

CLI RECOMMENDATION NO. 9

Foster Diagonal Regulatory Initiatives*

The structure of law poses a fundamental difficulty for effective regulation of multiscale, intergenerational problems like climate change; law's scale is sticky despite the fluid scalar nature of greenhouse gas emissions and impacts. In other words, we have subdivided law into levels of governance—a sensible idea for creating order and administrability—and formal regulation tends to happen within the fixed frames of those structures. As a result, we generally approach regulation as choosing or coordinating among those levels.¹

The current policy debates over climate regulation reflect those constraints. As a range of individuals and entities work to develop the next major treaty on climate change and to determine appropriate executive and legislative action at national and subnational scales, consistent interaction across levels and branches of government is often quite limited. For example, local governments are working in transnational coalitions, but those cities and counties rarely have a meaningful place at the table in treaty negotiations.² As the U.S. Congress continues to explore major legislation, it is unclear the extent to which proposed statutes will attempt to preempt smaller scale efforts and litigation.³

This Recommendation argues for the importance of exploring the possibilities and limitations of what it terms diagonal regulatory strategies, ones that cut across vertical and horizontal levels of government. It claims that more such approaches are needed to address this problem effectively, and in so doing limit its impact on future generations. Part I describes climate change as a multiscale, intergenerational regulatory problem that current efforts are not addressing adequately. Part II discusses the context of current U.S. legislative debates as a practical example of the vertical, horizontal, and socio-cultural forces that impact potential statutory schemes. Part III introduces diagonal regulatory strategies as a possible mechanism for moving the policy dialogue forward. The Recommendation concludes by reflecting upon the next steps needed to address this spatially and temporally cross-cutting problem at the intersection of law and science.

I. The Need for Multiscale Climate Regulation

This Part analyzes climate change as an example of an intergenerational, multiscale problem that law struggles to address effectively. It begins by examining the cross-cutting structure of emissions and impacts, and then turns to

* This Recommendation was authored by Hari M. Osofsky, Associate Professor of Law at Washington & Lee University School of Law. It is a revised version of portions of Hari M. Osofsky, *Climate Change Legislation in Context*, 102 NW. U. L. REV. COLLOQUY 245 (2008) and Hari M. Osofsky, *Is Climate Change "International"?: Litigation's Diagonal Regulatory Role* (draft article on file with author). The author gratefully acknowledges Burns Weston's "thoughtful editorial suggestions on this contribution."

¹ I plan to explore issues of scale and law in depth in a monograph tentatively entitled *Scales of Law: Rethinking Climate Change and the War on Terror* and in an article tentatively entitled *Diagonal Regulation*. This contribution will provide some of the basis for that analysis. For discussion of questions of scalar fixity and fluidity in the geography literature, see Kevin R. Cox, *Spaces of Dependence*, *Spaces of Engagement and the Politics of Scale, Or: Looking for Local Politics*, 17 POLITICAL GEOGRAPHY 1, 20–21 (1998); David Delaney & Helga Leitner, *The Political Construction of Scale*, 16 POLITICAL GEOGRAPHY 93, 93 (1997); Andrew Herod, *Scale: The Local and the Global*, in *Key Concepts in Geography* 229, 234 & 242 (Sarah L. Holloway, Stephen P. Rice & Gill Valentine, eds., 2003); Deborah G. Martin, *Transcending the Fixity of Jurisdictional Scale*, 17 POLITICAL GEOGRAPHY 33,35 (1998); Anssi Paasi, *Place and Region: Looking through the Prism of Scale*, 28 PROGRESS IN HUMAN GEOGRAPHY 536, 542–43 (2004); Neil Brenner, *Between Fixity and Motion: Accumulation, Territorial Organization and the Historical Geography of Spatial Scales*, 16 Environment and Planning D: Society and Space 459, 461 (1998); Erik Swyngedouw, *Excluding the Other: The Production of Scale and Scaled Politics*, in *Geographies of Economies* 167, 169 (Roger Lee & Jane Wills, eds., 1997); Erik Swyngedouw, *Neither Global nor Local: "Glocalization" and the Politics of Scale*, in *Spaces of Globalization: Reasserting the Power of the Local* 137, 141 (Kevin R. Cox ed., 1997).

² See *infra* note 75 and accompanying text.

³ See Victor Flatt, *The Legislative Climate for Climate Change: Which Legislative Proposal is "Best"?*, NW U. L. REV. (2008); Hari M. Osofsky, *Climate Change Legislation in Context*, 102 NW U. L. REV. 245 (2008).

the barriers to a successful regulatory regime. It argues that our current approaches to regulating climate change do not adequately reflect its cross-cutting nature, either spatially or temporally.

A. The Nature of the Problem

Much has been written about the problem of anthropogenic climate change. The purpose of this Section is not to summarize that literature, but, rather, to look at it through a scalar lens. It argues that the scientific consensus over climate change reveals not only near-certainty that the anthropogenic contributions matter, but also that emissions and impacts intersect with decision-making from the smallest to the largest levels. Using the United States and its states and localities as examples, the Section explores this interaction.

1. Emissions

Greenhouse gas emissions result from individual, local, state, national, regional, and international decisions.⁴ At an individual level, each person, within parameters, makes choices about what his or her carbon footprint will be. Regarding transportation, for example, that person decides whether to rely on a vehicle, bike, or walk; if a vehicle, whether to use public, carpool, or individual options; if an individual option, whether to use a high or low emissions car. Although each individual's choices have a minor impact on the total, trends in those personal decisions add up, even at a global scale.

Those individual choices occur not simply in a socio-cultural context—the past year, for instance, has seen a significant shift in public opinions about climate change⁵—but also a multiscale legal one. As explored in recently-settled litigation between California and San Bernardino County, urban growth plans significantly impact emissions trajectories.⁶ Many studies have shown, for example, the ways in which suburban zoning and planning—with large individual lots, separation between residential and commercial uses, and limited public transportation—increase vehicle miles traveled and, as a result, overall emissions from that locality.⁷ Moreover, although little of this research has been

⁴ See Intergovernmental Panel on Climate Change, *Climate Change 2007: The Physical Science Basis of Climate Change*, available at <http://ipcc-wg1.ucar.edu/wg1/wg1-report.html> [hereinafter IPCC, Physical Basis].

⁵ See The Chicago Council on Public Affairs, *Poll Finds Worldwide Agreement that Climate Change is a Threat* (Mar. 2007), available at http://www.worldpublicopinion.org/pipa/pdf/mar07/CCGA+_ClimateChange_article.pdf; see also Juliet Eilperin & Jon Cohen, *Growing Number of Americans See Warming as a Leading Threat*, WASH. POST A20, Apr. 20, 2007, available at <http://www.washingtonpost.com/wp-dyn/content/article/2007/04/19/AR2007041902527.html>. Cf. Cass Sunstein, *On the Divergent American Reactions to Terrorism and Climate Change*, 107 COLUM. L. REV. 503 (2007) (Essay) (comparing reactions to terrorism and climate change).

⁶ See Confidential Settlement Agreement, *People v. County of San Bernardino*, San Bernardino County Superior Court Case No. CIVSS 700329, available at http://ag.ca.gov/cms_pdfs/press/2007-08-21_San_Bernardino_settlement_agreement.pdf. This case is discussed in depth *infra* Section III.A.2.

⁷ See Reid Ewing, Rutgers University, Rolf Pendall, Cornell University, Don Chen & Smart Growth America, *Measuring Sprawl and Its Impact*, available at <http://www.smartgrowthamerica.org/sprawlinde/MeasuringSprawl.PDF>; Molly O'Meara Sheahan, *City Limits: Putting the Brakes on Sprawl*, Worldwatch Institute Report 156 (2001), available at <http://www.smartgrowth.org/library/articles.asp?art=314&res=1280>; Jiango Wu & Douglas Green, *Final Report: A Hierarchical Patch Dynamics Approach to Regional Modeling and Scaling*, U.S. Environmental Protection Agency, National Center for Environmental Research, Grant Number R827676, Project Period: October 15, 1999 through October 14, 2002, available at <http://leml.asu.edu/EPASTAR-Proj/index.html>. *But see* Ronald D. Utt & Wendell Cox, *City Limits: Putting the Brakes on Sprawl: A Contrary View*, The Heritage Foundation, Web Memo #20, June 29, 2001, available at <http://www.heritage.org/Research/SmartGrowth/WM20.cfm>. For broader discussions of urbanization and environmental management, see Robert H. Freilich & S. Mark White, *Transportation Congestion and Growth Management: Comprehensive Approaches to Resolving America's Major Quality of Life Crisis*, 24 LOY. L.A. L. REV. 915 (1991); G.S. Kleppel, *Urbanization and Environmental Quality: Implications of Alternative Development Scenarios*, 8 ALB. L. ENVTL. OUTLOOK J.

disaggregated for gender, it appears from the few studies that have taken place that this variable may matter for what types of urban planning will be most effective in lowering emissions.⁸

State-level decision-making further impacts those individual transportation choices. Following California's lead, a number of states have attempted to exceed federal limitations on motor vehicle emissions.⁹ As cases challenging and supporting these efforts wind their way through state and federal courts and interact with the U.S. EPA's decision to deny California's waiver request,¹⁰ the future of these regulations remains uncertain. However, whether they go into effect will have a significant impact on which cars consumers will be allowed to drive in those states¹¹—the reason for the auto industry's concern—and, as a result, on individual transportation choices.

As the disputes over these state laws make clear, the federal government also regulates individual transportation decisions through each of its three branches. Congress has passed several statutes impacting vehicle emissions which the Executive Branch then implements, and is considering additional legislation targeted at climate change.¹² The Judicial Branch evaluates agency choices about whether and how those statutes should be used to regulate vehicle emissions.¹³ These standards drive what options consumers have and how expensive they will be.¹⁴

In the globalized economy and its web of legal interconnections, these interactions do not stop at U.S. borders. Regional and international trade agreements determine which vehicles we import and export and how expensive they will

37 (2002); Edward H. Ziegler, *China's Cities, Globalization, and Sustainable Development: Comparative Thoughts on Urban Planning, Energy, and Environmental Policy*, 5 WASH. U. GLOBAL STUD. L. REV. 295 (2006).

⁸ See Yianna Lambrou & Grazia Piana, Food and Agriculture Organization of the United States, *Gender: The Missing Component of the Response to Climate Change*, at 12–14, Apr. 2006.

⁹ For example, prior to the U.S. EPA's waiver denial and California suit over it, a district court in Vermont upheld that state's heightened emissions standards for new motor vehicles subject to EPA's waiver grant. See *Green Mountain Chrysler Plymouth Dodge Jeep v. Crombie*,—F.Supp.2d—, 2007 WL 2669444 (D.Vt., Sept. 12, 2007).

¹⁰ For the U.S. EPA's waiver denial, see Letter from Stephen L. Johnson, Administrator of the U.S. EPA, to the Honorable Arnold Schwarzenegger, Governor of the State of California, Dec. 19, 2007, available at http://ag.ca.gov/cms_attachments/press/pdfs/n1514_epa-letter.pdf. For California's Petition for Review to the Ninth Circuit, see *California v. EPA*, Petition for Review of Decision of the United States Environmental Protection Agency, Jan. 2, 2008, available at http://ag.ca.gov/cms_attachments/press/pdfs/n1514_epapetition-1.pdf.

¹¹ Governor Schwarzenegger made this argument in his initial response to the denial. He explained: "While the federal energy bill is a good step toward reducing dependence on foreign oil, the President's approval of it does not constitute grounds for denying our waiver. The energy bill does not reflect a vision, beyond 2020, to address climate change, while California's vehicle greenhouse gas standards are part of a carefully designed, comprehensive program to fight climate change through 2050." Press Release, *Governor Schwarzenegger Issues Statement after U.S. EPA Rejects California's Tailpipe Emissions Waiver Request*, Dec. 18, 2007, available at <http://gov.ca.gov/press-release/8353/>.

¹² For example, some of these statutes have been the basis of the preemption suits discussed *supra* notes 9–10. For a discussion of pending proposals, see Flatt, *supra* note 3.

¹³ *Massachusetts v. EPA*, for example, focused on the extent to which provisions in the Clean Air Act regarding pollution encompassed greenhouse gas emissions from motor vehicles. See *Massachusetts v. EPA*, 127 S.Ct. 1438 (2007).

¹⁴ Arguments about consumer choices have weighed heavily in the arguments in *Central Valley Chrysler-Jeep v. Witherspoon*. See, e.g., First Amended Complaint for Declaratory and Injunctive Relief, *Central Valley Chrysler-Jeep v. Witherspoon*, CIV-F-04-6663-AWI-LJO, 2004 WL 5001055 (E.D.Cal.) ("Manufacturers manage their fleet average by controlling production, supply, and price in response to market demands. For example, if consumer demand for larger, less fuel-efficient vehicles increases, a manufacturer might be forced to limit supply or raise prices for those vehicles. The fuel economy regulations thus can have significant effects on the supply of vehicles available to consumers.") *id.*

be, again impacting what options consumers have.¹⁵ U.S. participation in international negotiations—as well as formal and informal agreements—regarding climate change puts pressure on our national policies and the likelihood that they will make higher-emissions vehicles harder or lower-emissions vehicles easier for consumers to buy.¹⁶

This type of analysis does not apply simply to vehicles, of course, but to the broad panoply of emissions decisions that individual and governmental and nongovernmental entities make. From the multiscale energy industry¹⁷ to the emergence of complex transnational coalitions on climate change,¹⁸ current and future emissions are shaped through multiscale regulatory dynamics. This structure poses a major difficulty for achieving intergenerational equity; climate change does not simply cross-cut time, as present-day emissions create to future impacts, but existing governance mechanisms as well.

The Fourth IPCC Report's volume on mitigation reinforces this point; it relies on a mix of what it calls bottom-up and top-down economic studies to assess emissions' reductions scenarios.¹⁹ The bottom-up studies consider specific options, generally with an unchanged macro-economy while the top-down studies engage economy-wide options. The summary for policymakers reports:

Bottom-up and top-down models have become more similar since the TAR as top-down models have incorporated more technological mitigation options and bottom-up models have incorporated more macroeconomic and market feedbacks as well as adopting barrier analysis into their model structures.

¹⁵ For an example of a bilateral agreement on motor vehicles, see United States of America-Republic of Korea Memorandum of Understanding Regarding Foreign Motor Vehicles in the Republic of Korea, Oct. 20, 1998, available at http://tcc.export.gov/Trade_Agreements/All_Trade_Agreements/exp_005688.asp.

¹⁶ For example, in her speech at the United Nations General Assembly High-Level Event on Climate Technology Session, Condoleezza Rice specifically referenced hybrid vehicles. See Secretary Condoleezza Rice, Remarks at the United Nations General Assembly High-Level Event on Climate Technology Session, Sept. 24, 2007, available at <http://2001-2009.state.gov/secretary/rm/2007/09/92662.htm>.

¹⁷ For a discussion of complex regulatory interactions governing the transnational energy industry, see Hari M. Osofsky, *The Geography of Climate Change Litigation: Implications for Transnational Regulatory Governance*, 83 WASH. U. L.Q. 1789, 1795–97 (2005).

¹⁸ For a discussion of climate networks in a local context, for example, see Randall S. Abate, *Kyoto or Not, Here We Come: The Promise and Perils of the Piecemeal Approach to Climate Change Regulation in the United States*, 15 CORNELL J.L. & PUB. POL'Y 369 (2006); Donald A. Brown, *Thinking Globally and Acting Locally: The Emergence of Global Environmental Problems and the Critical Need to Develop Sustainable Development Programs at State and Local Levels in the United States*, 5 DICK. J. ENVTL. L. & POL'Y 175 (1996); Kirsten Engel, *AALS Symposium: State and Local Climate Change Initiatives: What is Motivating State and Local Governments to Address a Global Problem and What Does This Say About Federalism and Environmental Law?*, 38 URB. LAW. 1015 (2006); Janet Koven Levit, *Bottom-Up International Lawmaking: Reflections on the New Haven School of International Law*, 32 YALE J. INT'L L. 383, 402–05 (2007); Robert B. McKinstry, Jr., *Laboratories for Local Solutions for Global Problems: State, Local and Private Leadership in Developing Strategies to Mitigate the Causes and Effects of Climate Change*, 12 PENN ST. ENVTL. L. REV. 15 (2004); Hari M. Osofsky & Janet Koven Levit, *The Scale of Networks: Local Climate Change Coalitions*, 8 CHI. J. INT'L L. 409 (2008); Hari M. Osofsky, *Climate Change Litigation as Pluralist Legal Dialogue?*, 26 STANFORD ENVTL. L.J. & 43 STANFORD J. INT'L L. 181 (2007) (Joint Issue); Hari M. Osofsky, *Local Approaches to Transnational Corporate Responsibility: Mapping the Role of Sub-National Climate Change Litigation*, 20 PACIFIC MCGEORGE GLOBAL BUS. & DEV. L.J. 143 (2007); Judith Resnik, *Law's Migration: American Exceptionalism, Silent Dialogues, and Federalism's Multiple Ports of Entry*, 115 YALE L.J. 1564, 1627–33 (2006); Katherine Trisolini & Jonathan Zasloff, *Cities, Land Use, and the Global Commons: Genesis and the Urban Politics of Climate Change*, in *Adjudicating Climate Change: Sub-National, National, and Supra-National Approaches* (William C.G. Burns & Hari M. Osofsky, eds.) (forthcoming 2009, Cambridge University Press); Carolyn Kousky & Stephen H. Schneider, *Global Climate Policy: Will Cities Lead the Way?*, 3 CLIMATE POLICY 359–372 (2003); Laura Kosloff & Mark Trexler, *State Climate Change Initiatives: Think Locally, Act Globally*, 18 WTR NAT. RESOURCES & ENV'T 46 (2004).

¹⁹ Contribution of Working Group III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, Summary for Policymakers, at 8, Approved Apr. 20-May 4, 2007, available at <http://ipcc-wg1.ucar.edu/wg1/wg1-report.html> [hereinafter Working Group III, Summary for Policymakers].

Bottom-up studies in particular are useful for the assessment of specific policy options at sectoral level, e.g. options for improving energy efficiency, while top-down studies are useful for assessing cross-sectoral and economy-wide climate change policies, such as carbon taxes and stabilization policies. However, current bottom-up and top-down studies of economic potential have limitations in considering life-style choices, and in including all externalities such as local air pollution. They have limited representation of some regions, countries, sectors, gases, and barriers. The projected mitigation costs do not take into account potential benefits of avoided climate change.²⁰

This consensus analysis suggests that in order to regulate emissions most efficiently, we must consider strategies at multiple levels, as well as find ways of incorporating cultural questions into the economic models.

In addition, the mitigation volume makes clear how difficult the multiple geographic and time scales make this project. For example, the chapter on *Transport and Its Infrastructure* covers transportation issues in mostly sweeping terms, and does not have the space to get into the nuances of how its approach can be applied within specific contexts.²¹ More generally, the introduction to the volume explains that inertia in both climate and socio-economic systems combined with the multiple time scales involved regarding the problem and responses to it pose serious challenges.²² Not only will many measures need to be taken in the short-term to prevent medium- and long-term issues, but they also have to navigate the fact that the same radiative forcing may cause the atmosphere to respond in decades as the ocean changes over centuries.²³ Effective legal regulation must somehow bridge these complexities of how emissions and their interaction with the physical environment are scaled and of the greater scientific uncertainty that currently exists at smaller scales.²⁴

2. Impacts and Adaptation

These complexities of scale are not limited to emissions; they also pose regulatory difficulties for efforts to address impacts and adaptation. The Fourth IPCC report makes clear that we have passed the point at which prevention of impacts is possible.²⁵ Indeed, a host of impacts have been felt already, and scientific consensus suggests that they will only get worse as time passes.²⁶ The explosion of climate change litigation over the past few years, and its increasing viability in courts around the world, reflects that reality.²⁷

²⁰ Suzana Kahn Ribeiro, Shigeki Kobayashi, et al., *Transport and Its Infrastructure*, in *Climate Change 2007: Mitigation* 323 (2007).

²¹ H-Holderger Rogner, Dadi Zhou, et al., *Introduction*, in *Climate Change 2007: Mitigation* 95, 101 (2007).

²² *Id.*

²³ *Id.*

²⁴ See National Research Council, *Evaluating Progress of the U.S. Climate Change Science Program: Methods and Preliminary Results*, at 3–4 (2007), available at <http://www.nap.edu/catalog/11934.html> (“Information at regional and local scales is most relevant for state and local resource managers and policy makers, as well as for the general population, but progress on these smaller spatial scales has been inadequate. Improving understanding of regional-scale climate processes and their impacts in North America, for example, would require improved integrated modeling, regional-scale observations, and the development of scenarios of climate change and impacts.”); Remarks of Patrick J. Bartlein in Seminar on Reading the Fourth IPCC Assessment Report (2007), Oct. 17, 2007 (Notes on File with Author).

²⁵ See IPCC, *Physical Basis*, *supra* note 4; Intergovernmental Panel on Climate Change, *Climate Change 2007: Impacts, Adaptation, and Vulnerability*, available at <http://www.ipcc-wg2.org/> [hereinafter IPCC, *Impacts*]; Intergovernmental Panel on Climate Change, *Climate Change 2007: Mitigation*, available at http://www.mnp.nl/ipcc/pages_media/AR4-chapters.html [hereinafter IPCC, *Mitigation*].

²⁶ IPCC, *Impacts*, *supra* note 25.

²⁷ For example, the discussion of harms underlying the nuisance claims in *Connecticut v. American Electric Power* and *People v. General Motors* describes a set of present harms and future risks. Complaint, *Connecticut v. Am. Elec. Power Co.*, 406 F. Supp. 2d

Just as the extent of emissions interacts with multiscale regulatory behavior, mitigation and adaptation present quandaries at every level of governance. As a physical matter, climate change manifests uniquely in each specific place and the likelihood of severe impacts are not distributed equally.²⁸ Unfortunately, current predictions suggest that the places with the least economic and political resources likely will bear the brunt of these physical changes.²⁹

At an individual level, people must make hard choices in response to the changes in their physical environment. As glacial lakes loom above them or risks from coastal storms grow more severe, should they leave their communities? Are they able to do so? What steps are realistic options to limit the damages that they will suffer from the changing climate where they live? These are not just decisions facing the very poor; European ski resorts have begun wrapping their glaciers and wine growers try to take climate change into account when planting new grapes. But the choices are often more fundamental for those who have few resources and live in close contact with the land.

As with emissions, these individual choices occur within a multiscale regulatory framework. Localities, states, and national governments decide what their plan will be in response to these changes, and the extent to which they want and are able to support the individuals making those hard decisions.³⁰ From the details of land use planning to the availability of federal disaster relief, governmental decision-makers help to structure how palatable life will be in particular places as their climates change.

Moreover, these policy decisions have impacts at multiple time scales. As time passes, impacts evolve and, according to consistent scientific data, likely will worsen in many places.³¹ In addition, as we load the atmosphere with more and more greenhouse gases, the risks of a sudden catastrophic event—such as ice sheet collapse—increases.³² Decision-making on impacts thus has to grapple with current and predicted future issues.

Together, the multiscale dimensions of both emissions and impacts suggest that climate change will be very difficult to regulate effectively at any one scale, especially when the interests of future generations are taken into account. Local action must be tied to larger scale decision-making, while international action must make room for the nuances of smaller-scale variation. Moreover, because the substances being regulated are so deeply imbedded in economies and cultures, political complexities abound that likely will manifest differently at each level of governance.³³

B. Current Regulatory Failures

This need to cross-cut levels of governance is, of course, not lost on those attempting to address climate change at any particular level. The major treaties on climate change build in flexibility mechanisms to allow the nation-

265 (S.D.N.Y. 2005) (No. 04 Civ 5669), *available at* <http://caag.state.ca.us/newsalerts/2004/04-076.pdf>; Complaint, People of the State of California v. General Motors Corp., et. al, *available at* http://ag.ca.gov/newsalerts/cms06/06-082_0a.pdf. Because that set of harms and risks will likely worsen without significant policy intervention, see IPCC, Mitigation, *supra* note 25; Nicholas Stern, The Economics of Climate Change, Executive Summary (2006), at ix, *available at* <http://siteresources.worldbank.org/INTINDONESIA/Resources/226271-1170911056314/3428109-1174614780539/SternReviewEng.pdf>, litigation over harms will probably become more viable over time.

²⁸ IPCC, *Impacts*, *supra* note 25.

²⁹ *Id.*

³⁰ *Id.*

³¹ *Id.*

³² IPCC, *Physical Basis*, *supra* note 4; IPCC, *Impacts*, *supra* note 25.

³³ IPCC, *Impacts*, *supra* note 25. I plan to explore some of these issues of culture and identity in a future article tentatively entitled *The Geography of Climate Change Litigation Part III: Issues of Culture and Identity*.

state parties to address emissions in ways that work for their particular contexts.³⁴ Local efforts often use international standards as a benchmark, such as in cities' pledges to comply with the Kyoto Protocol's emissions reductions.³⁵ Moreover, a wide range of actors—including governmental entities, non-governmental and quasi-governmental organizations, corporations, and individuals—at different levels of governance are working collaboratively on crafting better regulatory strategies.

But even with this recognition, current multiscale efforts on climate change are falling short. The international legal regime suffers from both a lack of political will and the complexities of national implementation. Although the United States agreed under great pressure to rejoin negotiations over the post-2012 regime at the December 2007 climate meetings in Bali and the leading U.S. presidential candidates have pledged to address the problem more seriously, there are few signals that international consensus can be reached on the major reductions that the scientists say are needed to avoid the most serious dangers.³⁶ And many parties to the Kyoto Protocol are likely to miss its not-very-ambitious targets. In some cases, such as Canada's, the implementation problem has stemmed in part from the fact that important subnational governmental entities are not prepared to make the reductions needed and the national government cannot force that change.³⁷

Once one gets below the international level, however, policy efforts on climate change become more piecemeal, which is a persistent issue in discussions of the appropriate role of smaller-scale regulation.³⁸ The national and international coalitions of cities, for example, continue to grow—and at this point these cities represent 15 percent of

³⁴ United Nations Framework Convention on Climate Change, art. 2, May 9, 1992, S. Treaty Doc. No. 102–38, 1771 U.N.T.S. 164, *reprinted* in 31 I.L.M. 849 (1992) and 5 International Law and World Order: Basic Documents V.E.19 (Burns H. Weston & Jonathan C. Carlson eds., 1994) [hereinafter “Weston & Carlson”]. *available at* http://untreaty.un.org/English/notpubl/unfccc_eng.pdf [hereinafter UNFCCC]; Kyoto Protocol to the United Nations Framework Convention on Climate Change, Dec. 10, 1997, FCCC/CP/1997/7/Add.1; 2002(II), *reprinted* in 37 I.L.M. 32 (1998) and 5 Weston & Carlson V.E.20d, *available at* <http://untreaty.un.org/English/notpubl/kyoto-en.htm> [hereinafter Kyoto Protocol].

³⁵ See U.S. Conference of Mayors Climate Protection Agreement, <http://www.usmayors.org/climateprotection/agreement.htm>; Kevin McCarty, *Bloomberg, Palmer Lead USA and World Mayors on Climate Protection: US Mayors Climate Agreement Hits 500 Milestone*, http://www.usmayors.org/USCM/us_mayor_newspaper/documents/05_21_07/pg1_NYC_climate.asp.

³⁶ See IPCC, Mitigation, *supra* note 25; Working Group III, Summary for Policymakers, *supra* note 19, at 4 (“With current climate change mitigation policies and related sustainable development practices, global GHG emissions will continue to grow over the next few decades (*high agreement, much evidence*).”); Report of the Conference of the Parties on its thirteenth session, held in Bali from 3 to 15 December 2007, 1F4C CMCa/rCchP/22000087 /6/Add.1, Mar. 14, 2008, *available at* http://unfccc.int/documentation/documents/advanced_search/items/3594.php?rec=j&prpref=600004673#beg; U.S. Submission to the UNFCCC on the Bali Action Plan, Feb. 22, 2008, *available at* http://unfccc.int/files/kyoto_protocol/application/pdf/unitedstatesmitigation011008.pdf; CNN, In U-Turn U.S. Agrees to Global Warming Deal, Dec. 15, 2007, *available at* <http://www.cnn.com/2007/WORLD/asiapcf/12/15/bali.agreement/#cnnSTCText>; Editorial, Disappointments on Climate, N.Y. TIMES, Dec. 17, 2007.

³⁷ See Alastair R. Lucas, *Mythology, Fantasy and Federalism: Canadian Climate Change Policy and Law*, 20 PAC. McGEORGE GLOBAL BUS. & DEV. L.J. 41 (2007). For a discussion of the issues facing Russia, see RUSSIA AND THE KYOTO PROTOCOL: OPPORTUNITIES AND CHALLENGES (Anna Korppoo, Jacqueline Karas & Michael Grubb, eds. 2006). For a more general analysis of Kyoto Protocol compliance, see LEGAL ASPECTS OF IMPLEMENTING THE KYOTO PROTOCOL MECHANISMS: MAKING KYOTO WORK (David Freestone & Charlotte Streck, eds., 2005); Mindy G. Nigoff, *The Clean Development Mechanism: Does the Current Structure Facilitate Kyoto Protocol Compliance?*, 19 GEO. INT'L L. REV. 249 (2006). For a discussion of the complexities of achieving international environmental goals through treaty regimes, particularly in an environmental justice context, see Mark A. Drumbl, *Poverty, Wealth, and Obligation in International Environmental Law*, 76 TUL. L. REV. 843 (2002); Mark A. Drumbl, *Northern Economic Obligation, Southern Moral Entitlement, and International Environmental Governance*, 27 COLUM. J. ENVTL. L. 363 (2002).

³⁸ See Randall S. Abate, *Kyoto or Not, Here We Come: The Promise and Perils of the Piecemeal Approach to Climate Change Regulation in the United States*, 15 CORNELL J.L. & PUB. POL'Y 369 (2006); see also Jonathan B. Wiener, *Think Globally, Act Globally: The Limits of Local Climate Policies*, 155 U. PENN. L. REV. 1961, 1962 (2007) (arguing that “subnational state-level action is not the best way to combat global climate change”).

global emissions—but they do not yet come close to including all cities around the world.³⁹ And those that join tend to be more amenable to taking needed regulatory steps than those that do not join. Moreover, many cities still face major internal political battles as they try to navigate what meeting those obligations would mean for their other goals.⁴⁰

Furthermore, as a formal matter, multiscalar regulatory approaches not only have to deal with specific barriers at each level of governance, but also must bridge the way in which we categorize and cabin law. For example, treaties and customary international law—the bulwarks of international legal regulation—are based on the nation-state as the key decisionmaker. Under current legal models, international law can only be created through the consent of sovereign and equal nation-states.⁴¹ With such an approach, the ability of subnational governments to interact with international law is limited; even if their participatory role increases, the structure of how formal international law is created prevents entities other than nation-states from being treated as full subjects and objects of international law.⁴²

Formal barriers occur at the other end of the scale spectrum as well. Localities are constituted through a combination of state and local law and entities. When localities choose to make Kyoto Protocol commitments, they are not binding themselves to the treaty but rather incorporating its terms into local law. In fact, if they tried to do more, the national and state governments might attempt to intervene on the basis that they are overstepping their boundaries.⁴³ Similarly, their freedom to revise their greenhouse gas policies over time stems from the fact that international entities have no binding authority over them. The primary efforts to push localities on emissions policies that have had some teeth are ones by states, such as a suit by California against San Bernardino County that resulted in a settlement agreement.⁴⁴

The combination of regulatory barriers at each level of governance and structural constraints on meaningful multiscalar regulation poses a formidable obstacle to addressing climate change. Despite determined advocacy by numerous committed entities, the world still is far from addressing emissions and their looming impacts adequately at any level of governance. Although particular places certainly have shown leadership, even those at the front end of emissions control are not reducing them at the rate scientists say are needed and their efforts are being dwarfed by regulatory failures elsewhere.

II. The Context of U.S. Climate Legislation

This Part discusses the context of U.S. climate legislation as a practical example of the spatio-temporal regulatory complexities described in the previous Part. Although the U.S. Congress failed to pass proposed major climate legislation

³⁹ See ICLEI Global, About CCP, <http://www.iclei.org/index.php?id=811> (last visited, Sept. 29, 2007).

⁴⁰ Janet Koven Levit and I have explored these complexities in the context of Portland and Tulsa. Osofsky & Levit, *supra* note 18. Although our analysis of cities focuses primarily on the emissions reduction/economic growth tension, multiple conceptual balances need to be struck in environmental regulation. For an exploration of the complexities of navigating conservation and preservation, see Louise A. Halper, *The Adirondack Park and the Northern Forest: An Essay on Preservation and Conservation*, 19 VT. L. REV. 335 (1995).

⁴¹ See Ian Brownlie, *Principles of Public International Law* 287–88 (6th ed. 2003); Michael J. Kelly, *Pulling at the Threads of Westphalia: “Involuntary Sovereignty Waiver,” Revolutionary International Legal Theory or Return to Rule by the Great Powers*, 10 UCLA J. INT’L L. 361 (2005).

⁴² For an exploration of greater inclusion of individuals in the customary international law formation process, see Christiana Ochoa, *The Individual and Customary International Law Formation*, 48 VIRGINIA J. INT’L L. 119 (2007). I have explored the possibilities for more pluralist approaches in the climate change context in other work. See Osofsky, *Climate Change Litigation as Pluralist Legal Dialogue?*, *supra* note 18; Hari M. Osofsky, *The Geography of Climate Change Litigation Part II: Narratives of Massachusetts v. EPA*, 8 CHICAGO J. INT’L L. 573 (2008).

⁴³ See Resnik, *supra* note 18, at 1627–33. For a discussion of some of these dynamics in a more general context, see Gerald E. Frug & David J. Barron, *International Local Government Law*, 38 THE URBAN LAWYER 1 (2006).

⁴⁴ See Confidential Settlement Agreement, *People v. County of San Bernardino*, *supra* note 6.

this past year, efforts are underway to craft the next version of a comprehensive federal statutory response. Such legislation will interact with the many existing laws in different substantive areas that impact our emissions and adaptation efforts.

In particular, this Part explores the vertical, horizontal, and socio-cultural forces that shape the possibilities for effective legislation. It argues for the importance of current efforts recognizing that context, and embracing initiatives in other branches and levels—as well as civil society—that would complement legislative efforts.

A. Vertical Pressures on Legislative Action

In a recent essay assessing potential approaches to U.S. climate legislation, Professor Victor Flatt argues that a statutory regime should be crafted in a manner that is concordant with initiatives at other levels of governance. He explains that legislation should neither wait for agreement on the 2012 replacement for the Kyoto Protocol nor develop in a way that would be incompatible with its likely targets.⁴⁵ Similarly, Flatt acknowledges the importance of subnational efforts on climate change, and urges that the legislation not be structured in a manner that preempts those innovative efforts.⁴⁶

I agree with Professor Flatt's analysis, but would like to develop it further through reference to geography⁴⁷ and, more specifically, to issues of regulatory scale. As discussed in Part I, climate change is a multiscale problem that demands multiscale solutions. Because both emissions and impacts take place at personal, local, state, national, and international levels, regulation at the national level likely cannot address all of these aspects effectively. Legislative proposals should include the flexibility to adapt to vertical pressures because the problem cannot be regulated at only one level of governance, even a very powerful national one.⁴⁸

Although there has been broad acknowledgment across the political spectrum of the value of addressing climate change at a global scale, more skepticism exists about state and local initiatives. Some argue that the problem is too large both spatially and temporally to manage at smaller levels of governance.⁴⁹ These types of anti-regulatory arguments are potentially dangerous, whether made in the context of legislation or litigation for three primary reasons.

First, neither international nor national efforts seem likely to go far enough soon enough to get this problem under control,⁵⁰ and so smaller scale efforts are needed to spur innovation and action.⁵¹ If the legislation blocks these efforts, greater emissions, with their troubling consequences, may result; future generations will then face the impacts caused by the failure to control emissions adequately.

Second, however the balance between centralization and decentralization of governmental power is struck in this area of law, effective climate policy should provide opportunities to draw from state and local expertise and

⁴⁵ See Flatt, *supra* note 3, at 131–32.

⁴⁶ See *id.* at 134.

⁴⁷ Geography is a discipline that studies the interrelationship of place, space, and scale over time. Geography's inclusion of both the hard and social sciences has been a source of both strength and weakness for that discipline in the U.S. academy. See Alexander B. Murphy, *Geography's Place in Higher Education in the United States*, 31 J. GEOGRAPHY IN HIGHER EDUC. 121, 122–23 (2007).

⁴⁸ See *supra* Part I. For a comparative analysis of the concept of scale in the geography and political ecology literatures, see Nathan F. Sayre, *Ecological and Geographical Scale: Parallels and Potential for Integration*, 29 PROGRESS IN HUMAN GEOGRAPHY 276 (2005).

⁴⁹ See, e.g., Wiener, *supra* note 38 (arguing that “subnational state-level action is not the best way to combat global climate change”).

⁵⁰ See H-Holger Rogner, et al., *Introduction to Intergovernmental Panel on Climate Change*, Fourth Assessment Report, Climate Change 2007: MITIGATION 95, 109–12 (B. Metz et. al. eds., 2007), available at <http://www.ipcc.ch/pdf/assessment-report/ar4/wg3/ar4-wg3-chapter1.pdf>.

⁵¹ For examples of some recent analyses of the benefits and limitations of state and local climate initiatives, see sources *supra* note 18.

core competences. City governments, for example, will have insights into how streets should be organized to decrease vehicle miles traveled most effectively and, more broadly, into the unique confluence of factors affecting their localities' regulatory environments.⁵²

Finally, and most importantly, privileging larger-scale regulation potentially prevents holistic regulatory solutions necessary to manage cross-cutting problems. By acknowledging the national scale as only one level of governance at which climate regulation can take place,⁵³ Congress will facilitate the creative policy development that climate change demands. In so doing, it will leave a needed legacy of regulatory progress for future generations to continue.

B. Horizontal Pressures on Legislative Action

The horizontal pressures from the executive and judicial branches also deeply influence the legislative debate and the possibilities for achieving meaningful regulation quickly or at all. Our two-term presidency means not only that current Congressional proposals occur in the context of the Bush Administration's long-standing recalcitrance on this issue—which is reflected in both macro-level White House statements and decisions and in micro-level agency decision-making—but also that Executive Branch policy soon will change, almost certainly in the direction of additional regulatory efforts. Despite their differences, both parties' support approaches to emissions regulation that go well beyond those of the Bush Administration.⁵⁴

Although this electoral context creates a more positive medium-term environment for legislation, it more than likely helped to delay Congressional action for at least another year.⁵⁵ In order for statutes to have passed prior to the presidential election, they needed either to have been acceptable to the Bush Administration or to have had enough support to override a veto.⁵⁶ Members of Congress who also are up for reelection have faced and continue to face competing pressures regarding their stance on climate change, and so far, the Senate and the House have not managed a clear meeting of the minds.⁵⁷ Meanwhile, the problem of climate change will continue to worsen—with troubling implications for future generations—as candidates make speeches and sample local specialties.

Moreover, the increasing willingness of the judicial branch to engage climate change creates another complicated horizontal force influencing the legislative environment. The Supreme Court's decision in *Massachusetts v. EPA*,⁵⁸ though

⁵² For a discussion of the locally-specific ways in which effective urban climate policy evolves, see Osofsky & Levit, *supra* note 18 (comparing Portland and Tulsa); see also McKinstry, *supra* note 18 (discussing state and local leadership on climate change). Gerald Frug and David Barron provide an insightful analysis of the complexities of localities' interface with international law and institutions. See Frug & Barron, *supra* note 43.

⁵³ For examples of analyses of the role of the national scale in transnational regulatory governance, see Neil Brenner, *NEW STATE SPACES: URBAN GOVERNANCE AND THE RESCALING OF STATEHOOD* (2004); Becky Mansfield, *Beyond Rescaling: Reintegrating the "National" as a Dimension of Scalar Relations*, 29 *PROGRESS IN HUM. GEOGRAPHY* 458 (2005); Alexander B. Murphy, *The Sovereign State System as Political-Territorial Ideal: Historical and Contemporary Considerations*, in *State Sovereignty as Social Construct* 81 (Thomas J. Biersteker & Cynthia Weber eds., 1996); Hari M. Osofsky, *The Geography of Justice Wormholes: Dilemmas from Property and Criminal Law*, 53 *VILLANOVA L. REV.* 117 (2008).

⁵⁴ See Kitty Bennett & Farhana Hossain, *The Presidential Candidates on Climate Change*, <http://elections.nytimes.com/2008/president/issues/climate.html> (last visited Mar. 15, 2008).

⁵⁵ See *Climate Change Legislation Fails in the Senate*, <http://www.npr.org/templates/story/story.php?storyId=91238379>.

⁵⁶ See *id.* This issue was analyzed in-depth during the session on *New Legislative Approaches at the Duke Environmental Law and Policy Forum Symposium: A Charged Atmosphere: The Future of U.S. Policy on Global Warming*, Nov. 16, 2007, <http://www.law.duke.edu/webcast/?match=DELPF+Symposium> (last visited Mar. 15, 2008).

⁵⁷ See *id.*; see also Flatt, *supra* note 3, at 123–24.

⁵⁸ 127 S.Ct. 1438 (2007).

it only bears upon executive agency decision-making directly, has been part of the conversation on Capitol Hill; it thus has both formal and informal horizontal influences on the other two branches of the federal government.⁵⁹ In addition, major emitters—who play an important lobbying role—are engaged as plaintiffs and defendants in various pending suits. These suits range from disputing the appropriateness of regulation at local, state, and national levels to using nuisance law to target the automobile and power industries.⁶⁰ Any version of the legislation will alter the litigation environment, which will in turn impact the overall efforts to regulate climate change in the United States and their legacy.

As with the smaller-scale efforts discussed above, litigation plays a crucial role in the regulation of climate change and the legislation should not attempt to preempt access to courts too broadly. Rather, the statutory scheme should provide a clear basis for concerned individuals and organizations to address inadequate regulation by government and failures by major emitters to reduce their production of greenhouse gases. Such a structure will insure that litigation can continue to play its crucial role in the push and pull of the complex formal and informal regulatory dance over climate change, a role which is needed to maximize our efforts to get this problem under control and limit impacts on future generations.⁶¹

Furthermore, these horizontal forces have vertical dimensions, and vice versa. As elections involve individuals and communities in political decision-making, they become part of a vertical conversation. When concerned organizations and corporations use litigation to push for or against regulatory action at different levels of government, they influence the multiscalar dialogue. These choices over climate change that shape the legislative environment are both imbedded in the context of specific places and influenced by larger political and economic forces. The legislation and its interactions across levels and branches of government help to constitute the “U.S.” climate legacy.

C. Socio-Cultural Pressures on Legislative Action

This formal and informal regulatory dance is deeply shaped by the socio-cultural discourse over climate change. As noted in the introduction, the awarding of a Nobel Peace Prize to Al Gore and the Intergovernmental Panel on Climate Change (IPCC) symbolizes the increased focus on this problem.⁶² Opinion polls show a growing public recognition of and concern with the problem of climate change⁶³ and the legal academic world has seen an explosion in the past two years of public conversation and scholarly discourse over this issue.⁶⁴

⁵⁹ See, e.g., *Waxman to Introduce Moratorium on Approval of New Coal-Fired Power Plants*, Committee on Oversight and Reform, U.S. House of Representatives, Nov. 8, 2007, <http://oversight.house.gov/story.asp?ID=1613> (last visited Mar. 15, 2008) (“Rep. Henry A. Waxman announced at a congressional hearing with EPA Administrator Stephen Johnson that he will introduce legislation that establishes a moratorium on the approval of new coal-fired power plants under the Clean Air Act until EPA finalizes regulations to address the greenhouse gas emissions from these sources.”).

⁶⁰ For analyses of these suits, see JOSEPH SMITH & DAVID SHEARMAN, *CLIMATE CHANGE LITIGATION: ANALYSING THE LAW, SCIENTIFIC EVIDENCE & IMPACTS ON THE ENVIRONMENT, HEALTH & PROPERTY* (2006); *ADJUDICATING CLIMATE CHANGE: SUB-NATIONAL, NATIONAL, AND SUPRA-NATIONAL APPROACHES* (William C.G. Burns & Hari M. Osofsky, eds.) (forthcoming 2009).

⁶¹ I have explored these regulatory dynamics from a law and geography perspective in previous articles. See Osofsky, *The Geography of Climate Change Litigation Part II*, *supra* note 42; Osofsky, *The Geography of Climate Change Litigation*, *supra* note 17. For an analysis of how state-initiated litigation can help address federal regulatory gaps, see Kirsten H. Engel, *Harmonizing Regulatory and Litigation Approaches to Climate Change Mitigation: Incorporating Tradable Emissions Offsets into Common Law Remedies*, 155 U. PA. L. REV. 1563 (2007).

⁶² See Nobel Peace Prize 2007, http://nobelprize.org/nobel_prizes/peace/laureates/2007/ (last visited Mar. 15, 2008).

⁶³ See sources *supra* note 5.

⁶⁴ See, e.g., *Cap and Trade as a Tool for Climate Change*, <http://www.law.berkeley.edu/centers/envirolaw/capandtrade/index.html> (Feb. 22–23, 2007, University of California, Berkeley at Boalt Hall School of Law); *Stanford Environmental Law Journal and Stanford Journal of International Law*, SPRING 2007 SYMPOSIUM: CLIMATE CHANGE LIABILITY AND THE ALLOCATION OF RISK, <http://elj.stanford>.

This sudden interest and activity, like the election environment, probably will have a mixed impact on the proposed legislation. The science that suddenly captivates people is not new; the recent Fourth IPCC Assessment—the most widely-recognized compilation of the state of climate science and policy responses to the problem—synthesizes studies by leading scientists and provides policy summaries which reflect stances that those involved in crafting it are willing to take publicly.⁶⁵ Public opinion polling shows increasing concern with climate change, but not necessarily the will to make the hard choices necessary to get this problem under control and to prevent massive difficulties for future generations.⁶⁶ Even the most aggressive legislative proposals debated in Congress do not go as far as many scientists suggest is necessary to mitigate the worst impacts.⁶⁷ The public's desire to do something without a real cognizance of what addressing climate change would entail does not bode well for fostering the political will to pass legislation that would help to steer the world away from major impacts.

As Congress and commentators argue over the specifics of legislative proposals, the interaction between socio-cultural forces and political decisions shapes what is possible. The public's view of the problem influences how far politicians dependent on an election cycle are willing to go, and Congress's approach to the problem in turn impacts public opinion. And yet all of this interaction occurs against the backdrop of a multiscale ecological phenomenon we do not fully understand. Whether or not people are willing to pass legislation that helps to control future emissions more substantially, the physical climate continues to evolve at multiple scales in ways that current and future generations will have to navigate.

D. Reflections upon the Legislative Example

Despite all of these complexities, in my view, the broader context in which legislative proposals occur suggests cause for guarded optimism. National-level legislation, even in a major greenhouse gas emitter like the United States, cannot solve the problem of climate change. Current and future proposals will always be buffeted by international negotiations and smaller-scale land use policy choices, executive and judicial decision-making, and the broader socio-cultural discourse over this problem.

But even in this context, our national-level legislative choices matter deeply. From a practical perspective, as Professor Flatt has analyzed, they have the potential to reduce U.S. greenhouse gas emissions substantially and, in the process, significantly bring down the global total.⁶⁸ As part of transnational regulation of climate change, they are arguably even more critical. During his announcement of the decision not to participate in Kyoto Protocol, President Bush acknowledged that almost 20 percent of the world's human-made greenhouse gases originate from within this

[edu/elj/](http://www.vjel.org/index.php) (Feb. 24, 2007); *Vermont Journal of Environmental Law*, SPRING SYMPOSIUM: CONFRONTING GLOBAL CLIMATE CHANGE: USING THE LAW TO PROTECT FUTURE GENERATIONS, <http://www.vjel.org/index.php>.

⁶⁵ See, e.g., IPCC, *Physical Basis*, *supra* note 4, at Front Matter i, v, available at http://ipcc-wg1.ucar.edu/wg1/Report/AR4WG1_Print_FrontMatter.pdf (“The IPCC does not conduct new research. Instead, its mandate is to make policy-relevant—as opposed to policy-prescriptive—assessments of the existing worldwide literature on the scientific, technical, and socio-economic aspects of climate change.”). For analyses of the Fourth IPCC Report and the state of climate science, see, for example, John Bohannon, *IPCC Report Lays Out Options for Taming Greenhouse Gases*, 316 *SCIENCE* 781, 812 (2007); Jim Giles, *Special Report: From Words to Action*, 445 *NATURE* 567, 578 (2007).

⁶⁶ For analyses of what reductions are necessary, see sources listed *supra* note 51.

⁶⁷ See sources listed *supra* note 50.

⁶⁸ See Flatt, *supra* note 3, at 131–32.

country's borders,⁶⁹ furthermore, the United States' official climate action report from 2002 indicated that its emissions will rise by 42.7 percent between 2000 and 2020.⁷⁰

This focus on legislative action, even if it does not bear fruit until at least a few months after the 2009 inauguration, opens up the potential for a national-level policy in the United States that takes climate change more seriously. Such a policy—if constructed with sensitivity to vertical, horizontal, and socio-cultural dynamics—may help to foster other regulatory progress; it could help to support, for example, constructive international negotiations and dynamic local initiatives. All of these efforts—collectively and in coordination with each other—form critical parts of developing a better climate legacy.

III. Towards Diagonal Regulatory Strategies

Scholars are increasingly invoking the term “diagonal” to describe phenomena that cut across traditional regulatory orderings in one way or another, an exploration that the dilemmas framed in the previous Parts suggest is needed to achieve climate regulation that addresses intergenerational equity effectively.⁷¹ This Recommendation uses the term in the context of multiscalar governance to refer to particular types of regulatory interactions that cut across both horizontal (same level) and vertical (multiple levels) ordering simultaneously. For example, when several U.S. states collaborate with the European Union on a climate initiative, that constitutes a diagonal effort. However, a coalition of cities working on climate change is simply horizontal, and an EPA mandate for a state or local government is merely vertical.

I plan to explore the possibilities and limitations of diagonal regulatory approaches in depth in future work. This Part begins that examination by analyzing the diagonal elements of current regulatory efforts, and the next steps needed to engage these strategies more fully. A foundational judgment regarding current and future climate policy underlies this analysis of what is appropriate and effective; more specifically, as discussed in depth in Part I, climate change presents a serious multiscalar regulatory problem that current approaches are failing to get under control.⁷² Based on this assessment, this contribution to the Climate Legacy Initiative seeks regulatory approaches that can address the problem more effectively and that, in particular, are able to capture its cross-cutting spatial and temporal dimensions.

Comparatively few of the current “U.S.” regulatory approaches have this diagonal quality formally. Most are predominantly horizontal or vertical in kind.

Many instances exist of horizontal cooperation in which states or cities, sometimes even across international borders, form a coalition. Some of these initiatives have a vertical dimension in the sense that they create a larger-scale entity; for example, California is collaborating with six other U.S. states and three Canadian provinces on a Western

⁶⁹ President George W. Bush, *Speech Discussing Global Climate Change* (June 11, 2001), available at <http://www.whitehouse.gov/news/releases/2001/06/20010611-2.html>.

⁷⁰ U.S. Dep't of State, *United States Climate Action Report 2002* 73 (2002), available at <http://unfccc.int/resource/docs/natc/usnc3.pdf>.

⁷¹ For an analysis of “diagonal dialogue” defined somewhat differently in the context of foreign relations law, see Melissa A. Waters, *Diagonal Dialogue: What Skidmore Deference Can Teach Us About Giving “Respectful Consideration” to International Courts* (Draft Manuscript on File with Author). John Knox also has used the term with a somewhat different definition. See John H. Knox, *Diagonal Environmental Rights*, in *EXTRATERRITORIAL OBLIGATIONS IN HUMAN RIGHTS LAW* (Mark Gibney & Sigrun Skogly, eds.) (forthcoming) (draft manuscript on file with author).

⁷² See *supra* Part II.

Climate Initiative.⁷³ Even with this somewhat diagonal quality, though, their primary character is horizontal because the main dynamics are among entities at the same regulatory level.

Similarly, a wide array of predominantly vertical efforts exist, some of which take the form of traditional top-down efforts to foster smaller scale activity. For example, towards the end of the Clinton Administration, the EPA offered states funding to develop climate regulation plans.⁷⁴ This instance has horizontal dimensions, in that the EPA made the offer to multiple states, but is predominantly vertical. Here, the states are not behaving as a coalition, but rather are being individually incentivized by the EPA; the top-down quality of the action reduces the horizontal dimension. Vertical efforts can also be bottom-up, such as when a state requests federal action or a city requests state action. The key question in whether an effort is vertical is not the direction of vertical movement, then, but its dominance. Like with the primarily horizontal efforts, these vertical ones show little simultaneous activity across the other axis. The efforts are multiscalar but without strong activity across individual levels.

Although formal interactions tend to be predominantly vertical or horizontal, informal diagonals likely arise regardless of whether or not they are formally structured. As a range of actors interact with and restructure informal and formal legal spaces across scales, this process moves across horizontal and verticals in multiple directions. Because many entities which are not formally part of structured initiatives interact with them, even efforts that are neither horizontal nor vertical in their formal conception often interact across both axes.

However, the relative paucity of formal diagonal approaches—as compared to initiatives that are neither horizontal nor vertical or ones to that are predominantly one or the other—raises many difficult questions. Why is climate regulation not more cross-cutting? Should it be? When are diagonal approaches more effective than other approaches? How should diagonal strategies be structured to avoid unnecessary complications? The nature of the regulatory dilemmas that climate change poses—its multiscalar character and the way in which it cuts across traditional categories—suggest that diagonal structures may be desirable. But the details of implementation, grounded in these conceptual questions, are critical.

These issues are especially hard to resolve because of the transnational character of climate change, not to mention its inter-temporal character. In particular, deciding how to locate smaller scale efforts among the dominant, top-down treaty-based approaches is daunting. San Francisco Mayor Gavin Newsom, despite his city-based leadership on the issue, does not command official status in international negotiations.⁷⁵ Should that change, or can he and the City of San Francisco be represented adequately by the United States? More broadly, how can a nation-state-based dialogue effectively incorporate smaller scale efforts in crafting regulatory frameworks?

These conceptual questions have deeply practical implications, which I plan to explore in future work.⁷⁶ Nation-states, amid much—often critical—commentary, are currently negotiating a post-2012 international treaty regime. Many hard questions abound in those negotiations, such as what role the United States under a new administration will play and the most appropriate way to incorporate less developed major emitters such as India and China. But amid

⁷³ Climate Change Draft Scoping Plan: A Framework For Change June 2008 Discussion Draft Pursuant to AB 32 The California Global Warming Solutions Act of 2006, Prepared by: The California Air Resources Board for the State of California, <http://www.csac.counties.org/images/users/1/Climate%20Change%20-%20draftscopingplan.pdf>.

⁷⁴ *Adaptation Planning—What U.S. States and Localities are Doing*, Pew Center on Global Climate Change, http://www.pewclimate.org/docUploads/State_Adapation_Planning_02_11_08.pdf.

⁷⁵ Mayor Gavin Newsom discussed this problem in answer to a question I posed about diagonal regulatory initiatives following his keynote address at the Conference *Surviving Climate Change: Adaptation and Innovation*, University of California Hastings College of the Law, Monterey Institute of International Studies, Apr. 4, 2008.

⁷⁶ See *supra* note 1.

those much-publicized issues are also basic structural regulatory dilemmas that provide many opportunities for greater diagonal interaction.⁷⁷ For example, the Kyoto Protocol emphasizes the importance of flexible national implementation in a number of its articles, but treats smaller-scale entities as largely subsumed within state parties;⁷⁸ the new regime has a choice in how it builds on that model.

These dilemmas also confront the new Administration and Congress. As noted in Part II, both leading presidential candidates have committed to do more on climate change,⁷⁹ and significant relevant legislation—once it no longer has to be either veto proof or as watered down—seems likely to emerge in 2009.⁸⁰ In that activity, choices will arise about how preemptive federal authority should be. As I and others such as Professor Victor Flatt have argued, these initiatives will likely be more effective if they make room for smaller scale efforts.⁸¹ One way to achieve this formally would be to create explicit diagonals in the federal regulatory structure for climate change. For instance, legislation might specifically address ways in which federal agencies would partner with cities, counties, and states that are playing a leadership role on climate change, and incentivize those that are not.

Diagonal regulation is messy, as exemplified in the above examples. But so is the problem of climate change, as it interacts so much with our social and legal structures. Further exploration of the value and limits of this regulatory approach has the potential to help us get at this very difficult problem more effectively. Such analysis is critical for improving our climate legacy and thereby safeguarding the interests and rights of future generations.

IV. Concluding Reflections

This Recommendation focuses on issues of regulatory scale, and in the process, highlights current battlegrounds and their implications. It argues for the importance of exploring diagonal approaches as we move forward to address the problem of climate change and its attendant issues of intergenerational justice. However, as important as this engagement of spatial and temporal scale is, climate change does not simply implicate multiple levels and branches of governance. It also cuts across the ways in which we box law and, more broadly, academic disciplines.

This cross-cutting quality provides an additional regulatory challenge because lawyers and judges often tend to be uncomfortable with more holistic, interdisciplinary thinking, especially when it involves technical information or scientific data. I have previously highlighted this discomfort in some of the interchanges in *Massachusetts v. EPA*; Justice Scalia's commentary—likely in jest—during oral argument that he does not want to deal with the problem because he

⁷⁷ See, e.g., *Beyond Kyoto: Advancing the International Effort Against Climate Change*, Pew Center on Global Climate Change Report, December 2003, available at <http://www.pewclimate.org/docUploads/Beyond%20Kyoto.pdf> (exploring the nuances of a post-Kyoto regime); Daniel Bodansky, *Targets and Timetables: Good Policy But Bad Politics*, in *Architectures for Agreement: Addressing Global Climate Change in the Post-Kyoto World* (Joseph E. Aldy & Robert N. Stavins, eds., 2007) (arguing that the best policy option may not be the best political option in the post-2012 negotiations and discussing, in particular, the potential political value of bottom-up approaches).

⁷⁸ See Kyoto Protocol, *supra* note 34.

⁷⁹ See Andrew Revkin et. al., *The Presidential Candidates on Climate Change*, <http://elections.nytimes.com/2008/president/issues/climate.html> (last visited July 24, 2008).

⁸⁰ For analysis of potential climate legislation, see Flatt, *supra* note 3; Osofsky, *Climate Change Legislation in Context*, *supra* note 3.

⁸¹ See *supra* Part II; Flatt, *supra* note 3; Osofsky, *Climate Change Legislation in Context*, *supra* note 3.

is not a scientist merely exemplifies a dominant undercurrent.⁸² Similar themes of scientific uncertainty, particularly at smaller scales, emerge throughout the debate over climate change.⁸³

Any effort to take formal diagonal regulation seriously must deal with the interaction of scale, science, and law. The problem of greater uncertainty at smaller spatial and temporal scales⁸⁴ will continue to play a dominant role in conversations about what type of regulation is appropriate at smaller scales. As the policymakers, lawyers, and academics increasingly engage emissions and impacts, my hope is that we can recognize climate change as a multiscale problem that needs multiscale regulatory approaches. Although both the problem and its regulatory implications pose overwhelming conceptual and practical difficulties, we need to approach these issues creatively and explore how we can structure law and policy across scales most effectively. Thinking diagonally should form a part of an ongoing conversation about our climate legacy to future generations.

⁸² Transcript of Oral Argument at 22-23, *Massachusetts v. EPA*, 127 S.Ct. 1438 (2007) (No. 05-1120), 2006 WL 3431932 at 22-23; Hari M. Osofsky, *The Intersection of Scale, Science, and Law* in *Massachusetts v. EPA*, 9 OREGON R. INT'L L. ___ (forthcoming 2008).

⁸³ See *supra* note 24 and accompanying text.

⁸⁴ See *id.*