The Centre for International Governance Innovation

WORKING PAPER

Environmental Governance

Reframing Global Environmental Governance:

Results of a CIGI/CIS Collaboration

Steven Bernstein, Jennifer Clapp
and Matthew Hoffmann

Working Paper No. 45
December 2009

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Addressing International Governance Challenges

TO SEND COMMENTS TO THE AUTHORS, PLEASE CONTACT:

Steven Bernstein
Associate Professor of Political Science; Associate Director, Centre for International Studies, University of Toronto
steven.bernstein@utoronto.ca

Jennifer Clapp
CIGI Chair in Global Environmental Governance at the Balsillie School of International Affairs (BSIA); Professor in the Environment and Resource Studies, University of Waterloo
jclapp@cigionline.org

Matthew Hoffmann
Associate Professor of Political Science, University of Toronto
mjhoff@utsc.utoronto.ca

This paper is the result of a collaborative research exercise between The Centre for International Governance Innovation (CIGI) and the Centre for International Studies (CIS) at the Munk Centre at the University of Toronto. The paper was written as a framework paper for a joint workshop on the theme of Global Environmental Governance held in Waterloo in 2009. The research collaboration and workshop were generously funded by a grant from Canada's Department of Foreign Affairs and International Trade.

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ISSN 1917-0238 (Print)
ISSN 1917-0246 (Online)

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About the Authors

Steven Bernstein is an associate professor of political science; associate director, Centre for International Studies; and director, MA in International Affairs, University of Toronto. His publications include: *The Compromise of Liberal Environmentalism* (2001); *Global Liberalism and Political Order: Toward a New Grand Compromise?* co-edited (2007); *A Globally Integrated Climate Policy for Canada* co-edited (2008); and *Unsettled Legitimacy: Political Community, Power, and Authority in a Global Era* co-edited (2009). He has published refereed articles in academic journals including *European Journal of International Relations, Review of International Political Economy, Journal of International Economic Law, Policy Sciences, Regulation and Governance, Canadian Journal of Political Science,* and *Global Environmental Politics*; as well as a number of book chapters in edited volumes. His current research focuses on the problem of legitimacy in global governance.

Jennifer Clapp holds the CIGI chair in global environmental governance at the Balsillie School of International Affairs (BSIA) and is a professor in the Environment and Resource Studies department at the University of Waterloo. Her recent books include: *Paths to a Green World: The Political Economy of the Global Environment* (co-authored with Peter Dauvergne, MIT Press, 2005); *Corporate Power in Global Agrifood Governance* (co-edited with Doris Fuchs, MIT Press, 2009); and *The Global Food Crisis: Governance Challenges and Opportunities* (CIGI/Wilfrid Laurier University Press, 2009). She is also co-editor of the journal *Global Environmental Politics* (MIT Press).

Matthew Hoffmann is an associate professor of political science at the University of Toronto. He is author of *Ozone Depletion and Climate Change: Constructing a Global Response* (2005) and co-editor (with Alice Ba) of *Contending Perspectives on Global Governance: Coherence, Contestation and World Order* (2005). He is currently completing a book for Oxford University Press titled *Climate Governance at the Crossroads: Experimenting with a Global Response* and is engaged in a collaborative research project (with Steven Bernstein, Michele Betsill, and Matthew Paterson) on the governance and legitimacy of carbon markets.

Abstract

Global environmental governance is undergoing significant change. There is a growing recognition that the traditional state-centric intergovernmental model of addressing global environmental problems is insufficient in the face of increasingly complex and overlapping environmental issues. There are serious questions about the ability or willingness of states, individually and collectively, to respond to the most pressing environmental challenges. The erosion of confidence in and the dominance of a state-centric governance model has simultaneously resulted from and provoked significant innovation. While there is growing discussion of institutional reform at the international level including reform to the United Nations Environment Programme and the creation of a new global organization to address these problems, there is also a fragmentation of governance processes to other jurisdictional levels and actors. Corporations, social and environmental organizations, private-public partnerships, sub-state governments, and even local communities have already begun to conceive and implement governance initiatives to address global environmental problems. This paper reflects upon these innovative institutional dynamics and assesses their prospects to produce effective, legitimate, and equitable outcomes. It concludes with a series of questions to guide future analysis and to better understand the prospects for improving the practice of global environmental governance.

1. Introduction

Evolution of the global environmental governance (GEG) terrain is forcing a revision of both the conceptual models and practical approaches to the field.[1] There is a growing recognition that the traditional state-centric intergovernmental model of addressing global environmental problems is insufficient as the complex and overlapping nature of environmental issues is increasingly recognized. There are serious questions about the ability or willingness of states, individually and collectively, to respond to the most pressing environmental challenges. The erosion of confidence in the still dominant state-centric governance model has simultaneously resulted from and provoked significant innovation. Yet, the outcome of this evolution in governance for the global environment is far from certain. Innovations point toward multiple institutional trajectories and debate persists over which form or configuration of governance is most likely to produce effective, legitimate, and equitable outcomes. At the same time, as an increasing number of governments call for major institutional reform at the international level, including reform to the United Nations Environment Programme (UNEP) or the creation of a new global environmental organization,[2] there is also a fragmentation of governance processes to other jurisdictional levels and actors (Bernstein and Ivanova, 2007; Biermann et al., 2009). Corporations, social and environmental organizations, private-public partnerships, sub-state governments, and even local communities have already begun to conceive and implement governance initiatives to address global environmental problems (Hoffmann, forthcoming).

1 The authors would like to thank David Norris and Jessica Boyle for invaluable research assistance on this paper.

2 The Commonwealth group of states is the latest to strongly endorse this position (Commonwealth Secretariat, 2008).

At this important historical moment of creativity and instability in the practices and understanding of GEG, this paper explores its emerging innovative dynamics. We argue that the study of global environmental governance has evolved into three overlapping yet conceptually distinct spheres of scholarship. These spheres reflect, consciously or not, different ontological commitments on the basic units of analysis for global governance.[3]

The first sphere is state-centric. Scholars operating in this sphere have focused on state-based international institutions, studying, for example, the creation, activities or effects of formal international organizations such as UNEP; international "regimes," often with international agreements at their core, designed by states to regulate or otherwise address specific global environmental problems; or the interaction of environmental institutions with other state-based international institutions that may affect or indirectly regulate the environment, such as the World Bank or international trade regimes. Lately, the debate in this sphere has explored questions of the most appropriate global institutional architecture and whether there is a need for a World Environmental Organization. Since this sphere begins with states as the primitive ontological unit, its scholarship focuses on the ability and limitations of states to establish institutions to collectively address global problems. Other actors and institutions are seen in the context of how they impinge upon, enable, or constrain the ability of states to collectively solve international governance problems.

A second sphere of scholarly activity examines the rise of private authority and market-based initiatives for environmental governance. Its ontological starting point is the marketplace and

3 In describing this evolution, this paper contributes to current debates about the nature of global governance more broadly—debates over how to conceptualize the basic units and dynamics of global governance (see for example Ba and Hoffmann, 2005)

the interaction of actors within the marketplace – whether firms, social and environmental groups, or market-based authorities that operate in the market and attempt to modify or regulate it – rather than privileging states. This scholarship does not ignore states altogether, but tends to see states as one amongst a number of actors interacting within local, national, regional or global markets. One scholarly direction has been to explore the emergence, activities, and prospects for authority, legitimacy and equity of these non-state or market-based institutions. A second and overlapping strand, with a longer historical lineage in the literature, begins from the premise that governance arises from or reflects the dominant structural features of the marketplace, especially of particular interests empowered by those structures (the interests of finance capital). This strand of scholarship has focused as well on the implications of unequal power and contradictions in GEG that lead to poor performance, inequalities, and resistance whether GEG takes the form of state-centric or non-state forms of governance directly in the marketplace.

The third sphere of scholarship is similar to the first in that it begins with pre-existing political-institutional jurisdictions as sites of governance, but unlike the first sphere it does not give special ontological status to sovereign states. Scholarship in this vein focuses on multi-scalar governance initiatives, including sub-national initiatives that may or may not be networked across borders. This emerging literature asks questions about the appropriate scale of global environmental governance and explores how authority and legitimacy are conceived and function both horizontally (between subnational actors for instance) and vertically (between states and cities for instance).

While many scholars recognize that the practice of GEG operates across these spheres, if thought of as spheres of governance activity, the analysis of GEG often proceeds from the vantage point of a particular sphere and treats the others as peripheral to their analyses. Thus, much academic attention has focused on the reasons for the emergence of governance institutions or authority relationships within each sphere, as well as the dynamics of their functioning and their implications in terms of authoritativeness, equity and fairness, power, and legitimacy. This work has been very important for deepening our understanding of the evolution of GEG over the past decade. At the same time, however, the fragmentation of both the study and practice of GEG have the potential to draw attention away from the broader questions regarding how best to address global environmental problems not just in terms of governance practices (with a concern about authority, legitimacy and equity), but also in terms of environmental outcomes measured in terms of environmental quality. For this reason, it is important to step back to consider the broader picture of GEG that encompasses all three of these spheres, since in practice governance activity occurs in all three ways simultaneously. Indeed, we argue that much of the most interesting and important work to be done on global environmental governance, by both scholars and practitioners, is on the intersections of and relationships between these spheres. Such a broad view is necessary in order to gain a more holistic understanding of both the governance practices and environmental effectiveness of GEG interventions.

Our goal in this paper is not to impose a framework of analysis or to come to firm conclusions on the implications of this evolution in GEG. Rather, our analysis leads to a series of questions that we hope can serve as a guide for understanding current trends in both the practice and study of GEG and its prospects for improving our collective ability to address the world's most pressing environmental problems.

2. First, a Look Back

The 1980s and early 1990s saw a proliferation of international environmental agreements. They came about following the recognition of the global scale of many "new" environmental issues and enthusiasm for multilateral approaches to addressing them via international agreements. The acceleration in major multilateral treaty making and the diversity of agreements reached in a relatively short time – including on transboundary movement of toxic waste, ozone depletion, climate change, and biodiversity loss – is almost staggering.

In the early part of this period, UNEP appeared to be fulfilling its mandate as a coordinating and catalytic mechanism, by leading many of these negotiations. However, by the late 1980s it became increasingly clear that UNEP had become just one among many forums for negotiating environmental agreements, and had lost its privileged position even as an agenda setter.[4] While UNEP, a relatively small program with limited resources, never monopolized and sometimes competed with other organizations whose mandates intersected with environmental concerns, today it increasingly shares its core functions, and often competes for resources and political attention with at least a dozen other UN and other international organizations that have taken on greater environmental mandates in recent years (e.g., the UN Commission on Sustainable Development, the Organisation for Economic Co-operation and Development (OECD), the World Trade Organization (WTO), the World Bank, the United Nations Development Programme (UNDP) and the Food and Agriculture Organization (FAO)). Moreover, financing mechanisms are similarly scattered, and even the

4 The remainder of this paragraph draws from Bernstein and Ivanova (2007:170-171).

Global Environmental Facility (GEF), established in 1991 as the primary conduit for development financing for environmental projects related to multilateral treaties, operates independently from financing operations of its three implementing agencies: the World Bank, UNEP, and UNDP. Individual treaty bodies also have their own financing mechanisms, and many treaty secretariats have their own institutional structures and homes. There has never been a central authority in the global environmental issue area, and even UNEP's moral authority in the issue area has eroded since its heyday in the mid-1980s. Notably, this multilateral fragmentation[5] stands in contrast to a number of other prominent issue areas in global governance, including trade, health, and labour, with strong organizations at the centre of their governance structures.

Thus, with some irony, just as multilateral environmental governance was reaching its pinnacle, the organization of that governance was fragmenting. It is particularly telling that UNEP was sidelined in the major global agenda-setting exercises of the Brundtland Commission (1987) and the Rio Earth Summit (1992), even as they remained institutionally focused on multilateralism.

These two agenda-setting exercises are also notable for shifting the normative focus of environmental governance. They explicitly attempted to articulate how development and environment could be simultaneously pursued in recognition that addressing many of the most pressing global environmental problems required cooperation with countries in the South. This idea, which had been understood even by the organizers of the first big agenda-setting international environmental

5 Fragmentation amongst international institutions is but one type of fragmenting authority in global environmental governance. Below, we discuss other kinds of fragmentation.

conference in Stockholm in 1972, was reframed as the concept of "sustainable development." Sustainable development thinking also quickly evolved to tap into broader liberalizing trends in the global political economy and this had important implications for the form and structure of global environmental governance (Bernstein, 2001). For example, economic organizations, including the World Bank, UNDP, the OECD, United Nations Conference on Trade and Development, and the WTO started to become important nodes in the global environmental governance architecture. While their participation held the promise of more fully integrating environmental and equity concerns into economic governance, it simultaneously meant the liberalizing agenda of many of these organizations, especially owing to the trend toward aggressive neoliberalism in the 1990s, had a major normative impact on the framing of environmental treaties and policies. Thus, some analyses have highlighted the power of economic institutions (especially the WTO and World Bank) to delimit or shape global environmental governance, even to the point where multilateral environmental treaties, and even non-state governance systems, spend a great deal of effort and resources to try to ensure their rules are WTO compatible (Eckersley, 2004: Bernstein and Hannah, 2008). Others have pointed as well to how global environmental governance increasingly reflects the structural power of capital and/or embodies neoliberal and market discourses (Paterson, 2001; Newell and Paterson, 1999; Lipschutz, 2005; Newell, 2008).

This marriage of environment and development was therefore not without controversy and contradictions, which the fragmentation of governance potentially worsens. At a minimum, those contradictions, as they became more apparent over time, became one important source of the serious legitimacy challenges now faced by many environmental institutions as they have appeared weak in comparison to their economic counterparts. As a consequence, economic institutions, too, are increasingly expected to take greater account of environmental and social concerns. In other words, the "win-win" promise of sustainable development has arguably not materialized, which raises serious questions about the legitimacy of the compromises in global governance on which their legitimacy rests. Meanwhile, the North-South compromise is as fragile as ever (Williams, 2005; Najam, 2005). Norms such as that recognizing "common but differentiated responsibility and capabilities," though now entrenched in a wide number of declarations and treaties, remain difficult to operationalize and continue to be challenged in practice, though the change in administration in the main challenger state (the United States) may signal an opportunity to better address this problem. The difficulty in working out an equitable set of obligations in climate change is the most visible manifestation of this conflict, but is mirrored in many other issue areas.

Despite this fragmentation of authority that was already apparent in the early 1990s, GEG on the surface was considered by scholars and practitioners as mostly an inter-state affair. Academic work in this era focused almost exclusively on multilateral agreements: their negotiation, their design, and implementation, and more recently, their effectiveness (for a review of this literature, see Dauvergne, 2005). Because these agreements were negotiated, signed and agreed upon by states, there tended to be an excessive focus on the state as the primary actor in international environmental governance until at least the mid-1990s (Hoffmann, 2005; 2006).

This exclusive focus on the state in processes of global environmental governance has since been criticized as being too narrow. Scholars began to notice that, accompanying the proliferation of international environmental agreements in the 1990s, a broader range of actors began to play important roles in shaping governance for global environmental problems. In some cases, these other actors – including nongovernmental organizations and private industry – indeed attempted to influence the state-based international rules and norms by traditional means, such as lobbying (Rowlands, 1998; Clapp, 2003; Betsill and Correll, 2001). But in addition, they influenced norms and rules by exercising other forms of power such as the shaping of discourse and the establishment of new forms of private authority through voluntary codes, market measures, and even governing arrangements that attempted to regulate in the absence of, or alongside, state-based governance (Wapner, 1996; Clapp, 1998; Cashore, 2002; Meidinger, 2007; Fuchs, 2005). More recently, scholars have also pointed to environmental initiatives along a multitude of spatial scales from local to regional to global (Bulkeley, 2005; Hoffmann, forthcoming). Thus fragmentation of global environmental governance has occurred along a new dimension—authoritative mechanisms are developing outside the multilateral realm and even independently of nation-states.

Many have noted that these new forms of GEG came into place in response to a profound weakness in multilateral approaches to global environmental problems. But when we look back, their emergence appeared in many cases almost simultaneously with the new multilateral agreements, suggesting that these non-state centric governance approaches may have appeared in any case, with or without the perceived failure of state-based initiatives. A general trend towards the fragmentation of governing authority has indeed been noted in the wider global governance literature (Rosenau, 1997; 2005; Ba and Hoffmann, 2005) and developments in global environmental governance both reflect and contribute to this dynamic. Whatever the impetus for these “new” forms of global environmental governance in recent decades, their emergence has led many to profess that the international institutional approach to global environmental problems is largely dysfunctional. Authority has effectively been splintered away from the multilateral state-based process and into other forms of international governance.

This broader fragmentation in the practice of GEG—beyond multilateral and state-centric—has raised serious questions about whether these new forms of governance can ever be as legitimate as multilateral forms, which rest on state consent and the traditional features of legitimacy embodied in international law. New forms of governance may need to rest on different sources of legitimacy, and it is an open question whether either form is sufficiently democratic, responsive, or accountable to the constituencies they address and, at times, attempt to regulate. As a result of these concerns, some are calling for major reforms to existing multilateral environmental governance structures in a bid to "recapture" authority at the international institutional level. Others, however, have suggested that it is the failure of multilateral institutions to deliver environmental reform or results, combined with broader trends in global governance encouraging engagement with multiple stakeholders and the marketplace that have legitimated and made necessary the alternatives. Whatever the reason, the practice of GEG has given rise to the three different spheres of analysis we identify. Each has had some success within their spheres, but their ontological commitments create challenges for understanding and improving the practice of global governance that increasingly transcend any single sphere.

3. A Closer Look at the Present Terrain: Three Main Spheres of Global Environmental Governance Scholarship and Practice

The present terrain of global environmental governance is indeed complex and multifaceted, encompassing not just the multilateral institutional framework that emerged in earlier decades, but also a multitude of private sector and market-based initiatives, as well as sub-national, internationally networked multilevel governance innovations. Although there are growing literatures on these various forms, or "spheres" of global environmental governance, the nature of the relationship of each of these forms to one another is still unclear and requires further inquiry. Understandings of authority, legitimacy, power, equity, and effectiveness are potentially different in each sphere and the manner in which these cross-cutting dynamics function between the spheres remains an open question. There is a great deal of overlap between the public and private spheres, as well as up and down the spatial scale from local to global. It is unclear where precisely authority resides and which forms of environmental governance hold the most legitimacy or whether different forms may require different legitimating processes (Bernstein, forthcoming). There is also overlap in terms of multiple forms of governance seeking to address the same environmental issues. One only need look at the variety of governance mechanisms at play regarding climate change: subnational bodies engaged in international cooperation, market-based mechanisms for carbon trade, multilateral agreements on reduction of carbon emissions, and voluntary corporate initiatives, to name just a few (Hoffmann, forthcoming).

All of these developments provide fascinating empirical material for global environmental governance scholars to analyze. They have, however, also created virtual cottage industries that analyze specific environmental issues (predominantly climate change) typically through the lens of a particular sphere (institutional, private sector, or multilevel). As a result, there has been little work that steps back to map out the broader brush strokes of these recent trends across a range of international environmental issues and to consider their broader implications (exceptions include Haas, 2004; Bernstein and Ivanova, 2007; and Biermann and Pattberg, 2008).

While much work on specific issues within a particular sphere does address themes such legitimacy, authority, power and equity, there has been comparatively little attention paid to whether such interventions lead to concrete environmental improvements. It is important, therefore, to distinguish between the goals of governance itself (which may include authority, legitimacy, equity, and development), and environmental effectiveness (Young, 1999). A legitimate and authoritative governance process with power and resources shared equally amongst actors, for example, does not necessarily yield concrete results in terms of environmental quality. It may also be that governance systems rest on norms or goals that define effectiveness in terms of goals other than environmental quality, alongside environmental quality, or that create contradictory pressures that may or may not improve environmental quality. Thus, both governance outcomes and environmental effectiveness are important to consider when taking a broad view of the evolution in global environmental governance. Although it is an enormous task to map out these evolutions and to examine their broader implications for the quality of both governance and the environment, we humbly seek here to provide a starting point for the development of such a framework that would allow for this broader analysis. We do so initially by pointing to recent developments in scholarship and practice in each of the three spheres, and then conclude with suggestions on a way forward to transcend them.

Multilateral Institutional Reform

The past decade has seen a number of proposals put forward regarding multilateral institutional reform of global environmental governance organizations and regimes. These proposals have sparked considerable debate on how the multilateral system might best improve its performance defined in various ways by various parties. Some see the problem with the multilateral system as mainly a product of the weak authority of UNEP because it lacks the status of a specialized agency within the UN system. Others see the weakness of multilateral approaches more generally as a problem of a state-based multilateral system which operates in a manner that is too slow and cumbersome to deal with environmental problems which are dynamic and constantly changing. Increasingly, the extent of certain problems, such as climate change, are unpredictable due to synergistic effects of multiple forces which produce the potential for rapid nonlinear change (Homer-Dixon, 2006), giving impetus to the need to ensure that multilateral processes are prepared for such scenarios (Vandeveer and Pulver, 2009). For these reasons, reform of the multilateral institutional framework has been the focus of academic scholarship in the field of global environmental governance for much of the past decade.

Perhaps most attention on multilateral institutional reform for GEG has focused on the question of how to address the weak authority of UNEP (see Ivanova, 2007). In particular, there has been considerable analysis of proposals to reformulate the institutional architecture, which may involve the creation of a new organization to replace UNEP. Proponents argue that a World Environment Organization or a UN Environment Organization would possess greater institutional weight and authority than UNEP, and thus better foster meaningful global environmental cooperation. Whereas some have argued that such an institution is urgently needed as a counter-weight to powerful economic institutions such as the WTO (Biermann, 2002), others are less sure of the utility and wisdom of moving in that direction (Najam, 2003). Still others, such as Peter Haas (2004: 3), have argued that “some degree of redundancy is actually desirable in the international system, as it provides insurance against the decline of any individual international institution and fits better with an ecological institutional design vision of requisite diversity.” This debate has yet to be resolved (Young, 2008).

Other dimensions of institutional reform, such as treaty clustering and coherence, have also been examined (von Moltke, 2001). The idea here is to foster better communication and collaboration amongst groups of international environmental agreements that overlap to some degree. Clustering agreements via a common secretariat could go some way toward improving the implementation and effectiveness of agreements on related issues (Najam et al., 2006). One of the problems with the clustering idea, however, is that it applies more clearly to some environmental issues than others. For example, existing environmental agreements dealing with international trade and hazardous waste, persistent organic pollutants, and hazardous pesticides all share common principles. Further, these three different agreements are often involved in the regulation of the same item (a hazardous pesticide, for example, could simultaneously be a persistent organic pollutants and could be considered hazardous waste if it is past its expiry date). For this reason, one could easily imagine the utility of treaty clustering in this realm (Kruger and Selin, 2002). The efficiency case for clustering in other issue areas is often less clear. Although climate change, ozone depletion and long-range transboundary air pollution are all atmospheric pollutant problems, the relevant treaties dealing with these separate issues have very different sets of control measures. Moreover, the climate change issue is so enormous that clustering it with other treaties is likely to overshadow those other environmental problems. Thus balancing the risks of clustering with the governance dilemmas of overlapping regimes or “regime complexes” (Raustalia and

Victor, 2004), which may also include problems such as forum shopping by powerful states or contradictions at the seams, can be tricky. Moreover, achieving clustering in practice may prove difficult owing to the same forces that have driven multilateral fragmentation in the first place.

A related strand of research on multilateral institutional reform deals with potential collaboration and overlap between international environmental regimes and other international regimes, particularly those regimes establishing economic rules and norms. Most prominent amongst these works has been analysis of potential conflicts between WTO rules and international environmental agreements (e.g. Tarasofsky and Palmer, 2006; Barkin and DeSombre, 2002). While to date there have been no formal challenges at the WTO over trade provisions that exist in international environmental treaties, that possibility still exists. Again, climate change is a good candidate to finally bring the issue to a head since differential obligations and different levels of national regulation may lead states with higher regulations to impose border taxes on imports not subject to similar environmental standards. There is significant debate in the trade literature whether such "border tax adjustments" are likely to survive a challenge under international trade rules (Werksman and Hauser, 2009; Hufbauer, Charnovitz, and Kim, 2009). Indeed, the ever-present threat of formal challenge from the WTO has precipitated what Eckersley refers to as a "cooling" effect on the development of international environmental treaties, with negotiators increasingly wary of developing rules that might run up against those established at the WTO (Eckersley, 2004). Furthermore, we have seen WTO dispute panel rulings on issues of interest to international environmental agreements, but which did not take the rules embodied in those agreements into account. A prime example is the ruling over the US-EU trade dispute regarding genetically modified organisms. This case is interesting because negotiators of the biosafety protocol took pains to ensure its rules did not clash with international trade rules. However, the WTO ruling did not reference the biosafety protocol (Lieberman and Gray, 2008). Although it has been on the agenda of the UNEP and the WTO for well over a decade to arrive at a general understanding of how to approach potential conflicts between trade agreements and environmental agreements, such an understanding has not been yet settled and there are little signs of progress on the issue in the WTO committee on Trade and Environment, where it is most likely to be addressed.

Each of these aspects of multilateral institutional reform for global environmental governance is extremely important, particularly for those transboundary and global level environmental issues that rely on international treaties and institutions as the primary mechanisms for establishing norms and rules that seek to ensure environmental protection. At the same time, however, it is not clear that all “international” environmental problems are best solved through global level state-based institutional collaboration and questions have been raised about both the governance goals (for example, whether they adequately respond to North-South inequality or simply reproduce inequalities, whether their desire to be inclusive and universal is conducive to creating robust and meaningful collective action, or whether their liberal economic underpinnings are truly consistent with their environmental objectives) and the environmental effectiveness of such arrangements. Although there has been a rapid growth of multilateral governance initiatives for the environment since the 1980s, there are few “resounding success stories” in terms of concrete environmental improvements as a direct result (Young, 1999; Helm and Sprinz, 2000).

In addition, even if one accepts the governance goals of such arrangements, the ability to achieve those goals has also been questioned. While state-based regimes do have legitimacy and authority, at least on paper, there are few sanctions against states for non-compliance, and there are significant North-South disparities in terms of funding (Najam, Papa and Taiyab, 2006). On top of these issues, there are also cases where state-based regimes do not even emerge, as is the case with forest protection (Dimitrov et al., 2007). In such cases it may well be that global environmental norms can simultaneously emerge autonomously, with local level or other non-state actors and governance systems more able to effect change on a particular environmental issue than state-based regimes (Clapp and Swanston, 2009). However, the ontology of sphere one studies tends to bracket such possibilities, instead viewing any actors other than sovereign states (firms, NGOs, scientists or other groups of experts, community or sub-national groups) through the lens of their affects on states. In other words, they are viewed as sources of ideas, political pressure, or constraints that act or impinge on states' ability to collectively act, not as independent locations of governance. Sphere two studies arose precisely to try to take the emergence of new sites of authority into account.

The Rise of Private Sector and Market-Based Initiatives

In tandem with rising concern about the problems of institutional and state-based approaches to solving global environmental problems, private sector and market-based forms of international environmental governance have emerged and gained prominence (Falkner, 2003; Clapp, 2005; Bernstein and Cashore, 2007). Since the 1992 Earth Summit, we have seen a proliferation of private sector initiatives that have taken a variety of shapes and forms and which address a wide range of internationally important environmental issues. Some see these private sector initiatives as industry's way of preempting state-based regulations with its own regulatory framework (Clapp and Thistlethwaite, 2009). In other words, industry prefers to set the rules by which it must follow, rather than have them set by someone else. Private sector actors also may see benefits to joining voluntary initiatives because it is good for their bottom line. Conserving resources and reducing waste saves firms money and lets them acquire a "green" reputation. Others see private sector initiatives emerging as a reaction by firms and/or social and environmental groups to the weaknesses of state-based regulatory approaches, while they also fulfill the desire of these actors to contribute to the broader societal goals of sustainable development. Thus, casting together all "private" or marketplace initiatives as business-driven and "voluntary" potentially misses important variance in the ability to project regulatory authority and create compliance, as well as the possibility that environmental and social groups may drive some initiatives and enlist business participation as opposed to vice-versa (Auld, Bernstein and Cashore, 2008). Environmental and social groups' interests may sometimes be consistent with those of particular firms, but frequently their interests compete. The complex interactions among and between different groups of non-state actors has led to scholarly work on how those interests and values interact to produce strong or weak authority and legitimacy of market initiatives (Bernstein and Cashore, 2007). It may well be that a mix of all of the above rationales apply when considering why voluntary private sector governance initiatives have grown remarkably in recent decades.

Private sector initiatives come in a wide array of shapes and sizes, ranging from those that place strict requirements on private sector actors, to those which are very loose and require little commitment, to those that are driven by the marketplace (see Auld, Bernstein and Cashore, 2008; Clapp and Utting, 2008). Individual firms may opt to engage in corporate social responsibility reporting (which may or may not be in accordance with the Global Reporting Initiative which sets guidelines on corporate social responsibility reporting). In some sectors there are also codes of conduct (such as Responsible Care in the chemicals sector; or the Sustainable Mining Initiative in the mining sector). Moving beyond specific industries, firms may also choose to certify specific environmental management systems (such as ISO 14000 or the eco-management and auditing system (EMAS)) (Potoski and Prakash, 2006). Market-driven certification schemes for particular "sustainable" products or services, largely initiated by social and environmental organizations, have also emerged in certain sectors such as forestry and paper products, tourism, and fisheries, as well as sustainably grown coffee and organic food (Cashore, 2002; Bernstein and Cashore, 2007). The UN-sponsored Global Compact - which asks firms to sign on to 10 social, environmental, human rights and anti-corruption principles – has also attracted a number of corporations as participants (Utting and Zammit, 2006). Similarly, a growing number of firms are signing on to environmental and socially driven financial standards such as the Equator Principles and the Principles for Responsible Investment (Wright and Rwabizambuga, 2006). There is, however, wide variance in the degree to which such systems resemble "hard" regulation that looks very much like international law (what Vogel (2008) has called "civil" regulation and Auld et al. (2008) have called "private sector hard law") compared to systems that have flexible rules and weak or no enforcement.

There is also growing explicit overlap between public and private realms in global environmental governance on several fronts. Firms are increasingly engaging in public-private partnerships (PPPs) that often also involve nongovernmental organizations and international institutional bodies (Utting and

Zammit, 2006). These partnerships aim to link the private sector with public sector and civil society actors in order to cooperate on specific projects at the local level that address global issues. Through specific partnerships, these actors can share not only the costs and benefits, but also expertise and risks. Promoted at the World Summit on Sustainable Development in 2002, PPPs have become popular mechanisms to address global environmental issues, in particular climate change and biodiversity. PPPs, currently being promoted across the UN system, are a broader trend in global governance, though the hype around them as they are promoted by international organizations may be larger than their actual size.

Emerging carbon markets are a key example of the complex interactions between private and public actors in global environmental governance (Matthews and Paterson, 2005). They further serve to focus our attention on new and emerging authority relations and presage the opportunities and challenges of multilevel governance. Yet analysis of them has tended to operate largely in sphere two, which treats them as driven by and/or attempts to modify market dynamics. Three forms of carbon markets have already emerged (voluntary offsetting, credit markets, and allowance trading) each with different constellations of public and private actors. The voluntary offset market has exploded in recent years and remains a mainly private market, where individuals and organizations can pay private companies to offset their emissions. Credit or project markets fund emission reduction initiatives with the goal of producing emission reduction credits that can be used against reduction obligations and at times traded in allowance markets. Allowance or cap and trade systems place a ceiling on emissions and provide for trading of those emissions rights between high and low emitters.

Private actors are playing a significant role in each of the markets – providing, selling, purchasing, and even rating offsets; undertaking projects or accruing reduction credits; constructing and participating in (both on voluntary and mandatory terms) cap and trade venues. Yet, private actors are inextricably intertwined with public actors in each aspect of the carbon market. While the voluntary offset market remains mostly private, state actors will increasingly have an interest in monitoring the quality of the offsets as regulated entities potentially turn to offsetting to meet their reduction targets. Credit markets like the Clean Development Mechanism only arise when public actors impose emissions reduction mandates. While some cap and trade systems have been wholly private (Chicago Climate Exchange, Shell, BP), most mix public and private actors whereby public actors impose a cap and distribute allowances to both public and private entities for trading. How rules get made and who makes the rules in carbon markets remain open questions as do effectiveness, legitimacy, and linkage concerns (Betsill and Hoffmann, 2008).

Voluntary and market-based initiatives have generated considerable debate amongst scholars. Indeed there are important questions regarding their coverage as well as their environmental effectiveness. When comparing the number of global firms that have taken on such voluntary initiatives to the total number of transnational corporations (TNC), it becomes clear that only a very small percentage of these firms engage actively in these initiatives. For example, of the approximately 70,000 TNCs and 700,000 affiliate firms in addition to several million suppliers in operation globally, only 154,000 firms certified are to ISO 14001 environmental management standards and only 1,000 firms report according to some form of the Global Reporting Initiative guidelines for sustainability reporting (Clapp and Utting, 2008). Further, there are a multitude of voluntary activities and initiatives from which firms can pick and choose. It may well be that some firms choose the weakest measures but even these still enable them to advertise their "green" credentials. And although current voluntary measures are wide ranging and diverse, they still only cover certain environmental and social issues, while completely ignoring others. While there may be an industry-wide code with respect to chemical safety, there is not a similar industry code or set of principles for other sectors, such as plastics.

The weaknesses of these various instruments to lead to concrete environmental improvements and/or their limited scope in the few cases where their authority appears stronger has led critics to conclude that there is a need for stronger legal mechanisms at the international level to ensure transnational investment and corporate activity is not harmful to the environment (Clapp and Utting, 2008). At the same time, the staff and proponents of even many of the most stringent private governance systems are ambivalent about whether their goal is for governments to take on their standards, or whether they should continue to operate and, owing to their suspicion of government, guard their autonomy over the long-term. Finally, given the poor performance of governments in reaching agreement on social and environmental regulation of transnational business, it remains unclear where efforts are best placed to promote governance – in the marketplace or with governments? In the short to medium term, the interesting work – both for researchers and practitioners – will likely be in the interactions of states with these governance systems. Private initiatives, even those where states are not formally a part of decision-making, frequently depend on states to assist in implementation, explicitly reference domestic rules, and operate within domestic regulatory environments. The mutual influence of the goals of private systems and state-led governance as well as how they work in tandem or cross-purposes in producing environmental improvements is thus one direction for future research.

Concern over the effectiveness of private sector and market-based measures is inevitably joined by broader concerns about the ability of institutions to achieve governance goals given the location of authority and the legitimacy of voluntary initiatives when compared to more traditional state-based regulatory approaches. At the same time, these institutions can be closer to stakeholders and potentially more responsive to groups (local communities, civil society, and even firms) who may feel disenfranchised or relatively powerless to affect intergovernmental initiatives. One also sees here wider democratizing trends in global environmental governance at work and an emphasis on ensuring adequate representation, especially when engaging on issues relevant to developing countries. Global environmental governance stands out among issue areas in global governance that has pushed the stakeholder democracy agenda (Bäckstrand, 2006). One final aspect of legitimacy that is important is that power again may play a role in this regard, as what counts as a legitimate standard setting body may be defined not only by states, but by other international institutions like the World Bank, through its support or endorsement of particular standards, and WTO, especially through the Technical Barriers to Trade Agreement (Bernstein and Hannah, 2008). These private or non-state institutions are thus far from immune to – and, compared to multilateral institutions, may be more affected by – the dictates of institutional and structural power and the need to respond to equity concerns and increasing legitimacy demands on a number of levels.

The Emergence of Multilevel Governance Initiatives

It has become almost clichéd to declare that global environmental problems require or are already being addressed through multilevel governance. At the same time, Volger's assessment from 2003 (27), that "no adequate model of multi-level governance yet exists" is surely still correct. The attraction of the concept is clear. Since their emergence on the international agenda, it has been obvious that environmental problems pose significant governance challenges, at least in part, because of their disregard for political boundaries. This truism may have made a turn to multilevel thinking inevitable. In addition, the emergence of multilevel governance is both motivated by and symptomatic of the tension between multilateral authority and fragmentation of authority mentioned above. Yet even if the emergence of multilevel governance is less than surprising and produced the innovation of an ontological position that does not privilege the sovereign state as basic unit of political authority, consensus on how to characterize or analyze multilevel governance has eluded scholars of global environmental governance.

Traditionally, multilevel governance has been focused on the devolution of authority to govern amongst established governmental units nested and/or arranged hierarchically—federalism and studies of the EU polity are the quintessential examples (Hooghe and Marks, 2003). Each level has its competencies and authority to make rules under certain conditions and the levels tend to not overlap. While we generally do not think about multilateral treaty-making in this multilevel manner, the traditional state-centric approach to global environmental governance certainly exhibits multilevel governance conceived in this way. Supranational bodies negotiate rules and agreements which are operationalized by national states, which mandate action by states, provinces and cities, and which carry out the regulations. Traditional studies of multilevel environmental governance then are concerned with the relationships between levels of government and how governmental units interact in the construction and implementation of environmental policy. Rabe's (2004) study of state-level climate policy in the US is instructive here, even though it questions the conventionally understood direction of authoritative relations (i.e. national to state) to explore how US states have seized the climate policy initiative in the US.

Yet, multilevel governance (especially in the context of global environmental politics) has recently come to mean something different. Not so much federalist with its hierarchy of authority, but a mosaic or network conception where jurisdictions overlap, rule-making at one level can be more or less independent from rule-making at other levels, and formal governmental institutions (at multiple levels) are joined by civil society and economic actors. In this model of multilevel governance, multiple actors may have authority over the same problem, initiating rule-making in different jurisdictions; it is a task-oriented rather than jurisdiction-oriented model and conceives of multilevel governance as occurring in intersecting, flexible jurisdictions (Hooghe and Marks, 2003). In the global environmental governance literature (especially work focused on climate change), those interested in multilevel governance have concentrated their efforts on understanding the latter model of multilevel governance and have expanded the model to incorporate transnational linkages (Hoffmann, 2007; forthcoming). Studies have emerged on transnationally linked sub-national governments (Bulkeley and Betsill, 2003; Bulkeley, 2005) emissions trading at multiple scales (Betsill and Hoffmann, 2008), and regional efforts to coordinate climate policies, to name but a few instances of this trend. These studies direct our attention beyond, for instance, the devolved authority that a city has to enact national environmental policy (which may itself have originated at the multilateral level), and instead shift our focus to the way that national and transnational networks of cities serve as sites and agents of governance in and of themselves, making rules that are relatively, if not entirely, independent of the broader political jurisdictions in which individual cities are embedded.

The literature has illuminated a growing array of multilevel governance activities in this vein, but a larger task still remains. Whereas traditional, federalist models of multilevel governance begin with a relatively concrete set of relationships amongst units with relatively clear lines of authority and stable understandings of legitimacy/accountability, the interaction of jurisdictions in the mosaic or network model of multilevel governance is more ambiguous and indeed remains an open question. To return once more to the example of climate change, it is clear that we are learning a great deal about a number of governance initiatives emanating from numerous actors and levels of politics. But this new knowledge also serves to highlight the challenge of understanding the broader context of global environmental governance. If, as Jagers and Stripple (2003: 388) contend, "global climate governance should refer to all the purposeful mechanisms and measures aimed at steering social systems toward preventing, mitigating, or adapting to the risks posed by climate change," we have our hands full and our task is to explore how they fit together into a broader global response to climate change.

This challenge is similar across the spectrum of global environmental governance—innovations are emerging at multiple levels and a key theme for the global environmental governance literature will be attempts at bringing order to the cacophony. The broader questions of both governance goals and environmental effectiveness apply equally to this sphere. In terms of governance, how are authority and legitimacy constructed in flexible jurisdictions that have emerged outside the bounds of traditionally vertical state-based authority relations? There are both horizontal and vertical dimensions to this question. Some multilevel initiatives, like municipal climate governance networks, link distinct subnational actors transnationally (e.g. Bulkeley and Betsill, 2003; Bulkeley, 2005). Others bring together actors at multiple jurisdictional levels in the construction of governance mechanisms (e.g. Scheurs et al., 2009; Moser, 2007). Both types operate in novel political space where authority and legitimacy to enact governance must be established.

Effectiveness also looms as a major concern. Can the mosaic/network model of multilevel governance produce effective rules to address global environmental problems in a way that brings environmental quality improvements in the absence of state authority? Will and can the creative leaps of innovation in the means of undertaking governance be matched by the ability of these experiments to bring equitable solutions to environmental problems in the absence of more centralized political power? To date, multilevel initiatives have not been as comprehensive as governance through multilateral treaty-making and some argue that, at least in the context of climate change, it could ultimately prove to be counterproductive (Weiner, 2007; Grubb, 2004). It is thus imperative to probe whether multilevel initiatives are any more effective in terms of concrete environmental improvements than activities in other spheres.

4. Implications of the Changing Terrain of Global Environmental Governance: What Directions for Further Research?

The three main spheres of global environmental governance as mapped out above – multilateral institutional arrangements and efforts at reform, private and market-based initiatives, and multilevel governance initiatives – can be easily described. Literatures have developed around each of these spheres of global environmental governance, and with the emergence of these literatures we have tended to see studies that focus more narrowly on one sphere or the other rather than looking at them in their totality. This is perhaps because providing a broader view is an extremely challenging task since each also involves different ontological commitments. Now that we have a substantial enough body of literature on these three spheres, across a range of issues, it is important to step back and ponder the nature of the relationships between these three spheres and assess how these complex and overlapping spheres of governance as a whole perform with respect to the goals of both effective, legitimate, and equitable governance on one hand and the concrete impact on environmental quality on the other.

An earlier version of this paper served as a touchstone for a discussion of these very issues amongst a group of leading scholars of global environmental governance. They responded to our framing and description of the spheres by noting that the spheres themselves are less important than the dynamics of authority, legitimacy, power, equity and effectiveness. We substantially agree and submit that the spheres we identify provide a framework for discussion of these crucial questions. Authority, legitimacy, power, equity, and effectiveness (among other values or goals of any governance system) are the crucial questions. The important next step, then, is to see how these cross-cutting issues play out differently within particular spheres and how we can use them to examine the relationships and connections between the spheres. Given the preliminary nature of this work, we admittedly, but pointedly, provide more questions than answers. Future research from this broad view across these main spheres and across a range of environmental issue areas will need to tackle the key concerns of both what governance can and should do and environmental effectiveness. Three key clusters of questions, in particular, stand out as requiring further attention.

1. How do the three emerging spheres of global environmental governance relate to one another? Are they simply overlapping spheres of governance, or are they nested within each other in practice?

2. What actors yield power in these different spheres of governance and to what effect? Do we see conflicting power dynamics within the different spheres? And how do these power dynamics play out across the different spheres?

3. In what ways does the nature of the relationship between these different spheres of governance impact both environmental effectiveness (improved quality of the environment) and governance goals of authority, legitimacy, and equity? Similarly, how might the latter inform or shape the meaning of or prospects of achieving the former?

4. These questions are very pertinent in the current global economic climate. Some might even say that in tandem environmental and economic crises may in fact re-legitimize state authority not just over the economic but also the environmental realm. At

the same time, it is unlikely that other emergent spheres of governance will disappear soon. Thus it is important at this critical juncture to tease out and better understand the linkages between various state and non-state governance modes. In particular it is important to think about how to leverage the emergent governance innovations with the power of the state such that sub-state and voluntary or market-based initiatives could be strengthened. Such innovations could possibly move GEG faster than multilateral processes, but with the type of legitimacy, equity and effectiveness that are required.

The research ahead of us is important. Engaging with the questions we identify will enhance the study of global environmental governance by providing insight into how governance arrangements are being and could be developed. But this traditional academic goal is not the sole reason for pursuing this avenue of research. On the contrary, there is a profound need to shape the practices of global environmental governance. The recent changes in these practices identified in the literature signal an ongoing transformation as the world searches for mechanisms that can match, or at least adapt to, the scope, complexity and requirements of the environmental problems we face. The scholarly community focused on global environmental governance has had too little voice in shaping this search. Our hope is that the research agenda outlined in this paper can begin to provide a platform for deploying knowledge about global environmental governance in the pursuit of legitimate, equitable, and effective governance solutions.

Works Cited

Auld, Graeme, Steven Bernstein, and Benjamin Cashore (2008). "The New Corporate Social Responsibility," *Annual Review of Environment and Resources.* Vol. 33:413-435.

Ba, Alice and Matthew J Hoffmann (eds.) (2005). *Contending Perspectives on Global Governance,* London: Routledge Press.

Bäckstrand, Karin (2006). "Democratizing Global Environmental Governance? Stakeholder Democracy after the World Summit on Sustainable Development," *European Journal of International Relations.* Vol. 12, No.4: 467–498.

Barkin, J. Samuel and Elizabeth DeSombre (2002). "Turtles and Trade: The WTO's Acceptance of Environmental Trade Restrictions," *Global Environmental Politics*.Vol. 2, No.1: 12-18.

Bernstein, Steven (2001). *The Compromise of Liberal Environmentalism*. New York: Columbia University Press.

Bernstein, Steven (forthcoming). Legitimacy in Intergovernmental and Non-state Global Governance. *Review of International Political Economy.*

Bernstein, Steven, and Benjamin Cashore (2007). "Can Non-State Global Governance be Legitimate? An Analytical Framework," *Regulation and Governance.* Vol. 1, No.4: 347-371.

Bernstein, Steven, and Erin Hannah (2008). "Non-State Global Standard Setting and the WTO: Legitimacy and the Need for Regulatory Space," *Journal of International Economic Law.* Vol. 11, No.3: 575-608.

Bernstein, Steven, and Maria Ivanova (2007). "Fragmentation and Compromise in Global Environmental Governance: What Prospects for Re-Embedding?" In *Global Liberalism and Political Order: Toward a New Grand Compromise*? edited by Steven Bernstein and Louis W. Pauly.Pp. 161-185. Albany: State University of New York Press.

Betsill, Michele, and Matthew J. Hoffmann (2008). The Evolution of Emissions Trading Systems for Greenhouse Gases. Paper Presented at the Annual Meeting of the International Studies Association.

Biermann, Frank (2002). "Green Global Governance: The Case for a World Environment Organisation." *New Economy.* Vol. 9, No.2: 82-86.

Biermann, Frank, and Philipp Pattberg (2008). "Global Environmental Governance: Taking Stock, Moving Forward," *Annual Review of Environment and Resources*. Vol. 33: 277-294.

Biermann, Frank, Philipp Pattberg, Harro van Asselt and Fariborz Zelli (2009). "The Fragmentation of Global Governance Architectures: A Framework for Analysis," *Global Environmental Politics.* Vol. 9, No.4.

Bulkeley, Harriet (2005). "Reconfiguring Environmental Governance: Towards a Politics of Scales and Networks," *Political Geography.* Vol. 24, No.8: 875-902.

Bulkeley, Harriet, and Michele Betsill (2003). *Cities and Climate Change: Urban Sustainability and Global Environmental Governance*. London: Routledge.

Cashore, Benjamin (2002). "Legitimacy and the Privatization of Environmental Governance: How Non-State Market-Driven (NSMD) Governance Systems Gain Rule-Making Authority," *Governance.* Vol. 15, No.4: 503–529.

Clapp, Jennifer (1998). "The Privatization of Global Environmental Governance: ISO 14000 and the Developing World," *Global Governance. Vol.* 4, No.3: 295–316.

_____ (2003). "Transnational corporate interests and global environmental governance: negotiating rules for agricultural biotechnology and chemicals," *Environmental Politics.* Vol.12, No.4: 1-23.

_____ (2005). "Global Environmental Governance for Corporate Responsibility and Accountability," *Global Environmental Politics.* Vol. 5, No.3: 23-34.

Clapp, Jennifer and Linda Swanston (2009). "Doing Away with Plastic Shopping Bags: Explaining International Patterns of Norm Emergence and Policy Implementation," *Environmental Politics*. Vol. 18, No.3: 315-332.

Clapp, Jennifer and Jason Thistlethwaite (2009). Looking for Volunteers: International Corporate Initiatives for Climate Change Governance, in *Private Voluntary Programs in Global Climate Policy: Pitfalls and Potentials*, edited by Karsten Ronit.

Clapp, Jennifer and Utting, Peter (2008). Corporate Responsibility, Accountability and Law: an Introduction, in *Taming Corporate Capitalism*, edited by P. Utting and J. Clapp, 1-33. Delhi: Oxford University Press India.

Commonwealth Secretariat (2008). Marlborough House Statement on Reform of International Institutions. Commonwealth Heads of Government Meeting on Reform of International Institutions. London, June 9-10.

Corell, Elisabeth, and Michele M. Betsill (2001). "A Comparative Look at NGO Influence in International Environmental Negotiations: Desertification and Climate Change," *Global Environmental Politics*. Vol. 1, No. 4: 86-107

Dauvergne, Peter (2005). Research in Global Environmental Politics: History and Trends. In *Handbook of Global Environmental Politics*, edited by P. Dauvergne, 8-31. Cheltenham: Edward Elgar Publishing.

Dimitrov, Radoslav S. Detlef Sprinz, Gerald DiGiusto and Alexander Kelle (2007). "International Nonregimes: A Research Agenda,"*International Studies Review.* Vol. 9, No.2: 230-258.

Eckersley, Robyn (2004). "The Big Chill: The WTO and Multilateral Environmental Agreements," *Global Environmental Politics*. Vol.4, No. 2: 24-50.

Falkner, Robert (2003). "Private Environmental Governance and International Relations: Exploring the Links." *Global Environmental Politics*. Vol.3, No.2: 72-87.

Fuchs, Doris (2005).*Understanding Business Power in Global Governance.* Baden-Baden: Nomos.

Grubb, Michael (2004). "Kyoto and the future of international climate change responses: from here to where," *International Review for Environmental Strategies.* Vol.5, No.1: 1-24.

Gupta, Joyeeta (2002). "Global Sustainable Development Governance: Institutional Challenges from a Theoretical Perspective," *International Environmental Agreements: Politics, Law and Economics*. Vol. 2, No. 4: 361-388.

Haas, Peter M. (2004). "Addressing the Global Governance Deficit," *Global Environmental Politics*. Vol. 4, No.4: 1-15.

Helm, Carsten and Detlef Sprinz (2000). "Measuring the Effectiveness of International Environmental Regimes," *The Journal of Conflict Resolution.* Vol. 44, No. 5: 630-652.

Hoffman, Matthew J. (2005). *Ozone Depletion and Climate Change: Constructing a Global Response.* Albany: State University of New York Press.

_____ (2006). Beyond Regime Theory: Complex Adaptation and the Ozone Depletion Regime. In *Complexity in World Politics,* edited by Neil Harrison, 95-120. Albany: State University of New York Press.

_____ (2007). The Global Regime: Current Status of and Quo Vadis for Kyoto. In *A Globally Integrated Climate Policy for Canada*, edited by Steven Bernstein, Jutta Brunnee, David G. Duff, and Andrew J. Greene. Pp. 137-157. Toronto: University of Toronto Press.

_____ (forthcoming). *Climate Governance at the Crossroads: Experimenting with a Global Response.* New York: Oxford University Press.

Homer-Dixon, Thomas (2006). *The Upside of Down: Catastrophe, Creativity, and the Renewal of Civilization*. Toronto: Random House.

Hooghe, Liesbet, and Gary Marks (2003)." Unraveling the Central State, but How? Types of Multi-level Governance," *American Political Science Review*. Vol. 97, No.2: 233-243.

Hufbauer, G.C., S. Charnovitz, and J. Kim, (2009). *Global Warming and the World Trading System*. Washington, DC: Peterson Institute for International Economics.

Ivanova, Maria (2007). "Designing the United Nations Environment Programme: A Story of Compromise and Confrontation," *International Environmental Agreements*. Vol. 7, No. 4: 337-361.

Jagers, Sverker C. and Johannes Stripple (2003). "Climate Governance Beyond the State," *Global Governance*. Vol. 9, No. 3: 385-399.

Krueger, Jonathan, and Henrik Selin (2002). "Governance for Sound Chemicals Management: The Need for a More Comprehensive Global Strategy," *Global Governance.* Vol. 8, No. 3: 323-342.

Lieberman, Sarah and Timothy Gray (2008). "The World Trade Organization's Report on the EU's Moratorium on Biotech Products: the Wisdom of the US Challenge to the EU in the WTO," *Global Environmental Politics.* Vol. 8, No. 1: 33-53.

Lipschutz, Ronnie D. and James K. Rowe (eds.) (2005). *Regulation for the Rest of Us? Globalization, Governmentality, and Global Politics*. London: Routledge.

Matthews, Karine, and Matthew Paterson (2005). "Boom or Bust? The Economic Engine Behind the Drive for Climate Change Policy," *Global Change, Peace & Security*. Vol.17, No.1: 59-75.

Meidinger, Errol (2007). "Beyond Westphalia: Competitive Legalization in Emerging Transnational Regulatory Systems." In Christian Brütsch and Dirk Lehmkuhl, eds., *Law and Legalization in Transnational Relations*. New York: Routledge. Pp. 121-43.

Najam, Adil (2003). "The Case Against a New International Environmental Organization," *Global Governance*. Vol. 9, No.3: 367-384.

_____ (2005). "Developing Countries and Global Environmental Governance: From Contestation to Participation to Engagement," *International Environmental Agreements*. Vol. 5, No.3: 303-321.

Najam, Adil, Mihaela Papa, and Nadaa Taiyab (2006). *Global Environmental Governance: A Reform Agenda*. Winnipeg: International Institute for Sustainable Development.

Newell, P., and M. Paterson (1998). "A Climate for Business: Global Warming, the State, and Capital," *Review of International Political Economy.* Vol. 5, No.4: 679-703.

Newell, Peter (2008). "The Political Economy of Global Environmental Governance," *Review of International Studies*. Vol. 34, No.3: 507-29.

Paterson, Matthew (2001). "Climate Policy as Accumulation Strategy: The Failure of COP6 and Emerging Trends in Climate Politics," *Global Environmental Politics.* Vol. 1, No.1: 10-17.

Prakash, Aseem, and Matthew Potoski (2006). *The Voluntary Environmentalists: Green Clubs, ISO 14001, and Voluntary Environmental Regulations*. Cambridge: Cambridge University Press.

Rabe, Barry G. (2004). *Statehouse and Greenhouse: The Emerging Politics of American Climate Change Policy*. Washington, DC: Brookings Institution Press.

Raustalia, Kal, and David G. Victor (2004). "The Regime Complex for Plant Genetic Resources," *International Organization*. Vol. 58, No. 2: 277-309.

Rosenau, James N. (1997). *Along the Domestic–Foreign Frontier: Exploring Governance in a Turbulent World*. Cambridge: Cambridge University Press.

——— (2005. Global Governance as Disaggregated Complexity. In *Contending Perspectives on Global Governance* edited by Alice Ba and Matthew J. Hoffmann, 131-153. London: Routledge.

Rowlands, Ian (2000). "Beauty and the Beast?: BP's and Exxon's Positions on Global Climate Change," *Environment and Planning C: Government and Policy*. Vol.18, No.3: 339–54.

Schreurs, Miranda, Henrik Selin and Stacy D. VanDeveer (2009). Conflict and Cooperation in Transatlantic Climate Politics: Different Stories at Different Levels In *Transatlantic Environment and Energy Politics: Comparative and International Perspectives*, edited by Miranda Schreurs, Henrik Selin and Stacy D. VanDeveer, 165-188. London: Ashgate.

Tarasofsky, Richard, and Alice Palmer (2006). "The WTO in Crisis: Lessons Learned from the Doha Negotiations on the Environment," *International Affairs*. Vol. 82, No. 5: 899–915.

Utting, Peter, and Ann Zammit (2006). "Beyond Pragmatism: Appraising UN-Business Partnership," *Programme Paper on Markets, Business and Regulations*, Paper No. 1, Geneva: UNRISD.

Vandeveer, Stacy and Simone Pulver (forthcoming). "Thinking About Tomorrows": Scenarios, Global Environmental Politics, and Social Science Scholarship," *Global Environmental Politics.*

Victor, David G., Kal Raustiala, and Eugene B. Skolnikoff (eds.) (1998). *The Implementation and Effectiveness of International Environmental Commitments*. Cambridge: The MIT Press.

Vogel, David (2008). "Private Global Business Regulation," *Annual Review of Political Science*. Vol. 11: 261-282.

Vogler, John (2003). "Taking Institutions Seriously: How Regime Analysis can be Relevant to Multilevel Environmental Governance," *Global Environmental Politics*. Vol. 3, No. 2: 25-39.

Von Moltke, Konrad (2001). "The Organization of the Impossible," *Global Environmental Politics*. Vol. 1, No. 1: 21-28.

Williams, Marc(2005). "The Third World and Global Environmental Negotiations: Interests, Institutions and Ideas," *Global Environmental Politics*. Vol. 5, No.3: 48-69.

Wapner, Paul (1996). *Environmental Activism and World Civic Politics*. Albany: SUNY Press.

Wiener, Jonathan B. (2007). "Think Globally, Act Globally: The Limits of Local Climate Policies," *Duke Law School Faculty Scholarship Series*. Paper 93.

Werksman, J. and Houser, T.G. (2009). "*Competitiveness, Leakage and Comparability: Disciplining the Use of Trade Measures under a Post-2012 Climate Agreement,"* Washington: World Resources Institute. Available at: http://pdf.wri.org/working_papers/competitiveness_leakage_and_comparability.pdf.

Wright, Christopher, and Alexis Rwabizambuga (2006). "Institutional Pressures, Corporate Reputation, and Voluntary Codes of Conduct: An Examination of the Equator Principles," *Business and Society Review*. Vol. 111, No.1: 89–117.

Young, Oran (1999). *The Effectiveness of International Environmental Regimes: Causal Connections and Behavioral Mechanisms*. Cambridge: MIT Press.

——(2008). "The Architecture of Global Environmental Governance: Bringing Science to Bear on Policy," *Global Environmental Politics*. Vol.8, No.1: 14-32.

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