**Civil Society and Multilevel Climate Governance**

**Dovev Levine, University of New Hampshire Department of Natural Resources & Environmental Studies, Durham, New Hampshire, USA, Dovev.Levine@unh.edu**

## Abstract

Evidence suggests that agency on climate-related policymaking is diffusing from a small number of powerful state actors to a larger and more diverse set of agents operating at local, national and transnational levels. These multiple pathways and multilevel governance of climate policymaking serve as influential avenues for strategic action. To date, multilevel and transnational climate governance perspectives lack analysis of the role played by civil society actors within these pathways. This paper subsequently provides a framework for understanding the role of civil society action within the arena of multilevel climate governance. Using college and university campuses as a proxy for the civil society sector, it demonstrates that through their collective influence, civil society actors have the potential to shape developments that extend beyond their institutional borders, and subsequently contribute to multilevel environmental governance.

## Introduction

The evidence suggests that agency on climate-related policymaking is diffusing from a small number of powerful state actors to a larger and more diverse set of agents operating at local, national and transnational levels. These multiple pathways and multilevel governance of transatlantic climate politics can serve as both important channels of norm diffusion and learning, and as influential avenues for strategic action. (Schreurs 2009, 13) To date, multilevel and transnational climate governance perspectives lack analysis of the role of civil society within these pathways, including empirical research on the influence of civil society upon the climate policymaking conducted at various sectors. In other words, multilevel and transnational governance perspectives have yet to definitively argue that civil society exerts a significant influence within the climate arena, or the specific ways in which it does.

Given this need for analysis, a framework is presented for understanding the role of civil society action within the climate arena. Using college and university campuses as a proxy for the civil society sector, it demonstrates that through their collective influence, civil society actors have the potential to shape developments that extend beyond their institutional borders, and subsequently contribute to multilevel environmental governance. This influence is described through the lens of Selin and VanDeeveer's "pathways of policy change" framework, which asserts that bottom-up climate actions in are driving the United States toward a potential federal climate policy and subsequent re-engagement with the international climate arena. In other words, the higher education sector—and by extension, civil society—can and does affect multiple levels of climate governance.

This collective influence is illustrated by first discussing multilevel environmental governance and comparative international environmental politics perspectives. This is followed by a description of the role played by college and university campuses in helping to shape eventual U.S. federal climate policy and a discussion of the potential subsequent impact on transnational climate relations. It concludes by addressing the need to conduct similar analyses on the potential influence of European Union-based campuses, as well as the necessity of supporting the evidence cited in this paper with additional sources.

## Multilevel Environmental Governance and Civil Society Actors

The evidence suggests that traditional divisions between state and non-state, local, national, and global are disrupted by the politics of climate change and agency on climate-related policymaking is subsequently diffusing from a small number of powerful state actors to a larger and more diverse set of agents operating at local, national and transnational levels. (Betsill, 2006, 151; Schreurs 2009, 13). In other words, nation-states no longer monopolize policymaking, given that supranational bodies have an independent influence over these processes; the need for collective decision-making over complex problems leads to a loss of control for nation-states; and supranational, national, and

subnational political arenas are interconnected through policy networks. The literature terms this emerging multilevel governance as "actors operating across horizontal and vertical levels of social organization and jurisdictional authority around a particular issue." Political authority for making decisions related to the mitigation of GHG emissions has been redistributed upward to international organizations and transnational networks, downward to cities and regions, and outward to non-state actors. As a result, decision-making competencies are increasingly shared between actors operating at different levels of governance.(Selin & VanDeveer, 2009; Betsill, 2006, 149)

In short, as additional actors engage in efforts to address climate change, new opportunities emerge to enhance the effectiveness of the global climate change regime through public-private partnerships, bottom-up pressures, and transnational networks. Thus, the global governance of climate change has evolved into a complex, multilevel process. For example, in the absence of national leadership on climate change in the United States, a steadily growing number of U.S. states and municipalities have adopted climate change policies that exceed national standards and goals. Likewise, a growing number of large U.S.-based firms, non-governmental associations, and universities are launching GHG reduction programs. This is also evidenced in the European Union, where analysts assert that leadership in climate change is the result of a dynamic process of competitive multi-level reinforcement among the different EU political poles within a context of decentralized governance. EU leadership has depended upon the actions and commitments of a group of pioneering states and the leadership roles played by the European Parliament (EP), the European Commission, and select industry actors. This upward cycle of reinforcing leadership within a quasi-federal system has been triggered by and been dependent upon strong public support and normative commitment. (Schreurs & Tiberghien 2007, 22)

*Civil Society Actors*

In the absence of federal leadership on climate change, several states, provinces, municipalities, and civil society actors have made ambitious commitments to reduce GHG emissions (Rabe 2004, 2008; Rappaport and Creighton 2007). A multitude of local governments and private sector actors are working on creative solutions for addressing

the threat of global warming (Gore and Robinson, 2009; Jones and Levy, 2009). As a growing number of actors engage in efforts to address climate change, new opportunities to tackle the climate challenge emerge through public-private partnerships, bottom-up pressures, and transnational networks. Decisions affecting GHG emissions and strategies for adapting to the impacts of climate change are made by a myriad of state and nonstate actors working at all levels, from the global to the local, and often connected through transnational networks (Betsill 2005). These actions send an ever-stronger signal to municipal, state, provincial, and federal policymakers that more aggressive climate action is possible, cost-effective, and politically supported (Moser and Dilling 2007, 397).

Though it is unlikely that bottom-up initiatives can supplant the need for more concerted national and multilateral climate policymaking, these initiatives demonstrate concern and can also help in providing new solutions and pushing national governments to act more forcefully (Speth and Haas 2006, 123). Civil society actors, including those in the campus sector, add to this flurry of expanding local-level climate action. A multitude of campus actors engage in action within their campuses and local communities, manifesting many functions of local government and private firms, even as they seek to engage state, national, and international debates and policymaking. As such, civil society actors may be seen as increasingly important within the multiscale processes of climate governance. Multilevel environmental governance perspectives would therefore be remiss if they did not explore the role of civil society actors.

## **Bottom-up Climate Action**

Even though political authority for making decisions related to greenhouse gas emissions has been redistributed to a variety of sectors and levels, climate change is a global problem, and dealing successfully with this problem ultimately requires international coordination. Although some climate policies can be implemented unilaterally, international coordination of national efforts is crucial to addressing climate change in the most effective and equitable manner. (Goulder and Nadreau 2001, 115) Kenneth Waltz similarly asserts the importance of nations working

together: "collective efforts are needed if common problems are to be solved or somehow managed." He acknowledges that "global problems can be solved by no nation singly, only by a number of nations working together."In short, climate change has required, and will continue to require, international cooperation. (Harris, 2007, 195)

The centerpiece for international policy negotiations is the Kyoto Protocol, an international agreement formulated in December 1997. The Kyoto Protocol has been deemed ineffective to date. This is reflected in numerous failures to approach pledged emissions reductions, as in the Canadian and Japanese cases, or to successfully implement national or multinational policies, as in the stumbles of the Emissions Trading Scheme in the European Union. (Rabe 2008, 105). Analysts point to the U.S. renunciation of Kyoto as a critical reason for its ineffectiveness. While many weaknesses have emerged, including weak incentives for participation and a primary focus on emissions abatement that may forego some low-cost risk reduction opportunities through coordinated research and discovery efforts and adaptation policy (Aldy and Stavins 2007), analysts note that any global climate change effort will be unsatisfactory without U.S. participation. (Bang & Tjernshaugen 2005, 285) The result of the US lack of cooperation, as many speakers at the recent UN climate change conference in Bali recently recently observed, is the window of opportunity for the world to achieve stabilization of GHGs in the atmosphere closing very quickly.

There is a real danger, analysts believe, that even those countries who have taken first steps to reducing emissions under the Kyoto Protocol are starting to capitulate. Analysts such as Eileen Claussen of the Pew Climate Change Center argue that developed and developing countries have made clear that they are not taking on new commitments without movement by the United States and major developing countries. The political reality, they argue, is that the negotiations are headed nowhere, unless they are somehow broadened or linked to bring in the other major players. (Claussen, 2007, 80)

Desombre adds that US unwillingness to participate in Kyoto delayed its entry into

force and weakened the agreement, since without the U.S. it needed the participation of almost all industrialized countries, many of which refused to go along until their obligations were made more flexible and less onerous. (Desombre, 2005) Keohane, for example, has argued that, "if there is neither a hegemonic leader nor an international regime, prospects for cooperation are bleak indeed, and dilemmas of collective action are likely to be severe." Harris adds that in the case of climate change, it is likely that a more effective regime and a (benign) hegemonic leader are required. The regime cannot be very successful without the participation -- some argue leadership -- of the United States. The United States is important because it produces a quarter of the pollutants causing global warming -- more GHGs than any other country -- and it is potentially the most effective supplier of incentives useful in garnering support for collective action. (Harris, 2007, 217)

Thus, the international level is constrained by U.S. disengagement. This disengagement is explained by Putnam's analysis of how interlinkages between the domestic and international levels are decisive for international cooperation. In his description of the two-level game of diplomacy and domestic politics, Putnam underlines that ''central decision-makers must strive to reconcile domestic and international imperatives simultaneously'' (Putnam, 1988: 460). At the national level, he explains, domestic groups pursue their interests by pressuring the government to adapt favorable policies, and politicians seek power by constructing coalitions among those groups. At the international level, national governments seek to maximize their own ability to satisfy domestic pressures, while minimizing the adverse consequences of foreign developments. (Putnam, 1988: 434)

It follows then, that for the United States to re-engage, the government must strike a bargain internationally that can meet the approval of its legislature. Underdal in an article on explaining compliance and defection asserts that compliance with international commitments is ''dependent on the domestic distribution of costs and benefits resulting from the agreement, as well as the distribution of power and influence over public policy'' (Underdal, 1998:24). Thus, central policymakers are likely to find the domestic scene at least as important as the international arena. This suggests that to the

policymaker, concerns about the national economic interests rarely if ever provide a sufficient basis for action at the international level; ‘‘a decision-maker will most often demand the insights that domestic politics and the distribution of costs and benefits between domestic actors provide’’ (Underdal, 1998:25). (Bang & Tjernshaugen, 2005, 301) This would mean that to re-engage the United States, the climate regime cannot have economic consequences that are too negative for economically powerful stakeholder groups in the United States (Bang & Tjernshaugen, 2005, 286)

Furthermore, as long as its domestic strategy is not clarified, Bang & Tjemshaugen argue, it is difficult to participate internationally. Because the U.S. has not fully decided what its policy needs and consequences are nationally, it does not have a vision for how an international treaty should best be designed. Coordination of domestic and international initiatives is necessary, and their findings suggest that a broad set of domestic actor constellations must change if the United States is to re-engage in the international climate regime. (Bang & Tjernshaugen, 2005, 301)

This is supported by Desombre’s research indicating that US reluctance to engage Kyoto is attributable to lacking a preexisting policy on domestic climate change mitigation and its traditional rejection of any kind of tax on energy. She argues that the US tends to exercise leadership on international environmental issues it has already addressed domestically, and where the form of the domestic regulation fits the format of the international regulation being considered. Analysts therefore indicate that it is unlikely that that the U.S. will pursue a more proactive foreign policy on climate change until it has a more credible national policy. (Selin & VanDeveer 2007, 19)

## Pathways of Policy Change

A more credible national policy, in turn, is driven by subfederal efforts. For example, Rabe demonstrates that the recent trend toward state-driven climate policy is not unprecedented in American federalism. In many instances, early state policy

engagement has provided models that were ultimately embraced as national policy by the federal government. This has been evident in a range of social policy domains, including health care and education. (Manna, 2006; Teske, 2004). Similarly, Selin and VanDeveer argue that those climate policies with the most active support of subfederal actors in the public, private, and civil society sectors, are more likely than other policy ideas to be included in federal policy. (Selin & VanDeveer, 2007, 17) These actors form expanding networks of climate change advocates which influence local and national decision-making and policy through four pathways: (1) the strategic use of demonstration effects, (2) market pricing and expansion, (3) policy diffusion and learning, and (4) norm creation and promulgation. (VanDeveer, 2007, 2, 12) Through their collective influence, it is within these four pathways of policy change that campuses contribute to multilevel environmental governance.

*The Strategic Use of Demonstration Effects*

Climate change policy advocates draw attention to the multitude of new climate change initiatives to demonstrate the viability of more aggressive climate change action. (Selin and VanDeveer 2007, 13) Many authors conclude that North American climate change policy is conditioned by the *perception* that economic costs of GHG reductions are exorbitant. (Luterbacher & Weib 2001, 78) (Levine, 2009, Final Draft) The Bush administration, for example, consistently opposed the Kyoto Protocol in part because it "would cause serious harm to the U.S. economy" (Roberts 2007, 4). There is, consequently, a need to demonstrate and communicate cost-effective climate actions using concrete facts and statistics (such as quantified data on GHG emissions reductions and cost savings), which may persuade others to take action. Demonstrating cost-effective achievement of GHG reduction targets, these actions contribute to bottom-up political and economic pressures on local and national policymakers as separate social groups form coalitions for change (Moser and Dilling 2007, 506; Selin and VanDeveer 2007).

Thus, one way that college and university climate actions contribute to multilevel environmental governance is through modeling of cost-effective initiatives that may be

used by other sectors. (Energy Action 2005; Levine, 2009) Across North America, campus-based clean energy activities are leading to net savings. Elsewhere, savings from energy efficiency projects at the University of California, Santa Barbara have totaled over $36 million (National Wildlife Foundation 2008). One of the first state-funded green buildings in Maryland is going up at St. Mary's College (Harley 2007). A Harvard University cogeneration plant was the first power project to win approval under new Massachusetts restrictions on GHGs (Global Power Report 2007). At the national level, over 500 college presidents have signed the American College and University Presidents Climate Commitment, pledging to assess their GHG emissions and develop a strategy for reducing them, or buying offsets, with the goal of becoming carbon neutral (Barringer 2007). This commitment makes higher education the first sector of society to commit to becoming climate neutral (Brooks 2007).

One key variable accounting for policy change is the degree of domestic pressure (Speth and Haas 2006, 123). By sending a signal to municipal, state, provincial, federal, and international policymakers that more aggressive climate action is both possible and cost-effective, campus actions arguably contribute to making expanded public- and private-sector action more likely (Moser and Dilling 2007, 397; Speth and Haas 2006, 123). Whatever misconceptions there may be about cost barriers to launching different kinds of initiatives to reduce GHG emissions, the net-positive experiences of many schools are helping to proving those assumptions wrong (NWF 2008). Such demonstration effects offer concrete evidence for climate policy advocates to use in political debates across public, private, and civil society sectors at multiple governance levels (Selin and VanDeveer 2007).

*Market Expansion and Pricing*

Often, advocates of climate policy seek to exploit and/or alter market dynamics. For example, many state and local level initiatives mandate greater use of renewable energy and the purchase of higher efficiency products by public authorities (e.g. appliances and vehicles). Many firms and NGOs have similar policies in place designed to regulate their internal purchasing. Such policies can expand markets for

more energy efficient products, offering the potential to push down prices and make such products more economically competitive. As states and municipalities mandate higher energy efficiency standards, this can be expected to increase the size of related markets. If energy efficient products and techniques decline in price relative to less efficient ones, this too would undermine claims about the economic and social disasters engendered by GHG emissions reduction policies made by many opponents of climate change policy.

Many colleges and universities are like municipalities in their size and financial influence, and they subsequently have enough purchasing power to help shape demand for products and services that produce fewer GHG emissions than the conventional alternatives. Whether this comes in the form of signing a long-term contract for the campus to be powered by wind power or to purchase electric and hybrid vehicles for the university's fleet, the cumulative impact of these decisions can make a real difference (Rappaport and Creighton 2007, 312). Collectively, U.S. colleges and universities spend over $360 billion annually and hold roughly the same amount in endowment investments. Including staff and administrators, the total population today on U.S. college and university campuses is around 20 million individuals. Add the hundreds of thousands of business suppliers and countless other commercial and nonprofit entities that interact with colleges and universities, and the economic clout of North American higher education is sizable (National Wildlife Foundation 2008).

Colleges and universities spend an estimated $2 billion per year on energy, including purchases of close to 1.1 billion kilowatt hours of green electricity, enough to power 87,000 average homes for a year, according to the U.S. Environmental Protection Agency (Monastersky 2007; Rappaport 2008). In fact, in 2005, the higher education sector was the largest purchaser of wind energy in the United States (Calhoun and Cortese 2005). For example, the University of Pennsylvania signed a ten–year contract to purchase 29 percent of its total energy needs from wind-generated resources. This infusion of capital to the wind generator subsequently

enabled construction of a twelve-turbine, 20 megawatt wind farm in Pennsylvania (Sustainability Endowments Institute 2007). Commitments from colleges and universities across the continent help to establish consistent and reliable revenue streams for renewable energy investors and producers, helping to support investments in lower-carbon energy production and helping to make green power more affordable and competitive.

The collective buying power of colleges and universities thereby contributes to renewable energy investments and generation expansions. In this way, colleges and universities help lower the cost of new low-emissions technology across local, national, and international markets. Similar dynamics are visible also outside the energy sector as companies that serve campus communities respond to other types of climate–related demands. For example, the Sodexho Alliance, which handles food and cleaning contracts for 900 schools, in recent years has seen a 20 percent annual increase in the number of accounts demanding food that is local, organic, and grown sustainably. Increased offering of such food in many cases reduces the overall carbon footprint of the food served on campus (Green 2007). In addition, purchasing policies for more energy-efficient office and laboratory equipment and green building serves to expand markets for these products and services.

*Policy Diffusion and Learning*

Studies demonstrate that environmental policies among leading U.S. states, municipalities and/or firms frequently serve as models (explicitly and implicitly) for subsequent initiatives by other such actors and federal policy makers (Rothenberg, 2002; Rabe, 2003). In such cases, policy ideas and information are diffused as actors learn from others' experiences. For example, U.S. federal environmental policies on toxics and air and water pollution have been modeled after programs in environmental leader states. In these and other cases, sub-national policy experiences served as laboratories for policy innovation within U.S. environmental federalism. Similarly on climate change, a growing body of evidence suggests that policy lessons from one jurisdiction or organization often are emulated as others

seek to develop policies on, for example, energy and electricity generation, emissions reduction, transportation, and land use (Rabe, 2004).

Roughly 1,000 North American colleges and universities have enrollments of 5,000 or more students. With some of those institutions having weekday populations, including all faculty and staff, of 60,000 or more, many colleges and universities are the largest energy users in their regions (National Wildlife Foundation, 2008). The total population on U.S. campuses is around 20 million individuals, accounting for 5 percent of all U.S. commercial-building-sector emissions (NWF 2008). The higher-education sector represents about 3 percent of the U.S. gross domestic product and 2 percent of the workforce. Thus, successful campus-based reduction actions are significant in a North American context. While there is no evidence suggesting that the entire higher-education sector has reduced its GHG emissions, a host of examples across the continent demonstrate that colleges and universities can continue to grow even as they reduce their GHG emissions.

Many colleges and universities are leading the way in setting and achieving GHG emissions reduction goals. Some have either met or exceeded the GHG emissions reduction target under the Kyoto Protocol that was rejected by the Bush administration (a 7 percent reduction below 1990 levels by 2012). For example, Yale University has cut its GHG emissions by 17 percent, with projects underway expected to cut another 17 percent by 2009. These cuts are achieved at a cost of less than 1 percent of the annual operating budget (Blum 2008). Such actions might be limited in the actual amount of GHG emissions that are reduced, but they send a symbolic message. These early actions are a way to get a first commitment upon which bigger commitments can be built. Small-scale actions and successes may slowly change the political climate, which in turn enables larger policy and political changes (Moser and Dilling 2007, 506).

Even if colleges and universities cannot solve the climate problem on their own, they are gathering important experience with policy options (McKinstry 2004). In other words, campus reduction targets and achievements are important not only as

a beneficial end in themselves but also because they have the potential to create a ripple effect throughout North American societies. Colleges' and universities' role as laboratories for invention means that many campus innovations carry with them an academic imprimatur that may encourage other public- and private-sector actors to copy their work (Namikas 2008). Such expanded efforts are critical: as Yale President Richard Levin puts it, "We're showing it can be done, but our carbon savings are miniscule compared to what needs to happen. The answer has to come from governments" (Blum 2008).

*Norm Creation and Promulgation*

A fourth pathway of policy influence lies in the creation and promulgation of norms related to climate change action and policy. Literature on environmental protection and human rights demonstrates that normative change over time can be a powerful influence on policy making, as norms shape policies and behaviors that are viewed as "appropriate" (Cass, 2005; O'Neil, Balsiger, & VanDeveer, 2004; Risse, 2002b; Cortell & Davis, 2000; Finnemore & Sikkink, 1998). (Selin & VanDeveer 2007, 16) For example, changing norms on climate policy may affect renewable energy norms; if wind turbines come to be viewed as expected and normal parts of the landscape, proposals to cite them might induce less local resistance over time. Similarly, climate change action is intimately linked to issues of energy savings, which include energy uses, building codes, fuel standards, and the design of technical goods. On all these issues, normative changes could bring about significant changes for authorities, companies, and citizens. (Selin & VanDeveer, 2007, 16-17)

Through courses in environmental studies, political science, economics, and other areas, some analysts suggest that by teaching individuals about the likely ecological consequences of their actions (including their political activities and consumption patterns), such curricula may result in higher reductions of GHG emissions than those resulting from government-imposed tax schemes (Luterbacher and Weib 2001, 116). Importantly, universities also use informal education to teach climate change. This is critical to broader North American climate policy development, as

students learn by observing what they see around them. Arguably, the more they see climate awareness in campus operations, the more likely they are to be engaged in such efforts in their lives, both during and after their college years. For example, Oberlin College uses a comprehensive system to monitor and display electricity consumption in dormitories, with the goal of providing real-time feedback that allows students to better conserve environmental resources.

As campuses increasingly engage in climate actions such as onsite wind turbines and solar turbines, it is conceivable that they will become normal and expected parts of the landscape, and subsequently resistance to such efforts will wane over time (Selin and VanDeveer 2007). Over the long term, says Anthony Cortese of Second Nature, educational institutions will have their biggest impact on the climate through their students. "We have 100 percent of the educational footprint because we train all the future K–12 teachers and we train all the leaders in every sector of society," he says (Monastersky 2007).

## Further Research

This paper has focuses mainly on the influence wielded by North American-based campuses. In order to further transatlantic climate change perspectives, similar analysis should be conducted upon European Union-based campuses. Such analysis would contribute towards understanding the convergence and divergence of civil society actors within the context of transatlantic relations.

In addition, the evidence cited in this paper is largely gained from secondary sources, including various higher education- and sustainability-themed articles. While this is useful for providing a general overview of the contributions of college and university campuses towards multilevel climate governance, such sources are insufficient for gaining the necessary empirical understanding required for definitively addressing the question of whether campuses significantly have an effect on various levels of climate governance, or the specific fashions in which such

influence is exerted. Subsequently, future research aims to conduct a series of interviews with US- and EU-based decisionmakers at various levels of subnational governance, including those at the municipal and state levels.

## Conclusion

Multilevel climate governance perspectives suggest that agency on climate-related policymaking is diffusing from a small number of powerful state actors to a larger and more diverse set of agents operating at local, national and transnational levels, and the resulting pathways subsequently operate as influential avenues for strategic action at numerous levels. This paper demonstrates that civil society actors exert significant influence within these pathways, and this is shown through the usage of college and university campuses as proxies for the civil society. The evidence gathered here indicates that through their collective influence, climate actions by colleges and universities have the potential to shape developments that extend beyond the borders of campus, and subsequently contribute to multilevel climate governance.

Through their contributions towards the pathways of policy change—strategic use of demonstration effects, market expansion and pricing, policy diffusion and learning, and norm creation and promulgation—climate actions by colleges and universities arguably push the U.S. towards the potential adoption of a federal climate policy. This would subsequently play a significant role within transatlantic climate change relations. Subsequently, colleges and universities potentially contribute to the development of climate governance on numerous levels, and can therefore be considered as exerting significant influence within multilevel climate governance efforts.

**References**


Agrell, Siri. Welcome to Green U. *The Globe and Mail*, June 6.

Aldy, Joseph E. and Robert N. Stavins. 2007, 24 September. "Designing the Next International Climate Agreement." *RFF Weekly Policy Commentary*, September 24, 2007.

American College and University Presidents Climate Commitment (ACUPCC). 2007. *Climate Leadership for America: Progress and Opportunities in Addressing the Defining Issue of Our Time*. 2007 Annual Report. Available at http://www.presidentsclimatecommitment.org/reporting/documents/ACUPCC_AR2007.pdf. Accessed April 2, 2008.

Anderson, Leonard. 2007. More U.S. College Students Studying Clean Energy. Reuters, March 28.

Bang, Guri, Andreas Tjernshaugen and Steinar Andresen. 2005. The Future U.S. Climate Policy: International Re-engagement? *International Studies Perspectives*, 6: pp. 285-303.

Barringer, Felicity. 2007. For New Center, Harvard Agrees to Emissions Cut. *New York Times*, September 18.

Betsill, Michele M. 2005. Global Climate Change Policy. In *The Global Environment: Institutions, Law, and Policy*, edited by Regina S. Axelrod, David L. Downie, and Norman J. Vig. Washington, DC: CQ Press.

Betsill, Michele and Bulkeley, Harriet. 2006, Cities and the Multilevel Governance of Global Climate Change. *Global Governance* 12 (2):141-159.

Blum, Andrew. 2008. Carbon Neutral U. *Metropolis Magazine*, February 20.

Brooks, Courtney. 2007. A Commitment to the Environment. *Boston Globe*, May 26.

Calhoun, Terry, and Anthony D. Cortese. 2005. *We Rise to Play a Greater Part: Students, Faculty, Staff, and Community Converge in Search of Leadership from the Top*. Ann Arbor, MI: Society for College and University Planning.

Church, Elizabeth. 2008. Green Studies in Big Demand at Ontario's Universities. *The Globe and Mail*, January 19.

Claussen, Eileen & Diringer, Elliott. 2007. A New Climate Treaty: US Leadership After Kyoto. *Harvard International Review*. Spring. 79-80.

Cooper, Russ. 2007. Greener Education. *Canadian Geographic* 127(5): 22.

Creighton, Sarah Hammond. 1998. *Greening the Ivory Tower: Improving the Environmental Track Record of Universities, Colleges, and Other Institutions*. Cambridge, MA: MIT Press.

Desombre, Elizabeth. 2005. "Understanding United States Unilateralism: Domestic Sources of U.S. International Environmental Policy" in The Global Environment.

Deutsch, Claudia H. 2007a. A Threat So Big, Academics Try Collaboration. *New York Times*, December 25.

Deutsch, Claudia H. 2007b. U.S. Colleges Are Making Conservation a Priority. *International Herald Tribune*, June 14.

Energy Action and Apollo Alliance. 2005. *New Energy for Campuses Report*. Energy Action and Apollo Alliance. Available at http://www.campusactivism.org/server-new/uploads/new_energy_for_campuses_report.pdf. Accessed April 1, 2006.
Geiselman, Bruce. 2007. It's a Gas; N.H. University to Launch Major LFG Project. *Waste News*, August 20.
Global Power Report. 2007. Harvard Cogeneration Project Is First in Mass. to Come under New GHG Monitoring Program. *Global Power Report*, September 20.
Goulder, Lawrence and Nadreau, Brian. 2001. International Approaches to Reducing Greenhouse Gas Emissions. In Climate Change: A Survey. Eds: Schneider, Stephen, Rosencranz, Armin and Niles, John. Island Press: Washington D.C.
Green, Heather. 2007. The Greening of America's Campuses. *Business Week*, April 9.
Harris, Paul. 2007. Collective Action on Climate Change: The Logic of Regime Failure. *Natural Resources Journal*. Winter. 195-224.
Hartley, Megan. 2007. Students Add Conservation to Curriculum. *Washington Post*, March 11.
Knight, Rebecca. 2007. Global Warming Has Become a Hot Topic on the Curriculum. *Financial Times*, January 29.
Levin, Richard. Leading by Example: From Sustainable Campuses to a Sustainable World. Climate Lecture Series. University of Copenhagen. January 21, 2008.
Mason, Gary. 2007. B.C.'s School of Greener Learning. *Globe and Mail*, August 25.
McCormick, John. 2005. The Role of Environmental NGOs in International Regimes. In *The Global Environment: Institutions, Law, and Policy*, edited by Regina S. Axelrod, David L. Downie, and Norman J. Vig. Washington, DC: CQ Press.
Monastersky, Richard. 2007. Colleges Strain to Reach Climate-Friendly Future. *Chronicle of Higher Education*, December 14.
Morris, John P. 2005. The Hidden Economics of Campus Sustainability. *Facilities Manager* (May/June).
Moser, Suzanne C., and Lisa Dilling. 2007. Toward the Social Tipping Point: Creating a Climate For Change. In *Creating a Climate for Change: Communicating Climate Change and Facilitating Social Change*, edited by Suzanne C. Moser and Lisa Dilling. Cambridge: Cambridge University Press.
Mufson, Steven. 2007. In Energy Conservation, Calif. Sees Light. *Washington Post*, February 7.
Namikas, Kiki. 2008. Boiling Point. *Earth Island Journal* 22(4): 59–61.
National Wildlife Foundation. 2008. *Higher Education in a Warming World: The Business Case for Climate Leadership on Campus*. Reston, Virginia: National Wildlife Foundation.
Newman, Julie, and Lisa Fernandez, eds. 2007. *Strategies for Institutionalizing Sustainability in Higher Education*. Report on the Northeast Campus Sustainability Consortium 3rd Annual Conference and International Symposium, November 2–4.
Nicholson, Tom. 2007. For Sustainability and Clean-Energy Majors, Global Warming Is Hot. *Engineering News-Record* 44(259): 15.Putnam, Andrea, and Michael Phillips. 2006. *The Business Case for Renewable Energy: A Guide for Colleges and Universities*. Alexandria, Virginia: APPA. Alexandria, Virginia: National

Association of College and University Business Officers. Ann Arbor, Michigan: Society for College and University Planning.Rabe, Barry G. 2004. *Statehouse and Greenhouse: The Emerging Politics of American Climate Change Policy*. Washington, DC: Brookings Institution Press.

Putnam, Robert D., 1988: Diplomacy and Domestic Politics: The Logic of Two-Level Games. International Organization 42: 427-460.

Rabe, Barry G. 2008. States on Steroids: The Intergovernmental Odyssey of American Climate Policy. *Review of Policy Research* 25(2): 105–128.

Rappaport, Ann. 2008. Campus Greening beyond the Headlines. *Environment* 50(1): 33–38.

Rappaport, Ann, and Sarah Hammond Creighton. 2007. *Degrees That Matter: Climate Change and the University*. Cambridge, MA: MIT Press.

Raustiala, Kal. 2001. Nonstate Actors in the Global Climate Regime. In *International Relations and Global Climate Change*, edited by Urs Luterbacher and Detlef F. Sprinz. Cambridge, MA: MIT Press.

Rimer, Sara. 2008. How Green Is the College? Time the Showers. *New York Times*, May 26.

Roberts, J. Timmons., and Bredley C. Parks. 2007. *A Climate of Injustice: Global Inequality, North-South Politics, and Climate Policy*. Cambridge, MA: MIT Press.

Sa, Creso M., Roger L. Geiger, and Paul M. Hallacher. 2008. Universities and State Policy Formation: Rationalizing a Nanotechnology Strategy in Pennsylvania. *Review of Policy Research* 25(1): 3–19.

Scherer, Ron. 2006. "Sustainability" Gains Status on U.S. Campuses. *Christian Science Monitor*, December 19.

Schneider, Keith. 2008. Majoring in Renewable Energy. *New York Times*, March 26.

Schreurs, Miranda A., Selin, Henrik and VanDeveer, Stacy. 2009. *Transatlantic Environment and Energy Politics*. Burlington, VT: Ashgate Publishing Company.

Schreurs, Miranda and Tiberghien, Yves. 2007, November. *Multi-Level Reinforcement: Explaining European Union Leadership in Climate Change Mitigation* Global Environmental Politics - Volume 7, Number 4. 19-46.

Selin, Henrik, and Stacy D. VanDeveer. 2007. Political Science and Prediction: What's Next for U.S. Climate Change Policy? *Review of Policy Research* 24(1): 1–27.

Skolfield, Karen. 2006. Beyond the Bluster. *UMass Magazine Online*, Spring 2006. Available at http://umassmag.com/Spring_2006/Beyond_the_Bluster_1070.html. Accessed July 7, 2006.

Speth, James Gustav, and Peter M. Haas 2006. *Global Environmental Governance*. Washington, DC: Island Press.

Sprinz, Detlef, and Martin Weib. 2001. Domestic Politics and Global Climate Policy. In *International Relations and Global Climate Change*, edited by Urs Luterbacher and Detlef F. Sprinz. Cambridge, MA: MIT Press.

Steptoe, Sonja. 2007. Getting Schools to Think and Act Green. *Time Magazine*, August 10.

Sustainability Endowments Institute. 2007. *College Sustainability Report Card 2007*. Sustainability Endowments Institute. Available at http://www.greenreportcard.org/. Accessed on April 1, 2008.

Underdal, Arild. 1998. "Explaining Compliance and Defection: Three Models". *European Journal of International Relations*, Vol 4 (1998), No 1, pp. 5-30.

United Nations Educational, Scientific and Cultural Organization Homepage. Available at http://portal.unesco.org/education/en/ev.php-URL_ID=37494&URL_DO=DO_TOPIC&URL_SECTION=201.html. Accessed on June 16, 2009.

University of California, Santa Cruz. 2006. EPA Ranks UC Santa Cruz the Sixth Largest 'Green Power' Purchaser among Campuses. Press Release, January 30.

University Leaders for a Sustainable Future Publications Page. Available at http://www.ulsf.org/pub_declaration_spotvol71.htm. Accessed on June 16, 2009.

U.S. Department of Energy. 2006. *Colleges and Universities*. Washington, DC: U.S. Department of Energy.

Winter, Greg. 2003. Jacuzzi U.? A Battle of Perks to Lure Students. *New York Times*, October 5.

World Commission on Environment and Development: Our Common Future. Available at: http://www.un-documents.net/wced-ocf.htm. Accessed on June 15, 2009.

Xiong, Chao. 2008. Sustainability Is Everyone's Job, But Some Get Paid for It. *Star Tribune*, January 21.

Young, Abby. 2007. Forming Networks, Enabling Leaders, Financing Action: The Cities for Climate Protection Campaign. In *Creating a Climate for Change: Communicating Climate Change and Facilitating Social Change*, edited by Suzanne C. Moser and Lisa Dilling. Cambridge: Cambridge University Press.