

University of California, San Diego
Graduate School of International Relations & Pacific Studies
IRGN 414: Economics of Energy Policy
Winter 2016

Time: F 9:00a-11:50a

Location: RBC 1328

Instructor: Junjie Zhang, office 1303, (858) 822-5733, junjiezhang@ucsd.edu

Office Hours: Wednesdays 2:00-4:00PM or by appointment

Course Description: This course examines energy demand, energy supply, energy markets, environmental consequences and energy policies from both theoretical and empirical perspectives. We will explore energy use patterns of households and firms. We will discuss rationales for energy market regulations. We will also analyze the effectiveness of some energy policies. This course places an emphasis on applying economics to energy issues.

Readings: No textbook is required. Most readings are available online. Otherwise they will be distributed on class. The following book is recommended for this course:

Dahl, C.A. *International Energy Markets: Understanding Pricing, Policies, and Profits*. Tulsa, Okla.: PennWell, 2004.

Course format: The course will be a combination of lectures by the instructor and discussions by students. Thus, attendance at class meetings is mandatory. In the first part, the instructor will review key economic concepts that are useful in analyzing energy problems. In the second part, students will lead discussions of designated readings. Presentation slides are encouraged to facilitate discussions. Each student is expected to be a discussion leader at least once. A sign-up sheet will be posted in the first week.

The course grade will be based 20% on classroom participation, 20% on leading discussions, 40% on a policy memo, and 20% on a final presentation. The term paper topic should be discussed with the instructor.

Term Paper Instructions: Each student is required to submit a paper on a research topic relevant to energy economics and policy. The paper should include a clear problem and objectives statement, review of relevant literature, and analysis of the problem. Students are encouraged to use econometric methods to analyze real data. Policy suggestions should be based on the findings of the research. The paper should be no longer than 12 pages (double spaced, exclusive of figures, tables, and references). All information or arguments drawn from the literature should be carefully cited. The complete paper should be submitted on Sunday of the tenth week.

Academic Integrity: Student conduct related to this course is governed by the UCSD Policy on Integrity of Scholarship: "Students are expected to complete the course in compliance with the instructor's standards. No student shall engage in any activity that involves attempting to receive a grade by means other than honest effort."

Course Outline and Reading List

Week 1: Introduction

Bernanke, Ben S. "Oil and the Economy." Remarks at the Distinguished Lecture Series, Darton College, Albany, GA, October 21, 2004.

<http://www.federalreserve.gov/Boarddocs/Speeches/2004/20041021/default.htm>

Hamilton, James D. "Oil and the Macroeconomy." In *The New Palgrave Dictionary of Economics*, Second edition, ed. Steven N. Durlauf and Lawrence E. Blume. Houndmills, U.K. and New York: Palgrave Macmillan, 2008.

http://dss.ucsd.edu/~jhamilto/JDH_palgrave_oil.pdf

Kilian, L. "The Economic Effects of Energy Price Shocks." *Journal of Economic Literature*, 2008, 46(4), pp. 871-909.

Energy Information Administration. "Highlights." *International Energy Outlook 2011*.

<http://www.eia.doe.gov/oiaf/ieo/>

Week 2: Demand, Supply and Market Structure

Discussion Papers:

Carolyn Fischer, Evan M Herrnstadt, Richard D. Morgenstern. 2008. "Understanding Errors in EIA Projections of Energy Demand." RFF Discussion Paper 07-54.

Gately, Dermot. 2007. "What oil export levels should we expect from OPEC?" *The Energy Journal* 28(2): 151-173.

Case Study: Peak Oil

Lewis, Barbara. 2010. "Peak Oil Man Shifts Focus To Peak Price, Demand." Reuters 4/6/10.

<http://www.reuters.com/article/2010/04/06/us-oil-peak-idUSTRE63539420100406>

Week 3: Economic Regulation of Energy

Discussion Papers:

Hammar, H., A. Lofgren and T. Sterner. 2004. "Political Economy Obstacles to Fuel Taxation." *Energy Journal* 25, 1-17.

Jerry Taylor and Peter Van Doren. "The Case against the Strategic Petroleum Reserve." Policy Analysis, Nov 21 2005, 555, Cato Institute.

<http://www.cato.org/pubs/pas/pa555.pdf>

Case Study: Gas Tax Break

Broder, John. "Democrats Divided Over Gas Tax Break." *NYT* April 29, 2008.
<http://www.nytimes.com/2008/04/29/us/politics/29campaign.html>

Week 4: Electricity Market

Discussion Papers:

Mansur, E. and M. Kahn. 2010. "How Do Energy Prices, and Labor and Environmental Regulations Affect Local Manufacturing Employment Dynamics? A Regression Discontinuity Approach." NBER Working Paper 16538.
<http://www.nber.org/papers/w16538.pdf>

Reiss, P. and White, M. 2003. "Demand and Pricing in Electricity Markets: Evidence from San Diego during California's Energy Crisis" NBER Working Paper 9986.
<http://www.nber.org/papers/w9986.pdf>

Case Study: Smart Meter

Barringer, F. "New Electricity Meters Stir Fears." *NYT* January 30, 2011.
<http://www.nytimes.com/2011/01/31/science/earth/31meters.htm>

Week 5: Renewable Energy

Discussion Papers:

Cullen, J. 2010. "Measuring the Environmental Benefits of Wind-Generated Electricity." Working Paper.
<http://www.u.arizona.edu/~jcullen/Documents/measuringwind.pdf>

Lyon, Thomas P. and H. Yin. 2010. "Why Do States Adopt Renewable Portfolio Standards? An Empirical Investigation." *The Energy Journal* 31: 131-155.

Case Study: Wind-Gas Feud

Russell Gold. "Natural Gas Tilts at Windmills in Power Feud." *WSJ*. March 2, 2010.
<http://online.wsj.com/article/SB10001424052748704188104575083982637451248.html>

Week 6: Economics of Energy Efficiency

Discussion Papers:

Dreyfus, Mark, and Kip Viscusi. 1995. "Rates of Time Preference and Consumer Valuations of Auto-mobile Safety and Fuel Efficiency." *Journal of Law and Economics* 38(1): 79-98

Noah Kaufman and Karen Palmer. 2010. "Energy-Efficiency Program Evaluations: Opportunities for Learning and Inputs to Incentive Mechanisms." RFF Working Paper.

Case Study: Jevons Paradox

Glaeser, E. L. "Good Intentions, Bad Policy." *NYT* August 24, 2010.

<http://economix.blogs.nytimes.com/2010/08/24/when-good-policy-goes-bad>

Week 7: Transportation

Discussion Papers:

Klier, T. and Linn, J. Forthcoming. "The Price of Gasoline and New Vehicle Fuel Economy: Evidence from Monthly Sales Data." *American Economic Journal: Economic Policy*.

Larrick, R. P. and J. B. Soll, "The MPG Illusion," *Science*, June 2008, 320 (5883), 1593-4.

Case Study: Cash for Clunkers

Abrams, B. and G. Parsons, "Is Cars a Clunker?" *The Economist's Voice*, August 2009.

<http://www.bepress.com/ev/vol6/iss8/art4/>

Week 8: Green Buildings

Discussion Papers:

Dastrup, S., J. Graff Zivin, M. Kahn, D. L. Costa. 2010. "Understanding the Solar Home Price Premium: Electricity Generation and Green Social Status." UC Berkeley Energy Institute Working Paper.

<http://papers.ccpr.ucla.edu/papers/PWP-CCPR-2010-038/PWP-CCPR-2010-038.pdf>

Eichholtz, P., Kok, N, Quigley, J.M., 2010. Doing well by doing good? green office buildings. *American Economic Review*. forthcoming.

Case Study: Leadership in Energy and Environmental Design

McWilliams, J. "Green Building: LEEDing Us Where?" *NYT* March 19, 2010.

<http://www.freakonomics.com/2010/03/19/green-building-leeding-us-where/>

Week 9: Energy and Climate Change

Discussion Papers:

L. Davis and L. Kilian. 2009. "Estimating the Effect of a Gasoline Tax on Carbon Emissions." *Journal of Applied Econometrics*, forthcoming

Murray, B.C., R.G. Newell, and W.A. Pizer, 2009. "Balancing Cost and Emissions Certainty: An Allowance Reserve for Cap-and-Trade." *Review of Environmental Economics and Policy* 3: 84-103.

Case Study: Skepticism about Climate Change

Broder, J.M. "A Cultural Barrier to Action on Climate Change." *NYT* October 27, 2010.
<http://green.blogs.nytimes.com/2010/10/27/a-cultural-barrier>

Week 10: Student presentations

Student present their research papers.