

The Political Economy of Energy Policy (4 quarter units)

Earth Systems 205/Law 227

Professor David Victor

Winter Quarter 2008

Tuesday and Thursday, 9:00am-11:00am

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TEACHING STAFF

Chris Warshaw, (cwarshaw@stanford.edu), Teaching Assistant

Research Fellow, Program on Energy & Sustainable Development

PhD student, Department of Political Science

COURSE DESCRIPTION

The class will introduce students to the major theoretical frameworks used by political scientists, sociologists, economists, and other intellectual disciplines to understand how societies design and implement public policies related to energy, and how the energy industry responds. Topics covered will include theories of the state, monopoly and regulation, public choice, organizational behavior, international agreements, and innovation. The class will apply these theories to major current and historical issues in energy policy, such as ethanol, climate change, energy security, the role of national oil companies in the world oil market, the functioning of OPEC, and the California electricity crisis.

The course is intended for advanced undergraduates and graduate students in Public Policy, Political Science, the School of Engineering, and Earth Systems, as well as the Law School and Graduate School of Business. Students will be expected to have basic familiarity with energy technologies and concepts as well as basic understanding of economics.

PREREQUISITES

Economics 1 and 50, or equivalent
CEE 173A: Energy Resources, or equivalent

Course is by admission and permission of instructor.

REQUIREMENTS

This is a research seminar. Students are expected to complete the required readings each week and to contribute to the seminar discussion. The readings for each unit should be completed prior to the first lecture for that unit.

In addition, each student will be responsible for developing a thirty-minute presentation on one of the case studies in groups of two. Signups for this task will occur in the first class. The presentation should not be simply a summary of the assigned material. Rather, the presenter should outline how the case should be considered within the analytical approaches described in the unit's theoretical readings.

Students are also required to write a 20-25 page research paper that applies the logic developed in the course to a topic of their choice. Students should choose a topic by the third week and turn in a one-page research proposal in the fourth week. The final paper will be due on **Monday, March 17th** at 5 pm. No late work will be accepted.

REQUIRED BOOKS

ES205 Course Reader from the Stanford Bookstore
Gary King, Robert Keohane, and Sidney Verba (1994), *Designing Social Inquiry*.
Charles Perrow. (1999). *Normal Accidents*.

Supplemental readings will be available via Coursework.

GRADING

Final grades will be determined by the following formula:

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|--------------------------|-----|
| 1. Class participation | 20% |
| 2. In-class presentation | 20% |
| 3. Final paper | 60% |

COURSE OUTLINE

Course Introduction (January 8)

Unit 1: Introduction: Political Economy and the Energy System (January 10)

- Barry Weingast and Donald A. Wittman (2006). “The Reach of Political Economy.” In *The Oxford Handbook of Political Economy*.
- Lawrence Livermore National Laboratory (2004). “U.S. Energy Flow Trends – 2002.”
- Philip Keefer. (2004). “What Does Political Economy Teach Us About Economic Development—And Vice Versa.” *World Bank Policy Research Working Paper*.

Supplemental Readings

- Gary King, Robert Keohane, and Sidney Verba (1994), *Designing Social Inquiry*, Princeton University Press. Chapters 1, 2, and 5.
- Intergovernmental Panel on Climate Change (1995), “Energy Primer.” In *Climate Change 1995*.
- International Energy Agency (2007). “World Energy Outlook 2007.”
- Petroleum Council, (2007), "Facing the Hard Truths About Energy: A Comprehensive View to 2030 of Global Oil and Natural Gas" July 18. Executive Summary and chapter 4.

Unit 2: Public Choice & Collective Action (January 15 and 17)

Theory of collective action

- Mancur Olson (1965). *The Logic of Collective Action*. Harvard University Press. Introduction and Chapter 1.
- George J. Stigler (1971), “The Theory of Economic Regulation,” *The Bell Journal of Economics and Management Science*, Vol. 2 (1), pp. 3-21.
- Bruce Yandle (1983), "Bootleggers and Baptists- The Education of a Regulatory Economist," *AIE Journal on Government and Policy*, May/June 1983, pp. 12-16.

Theory of commons

- Elinor Ostrom (1990), “Chapter 1,” *Governing the Commons*. Cambridge University Press.

Supplemental Readings

- Anne Krueger. 1974. “The Political Economy of the Rent-Seeking Society.” *American Economic Review* 64: 291-303. (Available on JSTOR).
- William Mitchell and Michael Munger, (1991). “Economic Models of Interest Groups: An Introductory Survey.” *American Journal of Political Science* 35: 512-546.

Case 1: Ethanol import tariff case study

- Alexander E. Farrell et al (2006), "Ethanol Can Contribute to Energy and Environmental Goals," *Science*, Vol. 311, pp. 506-508.
- David Victor (2006), "How to Manage Our Oil Addiction," *Houston Chronicle News*, April 15.
- Brent D. Yacobucci (2006), "Ethanol Imports and the Caribbean Basin Initiative," *CRS Report for Congress*.
- Lauren Etter (2007), "Meanwhile, Imports Are Rising," *Wall Street Journal*. February 1, 2007, Page B1.
- Matthew L. Wald (2007), "Is Ethanol for the Long Haul?" *Scientific American*, January.
- Lanny D Schmidt and Paul J Dauenhauer, 2007, "Hybrid Routes to Biofuels," *Nature*. Vol 447, 21 June), pp. 914-915.

Case 2: Russian Gas, the European perspective

- Jonathan Stern (2006), "The New Security Environment for European Gas," *Oxford Institute for Energy Studies*, NG 15.
- David G. Victor (2007). "Three Reasons for Getting Scared: Energy Markets and the Tremendous Lack of Political Strategies." *Newsletter of the Institut fur die Wissenschaften Vom Menschen, Vienna and the Institute for Human Sciences at Boston University*.
- Derek Brower (2007). "Russia Stays One Step Ahead." *Petroleum Economist*.

Unit 3: Theory of Public Policy and the State (January 22 and 29)

- Robert E. Goodin, Michael Moran, and Martin Rein (2006), "The Public and Its Policies," *The Oxford Handbook of Public Policy*, Chapter 1.
- Ellen M. Immergut (2006), "Institutional Constraints on Policy," *The Oxford Handbook of Public Policy*, Chapter 27.
- Stephen Krasner (1999). *Sovereignty: Organized Hypocrisy*, Chapter 1.

Supplemental Readings

- Stephen Krasner (1999). *Sovereignty: Organized Hypocrisy*, Chapters 2 & 8.

Case 1: National Oil Companies

- PESD study on National Oil Companies. Introduction.
- Coby van der Linde (2000). "National Oil Companies." *The State and the International Oil Market: Competition and the Changing Ownership of Crude Oil Assets*.
- McKinsey Quarterly (2005). "National Oil Companies: The Right Way to Go Abroad."
- Dag Harald Claes. "Globalization and State Oil Companies: the Case of Statoil." *Journal of Energy and Development*, Vol. 29, No. 1, page 43.

Case 2: Renewable Portfolio Standards

- Barry G. Rabe. (2006). *Race to the Top: The Expanding Role of U.S. State Renewable Portfolio Standards*. Pew Center Report.

- Ryan Wiser, et al. (2007). “Renewables Portfolio Standards: A Factual Introduction to Experience from the United States.” Lawrence Berkeley National Lab. *Working Paper*. LBNL-62569.
- Cliff Chen, Ryan Wiser, and Mark Bolinger. (2007). “Weighing the Costs and Benefits of State Renewables Portfolio Standards: A Comparative Analysis of State-Level Policy Impact Projections.” Executive Summary. Lawrence Berkeley National Lab. *Working Paper*. LBNL-61580.

Unit 4: Networks, Monopoly and Regulation (January 31 and February 5)

- Sam Peltzman. (1989). “The Economic Theory of Regulation after a Decade of Deregulation.” *Brookings Papers on Economic Activity*.
- David Newbury. (1999). *Privatization, Restructuring, and Regulation of Network Utilities*. Chapter 5: Introducing Competition into Network Utilities.

Supplemental Reading

- David Victor, Thomas Heller. (2007). “Introduction and Conclusion,” *The Political Economy of Power Sector Reform: The Experiences of Five Major Developing Countries*.
- Joseph Stiglitz. (2000). “Chapter 7: Public Production and Bureaucracy,” *Economics of the Public Sector*.
- John E Besant-Jones. (2006). "Reforming Power Markets in Developing Countries: What Have We Learned?" World Bank Energy and Mining Sector Board Discussion Paper #19.
- Erik Woodhouse. (2006). “The Obsolescing Bargain Redux: Foreign Investment in the Electric Power Sector in Developing Countries.” *NY J of Intl Law and Politics*. Volume 38, 121.

Case 1: California electricity crisis

- Frank Wolak (2003), “Diagnosing the California Energy Crisis,” *The Electricity Journal*.
- Lester B. Lave, Jay Apt, Seth Blumsack (2004), “Rethinking Electricity Deregulation,” *The Electricity Journal*.

Case 2: Power Sector Regulation Worldwide

- David Newbery, (1998), “Freer Electricity Markets in the UK: A Progress Report.” *Energy Policy*. Vol. 26, No. 10.
- Adilson de Oliveira (2007). “Political Economy of the Brazilian Power Industry Reform.” *The Political Economy of Power Sector Reform: The Experiences of Five Major Developing Countries*.
- Rahul Tongia (2007). “The Political Economy of Indian Power Sector Reforms.” *The Political Economy of Power Sector Reform: The Experiences of Five Major Developing Countries*.

Case 3: Revolutionizing the Grid

- TBD

Unit 5: Behavior of Complex Organizations (February 7, 8, 12)

- Charles Perrow. (1999). *Normal Accidents*. Introduction and chapter 1.
- Gary Miller (2005). "The Political Evolution of Principal-Agent Models." *Annual Review of Political Science*.
- Terry M. Moe and Michael Caldwell (1994). "The Institutional Foundations of Democratic Government: A Comparison of Presidential and Parliamentary Systems." *Journal of Institutional and Theoretical Economics*, 150 (1), pp. 171-195.

Supplemental Reading

- James G. March and Johan P. Olsen. (1989). "Chapters 1-3," *Rediscovering Institutions: The Organizational Basis of Politics*. Free Press.

Case 1: Organizations and Pollution Markets

- David Victor and Joshua House (2006). "BP's Emissions Trading System." *Energy Policy*. 34. pp. 2100 – 2112
- Richard Schmalensee et al. (1998). "An Interim Evaluation of Sulfur Dioxide Emissions Trading." *Journal of Economic Perspectives*.

Case 2: Nuclear Power as a risky technology

- Bredimas, A. and Nuttall, W.J. (2007) "A Comparison of International Regulatory Organizations and Licensing Procedures for New Nuclear Power Plants." *Electricity Policy Research Group Working Papers*, No.07/09. University of Cambridge.
- Charles Perrow. (1999). *Normal Accidents*. Reminder of book.

Unit 6: International Political Economy (14, 19, 21)

- Jeffrey Frieden and David Lake (1999). "Introduction." *International Political Economy*.
- Philip G. Cerny (1999). "Globalization and the Changing Logic of Collective Action." *International Political Economy*.
- Kenneth W. Abbott and Duncan Snidal. (2000), "Hard and Soft Law in International Governance," *International Organization* 54, 3, pp. 421-456.
- Martin Wolf. (2005). *Globalization –Why Globalization Works*, Chapter 1.
- Naazneed Barma, Ely Ratner, and Steven Weber, 2007 "A World Without the West" *National Interest*, vol 90 (Jul/Aug), pp. 23-30.
- Other Readings TBD

Supplemental Readings

- David A. Lake. (2007). "International Political Economy," *The Oxford Handbook of Political Economy*, Chapter 42.

Case 1: Nuclear Power and Fuel Cycle

- MIT (2003). *The Future of Nuclear Power*. "Introduction" and Chapter 8 – "Nonproliferation."
- Recent article on Iran (handout in class)

- Recent article on India-US Nuclear deal (handout in class)
- “Executive Summary,” *Multilateral Approaches to the Nuclear Fuel Cycle, Expert Group Report to the Director General of the International Atomic Energy Agency* (2005).

Case 2: OPEC case study

- Daniel Yergin (1993), “The Hinge Years: Countries vs. Companies,” *The Prize*, Chapter 28.
- Council on Foreign Relations Task Force (2007). “National Security Consequences of U.S. Oil Dependency.”
- Dermot Gately, (2007). "What Oil Export Levels Should we Expect from OPEC?" *The Energy Journal*, Vol 28 No 2, pp. 151-173).

Supplemental Reading on OPEC

- Morris Adelman (2002), “World Oil Production and Prices, 1947-2002,” *The Quarterly Review of Economics and Finance*, vol. 42, pp. 169-191.

Case Study 3: China’s Search for Oil

- Dominic Barton and Jonathan Woetzel (2007). “Dragon at the crossroads: the future of china's economy.” In Kurt Campbell and Willow Darsie, eds, *China's March on the 21st Century*, Aspen Strategy Group, Aspen Institute, Chapter 1.
- Anthony Lake and Christine Whitman (2006). "More Than Humanitarianism: A Strategic U.S. Approach Toward Africa." *Council on Foreign Relations*.

Supplemental Reading on China’s Search for Oil

- Daniel H. Rosen and Trevor Houser (2007). “China Energy: A Guide for the Perplexed.”

Unit 7: Development and Energy Resources (February 26, 28)

Resource Curse

- Michael Ross (2001). “Does Oil Hinder Democracy?” *World Politics*.
- Paul Collier. *The Bottom Billion*, “The Natural Resource Trap,” p. 38-52.

Foreign Assistance

- William Easterly. “Aid for Investment.” *The Elusive Quest for Growth*, Chapter 2.
- David von Hippel and Peter Hayes, "Energy Security for North Korea," *Science*, 1 June 2007. Vol. 316, pp. 1288-1289.
- David G. Victor, (2005). “The Effects of Power Sector Reform on Energy Services for the Poor.” United Nations Department of Economic and Social Affairs.
- Paul Collier. *The Bottom Billion*, “Aid to the Rescue?” p. 99-123.

Case 1: Resource Curse in Africa

- Anthony Lake and Christine Whitman (2006). "More Than Humanitarianism: A Strategic U.S. Approach Toward Africa." *Council on Foreign Relations*.

- Nathan Jensen and Leonard Wantchekon. (2004). “Resource Wealth and Political Regimes in Africa.” *Comparative Political Studies*.

Case 2: Rural Energy Supply

- Hisham Zerriffi. “Making Small Work.” Chapter 1. (??)
- Douglas Barnes. *The Challenge of Rural Electrification: Strategies for Developing Countries*. Chapters 1, 4, and 9.

Unit 8: Innovation (March 4 and 6)

- Gregory F. Nemet and Daniel M. Kammen (2007), “U.S. Energy Research and Development: Declining Investment, Increasing Need, and the Feasibility of Expansion,” *Energy Policy*, 35, pp. 746-755.
- Valerie J. Karplus (2007), “Innovation in China’s Energy Sector,” PESD Working Paper #61.
- Mowery et al 2001, “The Growth of Patenting and Licensing by U.S. Universities.” *Research Policy*, Vol. 30, pp 99-113.
- Andreas Trabesinger, (2007). "Power Games." *Nature*. Vol 447, pp. 900-903. June 21.

Supplemental Reading

- Robert E Litan, Lesa Mitchell and E.J. Reedy. (2007). "The University as Innovator: Bumps in the Road," *Issues in Science and Technology*, Vol 23 No 4, pp. 57-66.

Case 1: Promoting Innovation in Energy Technologies

- National Research Council. (2007). “Rising Above the Gathering Storm: Energizing and Employing America for a Brighter Economic Future.” Executive Summary and Chapter 1.
- David Mowery. (2006). “Lessons from the History of Federal R&D policy for an ‘Energy ARPA.’” Testimony before the Committee on Science, US House of Representatives.

Unit 9: Applying Political Economy Theory to the Problem of International Climate Change (March 11)

- David G. Victor (2006), “Toward Effective International Cooperation on Climate Change: Numbers, Interests and Institutions,” *Global Environmental Politics*, Vol. 6, No. 3, pp. 90-103.
- David Victor and Danny Cullenward. (2007). *Scientific American*.
- Figueiredo et al. (2007). “Regulating Carbon Dioxide Capture and Storage.” *Independent Task Force Report No. 56*. Center for Energy and Environmental Policy Research

Course Recap (March 13)