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# Breaking the Logjam: Environmental Reform for the New Congress and Administration

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# SYMPOSIUM

## BREAKING THE LOGJAM: ENVIRONMENTAL REFORM FOR THE NEW CONGRESS AND ADMINISTRATION

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### INTRODUCTION

For almost 20 years, political polarization and a lack of leadership have left environmental protection in the United States burdened with obsolescent statutes and regulatory strategies. As a

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result, the country has failed to deal effectively or decisively with many pressing old environmental problems as well as newly emerging ones. There is accordingly an urgent need for innovative strategies for environmental protection that will break the political logjam and meet environmental challenges that have become increasingly complex.

The Breaking the Logjam project was born out of the need to address this policy logjam with innovative thinking. It is jointly organized by New York Law School and New York University School of Law and co-led by Professors David Schoenbrod, Richard Stewart, and Katrina Wyman.<sup>1</sup> In 2007, they enlisted over forty environmental law experts from around the country and across the ideological spectrum to propose statutory and institutional changes and to comment upon the proposals. Participants were asked to address the legal and institutional question of how government should organize itself to protect the environment, rather than how much the environment should be protected. Some of the experts who agreed to participate presented drafts of their reform proposals at a seminar at New York University School of Law in the fall of 2007. The full complement of experts gathered to present and comment upon the range of proposals at a two-day conference held at New York University School of Law on March 28–29, 2008. Authors then honed their proposals based on the commentary received at the conference. Their final essays are published in this symposium issue of the *New York University Environmental Law Journal*.

As this symposium issue goes to press, Professors Schoenbrod, Stewart, and Wyman are synthesizing the various proposals presented at the March conference and articulated in the essays published herein into a report with an integrated set of recommendations that will be published contemporaneously with the installation of the next Congress and Administration. The report and recommendations of the project are being vetted with opinion leaders across the ideological spectrum. Ultimately, these recommendations may not reflect the full range of proposals made at the conference or the positions of some conference participants. The project co-leaders are planning to publish a book expanding on the report in 2009.

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<sup>1</sup> For additional information about the Project, see <http://www.breakingthelogjam.org>.

This essay describes the impetus for the Breaking the Logjam project and the four principles that the co-leaders proposed to guide reform proposals. Finally, it summarizes the articles and student notes published in this symposium issue.

### I. IMPETUS FOR THE PROJECT

In the 1970s, when the first wave of federal environmental statutes was passed by large bipartisan majorities, almost everyone believed that the federal government had to dictate to polluters how to clean up their act because only it had the expertise and political will to do so. Thus, the 1970s environmental statutes, which remain our principal federal environmental statutes, rely heavily on top-down, hierarchical regulatory approaches. The chain of command reaches down through federal regional offices and often states and localities to businesses, individuals, and other targets of regulation.

This strategy achieved impressive gains in many, but not all, fields of environmental regulation. In the 1970s and 1980s, highly prescriptive federal regulation quickly reduced air and water pollution from large point sources of pollution such as power and sewage treatment plants and addressed some of the most serious hazardous waste problems. It also achieved some important successes in natural resource protection. But today, almost forty years after the passage of our basic federal governing structure, we have learned more about the nature of some old environmental problems and the limits of the regulatory tools that we have used for addressing them. We are also encountering new problems. We need new tools to address many old problems more effectively and deal with the new ones.

There is also growing recognition that, with proper government oversight, regulatory approaches based on market and property right-like mechanisms and information techniques can and should be used to address many environmental problems. These regulatory tools have the potential to harness the innovation and entrepreneurship of many people to produce greater environmental gains, often at a lower aggregate cost than traditional regulation. More efficient regulatory approaches are especially desirable in the current economic environment when governments are striving to do more with less.

## II. THE GUIDING PRINCIPLES

In inviting experts to propose environmental law reforms, Professors Schoenbrod, Stewart, and Wyman identified four principles to guide reform efforts. These principles are embedded in many existing critiques of U.S. environmental laws. Prior environmental law reform projects have done great service by honing these principles and demonstrating their importance.<sup>2</sup> The Breaking the Logjam project takes the next step of using these principles to develop a comprehensive set of concrete proposals for reform of the many diverse fields of federal environmental law.

The following is a description of the four basic principles that the project co-leaders suggested as a point of departure for concrete proposals. The first and second principles offer substantive guidance for reforming environmental laws through greater use of market mechanisms where feasible, and a realignment of responsibilities to strengthen the federal role in some areas and the role of the states in others. The third and fourth principles promote improved environmental governance by emphasizing the importance of mechanisms that make trade-offs openly and even-handedly, and adopting cross-cutting strategies to address the full scope of environmental problems.

***Principle 1: Traditional hierarchical regulatory approaches should be complemented by market and property rights-like mechanisms such as cap and trade programs, and information disclosure, whenever these tools can reliably achieve environmental objectives.***

The first wave of federal environmental regulation was aimed at addressing easily understood gross insults to the environment—smog filled urban air, flammable rivers, uncontrolled smoke

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<sup>2</sup> See, e.g., PROJECT 88: HARNESSING MARKET FORCES TO PROTECT THE ENVIRONMENT (1988), available at [http://ksghome.harvard.edu/~rstavins/Monographs\\_&\\_Reports/Project\\_88-1.pdf](http://ksghome.harvard.edu/~rstavins/Monographs_&_Reports/Project_88-1.pdf); M. CHERTOW & D. ESTY, THINKING ECOLOGICALLY: THE NEXT GENERATION OF ENVIRONMENTAL POLICY (1997); THE ENTERPRISE FOR THE ENVIRONMENT, ENVIRONMENTAL PROTECTION IN TRANSITION: TOWARD A MORE DESIRABLE FUTURE (1998); NATIONAL ACADEMY OF PUBLIC ADMINISTRATION, ENVIRONMENT.GOV: TRANSFORMING ENVIRONMENTAL PROTECTION FOR THE 21<sup>ST</sup> CENTURY (2000), available at <http://epa.gov/air/caaac/aqm/aqm-06-16-05-transform.pdf>. See generally JOHN E. BLODGETT, CONGRESSIONAL RESEARCH SERVICE REPORT FOR CONGRESS: RL30760: ENVIRONMENTAL PROTECTION: NEW APPROACHES (2000) (discussing proposals for new approaches to environmental protection).

stacks, and discharge pipes. Hierarchical command and control regulatory approaches were generally well-suited to addressing such problems. But these approaches now need to be augmented with additional regulatory tools to address a number of environmental problems that have proven intractable to hierarchical regulation (such as non-point water pollution) and new problems that have yet to be tackled (such as climate change).

Adding new regulatory approaches to the existing toolkit will make it possible to achieve greater environmental protection at less cost and thus help to break the legislative logjam. The history of Congressional efforts to address acid rain is illustrative. For a decade or so leading up to 1990, Congress was deadlocked on dealing with acid rain as regions of the country that stood to benefit from reducing acid rain encountered steep opposition from regions and from industries that stood to bear the cost of the necessary reductions. What allowed Congress to move forward was the then-innovative idea of using a cap and trade program to reduce sulfur dioxide emissions. The cap and trade program legislated in 1990 significantly reduced the cost of addressing acid rain compared with conventional command and control regulation.

Regulatory strategies that rely on market mechanisms, property rights-like approaches, and information systems, if properly designed, monitored, and enforced, can create networks that enlist the creative ideas and energies of many actors, in contrast to centralized hierarchies that can often cramp innovation and stretch federal regulators too thin. Such regulatory strategies are a useful supplement to, not a complete replacement of, traditional regulatory strategies. Importantly, regardless of the approach selected, sound enforcement and rigorous performance verification are necessary to achieve environmental gains.

***Principle 2: Authority should be realigned so that the federal government has direct responsibility for national and transnational environmental problems, and states and their subdivisions have more independent responsibility for essentially local ones.***

The landmark federal environmental legislation of the 1970s made federal agencies supremely responsible for solving environmental problems because of the perception of lack of expertise and political will at the state level. However, since 1990, the last time Congress passed a major piece of environmental

legislation, states have stepped up to the plate on a host of environmental issues, including climate change and oceans degradation, offering exciting solutions that ultimately could be the model for federal efforts. The challenge now is to realign responsibilities between the federal government and the states to recognize the comparative advantages of both levels of government. In some cases this will require expanding existing federal authority, while in other cases it will be better to allow the states to take the lead.

This second principle is a call for specialization based on comparative advantage, not devolution or deregulation. The federal government should not be burdened with having to work through states to solve national and transnational problems and the states should have greater latitude, subject to federal backstops, to deal with essentially local problems. Such a realignment is necessary because the federal government has found it difficult to solve many national problems through the states, because states can be more nimble than the federal government in finding innovative solutions to local problems, and because federal regulators are stretched too thin. As William Ruckelshaus wrote in 1995: "Any senior EPA official will tell you that the agency has the resources to do not much more than ten percent of the things Congress has charged it to do."<sup>3</sup> The agency will be even more overburdened as it begins to deal with climate change.

***Principle 3: Trade-offs should be faced openly and made on the basis of reliable information.***

The environmental statutes of the 1970s often make it difficult to weigh explicitly the costs and other trade-offs involved in determining how much pollution to allow or how much of a resource to conserve. As a result, agencies charged with implementing these statutes often make these trade-offs in opaque ways that are inaccessible to public scrutiny and review. For example, in setting hierarchical technology-based controls for major air and water pollution sources, the U.S. Environmental Protection Agency (EPA) must and does weigh costs and feasibility against the extent of environmental benefit achieved, but does so in hundreds of different complex rulemaking

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<sup>3</sup> William Ruckelshaus, *Stopping the Pendulum*, 12 ENVTL. L. FORUM 25, 26 (1995).

proceedings, and often in highly technical jargon without explicitly confronting the tradeoffs presented.

Going forward, Congress should admit that trade-offs are inevitable in environmental protection, and statutes should openly speak to how these trade-offs should be made and by whom. Greater use of market-based incentives and information tools as suggested in principle 1 also should make trade-offs more transparent by generating information about them and promoting their explicit consideration in deciding protection priorities and goals. At the same time, the executive branch's use of cost-benefit analysis to promote more rational environmental regulation should be reexamined to ensure that the underlying data, assumptions, and methodologies are up-to-date and even-handed and that the environmental benefits and co-benefits of regulation are given proper weight.

***Principle 4: Regulatory approaches should be cross-cutting and address underlying causes.***

The governmental structures adopted in the 1970s compartmentalize environmental protection and natural resource management. EPA, despite its sweeping title, shares responsibility for environmental protection with, among other federal agencies, the Department of the Interior, including the Fish and Wildlife Service and the Bureau of Land Management, the Department of Agriculture, including the Forest Service, and the Department of Commerce, including the National Oceanic and Atmospheric Agency. The EPA itself is divided into distinct media (such as air, waste, water) offices that operate largely independently of each other. Further, the political boundaries that circumscribe state and local environmental agency action are drawn irrespective of the contours of ecological systems and interdependencies.

While some degree of bureaucratic and geographic compartmentalization is inevitable, we should aim to minimize it and its ill effects. Cross-institution and cross-media approaches are needed to address the polycentric and interconnected nature of environmental problems such as climate change, the degradation of ocean environments and fisheries, the loss of biodiversity, and the degradation of fresh water watersheds and rangeland. Europe might provide inspiration for dealing with environmental problems more holistically as it is ahead of the U.S. in doing so.

### III. SYNOPSIS OF ESSAYS AND REMARKS

This section briefly summarizes the articles and student notes in this symposium issue. It should be noted that not all conference participants or paper authors shared the view that there is a logjam or that the four principles suggested by the project co-leaders as a starting point for reform should necessarily guide future regulatory policy. Indeed, disagreements about whether there is a logjam, its cause if there is one, and the principles to guide reform contributed to a stimulating dialogue at the symposium.

#### *Symposium Articles*

The articles are organized based on the panel with which they are associated. The agenda for the symposium is published at the end of the symposium issue.

Panel I addressed whether or not there is a logjam in environmental law, and, on the assumption that there is a logjam, its causes and potential cures. Lawrence Huntington introduced Resources for the Future President Philip Sharp, who agreed that there is a logjam, and agreed that it should be addressed through the four principles, together with strategies for getting to decisions. He analyzed the political challenges in addressing climate change, and what is needed to break the logjam on climate regulation and other environmental issues. E. Donald Elliott's *Portage Strategies for Adapting Environmental Law and Policy During a Logjam Era* draws attention to the potential to use "portage" solutions for getting around the logjam at the administrative level. Elliott also points out the limitations of portage solutions though, and so recommends legislative reform facilitated by consensus proposals developed by expert groups that could help leapfrog over the current political deadlock. Philip Sharp also endorsed the expert proposal concept. David Buente, Jr. spoke in defense of the logjam, arguing that the difficulties in securing new legislation were a consequence of the checks and balances in our constitutional and political system. He concluded that in such a system policy change is generally incremental, and that reformers must work skillfully within the existing legislative system in order to achieve it.

Panel II dealt with setting priorities and the development of new cross-cutting institutional arrangements to improve environmental regulation. Cary Coglianese's *The Managerial Turn*

in *Environmental Policy* argues that the limits of government regulation should be addressed in part by greater use of environmental management systems within firms to improve their environmental performance. Coglianese advocates stronger government incentives for firms to adopt and improve such systems. Bradley Karkkainen's *Framing Rules: Breaking the Information Bottleneck* highlights the difficulties that regulators often have gathering the information on risks and the means for managing them that are necessary to design effective environmental regulations. He proposes using "framing rules" to encourage regulated firms and other actors to compile and disclose the necessary information. Michael Livermore's *Cause or Cure? Cost Benefit Analysis and Regulatory Gridlock* draws attention to an imbalance in the federal government's use of cost-benefit analysis. As currently practiced, cost-benefit analysis often gives inadequate weight to the environmental benefits of regulation. Also, while major new regulations are subject to cost-benefit analysis, regulatory inaction, which also may be inefficient, is not. He proposes steps to give proper weight to environmental benefits and subject regulatory inaction to cost-benefit review. In *Improving the Government's Environmental Science*, Angus Macbeth and Gary Marchant propose two new institutional mechanisms for improving the science on which federal environmental regulatory decisions rest. These are a Scientific and Engineering Board, selected by EPA, to frame and promote progress on science issues at the early stages of the regulatory decision making process, and an independent Institute for Scientific Assessment that would review and resolve key issues of regulatory science. In an article not presented at the symposium that relates to the subject of panel II, Beth Noveck and David Johnson (*A Complex(ity) Strategy for Breaking the Logjam*) discuss how EPA could use digital networking technologies to tap the expertise of members of the public not affiliated with industry, NGOs, or other organized interest groups to address specific "granular" scientific, economic, technological, policy, and other issues. Invoking Wikipedia and the successful Peer to Patent process used by the Patent Office to gain information and insight from dispersed experts in the patent examination process, they argue that collaborative web-based networking strategies could significantly improve regulatory decision-making, offset undue influence by industry and other organized interests, and provide a

richer form of public participation than notice-and-comment rulemaking.

Peter Lehner, Executive Director of the Natural Resources Defense Council, gave a luncheon address on the first day of the symposium (*The Logjam: Are Our Environmental Laws Failing Us or Are We Failing Them?*). While noting that we have made "good progress" in cleaning up the environment in the past three decades, Lehner emphasizes the significant extent to which we have failed to meet many of the goals articulated in the landmark environmental laws of the 1970s. For example, air and water pollution remain persistent problems in many parts of the country notwithstanding the Clean Air and Clean Water Acts; many species remain imperiled although the Endangered Species Act is over three decades old; and NEPA has only partially succeeded in increasing environmental awareness across the federal government. Lehner's central theme is that the current situation may not be due so much to flaws in the existing statutes as to our failure to follow our environmental laws. He argues that "there is not one, large theoretical logjam—such as the laws being no good—but that there are many, specific problems of implementation compounded by the corrupting and disproportionate influence of polluters." Lehner suggests several ways of improving compliance with environmental laws. These include "dramatically stepping up enforcement," increasing the penalties for non-compliance, and changing "the administrative paradigm" under which permits are issued "to one that defaults to or prefers public health over private pollution."

Panel III addressed the interrelated topics of how to control greenhouse gas emissions, improve regulation of other air pollutants, and address the future of the car. Jonathan B. Wiener (*Radiative Forcing: Climate Policy to Break the Logjam in Environmental Law*) uses the logjam principles to generate a basic design for regulating greenhouse gas emissions. The design would be comprehensive, incentive-based, cost-conscious, and linked to international climate regulatory systems. It should also stimulate changes in other areas of federal environmental law on the same lines. William F. Pedersen (*Adapting Environmental Law to Global Warming Controls*) argues that adoption of a cap and trade program for controlling greenhouse gas emissions from large fuel-combusting stationary sources will require adoption of a coordinated and complementary cap and trade system for

regulating criteria pollutants from those same sources. He also advocates a system of federal performance-based rewards for state regulation to enhance energy efficiency in buildings and transportation systems. David Schoenbrod, Joel Schwartz, and Ross Sandler (*Air Pollution: Building on the Successes*) provide recommendations similar to Pedersen's, but based on a different path of reasoning. Examining the history of successes and failures in federal air pollution regulation, they advocate direct federal regulation of the larger stationary sources that generate interstate pollution, while states should have the primary responsibility for smaller pollution sources, subject to federal safeguards. Andrew P. Morriss (*The Next Generation of Mobile Source Regulation*) argues that the regulation of mobile sources will need to change significantly. He recommends incentive-based rather than command and control regulation to reduce mobile source emissions including through changing driver behavior, simplifying regulation of fuels, and paying for reductions outside the developed world.

Panel IV discussed a variety of new regulatory strategies for protecting ecosystems on land. John Leshy and Molly McUsic (*Where's the Beef? Facilitating Voluntary Retirement of Federal Lands from Livestock Grazing*) recommend a legislative fix for a legal problem that is currently hampering the efforts of conservationists to reduce grazing on federal public lands by buying grazing permits from ranchers. Specifically, Leshy and McUsic propose federal legislation directing the federal agency owning the land associated with a permit to permanently retire the land from grazing if the permit holder requests it. In a paper not presented at the conference but related to Panel IV, Kai Anderson and Deborah Paulus-Jagrič (*A New Land Initiative in Nevada*) examine the successful bipartisan effort of the Nevada Congressional delegation to secure legislative authorization of omnibus packages of federal, state, and private land exchanges and consolidations in two Nevada counties that promoted sound development patterns while advancing conservation protection. They suggest that this approach could be followed by delegations from other states, and offer a series of criteria for congressional evaluation of such packages. J. B. Ruhl (*Agriculture and Ecosystem Services: Strategies for State and Local Governments*) argues for a new paradigm of agricultural multifunctionality, under which farms would be regarded as providing a range of ecological

and land use services as well as marketable commodities. He examines and advocates wider adoption of state and local government initiatives to promote farm multifunctionality. Barton Thompson, Jr. (*Ecosystem Services and Natural Capital: Reconceiving Environmental Management*) identifies three possible benefits of greater understanding of the concept of ecosystem services: enhanced understanding could increase public support for protecting land and water; foster the creation of new markets for protecting land and water; and provide criteria, beyond human health protection, for broadening environmental protection measures and measuring their success. Thompson argues that the first two benefits remain largely unrealized and suggests steps that could be taken to realize them. He emphasizes, though, that the broader justification ecosystem services offer for ecological protection may be their most important function. Katrina Wyman (*Rethinking the ESA to Reflect Human Dominion Over Nature*) criticizes the current regulatory approach of the Endangered Species Act, which fails to deal explicitly with the inevitable tradeoffs in species protection. She advocates greater administrative flexibility in measures to protect listed species and targeting limited administrative and other resources on ecological hotspots.

Panel V addressed urban regulatory issues. Harry Richardson and Peter Gordon (*The Implications of the Breaking the Logjam Project for Smart Growth and Urban Land Use*) describe various policy instruments for containing development and fostering smart growth, noting that most of them require local government action. Overall, Richardson and Gordon emphasize the limited role of the federal government in land use planning, but recommend that the implicit spatial impacts of federal laws such as the Endangered Species Act should be taken into account if these laws are revised. Chang-Hee Christine Bae (*Salmon Protection in the Pacific Northwest: Can It Succeed?*) discusses three efforts to protect imperiled salmon populations in the Pacific Northwest. She argues that there is likely no legislative reform that would allow the federal government to better safeguard salmon stocks, because the issues involved are essentially local. Sam Schwartz, Gerard Soffian, Jee Mee Kim, and Annie Weinstock (*A Comprehensive Transportation Policy for the 21<sup>st</sup> Century: A Case Study of Congestion Pricing in New York City*) explain how the federal government and other jurisdictions could change transportation

policy to improve the environment, using the New York City congestion pricing plan as an example.

Panel VI addressed the regulation of aquatic ecosystems. Jonathan Cannon (*A Bargain for Clean Water*) emphasizes that the Clean Water Act has historically been used to regulate point rather than non-point sources of water pollution and that it is now necessary to squarely address non-point water pollution if water quality is to be further improved. He suggests a "carrot and stick" approach for tackling non-point water pollution: the stick would be a federal requirement that states develop implementation plans imposing obligations on non-point sources; the carrot would involve the federal government rewarding agricultural sources covered by these plans with greater access to farm subsidies. G. Tracy Mehan III (*Establishing Markets for Ecological Services: Beyond Water Quality to a Complete Portfolio*) advocates widespread use of effluent trading between point and non-point sources of water pollution in order to address the massive water quality problems that persist despite stringent regulation of point sources under the Clean Water Act. He urges development of effluent trading aggregators, bankers, and brokers in order to facilitate such trades, and also proposes "stacking" of trading regimes to address different types of environmental problems created by the same activities, such as air emissions of nitrous oxide (a greenhouse gas) and nitrogen-based water pollution discharges, both resulting from use of nitrogen-based fertilizers in agriculture. Joshua Eagle, James Sanchirico, and Barton Thompson, Jr. (*Ocean Zoning and Spatial Access Privileges: Rewriting the Tragedy of the Regulated Ocean*) argue for zoning the oceans. Zoning is often thought to be an attractive way of regulating incompatible uses of the oceans by separating them spatially. Eagle et al. offer a novel argument for zoning, namely that dividing the oceans into use-specific areas (such as conservation or fishing areas) will lead the interests assigned to those areas to develop a sense of group property rights that will improve inter-group relations. James Huffman (*The Federal Role in Water Resource Management*) offers an ambitious set of proposals for federal water policy, including federal apportionment of all significant interstate rivers that are not yet apportioned, clarification of federal and Indian reserved water rights, and the establishment of a national market in water. He emphasizes, though, that states have historically provided the core water law

systems and should continue to do so.

Panel VII proposed various solutions for managing waste. Kate Adams and Brian Israel (*Waste in the 21<sup>st</sup> Century: A Framework for Wiser Management*) argue that cleanup and management of hazardous wastes should be based on principles of protectiveness, cost-effectiveness, and sustainability. Applying these principles, they advocate green remediation strategies to provide collateral ecological benefits, lifecycle responsibility systems for electronic waste, and waste to energy projects. Jonathan Adler (*Reforming Our Wasteful Hazardous Waste Policy*) contends that hazardous waste problems (soil and groundwater contamination) are generally local, that our current system of hazardous waste regulation and cleanup is excessively centralized, and that the federal government should turn over primary responsibility to the states, subject to transition rules and continued federal regulation of interstate waste transport and transition rules. John Applegate (*The Temporal Dimension of Land Pollution: Another Perspective on Applying the Breaking the Logjam Principles to Waste Management*) applies the four logjam principles to the problem of land pollution, and also develops an additional principle derived from the temporal dimension of waste generation, management, storage, and disposal: institutional learning and the conservation of options. Richard Stewart's *U.S. Nuclear Waste Law and Policy: Fixing a Bankrupt System* argues that the current highly prescriptive federal regulatory system for nuclear waste management and disposal, centered on a Yucca Mountain repository, is bankrupt and should be replaced by a more diverse and adaptive strategy involving expert proposals, trust-building inclusion of local communities, fundamental changes in federal institutional structures, and preservation of the reprocessing option by not rushing to bury spent nuclear fuel.

In an article based on a luncheon address delivered on the second day of the symposium, Daniel Esty (*Breaking the Environmental Law Logjam: The International Dimension*), addresses problems of global scale, urging creation of a Global Environment Organization (GEO) focused primarily on inherently transboundary problems, including management of the oceans, atmosphere, and other global commons resources. The GEO would serve as a convening authority, engaging not only governments but also civil society at large, including business and NGO leaders, with the aim of mobilizing technological and policy innovation for

environmental protection. Esty urges adoption of innovation as a fifth logjam principle, and broad adoption of global price-based incentive systems to address global environmental problems

Panel VIII addressed the topic of change going forward: institutions and politics. The speakers provided reflections on the symposium and suggestions for both the substance and strategy of environmental law reform. Leslie Carothers suggested that a sectoral approach to climate change regulation could be fruitful, while NEPA could address cross-cutting issues in these and other areas of regulation. Where devolution of regulatory authority to the states is appropriate, she favored relying on administrative means rather than legislation to accomplish this devolution. Carothers found promise in new institutions to review but not decide issues of regulatory science, and favored a bureau to compile information to monitor environmental progress. She also urged greater effort to explain to the public how market mechanisms for environmental protection work. Richard Lazarus characterized climate regulation as a huge logjam, but suggested that we are approaching a "lawmaking moment" in which it may be possible to legislate "precommitment strategies" that would ensure continued long-term progress in reducing greenhouse gas emissions. He explained three different types of pre-commitment strategies that might be used. Felicia Marcus urged that reform proposals be presented in "big picture" ways that would capture political attention, and that they seek to bridge the pollution control and natural resource conservation wings of environmentalism. She favored Daniel Esty's notion of "co-opetition"—a mixture of cooperation and competition—between federal and state governments. Marcus also supported using a variety of tools to improve environmental performance rather than arguing about which tool is best. She also advocated a revived and strengthened Council on Environmental Quality.

Paul Portney argued for open and transparent consideration of costs in environmental regulatory decision-making, especially given the limits of administrative and societal resources. He urged greater attention to ways of providing incentives for private sector innovation in green technologies. Portney stated that EPA has atrophied in the past fifteen years, and needs to be reinvigorated with better management and measures to recruit top talent. Finally, he cautioned that the good can be the enemy of the better. Environmental regulation has worked fairly well in the U.S. and

reformers must make a convincing case for change. Marcia Bystryn directed her comments to the environmental community, arguing that it needed to broaden and reframe its agenda if it wants to be a serious player in addressing climate change. It should embrace technological change that helps solve environmental problems, face up to inevitable tradeoffs and compromises, and adopt a bipartisan approach. Finally, she emphasized the potential to address climate change at the local level through strategies linked to economic development.

### *Student Notes*

This symposium issue includes seven student notes proposing environmental law and policy reforms. Selected for publication by Professors Schoenbrod, Stewart, and Wyman, the notes were written by students in the Environmental Governance Seminar that the three professors taught in the fall of 2007 as a prelude to the spring symposium.

Soo-Yeun Lim (*Mandatory Corporate Greenhouse Gas Emissions Disclosure to Encourage Corporate Self-Regulation of Emissions Reduction*) proposes a federal regulatory system for mandatory public disclosure of companies' greenhouse gas emissions in order to generate market, political, and social incentives for reductions. Kimberly Ong (*A New Standard: Finding a Way to Go Beyond Organic*) examines the federal standards for organic food labeling, concluding that they should be supplemented by voluntary labeling systems, on the model of LEED certification for building energy efficiency, that could inform consumers of attributes not covered by the federal standards, such as chemical inputs to, pollution from, and ecosystem services provided by farming, humane treatment of animals, and food miles to market. Peter Schikler (*Has Congress Made It Harder to Save the Fish?*) recommends legislative reforms to promote greater use of market-oriented LAPPs (limited access privilege programs) in U.S. marine fisheries regulation. Nick Smallwood (*The Role of U.S. Agriculture in a Comprehensive Greenhouse Gas Emissions Trading Scheme*) examines regulatory strategies for addressing greenhouse gas emissions from U.S. agriculture, and recommends use of tradable emission reduction credits or offsets to provide incentives for controls. Sumit Som (*Creating Safe and Effective Carbon Sequestration*) addresses regulation of emerging carbon sequestration technologies,

including the siting of sequestration facilities and the need to ensure the safety and long-run integrity of storage systems. Shelley Welton (*From the States Up: Building a National Renewable Energy Policy*) considers the pros and cons of federal versus state primacy in establishing and implementing renewable portfolio standard programs to promote adoption by electric utilities of renewable energy sources, and concludes in favor of federal primacy. Lauren Wishnie (*Fire and Federalism: A Forest Fire Is Always an Emergency*) proposes increased community and interagency involvement in forest fire planning, close scrutiny of NEPA-style alternatives during the planning process, and a restructured funding regime utilizing emergency funds for high-priority areas as potential solutions to the increasing problem of forest fires.