

Energy and Environmental Policy

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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 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 cap-and-trade**
- ❖ **Political analysis of environmental and energy policies including cap-and-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 Eye 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