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From the PSO President

Science Studies for Everyone

The Policy Studies Organization publishes articles with a science bent in a number of its journals, and its flagship journal for such issues is the Review of Policy Research (RPR), which is edited by Professor Christopher Gore at Ryerson University in Toronto, Canada. More about the journal is at http://onlinelibrary.wiley.com/journal/10.1111/(ISSN)1541-1338.

RPR is the official journal of the Science, Technology and Environmental Politics section of the American Political Sciences Association: http://www.apsanet.org/content_4991.cfm. The section gives the prestigious Don K. Price Award for the best book in science and technology, the Lynton Keith Caldwell award for the best environmental politics book, and the Virginia M. Walsh award for the best dissertation of the year in the fields of science, technology, and environmental policy. Every year at APSA, the section encourages as many panels as possible on science topics.

If asked, members would probably say that every informed person needs to know about current science policy issues. An obvious area is that of climate change, where the amount of misinformation has been enormous. Courses in science policy belong in every undergraduate curriculum and their omission has helped create the haphazard approach being taken towards such grave problems as genetic manipulation, water pollution, and food shortages.

The syllabi of section members give us a glimpse into the best teaching that is going on, and are a welcome addition to the growing PSO resources in classroom help.

Paul J. Rich pauljrich@gmail.com

Syllabi

Over the past several years, the Policy Studies Organization (PSO) has encouraged scholars to publish their course syllabi in *The Proceedings*. The result has been a diverse collection of syllabi covering both general public policy courses, and more specific courses on subjects ranging from education and health to poverty and race. Collectively, the syllabi provide a great resource for new and experienced instructors, and for instructors designing new courses and for those updating existing ones.

Last spring, with the encouragement of the PSO and in my role as current chair of the Science, Technology, and Environmental Politics section of the American Political Science Association, I invited section members to share their syllabi. The response was terrific, and thanks to the support of Paul Rich and Daniel Gutierrez-Sandoval, this issue of *The Proceedings* will be the first of three to publish syllabi on subjects taught by the section's members.

In this issue, we are publishing five syllabi on environmental politics and policy. The courses are taught at both the undergraduate and graduate level, and from a variety of disciplinary and interdisciplinary perspectives. We hope that you will find them useful.

David Konisky Georgetown University

Contents

- I. Environmental Policy and Administration
 Michael Kraft, University of Wisconsin, Green Bay
- II. Politics of Environmental, Health, and Safety Regulation Brendon Swedlow, Northern Illinois University
- III. Environmental Management and Public Policy
 David Vogel, University of California, Berkeley
- IV. Environmental Policy and Management Christopher Gore, Ryerson University
- V. Energy & Environmental Policy
 Matthew Shapiro, Illinois Institute of Technology

Environmental Policy and Administration

Prof. Michael Kraft University of Wisconsin-Green Bay

1. Course Description

This course surveys environmental politics and policy, primarily in the United States. We will examine the nature and scope of environmental, energy, and natural resource problems; contrasting perspectives on their severity and policy implications; the goals and strategies of the environmental community and its opponents; public opinion on the environment; scientific, economic, political, and institutional forces that shape policymaking and implementation; approaches to environmental policy analysis; and selected issues in environmental policy both within the U.S. and globally. In addition to the core readings, a series of three short papers allows each student to focus on the issues of greatest personal concern.

2. Required Readings

Norman J. Vig and Michael E. Kraft, eds., <u>Environmental Policy</u>, 7th ed. (2010). Regina S. Axelrod, Stacy D. VanDeveer, and David Leonard Downie, eds., <u>The Global Environment: Institutions</u>, <u>Law</u>, and <u>Policy</u>, 3rd ed. (2010).

Michael E. Kraft, <u>Environmental Policy and Politics</u>, 5th ed. (2011), or if you have read the book in an earlier edition, a substitute is Mark Allen Eisner, <u>Governing the Environment: The Transformation of Environmental Regulation</u> (2007).

3. Course Requirements

Requirements include three short papers (one to two pages each, single spaced) that critically examine one or more course readings and a research paper (15-25 double-spaced pages) to be presented in class. The short critique papers are due at about equal intervals over the semester: **Sessions 5, 8, 11**. They may focus on any of the book chapters in the two edited texts, or related chapters taken together if that makes more sense. Alternatively, the short papers could examine any of the "outside" readings, identified with an asterisk below. The idea for these papers is to highlight strengths, weakness, and contributions made by the analysis.

During the last three weeks of the semester the seminar sessions will be devoted to presentation of the papers. A draft of the paper (similar to what would normally be submitted at the end of the semester) is due two days prior to the seminar at which it is to be presented. One student in the seminar will be assigned the task of preparing a written critique of the draft paper, commenting on the approach that is used, the organization of material, the cogency of the argument, and use of relevant

concepts and findings from course readings. These critiques (one to two pages, single spaced) are due at the seminar at which the paper is presented (one copy for me and one for the paper author; the copies may be sent as an e-mail attachment if more convenient). The revised papers are due **one week after the last class.**

Paper proposals discussing the topic chosen, its significance, and the kind of data to be collected will be due by **Session 6.** These should be brief, but cover enough that I can provide comments on what you propose to do (1 to 2 pages, single spaced). Earlier submissions are welcome. Assignment of seminar dates for paper presentations will take place before Session 7.

Course grades will be based chiefly on the three short papers (25%), the final version of the research paper (50%), and contributions to the seminars, including the written critique (25%).

Course Format

The seminars will stress discussion of assigned readings; thus all readings each week should be completed by the seminar meeting. I will assign discussants for the major thematic readings. Each person will have at least one opportunity to play that role—to identify the key issues in that reading and to assess the validity and utility of the author's analysis. This verbal presentation in class may also be prepared as one of the three short critique papers. I'll have a handout to describe the role of such a discussant.

The readings have been selected to survey the basic issues and concepts in environmental policy and administration. The research paper is intended to allow each student to specialize in a substantive environmental problem or some aspect of policy-making or administration as a supplement to the general readings on the syllabus. Presentation of the papers in class will allow wider coverage of problems and issues than possible with regular course readings.

References listed in each section provide a guide to other readings or sources of information. There is no expectation that items listed will be read. Other sources of information on environmental policy will be discussed in class. Readings below that are preceded by an asterisk (*) are supplementary.

4. Class Schedule and Reading Guide

ENVIRONMENTAL PROBLEMS AND POLITICS

Session 1. Introduction
Michael Kraft and Norman Vig, "Environmental Policy from the 1970s to
the Twenty-First Century," in Vig and Kraft, Environmental Policy, 1-24.

Session 2. Michael Kraft, Environmental Policy and Politics, Chaps. 1-2, 1-58.

*Daniel A. Mazmanian and Michael E. Kraft, "The Three Epochs of the Environmental Movement," in Mazmanian and Kraft, eds., <u>Toward Sustainable Communities: Transition and Transformations in Environmental Policy</u>, 2nd ed. (2009), 3-32.

Robert Paehlke, "Sustainable Development and Urban Life in North America," in Vig and Kraft, 244-264.

PUBLIC OPINION, INTEREST GROUPS, AND AGENDA SETTING

Session 3. Deborah Lynn Guber and Christopher J. Bosso, "Past the Tipping Point? Public Discourse and the Role of the Environmental Movement in a Post-Bush Era," in Vig and Kraft, 51-74.

*Michael E. Kraft and Sheldon Kamieniecki, "Analyzing the Role of Business in Environmental Policy," in Kraft and Kamieniecki, eds., Business and Environmental Policy (2007), 3-31.

*Deborah Lynn Guber and Christopher J. Bosso, "Framing ANWR: Citizens, Consumers, and the Privileged Position of Business," in Kraft and Kamieniecki, <u>Business and Environmental Policy</u>, 35-59, **Or***Judith A Layzer, "Deep Freeze: How Business Has Shaped the Global Warming Debate in Congress," in Kraft and Kamieniecki, <u>Business and Environmental Policy</u>, 93-125. Read one of these.

References:

Robert F. Durant, Daniel J. Fiorino, and Rosemary O'Leary, eds., <u>Environmental</u> <u>Governance Reconsidered: Challenges, Choices, and Opportunities</u> (2004).

National Research Council, <u>Decision Making for the Environment: Social and Behavioral Science Research Priorities</u> (2005).

Daniel A. Mazmanian and Michael E. Kraft, eds., <u>Toward Sustainable Communities:</u> <u>Transition and Transformations in Environmental Policy</u> 2nd ed. (2009).

Kent Portney, <u>Taking Sustainable Cities Seriously: Economic Development, the Environment, and Quality of Life in American Cities</u> (2003). An update in one chapter (*"Sustainability in American Cities: A Comprehensive Look at What Cities Are Doing and Why") can be found in Mazmanian and Kraft, <u>Toward Sustainable Communities</u> (2009).

Daniel Fiorino, <u>The New Environmental Regulation</u> (2006).

Deborah Lynn Guber, The Grassroots of a Green Revolution: Polling America on the Environment (2003).

Robert J. Duffy, <u>The Green Agenda in American Politics: New Strategies for the Twenty-First Century</u> (2003).

Christopher J. Bosso, Environment, Inc.: From Grassroots to Beltway (March 2005).

- Sarah B. Pralle, <u>Branching Out</u>, <u>Digging In: Environmental Advocacy and Agenda Setting</u> (2006).
- Michael Kraft and Sheldon Kamieniecki, eds., <u>Business and Environmental Policy:</u> <u>Corporate Interests in the American Political System</u> (2007).

ENVIRONMENTAL POLICYMAKING AND IMPLEMENTATION

Session 4. Kraft, EPP, Chaps. 3-4, 59-114.

Norman Vig, "Presidential Powers and Environmental Policy," in Vig and Kraft, 75-98.

Michael Kraft, "Environmental Policy in Congress," in Vig and Kraft, 99-124.

Session 5. Rosemary O'Leary, "Environmental Policy in the Courts," in Vig and Kraft, 125-146.

Barry G. Rabe, "Racing to the Top, the Bottom, or the Middle of the Pack? The Evolving State Government Role in Environmental Protection," in Vig and Kraft, 27-50.

First short paper due

References:

- Christopher McGrory Klyza and David Sousa, <u>American Environmental Policy, 1990-2006: Beyond Gridlock (2008)</u>.
- William Ascher, Toddi Steelman, and Robert Healy, <u>Knowledge and Environmental</u> <u>Policy: Re-Imaging the Boundaries of Science and Politics</u> (2010).
- Ann Campbell Keller, <u>Science in Environmental Policy: The Politics of Objective Advice</u> (2009).
- James P. Lester, ed., <u>Environmental Politics and Policy</u>, 2nd ed. (1995). A collection of institutional assessments by political scientists, focusing on American government, but somewhat dated now.
- Cary Coglianese, "Social Movements, Law, and Society: The Institutionalization of the Environmental Movement," <u>Univ. of Pennsylvania Law Review</u> 150 (Nov. 2001): 85-118.
- Richard N.L. Andrews, <u>Managing the Environment, Managing Ourselves: A History of American Environmental Policy</u> (2nd ed. 2006), an extensive history, from the colonial period to the present.
- Michael J. Lacey, ed., <u>Government and Environmental Politics</u>: <u>Essays on Historical Developments Since World War Two</u> (1989).
- Sheldon Kamieniecki and Michael E. Kraft, eds., <u>Oxford Handbook of U.S.</u>
 <u>Environmental Policy</u> (in progress; I will have draft chapters for this comprehensive (35 chapter) collection during the spring semester).

ENVIRONMENTAL PROTECTION POLICY: CRITIQUES AND REFORMS

Session 6. Kraft, EPP, Chap. 5, 115-162.

Walter Rosenbaum, "Science, Politics, and Policy at the EPA," in Vig and Kraft. 147-170.

Sheila M. Olmstead, "Applying Market Principles to Environmental Policy," in Vig and Kraft, 197-219.

Paper proposals due this week.

Session 7. Daniel Press and Daniel A. Mazmanian, "Toward Sustainable Production: Finding Workable Strategies for Government and Industry" in Vig and Kraft, 220-243.

*Michael E. Kraft, Mark Stephen, and Troy D. Abel, chapters 1 and 7, "Information Disclosure and Environmental Performance," and "Conclusions and Policy Implications," from Coming Clean: Information Disclosure and Environmental Performance (2011). The pdf files are uncorrected page proofs and will be replaced with the final versions once the book is published.

Norman J. Vig and Michael E. Kraft, "Toward Sustainable Development," in Vig and Kraft, 349-368.

References:

- Thomas Dietz and Paul C. Stern, eds., <u>New Tools for Environmental Protection:</u> <u>Education, Information, and Voluntary Measures</u> (2003).
- Gerrit J. Knaap and T. John Kim, eds. Environmental Program Evaluation: A Primer (1998).
- Lawrence E. Susskind, Ravi K. Jain, and Andrew O. Martyniuk, <u>Better Environmental Policy Studies: How to Design and Conduct More Effective Analyses</u> (2001).
- J. Clarence Davies and Jan Mazurek, <u>Pollution Control in the United States:</u> <u>Evaluating the System</u> (1998).
- Cary Coglianese and Jennifer Nash, eds., <u>Regulating from the Inside: Can Environmental Management Systems Achieve Policy Goals?</u> (2001).
- _____. Beyond Compliance: Business Decision Making and the US EPA's Performance Track System (monograph, JFK School, 2006: www.ksg.harvard.edu/m-rcbg/rpp/Beyondcompliance).
- Matthew Potoski and Aseem Prakash, "Covenants with Weak Swords: ISO 14001 and Facilities' Environmental Performance," <u>Journal of Policy Analysis and Management</u> 24 (2005): 745-769.
- _____, "The Regulation Dilemma: Cooperation and Conflict in Environmental Governance," <u>Public Administration Review</u> 64 (2004): 152-163.

- Aseem Prakash and Matthew Potoski, <u>The Voluntary Environmentalists: Green Clubs, ISO 14001</u>, and Voluntary Environmental Regulations (2006).
- Paul Portney and Robert N. Stavins, eds., <u>Public Policies for Environmental Protection</u>, 2nd ed. (2000).
- Winston Harrington, Lisa Heinzerling, and Richard D. Morgenstern, eds., <u>Reforming</u> Regulatory Impact Analysis (2009).

ENERGY AND NATURAL RESOURCES POLICY

Session 8. Kraft, EPP, Chap. 6, 163-209.

Mark Lubell and Brian Segee, "Conflict and Cooperation in Natural Resource Management," in Vig and Kraft, 171-196.

Henrik Selin and Stacy D. VanDeveer, "Global Climate Change: Kyoto and Beyond," in Vig and Kraft, 265-285. **Note:** a chapter by Michele Betsill in <u>The Global Environment</u> volume, "International Climate Change Policy: Toward the Multilevel Governance of Global Warming," is an alternative to Selin and VanDeveer. Read either one.

*Michele M. Betsill and Barry G. Rabe, "Climate Change and Multilevel Governance: The Evolving State and Local Roles," in Mazmanian and Kraft, eds., Toward Sustainable Communities (2009), 201-225.

Second short paper due.

References:

- Barry Rabe, ed., <u>Greenhouse Governance: Addressing Climate Change in America</u> (2010)
- Henrik Selin and Stacy D. VanDeveer, eds., <u>Changing Climates in North American</u> <u>Politics: Institutions, Policymaking, and Multilevel Governance</u> (2009).
- Kathryn Harrison and Lisa McIntosh Sundstrom, eds., <u>Global Commons, Domestic Decisions: The Comparative Politics of Climate Change</u> (2010).
- Hanna J. Cortner and Margaret A. Moote, <u>The Politics of Ecosystem Management</u> (1999).
- Judith Layzer, <u>Natural Experiments: Ecosystem Management and the Environment</u> (2008).
- Paul A. Sabatier, et al., <u>Swimming Upstream: Collaborative Approaches to Watershed</u> Management (2005).
- Mark Lubell, "Collaborative Watershed Management: A View from the Grassroots," Policy Studies Journal 32 (2004): 341-361.
- Edward P. Weber, <u>Bringing Society Back In: Grassroots Ecosystem Management</u>, Accountability, and Sustainable Communities (2003).
- Sally K. Fairfax, et al., <u>Buying Nature: The Limits of Land Acquisition as a Conservation Strategy</u>, 1780-2004 (2005).

J. N. Clark and D. McCool, <u>Staking Out the Terrain: Power Differentials Among Natural Resource Management Agencies</u>, 2nd ed. (1996).
 Charles Davis, ed., <u>Western Public Lands and Environmental Politics</u>, 2nd ed. (2001).
 Joseph F. C. DiMento and Pamela Doughman, eds., <u>Climate Change: What It Means</u>

INTERNATIONAL ENVIRONMENTAL POLITICS AND POLICY

Session 9. Regina S. Axelrod, Stacy D. VanDeveer, and Norman J. Vig, "Introduction: Governing the International Environment," in Axelrod, VanDeveer, and Downie, The Global Environment (TGE), 1-23.

Kraft, EPP, Chap. 8, 247-278.

for Us, Our Children, and Our Grandchildren (2007).

Richard A. Matthew, "Environmental Security," in Vig and Kraft, 327-348.

Richard Tobin, "Environment, Population, and the Developing World," in Vig and Kraft, 286-307

Session 10. Marvin S. Soroos, "Global Institutions and the Environment: An Evolutionary Perspective, in TGE.

Jacqueline Peel, "Environmental Protection in the Twenty-first Century: Sustainable Development and International Law," in TGE.

David Leonard Downie, "Global Environmental Policy: Governance through Regimes," in TGE, 64-82.

John McCormick, "The Role of Environmental NGOs in International Regimes," in TGE.

Session 11. Elizabeth Economy, "China: The Great Leap Backward?," Vig and Kraft, 308-326, **or** Joanna Lewis and Kelly Simms Gallagher, "Energy and Environment in China: Achievements and Enduring Challenges," in TGE.

Daniel C. Esty, "Economic Integration and Environmental Protection," in TGE.

Michael Faure and Jürgen Lefevere, "Compliance with Global Environmental Policy," in TGE.

Regina S. Axelrod, Miranda A. Schreurs, and Norman J. Vig, "Environmental Policymaking in the European Union System," in TGE.

Third short paper due.

References:

- James Gustave Speth and Peter M. Haas, Global Environmental Governance (2006).
- Norman J. Vig and Michael G. Faure, eds., <u>Green Giants? Environmental Policies of the United States and the European Union</u> (2004).
- Sheila Jasanoff and Marybeth Long Martello, eds., <u>Earthly Politics: Local and Global in Environmental Governance</u> (2004).
- Ronnie D. Lipschutz, <u>Global Environmental Politics: Power, Perspectives, and Practice</u> (2004).
- Lynton Keith Caldwell, <u>International Environmental Policy: Emergence and Dimensions</u>, 3rd ed. (1996).
- Edith Brown Weiss and Harold K. Jacobson, eds., <u>Engaging Countries: Strengthening</u> Compliance with International Environmental Accords (2000).
- Pamela S. Chasek, David L. Downie, and Janet Welsh Brown, <u>Global Environmental</u> <u>Politics</u>, 5th edition (2010).
- Oran R. Young, Leslie A. King, and Heike Schroeder, eds., <u>Institutions and Environmental Change: Principal Findings</u>, <u>Applications</u>, and <u>Research Frontiers</u> (2008).
- Uday Desai, ed., <u>Ecological Policy and Politics in Developing Countries: Economic Growth, Democracy, and Environment</u> (1998).
- _____, Environmental Politics and Policy in Industrialized Countries (2002).
- James Gustave Speth, <u>Red Sky at Morning: America and the Crisis of the Global</u> Environment (2004) and <u>The Bridge at the Edge of the World: Capitalism, the Environment, and Crossing from Crisis to Sustainability</u> (2008).

RESEARCH PAPER PRESENTATIONS

Session 12. Student paper presentations

Adil Najam, "The View from the South: Developing Countries in Global Environmental Politics," in TGE.

Stacy D. VanDeveer, "Consumption, Commodity Chains, and the Global Environment," **or** Regina S. Axelrod, "Democracy and Nuclear Power: The Czech Case and the Global Nuclear Renaissance, in TGE.

- Session 13. Continued student paper presentations.
- Session 14. Continued student paper presentations.

Final, revised papers due in one week.

SELECTED ENVIRONMENTAL WEB SITES

General Sites on Public Policy or Environment

http://thomas.loc.gov/ (Library of Congress's Thomas search engines for locating key congressional documents. It is one of the most comprehensive public site for legislative searches).

www.usa.gov/ (portal for all U.S. federal government sites).

<u>www.gao.gov/</u> (U.S. Government Accountability Office, a treasure trove of reports on government agencies and programs, esp. evaluation studies of environmental programs).

<u>www.epa.gov</u> (United States Environmental Protection Agency, with many specialized pages).

www.whitehouse.gov/ceq (Council on Environmental Quality).

http://www.wisconsin.gov/state/index.html (portal for Wisconsin government)

www.dnr.wi.gov/environmentprotect/ (DNR site for environmental programs)

www.dnr.state.wi.us/NaturalResources.html (DNR site for natural resources programs)

http://dnr.wi.gov/water/basin/lowerfox/. DNR site dedicated to Fox River cleanup program.

Environmental Research and Data Collections

http://www.ncseonline.org/ (National Council for Science and the Environment). Useful site with new National Library for the Environment, links to Congressional Research Service studies on environmental issues and more).

www.rff.org (Resources for the Future--economic policy analyses and information).

www.worldwatch.org/ (Worldwatch Institute site, with list of Worldwatch papers and other publications).

<u>www.wri.org/wri/</u> (World Resources Institute site, with useful links to studies and international environmental and governmental organizations).

www.scorecard.org/ (A long-standing, though now dated, site for extensive environmental data by city or zip code—hazardous air emissions, chemical releases

from manufacturing, hazardous waste, drinking water, etc. Can also see TRI data at www.epa.gov/tri/).

<u>www.unfpa.org</u> (United Nations Population Fund, population information; latest projections, studies, official statements, country profiles). See also <u>www.census.gov</u> (U.S. Census Bureau population data and projections).

Environmental Organizations and Advocacy Groups

<u>www.webdirectory.com/</u> (environmental organization Web directory and search engine for diverse environmental topics).

www.edf.org/(Environmental Defense Fund home page).

www.audubon.org/ (Audubon Society).

<u>http://nature.org/</u> (The Nature Conservancy).

www.tws.org (Wilderness Society).

www.defenders.org (Defenders of Wildlife).

www.nwf.org (National Wildlife Federation).

www.iwla.org/ (Izaak Walton League of America).

www.sierraclub.org (Sierra Club).

www.earthfirstnews.com/ (Earth First!).

www.greenpeace.org (Greenpeace International).

www.elfpressoffice.org/. (Earth Liberation Front)

www.populationconnection.org/ (Population Connection, formerly Zero Population Growth. Extensive information on population growth in the U.S. and worldwide, updates on population related news and legislation).

www.lcv.org (League of Conservation Voters--environmental voting records and information on congressional actions).

<u>http://www.conservationvoters.org/Public/</u>. Wisconsin League of Conservation Voters.

www.nrdc.org (Natural Resources Defense Council--news and information on public policy issues).

<u>www.greatlakes.org</u> (Alliance for the Great Lakes, covering water quality, toxic releases, land use, and related issues that affect Lake Michigan Basin).

www.cwac.net/index.html (Clean Water Action Council of NE Wisconsin).

<u>www.secondnature.org/</u> (Second Nature site, devoted to education for sustainability, with good links to other sites).

<u>www.ucsusa.org/</u>(Union of Concerned Scientists. An excellent site for environmental policy links).

http://www.pewclimate.org/. One of the leading sites for news and policy developments related to climate change.

Industry Groups and Conservative Think Tanks

<u>www.uschamber.com/</u>(U.S. Chamber of Commerce)

www.nam.org/(National Association of Manufacturers)

<u>www.nfib.com/</u>(National Federation of Independent Businesses)

www.heritage.org/(Heritage Foundation)

www.cato.org/(Cato Institute)

www.cei.org/(Competitive Enterprise Institute)

Environmental News Sites

http://www.earthportal.org/news/. A diversified environmental news site that is affiliated with the Earth Portal, the Encyclopedia of Earth, and EarthForum.

<u>www.gristmagazine.com</u> (an online environmental newsmagazine, with a satirical twist).

www.envirolink.org (Environmental Library Search).

www.enn.com (Environmental News Network --current news and links).

http://www.nytimes.com/pages/science/earth/index.html (New York Times environment page)

Environmental Education and Careers

www.starfish.org (Sustainability and Environmental Education--resources, bibliographies, courses).

<u>www.ecojobs.com/</u> (Environmental Careers Opportunities, Inc.--internships and jobs in environmental field).

<u>www.webdirectory.com/Employment/</u> (comprehensive site for environmental employment information and posting of resumes).

Sustainability Sites

http://www.aashe.org/index.php. Association for the Advancement of Sustainability in Higher Education.

<u>www.naturalstep.org/</u> (The Natural Step site, with principles of sustainability for corporations and others, related to Paul Hawken's book <u>The Ecology of Commerce</u>).

<u>www.sustainable.org/</u> (Sustainable Communities Network. Good information on sustainability tools and references, with many links to other sites and extensive bibliographies for subjects such as water, biodiversity, energy, governing, business, etc.).

www.sustainablemeasures.com/(excellent site for sustainability indicators).

http://asje.info/. Alliance for Sustainable Jobs and the Environment.

www.myfootprint.org/ (Center for Sustainable Economy, ecological footprint quiz)

<u>www.footprintnetwork.org</u> (Global Footprint Network, dedicated to advancing the science of sustainability. Produces fascinating information about the ecological footprint that humans have on the planet, and many ways to calculate that impact).

Politics of Environmental, Health, and Safety Regulation

Professor Brendon Swedlow Northern Illinois University

1. Course Description

The planet is warming, species are dying, and cancer and terrorists are everywhere. If you are alive there is no way you can avoid hearing about these and many other threats to the environment and human health and safety. How do you – and, as importantly, how does our government – figure out which claims of harm to respond to and how to respond to them?

This course will provide answers to these questions, and, more importantly, teach you how to get answers on your own. You will be immersed in scientific and political controversies at the interface of science, public policy, and law as a way of introducing you to how our government, regulatory agencies, and nongovernmental organizations use science to assess and regulate environmental, health, and safety risks.

We will learn how to analyze disputes among scientists and other experts. We will learn some of what is known about how risks are assessed and regulated in the U.S. And we will together have the opportunity to research further how environmental, health, and safety risks are assessed and regulated in the U.S. and Illinois.

2. Required Readings

Allan Mazur, *True Warnings and False Alarms: Evaluating Fears about the Health Risks of Technology, 1948-1971.* Washington, DC: Resources for the Future, 2004.

3. Course Requirements

Your grade in this course will be based on class participation (including, for some of you, a PowerPoint presentation of your research), two short research papers (5 pages each), and a longer research paper (at least 10 pages added to a revised version of your second short research paper). Paper due dates and a brief description of paper requirements are provided below.

Class participation will determine a very substantial portion of your course grade (40%). Most days that we meet we will be discussing our readings. So, you will be expected to have done the readings and be able to answer my questions about what was in the readings – what concepts the author used, and what they mean; what claims or arguments the author made; what methods and evidence the author used to support his or her claims or arguments. You should also be able to answer my questions about how the readings relate to other readings and topics we

have covered. If you engage in these discussions and make a good attempt to answer my questions, you will receive credit for participating in class discussion that day. If you do not participate and do not make a good attempt to answer my questions, you will receive no credit that day. For those of you who choose to do a PowerPoint presentation on your research, 25% of your participation grade will be determined by that presentation (which translates to 10% of your course grade). At various points during the semester, I will announce opportunities to receive extra

At various points during the semester, I will announce opportunities to receive extra credit. These opportunities may include attending and writing about environment-related talks or law-related activities.

Due Dates for Research Papers

Session 6	Short Research Paper ((5-7 pages)	20% of grade	on the Politics
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Session 11 Short Research Paper on Risk Assessment and Regulation,

Installment #1 (5 pages; 15% of grade)

Session 16 Final Research Paper on Risk Assessment and Regulation,

Installment #2

(at least 15 pages added to a revised version of your second short research paper; 25% of grade), due at beginning of session 16.

Short Research Paper on the Politics of Science

The requirements for this paper will be provided on the course webpages and will be discussed in class (due session 6; worth 20% of your course grade).

Research Papers on Risk Assessment and Regulation

Research papers are due in two installments on the dates given below. Paper requirements are outlined here; further guidance will be given in class and in a study guide on the course webpages. *Research papers should answer these three questions:*

How is the risk defined and assessed? Who regulates the risk? How is the risk regulated?

For Research Paper Installment #1 (due session 11; worth 15% of your course grade):

- Choose a risk the assessment and regulation of which you wish to study from a list of environmental, health, safety, and other risks that I will provide. If the assessment and regulation of the risk you want to study has been previously studied by a student, I will get you a copy of their research paper so that you can build on it in your paper. (We will discuss this in class.)
- Write five (5) pages beginning to answer questions 1-3 listed above. Use the study guide to identify what information is missing from existing student papers that needs to be added to improve their papers. In some cases, my comments on student papers are available as further guidance on what is needed to improve them.

For Research Paper Installment #2 (due session 16; worth 25% of your course grade):

- Respond to my comments on Installment #1 by making revisions or taking the paper in the direction I advise.
- Write at least 10 pages beyond the five pages written for Installment #1, more fully answering questions 1-3. Integrate revisions to your five page paper with the 10 plus additional pages, and turn in the five page paper with my comments so that I can see how you have incorporated them into your final paper. Again, if you are building on the work of other students, use the study guide and any comments I may have made on the prior work by students to go beyond what they were able to do. **Please do not...**
- ask for extensions on turning in your papers. *Papers will be graded down one third of a grade per day that they are late.*
- ask for an incomplete in the course unless you have a very, very compelling reason to do so.

4. Class Schedule and Reading Guide

Reading Assignments and Discussion Topics

SESSION 1: True Warnings and False Alarms

Overview of Course Coverage and Requirements

Mazur, Allan. (2004). *True Warnings and False Alarms: Evaluating Fears about the Health Risks of Technology, 1948-1971.* Washington, DC: Resources for the Future. pp. 1-10, 22-44, 63-109.

Swedlow, Brendon. (2005). Review of "Allan Mazur's True Warnings and False Alarms: Evaluating Fears about the Health Risks of Technology, 1948-1971," Washington, D.C.: Resources for the Future, 2004. In *Environmental Science and Policy*, 8, 4: 432-435.

SESSION 2: Bjorn Lomborg and The Skeptical Environmentalist

Lomborg, Bjorn. (2001). "Things are getting better." In Bjorn Lomborg, *The Skeptical Environmentalist: Measuring the Real State of the World.* Cambridge, UK: The Cambridge University Press. pp. 3-33.

Lomborg, Bjorn. (2001). "Predicament or Progress?" In Bjorn Lomborg, *The Skeptical Environmentalist: Measuring the Real State of the World.* Cambridge, UK: The Cambridge University Press. pp. 327-352.

Lomborg, Bjorn. (2007). Congressional Testimony on Global Climate Change before a Joint Session of the House Committee on Energy & Commerce; House Committee on Science and Technology; House Committee on Energy & Commerce,

Subcommittee on Energy and Air Quality; and the House Committee on Science and Technology, Subcommittee on Energy and Environment.

http://www.c-spanvideo.org/program/197233-2

SESSION 3: The Scientific Debate on Climate Change

AP IMPACT: Science not faked, but not pretty (AP) – Dec 12, 2009.

http://abcnews.go.com/Technology/wireStory?id=9319400

IPCC, 2007: Summary for Policymakers. In: Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M.Tignor and H.L. Miller (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA. pp. 1-18. Full report available at http://www.ipcc.ch/

NIPCC, 2009: Preface. In: Climate Change Reconsidered. The Report of the Nongovernmental International Panel on Climate Change. pp. iii-viii. Full report available at http://www.heartland.org/publications/NIPCC%20report/
NIPCC, 2009: Executive Summary. In: Climate Change Reconsidered. The Report of the Nongovernmental International Panel on Climate Change. pp. 1-8. Full report available at http://www.heartland.org/publications/NIPCC%20report/

SESSION 4: How Do We Know What We Know? Understanding the Politics of Science

Mazur, Allan. (2004). "Why Experts in Technical Controversies Disagree." In Allan Mazur.

True Warnings and False Alarms: Evaluating Fears about the Health Risks of Technology, 1948-1971. Washington, DC: Resources for the Future. pp. 45-62. Swedlow, Brendon. (2007). "Using the Boundaries of Science to do Boundary-work among Scientists: Pollution and Purity Claims," Science and Public Policy, 34, 9: 633-643.

SESSION 5: Learning from the Controversy over The Skeptical Environmentalist

Science, Policy, and Politics: Learning from Controversy Over The Skeptical Environmentalist. (2004). Edited by R.A. Pielke, Jr. and S. Rayner. *Environmental Science and Policy*. 7. 5 (Special Issue).

http://sciencepolicy.colorado.edu/publications/special/pielke_tse_debate.html Please Note: You are welcome but NOT expected to read all of the articles in this special issue of *Environmental Science and Policy*. **Please read:**

Harrison, Chris. (2004). "Peer Review, Politics, and Pluralism." *Environmental Science & Policy*, 7: 357-368.

AND

Sarewitz, Daniel. (2004). "How Science Makes Environmental Controversies Worse." *Environmental Science & Policy*, 7: 385-403.

OR

Pielke, Jr., Roger A. (2004). "When Scientists Politicize Science: Making Sense of the Controversy over *The Skeptical Environmentalist." Environmental Science & Policy*, 7: 405-417.

SESSION 6: Project on Risk Regulation Regimes in the U.S., Illinois, and Europe Short Research Paper (5-7 pages) on the Politics of Science due SESSION 6.

Kaplan, Michael S., Robert Donkers, Meghan Purvis, Ernie Rosenberg, Jonathan B. Wiener. (2006). "Who's Ahead In Environmental Protection: The United States or the European Union?" *The Environmental Forum.* Washington, D.C.: Environmental Law Institute. pp. 46-52.

Swedlow, Brendon. (2010). "Study Guide for Risk Regulation Research." Hood, Christopher, Henry Rothstein, and Robert Baldwin. (2001). "The Comparative Anatomy of Risk Regulation Regimes." In Christopher Hood, Henry Rothstein, and Robert Baldwin, *The Government of Risk: Understanding Risk Regulation Regimes*. Oxford: Oxford University Press. pp. 20-35.

SESSION 7: How Do We Know What's Dangerous? The Media, Culture, & Risk Perception

Swedlow, Brendon. (1995). "Reporting Environmental Science." In Aaron Wildavsky, *But Is It True? A Citizen's Guide to Environmental Health and Safety Issues.*Cambridge, Massachusetts: Harvard University Press. pp. 375-394.
Coyle, Dennis J. (1994). "This Land is Your Land, This Land is My Land:' Cultural Conflict in Environmental and Land-Use Regulation." In *Politics, Policy & Culture,* Dennis J. Coyle and Richard J. Ellis, eds. Boulder, CO: Westview Press. pp. 33-50. Hood, Christopher, Henry Rothstein, and Robert Baldwin. (2001). "Nine Risk Regulation Regimes Compared." In Christopher Hood, Henry Rothstein, and Robert Baldwin, *The Government of Risk: Understanding Risk Regulation Regimes.* Oxford: Oxford University Press. pp. 36-58.

SESSION 8: Why Do We Regulate Risks As We Do? Science, Culture, & Environmentalists

Swedlow, Brendon. (2011). "Cultural Co-production of Four States of Knowledge," *Science, Technology, & Human Values,* published online first on April 26, 2011 as doi:10.1177/01622439114053452011.

Ellis, Richard J. and Fred Thompson. (1997). "Culture and the Environment in the Pacific Northwest." *American Political Science Review*, 91, 4: 885-897.

Hood, Christopher, Henry Rothstein, and Robert Baldwin. (2001). "Regime Content and Context Revisited: An Overall Picture." In Christopher Hood, Henry Rothstein, and Robert Baldwin, *The Government of Risk: Understanding Risk Regulation Regimes.* Oxford: Oxford University Press. pp. 133-144.

SESSION 9: Science and Politics in Risk-Based Decision Making at the EPA

J. William Hirzy, Scientific Integrity in a Regulatory Context- An Elusive Ideal at EPA, July 9, 2002 http://www.slweb.org/hirzy-commentary1.html

Andrews, Richard N. L. (2006). "Risk-Based Decision Making: Policy, Science, and Politics." In *Environmental Policy: New Directions for the Twenty-First Century,* Sixth Edition, Norman J. Vig and Michael E. Kraft, eds. Washington, D.C.: Congressional Quarterly Press. pp. 215-238.

Rosenbaum, Walter A. (2010). "Science, Policy, and Politics at the EPA." In *Environmental Policy: New Directions for the Twenty-First Century,* Seventh Edition, Norman J. Vig and Michael E. Kraft, eds. Washington, D.C.: Congressional Quarterly Press. pp. 147-170.

SESSION 10: Scientific Integrity, Regulatory Capture, and Innovation at the EPA PRESENTATIONS AND PEER REVIEW OF YOUR RESEARCH

Lisa P. Jackson, EPA Administrator, Memo to EPA Employees, Scientific Integrity: Our Compass for Environmental Protection, May 9, 2009.

http://www.epa.gov/Administrator/scientificmemo.html

Miller, Norman. (2009). "Environmental Regulation and the Evolution and Capture of the EPA." In Norman Miller, *Environmental Politics: Stakeholders, Interests, and Policymaking*, Second Edition. New York: Routledge. pp. 35-58.

Fiorino, Daniel J. (2006). "Stepping Stones or Just Rocks in the Stream? The Reinvention Era." In Daniel J. Fiorino, *The New Environmental Regulation*. Cambridge: The MIT Press. pp. 121- 155.

SESSION 11: The President, Congress, and Environmental Policy Short Research Paper on Risk Assessment and Regulation, Installment #1 (5 pages) due SESSION 11.

PRESENTATIONS AND PEER REVIEW OF YOUR RESEARCH

Vig, Norman J. (2010). "Presidential Powers and Environmental Policy." In *Environmental Policy: New Directions for the Twenty-First Century,* Seventh Edition, Norman J. Vig and Michael E. Kraft, eds. Washington, D.C.: Congressional Quarterly Press. pp. 75-98.

Kraft, Michael E. (2010). "Environmental Policy in Congress." In *Environmental Policy: New Directions for the Twenty-First Century,* Seventh Edition, Norman J. Vig & Michael E. Kraft, eds. Washington, D.C.: Congressional Quarterly Press. pp. 99-124.

SESSION 12: The Courts, Adversarial Legalism, and Environmental Policy PRESENTATIONS AND PEER REVIEW OF YOUR RESEARCH

O'Leary, Rosemary. (2010). "Environmental Policy in the Courts." In *Environmental Policy: New Directions for the Twenty-First Century*, Seventh Edition, Norman J. Vig & Michael E. Kraft, eds. Washington, D.C.: Congressional Quarterly Press. pp. 125-146. Kagan, Robert A. (2004). "American Courts and the Policy Dialogue: The Role of Adversarial Legalism." In Mark C. Miller & Jeb Barnes, eds., *Making Policy, Making Law: An Interbranch Perspective.* Wash., D.C.: Georgetown Univ. Press. pp. 13-34.

SESSION 13: How Does Regulation Matter? Industrial Environmental Performance

PRESENTATIONS AND PEER REVIEW OF YOUR RESEARCH

Kagan, Robert A., Neil Gunningham, and Dorothy Thornton. (2003). "Explaining Corporate Environmental Performance: How Does Regulation Matter?," *Law and Society Review* 37, 1: 51-89.

Thornton, Dorothy, Robert A. Kagan, Neil Gunningham. (2009). "When Social Norms and Pressures Are Not Enough: Environmental Performance in the Trucking Industry." *Law and Society Review* 43, 2: 405-435.

SESSION 14: PRESENTATIONS AND PEER REVIEW OF YOUR RESEARCH

SESSION 15: PRESENTATIONS AND PEER REVIEW OF YOUR RESEARCH

SESSION 16: FINALS WEEK (NO FINAL EXAM, BUT...) PRESENTATIONS AND PEER REVIEW OF YOUR RESEARCH FINAL RESEARCH PAPER DUE SESSION 16.

Environmental Management and Public Policy

Prof. David Vogel University of California at Berkeley

1. Course Description

The purpose of this class is to critically explore a wide range of important private and public policy initiatives to address current environmental challenges. A primary focus is on the dynamics of the relationship between management environmental strategies and public environmental policies. Corporate practices play an important role in both causing and ameliorating environmental problems, while public policy both constrains and facilitates improvements in corporate environmental performance. Accordingly, both policy-makers and corporate managers require a sophisticated understanding of how business practices and public policies affect one another. The class has a broad focus exploring both business strategies and public policies in California, the United States, the European Union, and China as well as at the international level.

2. Course Requirements

Participants will be evaluated on class participation (25%), and on three 5-7 page individual papers that expand on the topics covered in three classes. These papers will be due at the class at which these topics are discussed.

3. Class Schedule and Reading Guide

1. The Contemporary Dynamics of Environmental Policy-Making in the US and the EU

Readings:

David Vogel, "The Hare and the Tortoise Revisited: The New Politics of Consumer and Environmental Regulation in Europe," <u>British Journal of Political Science</u>

R. Dan Kelemen and David Vogel, "Trading Places: The Role of the United States and the European Union in International Environmental Politics," Comparative Politics Studies 2010

2. The Science and Politics of Risk Assessment

"The Precautionary Principle," HBS June 28, 2010

Gail Charmley and E. Donald Elliott," Risk Versus Precaution: Environmental Law and Public Health Protection," *Environmental Law Institute, 32 ELR* 10363

Cass Sunstein, "The Paralyzing Principle," *Regulation*, Winter 2002-2003

3. The Regulation of Chemicals in the US, the EU, California, and Internationally

Megan Schwarzman and Michael Wilson, "Reshaping chemical policy on two sides of the Atlantic: the promise of improve sustainability tough international

collaboration," in Vogel and Swinnen eds. <u>Transatlantic Regulator</u>
<u>Cooperation: The Shifting Roles of the EU, the US and California Edward Elgar</u>
2011

Chris Ansell and Jorg Balsiger, "Circuits of Regulation: Transatlantic Perspectives on persistent organic pollutants and endocrine disruptive chemicals" in ibid

4. Trade Policy, Globalization, and Environmental Regulation

David Vogel, "Environmental Regulation and Economic Integration," <u>Journal</u> of International Environmental Law 2000

Ken Conca, "The WTO and the undermining of global environmental governance" Review of International Political Economy Autumn 2000

Michael Weinstein and Steve Charnowitz, "The Greening of the WTO," Foreign Affairs November- December 2001

5. Private Activism and Business

The Brent Spar Platform Controversy (A) and (B) (IMD OIE 070, 071, 072) (C) (to be distributed in class)

"Strategic Activism: The Rainforest Action Network," (Stanford Graduate School of Business, Case # P – 44, 07/29.04)

6. The Science and Politics of Global Climate Change

Sandy Tolan, "Global warming: can we adopt in time?" <u>California September-October 2006</u>

Michael Zeilenziger, "Extreme Science," California September-October 2006

Peter Alsop, "Flower Power," <u>California</u> September-October 2006

Townshend, et al., "Legislating Climate Change on a National Level," Environment September-October 2011

7. Business Lobbying and the Making of Environmental Policy

Porter and de Linde, "Green and Competitive: Ending the Stalemate," <u>Harvard Business Review</u> Sept- Oct 1995

Auden Schendler and Michael Toffel, "The Factor Environmental Ratings Miss," Sloan Management Review fall 2011

"Cleaning Up: A Special Report on business and climate change," <u>Economist</u> June 2, 2007

8. The Politics and Economics of Clean Technology

Clayton Chrisetnsen, et al. "Picking Green Tech's Winner and Losers," Stanford Social Innovation Review Spring 2001

"The Power and the Glory," Economist June 21, 2008

"Can Venture Capital Really Influence Environmental Sustainability?" Knowledge Wharton September 2001

Sarah Murray "Industry search for a clean break from the Past," <u>Financial</u> Times October 31, 2011

Sylvia Pfeifer, "How to get brass from a variety of muck," <u>Financial Times</u>, September 29, 2011

Ed Crooks, "Difficult Balance of Supply and Demand," <u>Financial Times</u> September 29, 2011

9. The Potential and Challenges of Green Consumerism

Mark Hopkins, "What the 'Green' consumer wants," <u>Sloan Management</u> <u>Review</u> Summer 2009

Green and Capell, "Carbon Confusion," Business Week March 17, 2008

Andrew Edgecliff-Johnson, "Greenwash fails to sway Skeptical consumers," Financial Times September 1, 2009

"What do Labels Really Tell You?" Wall Street Journal April 2, 2009

Paul Keegan, "The Trouble with Green Product Ratings," <u>Fortune</u> July 25, 2007

Shelia Bonini and Jeremy Oppenheim, "Cultivating the Green Consumer," Sanford Social Innovation Review Fall 2008

10. Global Industry Environmental Self-Regulation

Jessica Green, "Private Standards in the Climate Regime: The Greenhouse Gas Protocol," Business and Politics 2010

"Corporate responsibility, maturing innovation," <u>Ethical Corporation</u> Institute March 2007

11. Environmental Metrics

TBA

12. Greening the Supply Chain

"Wal Mart's Sustainable Product Index," INSEAD 2011

"Walmart: Love Earth" (A and B) INSEAD 2011

"Life -Cycle Analysis," William Davidson Institute January 1995

13. Green Building and Energy Efficiency

"Rating Environmental Performance in the Building Industry: Leadership in Energy and "Environmental Design," <u>Darden Publishing UV2005</u>

Sarah Murray, "Rising price of power may concentrate minds," <u>Financial Times</u>, September 29, 2001

Fiona Harvey, "Efforts to improve sustainability," <u>Financial Times</u> April 27, 2009

Sarah Murrray, "Regulation must point the way," ibid

Dan Llett, "DIY Power production gains traction," ibid

David Fickling "The industry faces an uphill struggle to meet targets," ibid

14. Environmental Policy in China

Sarah Murray, "Turbine talent seeks overseas outlets," <u>Financial Times</u> September 29, 2012

William, Kibby and Brittany, "China's Environmental Challenge," <u>HBS</u> 9-308-11

"Integrating Environmental Goals and Firm Strategy," China Mobile and Climate Change," William Davidson Institute January 27,2010

15. Sustainable Environmental Management

Marc Epstein, "Thinking Straight About Sustainability," <u>Stanford Social</u> Innovation Review Summer 2010

"Sustainability in the Boardroom," The Conference Board June 2010

Knut Haanaes, et al. "New Sustainability Study: The Embracers Seize Advantage," <u>Sloan Management Review</u> April 2011

Gregory Unruh and Richard Ettenson, "Winning in the Green Frenzy," Harvard Business Review November 2010

David Lubin and Daniel Esty "The Sustainability Imperative," <u>Harvard</u> Business Review 2010

Environmental Policy and Management

Christopher Gore, Ph.D. Ryerson University

1. Course Description

Why is public policy often inconsistent with scientific evidence or expert opinion? Are environmental and natural phenomena too complex for policymakers and politicians to translate into clear policy objectives? How do policymakers determine when to take action on environmental issues? When is evidence convincing? How does the political system evaluate risk? This course provides an advanced and critical analysis of the relationship between public policymaking and environmental issues. Drawing from a range of theories and case studies, students will develop the skills to evaluate and understand how challenging and controversial themes in environmental science such as risk, complexity, evidence, expertise, technology, and institutions, shape and are shaped by the policymaking process.

The course will be valuable for any students interested in developing an advanced understanding of policymaking relating to science, technology, and the environment. It is an interdisciplinary course that will require students to engage in critical discussion of a range of literature that has direct bearing on explaining how environmental issues, scientific evidence, and the policy process converge.

The course will be delivered as a seminar. Each week students will have several articles or books to read and review. When appropriate, the instructor will provide introductory remarks and context about the theme. The reading material will be complemented by guest presentations, in–class group case study evaluation, and general discussion.

The course is organized around four areas of emphasis. These themes are iterative, building on one another; that is, they will not be addressed sequentially, e.g., theme 1, then theme 2, but will be treated concurrently:

1. *Causes of and constraints on environmental policymaking:* This theme will require students to consider the complexity and political nature of policymaking. It will examine the macro level factors that influence policy

I wish to acknowledge that this framework is borrowed and adapted from Professor Kent Weaver's course description for PPOL 519, The Comparative Policy Process, taught at Georgetown University, and the structural–functional comparative approach articulated in Almond et al., *Comparative Politics Today*, New York: Pearson (2008). I also acknowledge borrowing ideas for readings and weekly themes from the course outlines developed by Frank Laird, Denver University; Jennifer Kuzma, University of Minnesota; and Joy Rhode, University of Michigan. I thank these individuals and many other members of the Science Technology and Environmental Politics (STEP) section of the American Political Science Association for their thoughts and suggestions.

- decisions. It will also examine how knowledge and evidence about the environment is theoretically expected to translate into policy outcomes, the conditions that must be in place for that translation to occur, and the barriers to translating scientific knowledge into policy.
- 2. Stages of the policymaking process: This theme emphasizes how the policymaking process is expected to unfold in an ideal scenario, and how environmental issues and scientific evidence factor into this process. This theme focuses on agenda–setting, policy formulation and policy adoption more than on the implementation and evaluation of policy. This theme will help students examine how various forms of knowledge and evidence about the environment is weighted in policymaking, as well as how and why the policy process includes, excludes and favors various forms of knowledge.
- 3. Strategic choices and tasks: This theme examines what strategic choices and actions politicians and policymakers make to implement environmental policy, given the constraints they operate. For example, this theme examines how scientific evidence is 'framed' and communicated to produce politically and socially convincing policy. It will also consider the role of coalitions of experts and non–experts in influencing environmental policy outcomes, and how different interests try to use stories or narratives about environmental outcomes in order to implement policy goals.
- **4.** *Case studies:* The fourth area of emphasis will be to consider a range of prominent historic and contemporary environmental issues both domestic and abroad that emphasize the above themes (1 through 3). Students will play a prominent role in sharing examples.

2. Course Requirements

Masters and PhD students will interact in this course simultaneously for three hours. PhD students will also meet for one hour separately from Masters students. As a result, some assignment expectations are slightly different – please read descriptions carefully.

Masters Students will be evaluated on the following five components:

Assignment/task	Value of Total Grade (100)	Date Due
General Participation (Participation 10% and attendance 5%)	15%	Ongoing
Presentation of issue and linkage to course theme	10%	Randomly assigned date
Book review	25%	Session 7
Research report	50%	Session 12

PhD Students will be evaluated on the following five components:

Assignment/task	Value of Total Grade (100)	Date Due
General Participation	15%	Ongoing
Presentation: critical observations, questions and pedagogical challenges	15%	Randomly assigned date
Book review	20%	Session 7
Research report	50%	Session 12

1. General Participation: 15% (all)

- a. **Date due:** Ongoing
- b. **Late penalty:** Failure to attend regularly and to contribute to class contributions will result in a diminished participation grade.
- c. **Description:** Your grade on this component will be a function of your active, considered, respectful, informed, critical, and constructive participation in the seminar. Regular and complete attendance is expected throughout the semester. Students are expected to demonstrate that the readings have been read thoroughly; that questions and concerns raised follow from careful reflection of potential answers or explanations; and that overall participation shows evidence of careful, constructive engagement with the course material.
- d. 10% of this grade for Masters students will be for general participation and 5% for attendance.

e. Additional expectations, PhD students:

i. PhD students are expected to play a very active role in class discussion. I expect each student to make a meaningful and substantive contribution to class discussion every week. I expect that PhD students will raise questions for class consideration; share their own research experience and knowledge; and demonstrate clear evidence that the material has been read and evaluated.

2. Presentation:

- a. Presentation of issue and linkage to course theme: 10% (Masters)
 - i. **Date due:** Ongoing
 - ii. **Late penalty:** Failure to attend or present on the assigned date without adequate notice or a medical reason will result in '0'.
 - iii. **Description:** Later in the semester all students will have to write a research paper on an issue relating to science, technology or environment policy. For this evaluation component, students must provide a short summary of their topic AND make a clear and direct link between the topic and the weekly course theme, e.g., if

you will be writing a paper on vaccines and you are assigned the week on 'public participation and democratizing science' then you will have to discuss how vaccines connect to issues in public participation. Presentations will be no longer than 5 minutes. Students must end their presentation with one critical question linking their topic to the weekly theme – a question that might be useful for class discussion. Presentations will be evaluated based on the quality of the linkage between the topic and the course theme, and based on the clarity of your explanation of the science-policy challenges of your topic.

b. Critical observations, questions and pedagogical challenges of theme: 15% (PhDs)

- i. **Date due:** Ongoing (completed in the class time separate from Masters students)
- ii. **Late penalty:** Failure to attend or present on the assigned date without adequate notice or a medical reason will result in '0'.
- iii. **Description:** Each student will function as a theme leader or theme co-leader per week. That individual will be responsible for leading discussion on three issues relating to the course theme. Students must NOT summarize the articles, but summarize and identify common observations and themes amongst the articles, and most importantly, raise critical questions left open by the material. Further, students must also identify pedagogical challenges with the theme; that is, they must consider what makes the process of learning about the theme challenging, and ways that that challenge might be overcome if teaching this material at an undergraduate level. Student presentations will be evaluated based on whether there is evidence of careful consideration and reflection of the theoretical, empirical, and pedagogical challenges of the topic and whether they demonstrate preparedness, illustrated through comfort in communication and knowledge of the reading material.
- iv. Students are **not** permitted to use Powerpoint in this presentation.
- v. These presentations will take place in the first hour of the class. On the day that a PhD student presents, they will also be the first person to respond to the Masters student presentations.

3. Book review: All (25%)

- a. Date Due: Session 7.
- b. **Late Penalty:** 2 grades per day, beginning after the end of Session 7, reapplied at 12:00am each new day.
- c. **Length:** Eight pages double spaced maximum, 12 point font.
- d. **Description**:
 - Each student must obtain, read and review Science in Environmental Policy. The Politics of Objective Advice, by Ann

- Campbell Keller (MIT Press, 2009). The book is available for purchase as an e-book from MIT Press.
- ii. In this assignment students must complete an academic book review. Students should consult leading journals in science, technology and environmental studies and policy for examples of book reviews. At minimum, your review must: 1) provide a summary of the book and its arguments; 2) reflect on strengths and/or concerns with the book; and, 3) critically evaluate the contribution the book is making to the advancement of knowledge on the relationship between science and policy. Reviews will be evaluated based on the presence of the above three requirements, as well as the quality and clarity of your written work; the organization of your ideas; the quality of the examples (cited) from the book that you use to support your observations; and, the demonstration of critical insight and analysis.
- iii. Book reviews **must** quote directly from the book to emphasize arguments and observations. All direct quotes must have "quotation marks" and page numbers provided (e.g., 56).

4. Research paper: Advancing policy in science, technology or environmental studies: All (50%)

- a. Date Due: Session 12
- b. **Late penalty:** 2 assignment grades per day, beginning after the end of Session 12, reapplied at 12:00am each new day.
- c. **Length:** Master's students 15 pages maximum; PhD students 18 pages maximum (excluding title page, references, appendices etc.).
- d. **Description:** In this assignment, students must write an argumentative essay focused on how to overcome the challenges of integrating science and policy for one specific field or issue of their choosing. This is similar to a policy analysis paper a paper that presents context about an issue, evaluates the existing challenges with response to the issue, and then advances recommendations for responding to that issue. The central difference is that the paper must substantiate any recommendation with documented evidence and it must be situated in some theoretical lens surrounding environmental or science policy, e.g, literature on public perceptions of risk or public participation in policy processes.
- e. Students are free to examine the challenge of integration broadly, or to focus on one particular challenge, e.g., public participation. All papers must be written as if preparing to submit the work to an academic journal such as the *Review of Policy Research: The Politics and Policy of Science and Technology.* For this reason, all papers must demonstrate knowledge of relevant literature relating to the theoretical framework and/or empirical evidence connected to your paper, and must be situated in relation to this work. Students are free to focus on any issue they are interested in provided it allows for a clear, specific analysis of the challenges of science–policy integration.

f. Students are strongly encouraged to speak to the instructor prior to beginning their paper to determine if their focus is suitable. Students are also strongly encouraged to draw from the course readings and the bibliographies of course readings to assist in the development of an analytical framework for the paper. A more detailed assignment description will be provided Session 4.

3. Class Schedule Required Reading

Keller, Ann Campbell. 2009. *Science in Environmental Policy. The Politics of Objective Advice.* Ascher. Cambridge, MIT Press.

- Session 1. Introduction: Hockey sticks, salmon and the political system
- **Session 2.** What is policy, what is science? How are the processes different? Everett, Sophia. 2003. The policy cycle: Democratic process or rational paradigm revisited? *Australian Journal of Public Administration*, 62(2), pp. 65–70

Jasanoff, Sheila. 1996. Is Science Socially Constructed – And Can It Still Inform Public Policy? *Science and Engineering Ethics*, pp. 263–276. Myers, Norman. 2007. Scientific uncertainty and public policy. *Encyclopedia of the Earth*,

http://www.eoearth.org/article/Scientific_uncertainty_and_public_po_licy

Simeon, Richard. 1976. Studying Public Policy. *Canadian Journal of Political Science*, Vol. 9, No. 4., pp. 548–580.

Session 3. Science and politics: Translating goals to actions

Bocking, Stephen. 2004. *Nature's Experts: Science, Politics and the Environment*. New Brunswick, New Jersey: Rutgers, pp. 16–44. Hulme, Mike. 2009. *Why we disagree about climate change.*Cambridge: Cambridge University Press, pp. 72–108. Government of Ontario. 2010. *Climate Progress. Ontario's Plan for a Cleaner, More Sustainable Future. Annual Report 2009–2010.*http://www.ene.gov.on.ca/stdprodconsume/groups/lr/@ene/@resources/documents/resource/stdprod_085413.pdf
Goulder, Lawrence H. & W.H. Parry. 2008. *Instrument Choice in Environmental Policy.* Resources for the Future Discussion Paper 08–07. http://www.rff.org/documents/RFF-DP-08-07.pdf

Science as a public problem: Risk and communication
Beck, Ulrich. 1992. *Risk Society.* Sage, pp. 19–50. Reader. 6
Beck, Ulrich. 2009. Risk Society. In *Ideas on the Nature of Science*, edited by David Cayley. Fredericton, New Brunswick: Goose Lane, pp. 92–101.

Hartley, Sarah and Grace Skogstad. 2005. Regulating genetically modified crops and foods in Canada and the United Kingdom: Democratizing risk regulation. *Canadian Public Administration*, Vol. 48, No. 3, pp. 305–327.

Jasanoff, Sheila. 1997. Civilization and madness: the great BSE scare of 1996. *Public Understandings of Science*, 6, pp. 221–232.

Session 5. Agenda-setting and the environment: Framing and narratives

Guston, David. 2001. Boundary organizations in Environmental Policy and Science, *Science, Technology and Human Values,* Vol. 26, No.4, pp. 399–408.

Pralle, Sarah and Jessica Boscarino. 2011. Framing Trade-offs: The Politics of Nuclear Power and Wind Energy in the Age of Global Climate Change, *Review of Policy Research*, Vol. 28, No. 4, pp. 323–346. Roe, Emery. 1991. Development Narratives, Or Making the Best of Blueprint Development. *World Development*, Vol. 19, No. 4, pp. 287–300.

Stone, Deborah A. 1989. Causal Stories and the Formation of Policy Agendas. *Political Science Quarterly*, Vol. 104, No. 2, pp. 281–300.

Session 6. Forms of knowledge

Leach, Melissa and Ian Scoones. 2005. Science and citizenship in a global context. In *Science and Citizens*, edited by Melissa Leach, Ian Scoones and Brian Wynne. London: Zed Books, pp. 15–38. McGregor, Deborah. 2004. Coming Full Circle: Indigenous Knowledge, Environment, and Our Future. *American Indian Quarterly*, Summer & Fall, Vol. 28, Nos. 3 & 4, pp. 385–410.

Film: "Ghosts of Futures Past"

Session 7. Book club and paper roundtable

This class will be dedicated to two activities: 1) discussion and reflection on the book review; and, 2) roundtable discussion on moving ahead with your research paper. All students will have to explain what stage they are at with respect to their research, and will have to explain the subject of their paper, central question driving their paper, tentative argument, and questions for peer feedback.

Session 8. Citizen and non-government influence on environmental policy

Bernstein, Steven and Benjamin Cashore. 2000. Globalization, Four Paths of Internationalization and Domestic Policy Change: The case of EcoForestry in British Columbia. *Canadian Journal of Political Science*, Vol. 33, No. 1, pp. 67–99.

Bob, Clifford. 2001. Marketing Rebellion: Insurgent groups, international media and NGO support. *International Politics*, 38, pp. 311–334.

Fischer, Frank. 2009. *Democracy & Expertise*. Oxford: Oxford University Press, pp. 48–76.

Savan, Beth, Christopher Gore, Alexis Morgan. 2004. Shifts in environmental governance in Canada: how are citizen environment groups to respond? *Environment and Planning C*, 22,4, pp. 605–619.

Session 9. Comparing and Drawing Lessons in Environmental

DeLeon, Peter and Phyllis Resnick–Terry. 1999. "Comparative Policy Analysis: Deja` Vu All Over Again?" *Journal of Comparative Policy Analysis: Research and Practice* 1, pp. 9–22.

Jasanoff, Sheila. 2005. *Designs on Nature. Science and Democracy in Europe and the United States.* Princeton: Princeton University Press, pp. 13–29.

Illical, Mary and Kathryn Harrison. 2007. "Protecting Endangered Species in the US and Canada: The Role of Negative Lesson Drawing", *Canadian Journal of Political Science*, 40, 2, pp. 367–394. (Read after reading Rose!)

Rose, Richard. 2005. *Learning from Comparative Public Policy*. London and New York: Routledge, pp 1–26.

Session 10. Policy Convergence and Divergence in Environmental Policy

Howlett, Michael. 2000. Beyond Legalism? Policy Ideas, Implementation Styles and Emulation–Based Convergence in Canadian and U.S. Environmental Policy. *Journal of Public Policy*, 20, 3, pp. 305–329. (Read after Knill and Lenschow).

Knill, Christoph. 2005. Introduction: Cross–national policy convergence: concepts, approaches and explanatory factors. *Journal of European Public Policy*, 12:5, October, pp. 764–774.

Lenshchow, Andrea, Duncann Liefferink, and Sietske Veenman. 2005. When the birds sing. A framework for analyzing domestic factors behind policy convergence. *Journal of European Public Policy*, 12:5, October, pp. 797–816.

Schreurs, Miranda. 2003. Divergent Paths: Environmental Policy in Germany, the US, and Japan. *Environment*, Vol. 45, No. 8, pp. 9–17.

Session 11. Science in the international system

Bernstein, Steven. 2002. Liberal environmentalism and global environmental governance. *Global Environmental Politics*, Vol. 2, No. 3, pp. 1–16.

Haas, Peter. 1992. Introduction: Epistemic Communities and International Policy Coordination. *International Organization*, Vol. 46, No. 1, pp. 1–35.

Stone, Diane. 2004. Transfer agents and global networks in the 'transnationalization' of Policy. *Journal of European Public Policy*, Vol. 11, No. 3, June, pp. 545–566.

Wilkening, Ken. 2011. Science and International Environmental nonregimes: The case of Arctic Haze, *Review of Policy Research*, Vol. 28, No. 1, pp. 125–148.

Recommended:

Goldman, Michael. 2004. Imperial Science, Imperial Nature: Environmental Knowledge for the World (Bank). In *Earthly Politics*, edited by Sheila Jasanoff and Marybeth Long Martello. Cambridge: MIT Press, pp. 55–80. Reader.

Session 12. Wrap up: Moving forward

Choi, Bernard CK, Tikki Pang, Vivian Lan, Pekka Puska, Gregory Sherman, Michael Goddard, Michael J Ackland, Peter Sainsbury, Sylvie Stachenko, Howard Morrison, and Clarence Clottey. 2005. Can scientists and policy makers work together? *Journal of Epidemiology and Community Health*, 5, 59, pp. 632–637.

Energy and Environmental Policy

Prof. Matthew Shapiro
Illinois Institute of Technology

1. Course Description

Overview

This is an intermediate-level course on energy and the environmental policies. In any discussion of public policies, the overarching concern is whether government intervention is maximally effective given our market-based system. For energy and environmental policies, though, there may be much more at stake. To provide a complete understanding, the student will become familiar with the actors, institutions, and historical foundations of such policies, the concept of sustainability as it is used in policy discourse, analyses economic and political, the connection between public subsidies for relevant science and technology, and the role such policies play in an international context. Although this is a political science course, the economics-based literature is frequently referenced as a tool to determine policy efficacy, both *ex ante* and *ex post*.

Course Objectives

This class will enable the student to understand the mounting concerns about energy use and its impact upon the environment. By the end of the semester the student will:

- Possess the ability to conduct research and make environmental and energy policy prescriptions.
- Understand how environmental and energy policies have evolved in the United States and how such policies impact other countries, especially the developing world.
- Apply political and economic theory to problems of environmental and energy policies.
- Recognize at an intuitive level the growing role of the states in environmental and energy policies.
- Challenge concepts of "sustainability" and "development" which are elegant but theoretically deficient.
- Be informed of government efforts to reduce market failures in environmental and energy science and technology.
- Understand at a sophisticated level the connection between the developed and developing worlds, the importance of technology transfer, and avenues for collective action.

2. Required Texts

Rosenbaum, Walter A. (2010) *Environmental Politics and Policy* (8th ed.). Washington, D.C.:CQ Press. Victor, David G. (2011) *Global Warming Gridlock* (3rd ed.), Cambridge: Cambridge University Press.

3. Course Requirements

Grading

Final grades are based on the following requirements:
Short papers (3 x 15%) 45%
Final project 35%
Participation 20%

1. Short papers (3 x 15% each): The due dates for the three short papers are provided below. You will be given a set of questions that will require you to consult the readings and your lecture notes approximately one week before each short paper due date. Your response to the prompt must be between 3-4 pages (excluding bibliography), double-spaced, Times New Roman 12 pt.

** NOTE: Keep the following in mind: The papers should be well organized, cohesive, free of errors. The best way to create a paper with such qualities is through careful revision and editing. Use whatever citation style you prefer so long as it is error-free and uniform throughout the paper.

Short paper 1 due **Session 10**Short paper 2 due **Session 20**Short paper 3 due **one week after Session 29**

2. Final project (35%): In Global Warming Gridlock, David Victor presents a comprehensive approach to the problem of global warming. When you begin this project towards the third quarter of the semester, you would have been exposed to a number of concepts that are addressed in Victor's text. Read and summarize Chapters 3 to 9. Cite the Victor text and other resources from class (and nowhere else) and discuss how Victor holds up.

Think specifically about whether the club approach is feasible. How does is it differ from current methods of negotiation across national borders? What is missing from Victor's approach to technology and what does he add to what you have already learned (from class)? In what ways is the developing world insufficiently acknowledged in Victor? And what is groundbreaking about Victor's "new strategy" (Ch. 8)? Finally, are you convinced – and if so, why – that Victor's approach is the proper way forward?

You are not restricted to answering only the above questions, but they must be addressed at a minimum. Your paper must be between 5-6 pages (excluding bibliography), double-spaced, Times New Roman 12 pt. The final session of the semester is reserved for a discussion of the Victor text and your findings.

**NOTE: Keep the following in mind: The papers should be well organized, cohesive, and free of errors. The best way to create a paper with such qualities is through careful revision and editing. Use whatever citation style you prefer so long as it is error-free and uniform throughout the paper.

Final project due **Session 29**

3. Participation (20%): Students are expected to attend class with only one unexcused absence. Students are also expected to complete reading assignments prior to class and participate in class discussions.

4. Class Schedule and Reading Guide

Course Outline

While "*" below indicates required reading, you should still expect to read some if not all of the non- required reading when drafting your short papers and your final project.

Sessions 1 & 2

- **❖** Background to America's energy consumption
- **Connecting politics to energy and environmental policy**
- **Connecting consumption and politics to climate change**
- 1. Welcome to the Anthropocene
- 2. * America Addicted
- 3. Energy Plan Reaches for the Sky
- 4. Blessed are the Geeks, for They Shall Inherit the Earth
- 5. The Politics of Disaster
- 6. * Book Review: The Shadows of Consumption
- 7. * The Science of Climate Change
- 8. Rosenbaum Ch. 10, pages 363-373
- 9. *The Heat is On
- 10. Global Warming, causes and effects, Parts 1, 2, and 3 (strongly recommended
- 11. Climate change in the Arctic
- 12. Future CO2 Emissions and Climate Change from Existing Energy Infrastructure
- 13. Ice Capades
- 14. * A is for Earth (and see http://oco.jpl.nasa.gov/ for more details)

Session 3

- ***** The evolution of environmentalism
- Balancing productivity and environmentalism
- 15. Rosenbaum Ch.1
- 16. * Stern, N. (2008) "The Economics of Climate Change." *American Economic Review* 98(2): 1-37.
- 17. * Book Review: A Question of Balance
- 18. Economics Focus: The Grass is Always Greener
- 19. Deschenes, O. and M. Greenstone (2007) "The Ecological Impacts of Climate Change: Evidence from Agricultural Output and Random Fluctuations in Weather." *American Economic Review* 97(1): 354-385.

Sessions 4, 5, & 6

- Issues of political feasibility and incrementalism
- Introducing a new policy actor
- Wedge Game (in-class activity)
- 20. Rosenbaum Ch. 2, pages 32-43, 67-72
- 21. * Rosenbaum Ch. 3, pages 114-123
- 22. * Keller, Anne C. (2009) *Science in Environmental Policy: The Politics of Objective Advice.* Cambridge: MIT Press, Ch. 1.
- 23.* Stone, D. (2001) *Policy Paradox: The Art of Political Decision Making* (Revised Edition), W.W. Norton. Introductory chapter
- 24. * Resnik, David B. (2009) *Playing Politics with Science*, Oxford. Chapter 4: Good Science Advice.
 - 24.1.1. Scientists Line Up Against Dam That Would Alter Protected Wetlands
 - 24.1.2. Climategates I and II (JPEG files)
 - 24.1.3. Not on Ballot, but EPA Chief a Campaign Issue
 - 24.1.4. Environmentalism Under Fire

Sessions 7-11

- **Relations** between key environmental and energy policy-related actors
- **❖** Opportunities to tread new ground via translational ecology
- Methods of communicating and receiving information: politics and pledges
- States and decentralization
- 25. Kraft, Michael E. and Scott R. Furlong (2010) *Public Policy: Politics, Analysis, and Alternatives,* Washington, D.C.: CQ Press, Ch. 2.
- 26. * (R) Ch.3, pages 77-114
 - 26.1.1. * Enter the EPA
 - 26.1.2. * A Green Figleaf
 - 26.1.3. Court Delays EPA Smog Rule
 - 26.1.4. Not on Ballot, but EPA Chief a Campaign Issue

- 26.1.5. * Judge Sides with BP in Alaska Case
- 26.1.6. The Rise of Animal Law
- 26.1.7. * Translational Ecology
- 27. Rosenbaum Ch. 2, pages 43-60
- 28. Treehuggers
- 29. Kumi Naidoo
- 30. Conoco Gets Permit to Develop Alaska Site
- 31. * Pages 326-340: Oates, W. E. and P. R. Portney (2003) "The Political Economy of Environmental Policy." in *Handbook of Environmental Economics, Vol.1: Environmental Degradation and Institutional Responses.* (eds) K.-G. Maler and J. R. Vincent. Amsterdam, Elsevier.
- 32. Rosenbaum Ch. 2, pages 60-67
- 33. The Touchy-Feely Methods
- 34. Science Fact, Climate Fiction: *Book Review*
- 35. * Lomborg and the Skeptical Environmentalist
- 36. * Lubell, Mark, et al. (2007) "Collective Action and Citizen Responses to Global Warming," *Political Behavior* 29: 391-413.
- 37. * Rabe, Barry G. (2010) "Racing to the Top, the Bottom, or the Middle of the Pack," in *Environmental Policy* (eds) Vig and Kraft
- 38. * National Resources Defense Council (NRDC) (2008) Fighting Oil Addiction: Ranking States' Oil Vulnerability and Solutions for Change. New York, NRDC.
- 39. * Pages 341-350: Oates, W. E. and P. R. Portney (2003) "The Political Economy of Environmental Policy."
- 40. Some States Picking Economy
- 41. Broad Carbon Rules Ahead
- 42. EPA Give States Leeway on CO2
- 43. * A New Wave of Chemical Regulations Just Ahead

Sessions 12 & 13

- ***** Moving beyond GDP: the Genuine Progress Indicator
- Growth as a function of sustainability
- **❖** The case of ANWR
- 44.* Lawn, P. A. (2003). "A Theoretical Foundation to Support the Index of Sustainable Economic Welfare (ISEW), Genuine Progress Indicator (GPI), and Other Related Indexes." *Ecological Economics* 44(1): 105-118
- 45. * The Environmental Sustainability Index: http://www.yale.edu/esi/
- 46. * Stiglitz, J. E. (2008). "Turn Left for Sustainable Growth." Economists' Voice, Berkeley Electronic Press: www.bepress.com/ev.
- 47. Deschenes and Greenstone (review)
- 48. Global Adaptation Index
- 49. Arctic Riches Lure Explorers
- 50. Rosenbaum Ch. 9
- 51. US Park Service to Thin Out Yosemite...
- 52. Biofuels: Social Benefits
- 53. Ray Anderson

Sessions 14-19

- * Risk assessment of environmental and energy policies: ethical concerns
- Economic analysis of environmental and energy policies including capand-trade
- Political analysis of environmental and energy policies including capand-trade
- **Cases of risk assessment, economic analysis, and political analysis**
- 54. * Rosenbaum Ch. 4
 - 54.1.1. * Book Review: Precautionary Politics + response
- 55. * Olmstead, Sheila M. (2010) "Applying Market Principles to Environmental Policy" in *Environmental Policy* (eds)
- 56. * Fixing a Critical Climate Accounting Error
- 57. Rosenbaum Ch. 8
- 58. Radioactive Waste Piling Up
- 59. * Rosenbaum Ch. 5
- 60. Five Questions on the Spill
- 61. Energy and Technology Policies for Managing Carbon Risk
- 62. New Look at Pipeline Blasts
- 63. American Waterways: Go with the flow
- 64. Wildlife Casualties Slow Wind Power
- 65. * Fischer, C. and R. G. Newell (2008) "Environmental and Technology Policies for Climate Mitigation." *Journal of Environmental Economics and Management* 55(2): 142-162.
- 66. Chakravorty, U., M. Moreaux, et al. (2008) "Ordering the Extraction of Polluting Nonrenewable Resources." *American Economic Review* 98(3): 1128-1144
- 67. von Dollen, A. and T. Requate (2008) "Environmental Policy and Uncertain Arrival of Future Abatement Technology." *B.E. Journal of Economic Analysis & Policy* 8(1): Article 30. Available at http://www.bepress.com/bejeap/vol8/iss1/art30.
- 68. Auffhammer, Maximilian and Ryan Kellogg (2009) "Clearing the Air? The Effects of Gasoline Content Regulation on Air Quality."
- 69. Lubell, et al. (2007) (review)
- 70. Ackerman, Frank (2010) "Cost-Benefit Analysis of Climate Change: Where It Goes Wrong." in *Economic Thought and U.S. Climate Change Policy* (ed.) David M. Driesen. Cambridge: MIT Press.
- 71. "Heat" (video)
- 72. Rosenbaum Ch. 6
- 73. * Podesta, John (2008) "Cap, Auction, and Trade: Allowance Auctions and Revenue Recycling Under Carbon Cap-and-Trade." Testimony Before the House Select Committee for Energy Independence and Global Warming.
- 74. Old King Coal: West Virginia's District
- 75. * Snow Job?
- 76. * Carbon Cordon

Sessions 20–23

- Incentives prompting innovation and R&D: regulations and government-led programs
- **❖** Market failure corrections by the government: the connection between subsidies for R&D and sustainability
- **❖** Additional examples: biofuels, LEDs, carbon capture and storage, biogas, wind power, "fracking", nanotechnology, fusion
- 77. * Press, Daniel and Daniel A. Mazmanian (2010) "Toward Sustainable Production: Finding Workable Strategies for Government and Industry" in *Environmental Policy* (eds)
- 78. * Jaffe, A. B., R. G. Newell, et al. (2004) "Technology Policy for Energy and the Environment." in *Innovation Policy and the Economy, Vol.4.* (eds) A. B. Jaffe, J. Lerner and S. Stern. Cambridge: MIT Press.
- 79. Stavins, R. N. (2003) "Experience with Market-Based Environmental Policy Instruments." In *Handbook of Environmental Economics, Vol.1: Environmental Degradation and Institutional Responses.* (eds) K.-G. Maler and J. R. Vincent. Amsterdam: Elsevier.
- 80. Gillingham, K., R. G. Newell, et al. (2008) "Modeling Endogenous Technological Change for Climate Policy Analysis." *Energy Economics* 30: 2734-2753.
- 81. A Path to Simpler Permits
- 82. Natural Gas From Shale Bursts Onto the Scene
- 83. * Drillers Face Methane Concern
- 84. * Fracking Water Usage in Texas
- 85. "Gasland" (video)
- 86. Coal Is Cleaner But Consumers Foot the Bill
- 87. * Link and Link Ch. 6, "Biofuels"
- 88. Biofuels drawbacks Parts 1 and 2
- 89. LED Technology
- 90. Light Bulbs: Charge of the LED Brigade
- 91. * Trouble in Store
- 92. Benefits of CCS
- 93. The Seat of Power
- 94. Will County Methane Plant Goes Online
- 95. Battling Becalming Influences
- 96. "Who Killed the Electric Car" (video)
- 97. * Shining a light
- 98. Energizer Money
- 99. Clean-Tech Entrepreneurs Eve Funding Shift
- 100. * The Clean Energy Bandwagon
- 101. The Power of Being Made Very Small
- 102. Greenhouse-Power Plant Hybrid Set to Make Jordan's Desert Bloom
- 103. Let the Sun Shine In
- 104. Sun-Powered Plane Prototype Unveiled
- 105. On-Target, Finally

- 106. * EcoScraps
- 107. Fusion Power: Next ITERation
- 108. Green Jobs vs. Real Energy Jobs
- 109. Geoengineering: Lift-off

Sessions 24–29

- Understanding the gap between the developed and the developing world, especially China and India
- Free trade concerns
- **❖** Theoretical grounding in the two-level game structure
- **❖** Technology transfer and the Clean Development Mechanism
- Collective action and cooperation
- 110. * Rosenbaum Ch. 10, pages 380-395
- 111. Toward the Second Commitment Period of the Kyoto Protocol
- 112. * Tobin, Richard J. (2010) "Environmental, Population, and the Developing World" in *Environmental Policy* (eds)
- 113. World Bank (2010) *World Development Report.* Ch. 1: Understanding the Links Between Climate Change and Development
- 114. Fossilized Policy
- 115. * A Bad Climate for Development
- 116. * Green with Envy
- 117. * India's Solar Scene Vexes U.S.
- 118. Ethical Framework for Biofuels
- 119. Economy, Elizabeth C. (2010) "China: The Great Leap Backward?" in *Environmental Policy* (eds)
- 120. Chinese Policies Could Pinch U.S. Efforts to Make Electric Vehicles
- 121. China Downshifts on Autos
- 122. Fiddling While the Amazon Burns
- 123. Putnam, R.D. (1988) "Diplomacy and Domestic Politics: *The Logic of* Two-Level Games." *International Organization* 42(3):427-460.
- 124. * Marquart-Pyatt, S. T. (2008) "Are There Similar Sources of Environmental Concern? Comparing Industrialized Countries." *Social Science* Quarterly 89(5): 1312-1335.
- 125. de Coninck, H., C. Fischer, et al. (2008) "International Technology-Oriented Agreements to Address Climate Change." *Energy Policy* 36(1): 335-356.
- 126. * Purvis, N. (2008) "Trading Approaches on Climate: The Case for 'Climate Protection Authority'." *Resources* Summer 2008(169): 13-18.
- 127. Manolas, E. I. (2008) "Campaign Strategies by Environmental NGOs in the Negotiations on Climate Change." *Climate 2008-Klima 2008 Conf. Pres..*
- 128. * Schneider, M., A. Holzer, et al. (2008) "Understanding the CDM's Contribution to Technology Transfer." *Energy Policy* 36: 2930-2938.
- 129. He Who Pays the Paupers
- 130. Science Attaches
- 131. * Book Review: Why Cooperate?
- 132. Measuring Forest Changes



The PSO offices at 1527 New Hampshire Avenue were constructed in 1882 and for many years were the home of the family of United States President James Garfield. A cordial welcome awaits visitors.