

E.J. Bloustein School of Planning and Public Policy, Rutgers University

970:672 Energy Policy and Planning

Wednesdays 1:10 pm to 3:50 pm

Instructor: Frank Felder, PhD

Fall 2008

Classroom: Civic Square Building, Room CSB 168

Contact Information

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Office hours: 1 hour immediately before and after class or by appointment

Energy policy is a critical component of state and national public policy. Issues surrounding the reliability and security of energy supplies directly effect national domestic and foreign policy, as well as state level environmental, economic development and land use concerns. Moreover, the policies, strategies, and programs adopted by both the public and private sectors will directly impact upon our lives as professionals, members of a community, and our families. This graduate seminar course will examine energy policy and planning through a timely, critical and practical approach designed to give students an insight into the factors that shape energy policy.

This seminar will combine assigned readings, classroom discussions, and individual research assignments that will conclude with a team based negotiation case study. The seminar schedule may also include occasional presentations by guest lecturers. Students will be expected to complete assigned readings before each class and to actively participate in the weekly seminar discussions.

Major topic areas will include: energy technologies, the nature and operation of energy markets, energy planning, and the components of a holistic energy policy.

Course requirements are the following:

- OpEd (700 words) on energy policy (10%) DUE ON SEPTEMBER 24, 2008
- Exam on energy basics and technologies (closed notes and book) (30%) ON OCTOBER 15, 2006
- Book review, 5-7 pages of an approved book (15%) DUE NOVEMBER 1, 2006 (students need prior approval for the book that they want to review) – Each student will be asked to discuss informally their book during a class discussion that is related to their book
- Case study team presentations (20%) DUE AS ANNOUNCED IN CLASS
- Individual 3-5 page memorandum of case study (10%) DUE NO LATER THAN DECEMBER 18, 2006
- Class participation and discussion (15%)

Course Objectives: Familiarize students with the major issues associated with energy policy and planning and develop their abilities to conduct energy policy and planning analyses.

Required Readings

Required readings are either available on the internet or on the course's Sakai website <https://sakai.rutgers.edu/portal>

Recommended Readings (& some possible candidates for book reviews)

P. Roberts, 2004. *The End of Oil, On the Edge of a Perilous New World*. Houghton Mifflin, 389 pp.

K. S. Deffeyes, 2005. *Beyond Oil: A View from Hubbert's Peak*, 202 pp.

R. W. Burchell and D. Listokin (eds.), 1982. *Energy & Land Use*, 601 pp.

V. V. Vaitheeswaran, 2003. *Power to the People*, 358 pp.

H. Geller 2003. *Energy Revolution: Policies for a Sustainable Future*, 289 pp.

P. W. Huber and M. P. Mills, 2005. *The Bottomless Well: The Twilight of Fuel, The Virtue of Waste, and Why We Will Never Run Out of Energy*, 214 pp.

P. Hoffmann, 2001. *Tomorrow's Energy: Hydrogen, Fuel Cells, and the Prospects for a Cleaner Planet*, 289 pp.

J. Rifkin, 2003. *The Hydrogen Economy: The Creation of the Worldwide Energy Web and the Redistribution of Power on Earth*, 294 pp.

W. Sweet, 2006. *Kicking the Carbon Habit*, 256 pp.

T. L. Andersen, 2004. *You Have to Admit It's Getting Better: From Economic Prosperity to Environmental Quality*, 212 pp.

B. Lomborg, 2001. *The Skeptical Environmentalist*, 515 pp.

W. Williams and R. Whitcomb, *Cape Wind: Money, Celebrity, Class, Politics, and the Battle for Our Energy Future on Nantucket Sound*

MIT Energy Lectures

Students will be required to view the following lectures available at <http://web.mit.edu/mitei/news/video.html>

Whales to Wood, Wood to Coal/Oil— What's Next?

Daniel Nocera

Why Bad Things Happen to Good Technologies

John Sterman

Uncertainties in Climate Forecasts: Causes, Magnitudes and Policy Implications

Stephen H. Schneider

Climate Change: The Economics of and Prospects for a Global Deal

Nicholas Stern

The U.S. Energy Crisis and the Role of New Nuclear Plants

Thomas A. Christopher

Global Resources and the Built Environment

John Fernandez

Academic Integrity

All members of our community must be confident that each person's work has been responsibly and honorably acquired, developed, and presented. Any effort to gain advantage not given to all students is dishonest, whether or not the effort is successful. A violation of academic honesty is a breach of trust, and will result in penalties, including possible suspension or expulsion. When in doubt about plagiarism, paraphrasing, quoting, or collaboration, consult the course instructors. Please see: <http://academicintegrity.rutgers.edu/students.shtml> for further information.

Schedule of Classes, Topics, and Readings

Part I – The Fundamentals and Context for Energy Policy & Planning

September 3

Overview

Required Reading

Ending the Energy Stalemate: A Bipartisan Strategy to Meet America's Energy Challenges, The National Commission on Energy Policy, December 2004, pp. ii-xiv, and Glossary of Terms starting on p. 119
<http://www.energycommission.org/site/page.php?index>

Sustainable Energy – The engine of sustainable development (do not worry about equations 1-1 through 1-21 (Sakai) or
<http://mitpress.mit.edu/books/chapters/0262201534chap1.pdf>
From Tester, J. W., E. M. Drake, M. W. Golay, M. J. Driscoll, and W. A. Peters. *Sustainable Energy - Choosing Among Options*. Cambridge, MA: MIT Press, 2005. ISBN: 9780262201537

R. H. Socolow and S. W. Pacala, "A Plan to Keep Carbon in Check"
Scientific American, Sept. 2006, pp. 50-57.

Power Point presentation on energy basics (Sakai)

Browse *Energy in the United States at:*
<http://www.eia.doe.gov/emeu/aer/eh/frame.html>

September 10

Electricity Supply Chains

Required Reading

Power Point presentation on electricity markets (Sakai)

September 17

Transportation and Heat

Required Reading

Browse *Petroleum in the United States* at:

http://www.eia.doe.gov/oil_gas/petroleum/info_glance/petroleum.html

Policy Options for Reducing Oil Consumption and Greenhouse-Gas Emissions from the U.S. Transportation Sector, K.S. Gallagher, G. Collantes, J. P. Holdren, H. Lee, R. Frosch, J.F. Kennedy School of Government, Discussion Paper, July 27, 2007 (Sakai) or

http://belfercenter.ksg.harvard.edu/files/policy_options_oil_climate_transport_final.pdf

Getting to Smart Growth II, Chapter 8, by: ICMA and the Smart Growth Network, available at:

<http://www.smartgrowth.org/pdf/gettosg2.pdf>

September 24

Environmental and Land Use Energy Issues

Required Reading

R.W. Burchell and D. Listokin, *Energy and Land Use*, “Introduction: The Energy-Land Use Interface, pp. 1-57 (handout to be provided in class)

October 1

Methods for Policy and Planning Analysis

Required Reading

Lecture notes to be provided

Read the executive summary of the Navigant August 2003 Renewable Energy Market Assessment Report available on CEEEP’s webpage:

<http://www.policy.rutgers.edu/ceep/events.html>

Part II – Energy Markets: Success and Failures

October 8

Restructuring the U.S. Electricity Industry

Required Reading

P. L. Joskow, “Markets for Power in the United States: An Interim Assessment”, January 2006, *The Energy Journal* 27(1), 1-36

http://econ-www.mit.edu/faculty/index.htm?prof_id=pjoskow&type=paperw

Recommended Reading

See the Harvard Electricity Policy Group webpage, which contains numerous papers, references, and links:

<http://www.ksg.harvard.edu/hepg/>

October 15 EXAM: Closed Book, Exam on Energy Fundamentals and Context (Part I Material and MIT Lectures)

October 22 Markets for Emissions and Renewables

Required Reading

Emissions Trading in the US: Experience, Lessons, and Considerations for Greenhouse Gases, A. Denny Ellerman, Paul L. Joskow, and David Harrison, Jr., May 2003,

http://www.pewclimate.org/global-warming-in-depth/all_reports/emissions_trading/index.cfm

Executive summary of CEEEP's 2004 Renewable Portfolio Standard Report available at:

http://www.policy.rutgers.edu/ceep/events_03-04_new.html#pub

Part III – Energy and Security

October 29 Oil and National Security

Required Reading

Winning the Oil Endgame, Amory B. Lovins, et al., Chapter 1, Oil Dependence,

<http://www.oilendgame.org/Contents.html>

November 5 Nuclear Power and Proliferation

Required Reading

The Future of Nuclear Power: An Interdisciplinary MIT Study, 2003, Chap. 8,

<http://www.mit.edu/nuclearpower/>

Part IV – Energy Policy Analysis and Process: Case Study Bangladesh

November 12 Overview of Assignment
November 19 Preliminary Case Study Presentations
November 26 No class – Friday Class Schedule
December 3 Team Meeting
December 10 Final Presentation