of existing and potential policy developments at continental, national, regional, and local governance levels in the public sector, in the private sector, and in civil society. Taken as a whole, the subsequent chapters provide an analysis of multilevel climate change and energy debates and policymaking efforts across Canada, the United States, and Mexico. Several chapters also examine major transnational and international issues and policy efforts involving two or all three North American countries.

Chapters are divided into four thematic sections. The first, *Between Kyoto and Washington*, focuses on climate change politics and policymaking in Mexico and Canada. Simone Pulver's chapter—*Climate Change Politics in Mexico*—examines how global and U.S. federal climate change politics have influenced Mexican climate change action. Pulver argues that the initial Mexican agenda for climate change action was set by climate scientists in the national university and by bureaucrats in the environment ministry. With the rise in international attention, a wider array of government ministries began to engage in the climate policy process and bureaucratic politics impeded forward action in the 1990s. In contrast to the United States and Canada, industry actors including Mexico's state-owned oil company Petróleos Mexicanos have advocated precautionary climate change action. Pulver notes that Mexican environmental NGOs have been largely absent from the climate debate.

Peter J. Stoett's chapter—*Looking for Leadership: Canada and Climate Change Policy*—examines major Canadian developments and challenges. Disharmony between the federal and provincial governments has been a constant factor in Canadian climate change policy. The election of a minority Conservative government in 2006 further distanced Ottawa from the Kyoto process as Canadian climate change debate and action are significantly influenced by U.S. policymaking. Stoett suggests that, despite the need for more effective federal-provincial cooperation, strong Canadian leadership on climate change will not emanate from the federal level but will more likely reflect local and nongovernmental initiatives. While Canada is very unlikely to meet its Kyoto Protocol targets by 2012, the chapter discusses the fact that there are other approaches to climate change mitigation and adaptation that Canadians could pursue.

The second thematic section, *States and Cities Out Front*, focuses on the plethora of local-level policy developments in North America. Barry G. Rabe's chapter—*Second-Generation Climate Policies in the States: Proliferation, Diffusion, and Regionalization*—details rapidly expanding policymaking efforts on climate change in U.S. states. The chapter examines trends in states' climate policy formation and implementation, which includes continuing proliferation of a diverse array of GHG reduction policy tools and multistate collaboration that brings a regional dimension to these state efforts. The chapter also examines alternative venues for state climate policy development, including direct democracy and litigation through elected attorneys general. It concludes with a comparison of the evolving American system with other multilevel governance systems and a discussion of potential stumbling blocks facing its bottom-up approach to policy development.

Alexander E. Farrell and W. Michael Hanemann, in *Field Notes on the Political Economy of California Climate Policy*, focus attention on recent developments in climate policy in California. The state is in the midst of implementing a broad set

of sectoral policies to reduce GHG emissions. Their chapter examines major events since 2000 when the California Global Warming Solutions Act (AB32) became law. The authors demonstrate how California's history of leadership in air quality, energy efficiency, and other aspects of energy policy were, and remain, tightly linked to climate change policy in the state, and how the development of climate policy was linked to broader political trends. The chapter discusses critical policy choices, such as the role of market-based mechanisms, and points out some of the difficult decisions that lie ahead in the implementation phase of California's climate policy development.

The chapter by Henrik Selin and Stacy D. VanDeveer—*Climate Leadership in Northeast North America*—examines regional and local-level policy developments in the continent's northeast. In particular, it focuses on two major regional state-led policy developments: the 2001 Climate Change Action Plan of the New England Governors Conference and the Eastern Canadian Premiers and its implementation, and the creation of a regional cap-and-trade scheme for CO_2 emissions from power plants under RGGI between 2003 and 2009. In addition, the chapter examines growing municipal and civil society engagement on climate change and GHG mitigation in the region, arguing that regional networks of policy advocates channel influence through overlapping pathways of policy change. The chapter concludes with a discussion of the potential and limitations of developing climate change policy-making in the Northeast.

Christopher Gore and Pamela Robinson, in *Local Government Response to Climate Change: Our Last, Best Hope?*, examine municipal climate change action. A growing number of North American cities have formally committed to GHG emission reductions and are members of domestic and/or international associations of municipalities that work together on climate change issues. The authors discuss the central role that such transnational and national networks of municipalities play in promoting climate responses. Experiences of two cities that are leaders in municipal action are explored in greater detail: Toronto and Portland, Oregon. The authors argue that local governments in North America should be recognized as leaders in climate change response and that collectively they have real and potential power to drive further municipal action and to shape future provincial, state, and national climate change action.

The third thematic section, *Continental Politics,* examines issues of continental integration and collaboration on climate change science and politics. Michele M. Betsill's chapter—*NAFTA as a Forum for CO_2 Permit Trading?*—takes discussions within the North American Commission for Environmental Cooperation (CEC), NAFTA's environmental organ, about establishing a continental CO_2 trading system to mitigate the environmental impacts of electricity generation as a starting

point. Following a brief discussion of emissions trading as a mechanism for addressing climate change and an overview of the CEC discussion on climate change, the chapter addresses three sets of issues related to establishing a CEC-based CO_2 permit trading system with particular focus on its implications for climate protection: the institutional context, design elements, and interplay with other trading systems. Based on this analysis, Betsill questions the wisdom of establishing a CO_2 permit trading system under NAFTA.

Ian H. Rowlands' chapter—*Renewable Electricity Politics across Borders*—analyzes the ways in which cross-border relations between Canada and the United States have affected the development of renewable electricity in each country. The chapter argues that the most significant issue that has arisen to date revolves around the Canadian export of electricity generated by large-scale hydropower facilities, which has been resisted by some in the United States who argue that Canadian hydropower should not be given privileged access. The chapter anticipates further debates regarding the definition of renewable or green energy; issues related to cross-border investment, green procurement, subsidies, and tradable certificates are also identified.

In chapter 10, *Arctic Climate Change: North American Actors in Circumpolar Knowledge Production and Policymaking*, Annika E. Nilsson examines issues of scientific assessment and policy making in an Arctic context with a particular Canadian and U.S. focus. Through a case study of the Arctic Climate Impact Assessment (ACIA), the chapter analyzes how the Arctic Council helped bring indigenous peoples' perspectives to the fore, making the assessment scientifically credible, politically legitimate, and salient to new actors in Arctic climate politics and policymaking. The chapter also discusses political differences among Arctic states concerning assessment-related issues and the limitation of regional efforts in changing established power dynamics in the global climate arena.

The final thematic section, *Climate Action among Firms, Campuses, and Individuals*, examines major developments in North American private and civil society sectors. The chapter by Charles A. Jones and David L. Levy—*Business Strategies and Climate Change*—analyzes reactions and strategies of private sector actors to the climate change issue and expanding climate policy. Voluntary measures taken by business to reduce GHG emissions represent substantial investments, but North American business responses to climate change are often ambiguous and tentative. The authors argue that business is prepared to take action consistent with a fragmented and voluntary regime, while simultaneously opposing any policy that would mandate a more robust response. In addition, the connection between tentative corporate response and weak government policies reinforces the inertia in the current energy system.

Virginia Haufler's chapter *Insurance and Reinsurance in a Changing Climate* focuses on the insurance and reinsurance sector of the economies of North America. The chapter explores the insurance industry's responses to changing weather risks today and how it may react in the future. The North American insurance industry has been slow to recognize the potential threat of climate change. This is changing under the impact of environmental activism; pressure from European reinsurers, who have been more knowledgeable about the issues; and the apparent crisis posed by successive major weather disasters. Instead of the traditional industry responses to disaster—raising prices and/or withdrawing from markets—insurers are beginning to recognize their leverage over the behavior of customers. By redesigning contracts and pricing structures, the insurance industry may become a significant source of new incentives for improved environmental performance.

Next, Dovev Levine's chapter, *Campus Climate Action*, examines characters and drivers of the rapid expansion of climate change action on a host of university campuses in North America. Levine notes that university climate change action remains little studied, and he argues that campus action can have important consequences for GHG mitigation efforts and climate change policymaking. Specifically, the chapter discusses how and why university climate change action is developing in areas of curriculum designs, university operations, research, and outreach activities with local communities. Levine argues that campus action holds much potential as a source of political and economic influence, shaping more innovative and stringent climate change and renewable energy policies in North America.

Susanne C. Moser, in chapter 14, *Communicating Climate Change and Motivating Civic Action: Renewing, Activating, and Building Democracies*, discusses the role of communication in motivating citizen action and support for more aggressive climate change policy. In the absence of federal leadership, bottom-up pressure is building to force national policy changes. This chapter focuses on how civic mobilization and engagement on climate change can be fostered through effective communication. It lays out why effective communication is essential to bringing about different types of civic engagement, offers specific communication strategies that can increase civic engagement, and illustrates these with best practices and examples from the current North American context.

The final chapter, *North American Climate Governance: Policymaking and Institutions in the Multilevel Greenhouse*, returns to the four broad questions outlined at the beginning of this introduction. The chapter's authors, Henrik Selin and Stacy D. VanDeveer, draw on insights and arguments from the volume's other chapters to address each of the four questions. The chapter also identifies four possible scenarios for the future of continental climate change politics based on combinations of high and low federal and subnational involvement, paying particular attention

to opportunities and challenges of complex multilevel governance. The volume concludes with a few remarks on continuing governance issues and challenges in the North American greenhouse.

Notes

1. Note that GHG emissions data and estimates can and do vary somewhat across chapters in the volume due to differences in estimation methods, dates, and other technical factors.

2. The CDM was established under the Kyoto Protocol as one of five options for Annex I parties (i.e., industrialized countries and countries with economies in transition) to meet their mandatory emission reduction obligations. Under the CDM, Annex I parties can earn credits for lowering GHG emissions in non–Annex I countries (i.e., developing countries without mandatory Kyoto targets). As such, Annex I countries can pursue projects that reduce GHG emissions in developing countries if they believe that these are more cost-effective than reducing domestic emissions. This will reduce emissions in developing countries that participate in CDM projects, and could also serve to diffuse technology to developing countries. Critics have argued, however, that the CDM allows high-emitting countries to buy themselves free from the responsibility to reduce domestic emissions.

3. See the Pew Center's database of state and local climate change initiatives at www.pewclimate.org.

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