PubPol 564: Government Regulation of Industry and the Environment

Tuesdays and Thursdays 2:30 – 4:00 p.m., 1220 Weill Hall

Fall 2015 – Ford School of Public Policy – University of Michigan

Prof. Catie Hausman – chausman@umich.edu

Office hours: Tuesdays 9:30 – 11:30 a.m., 4215 Weill Hall

OVERVIEW

This course focuses on the economics of energy and environmental regulations in the United States. It is designed to give students practical experience in making connections between intermediate microeconomic concepts and real-world regulatory policy issues. The emphasis will be on critical thinking to answer questions like the following:

- How do energy markets work?
- What are the effects of energy markets on the environment?
- When should the government intervene to regulate a market?
- What is the appropriate form of government intervention in a market?
- What is the role of energy policy in mitigating environmental damage?

The course material will be divided approximately equally between energy issues and environmental issues. Students who are primarily interested in energy markets will gain an understanding of the impact of environmental externalities and how these externalities are regulated. Students who are primarily focused on environmental issues will learn how energy markets work, and how these markets can be incentivized to reduce environmental damage.

We will begin by reviewing some of the key concepts in microeconomics that are needed for understanding energy and environmental policy issues. Think of it as assembling our toolkit. My assumption is that you have already taken PubPol 555 or its equivalent.

Throughout the semester, we will apply these concepts to current, real-world events. We won't have time for every issue! But by the end of the semester, you will have the necessary tools and concepts to analyze a broad range of issues.

Readings

We will be using *Markets and the Environment*, by Keohane and Olmstead. This will be supplemented with chapters (on Canvas) from other textbooks. I'll also be posting required readings on Canvas that are designed to help us explore current issues and put our theory into a practical context.

How to contact me

Office Hours: Tues. and Thurs. 10:30 – 11:30 a.m., 4215 Weill Hall; or by appointment
My Office: 4215 Weill Hall
Phone: (734) 615-6951
E-mail: chausman@umich.edu

I encourage you to come to office hours. They give us a chance to discuss things in more depth than is possible via email.

Attendance and participation

Lectures, class discussions, and readings are complements, not substitutes. I will assume that you have read the material before class. Also I will cover things in lecture that are not in the readings. Every day there will be a one-question quiz on the readings, which will be very easy if you did the reading, and very difficult otherwise. These will be part of your participation grade.

I encourage you to raise questions and comments during lectures!

Grading

Grading will be as follows:

Class participation (including reading quizzes): 10%
ESG memo: 30%
First quiz: 15%
Second quiz: 15%
Essay (see breakdown below): 30%
- Topic: 5%
- First draft: 10%
- Second draft: 15%

Quizzes

The first in-class quiz will be on **Thursday, October 15** and the second on **Tuesday, November 17**. There is no final exam. Quizzes are to be taken as scheduled except in the case of documented illness or family emergency. You will be given practice problems (ungraded) to prepare for the quizzes.

Simulation game

An important part of this course is a team-based market simulation game called the ESG (Electricity Strategy Game). Grading for the game will be based on a team memo and your team's performance in the game (we'll talk about what that means in class).

Essay

For this essay, you will be asked to write a short paper on a policy-relevant energy or environmental topic. Further details will be provided early in the semester.

Canvas

Course related information, ESG results, class handouts, and readings will all be available on the course Canvas site. ESG updates and other announcements will also be distributed via Canvas. Please let me know if you have any difficulties accessing the site.

Laptops and wireless devices

I prefer that you take notes by hand, which is more conducive to class discussion and helps you get more out of the lectures. You may use a laptop only if you restrict yourself to taking notes. If laptops become distracting to other students, I will request that they not be used anymore.

Plagiarism and cheating

I take the Ford School rules seriously, and so should you. From the student handbook: "Conduct by Rackham students that violates the ethical or legal standards of the University community or of one's program or specialization may result in serious consequences, including immediate disciplinary action and future professional disrepute. Among the serious offenses against these standards are: cheating, plagiarism, misrepresentation or falsification of data, dishonesty in publication, falsification or improper modification of an academic record, misuse of human subjects, and aiding and abetting academic misconduct." (http://fordschool.umich.edu/files/mpp-handbook-2013.pdf). The handbook discusses academic integrity in more depth. If you have questions, please see me. Other resources on this are also available (e.g., http://www.lib.umich.edu/shapiro-undergraduate-library/understanding-plagiarism-and-academic-integrity).

Disabilities

If you need an accommodation for a disability, please let me know within the first two weeks of classes. (Of course if a problem arises during the semester, you should see me as soon as you can). Some aspects of this course may be modified to facilitate your participation and progress. As soon as you make me aware of your needs, we can work with the Office of Services for Students with Disabilities to help us determine appropriate accommodations. I will treat any information you provide as private and confidential.

COURSE OUTLINE

Date	Topic	Assignments and ESG
T Sep 8	Intro lecture	
Th Sep 10	Econ review: competitive markets and efficiency	
T Sep 15	ESG Intro	
Th Sep 17	Econ review: public goods and externalities	
T Sep 22	More public goods and externalities; Coase	ESG Practice Rd 1 due
Th Sep 24	Climate change	
T Sep 29	Market power review, natural monopoly, and price regulation	ESG Practice Rd 2 due
Th Oct 1	Price regulation in theory and practice; Electricity markets	
T Oct 6	Electricity restructuring	
Th Oct 8	Catch-up	In-class divestiture auction
T Oct 13	Nuclear power; Quiz review	
Th Oct 15	Oil markets	Quiz 1
T Oct 20	FALL STUDY BREAK – NO CLASS	
Th Oct 22	Environmental regulation, theory	Paper topic due
T Oct 27	Environmental regulation, in practice	ESG Rd 1 due
Th Oct 29	Market-based emissions regulation	
T Nov 3	Market-based emissions regulation	ESG Rd 2 due
Th Nov 5	Renewables, subsidies, RPS	
T Nov 10	Energy efficiency, standards, and info policies	ESG Rd 3 due
Th Nov 12	Energy use in developing countries	
T Nov 17	Fracking and energy markets	Quiz 2
Th Nov 19	Fracking and the environment	
T Nov 24	Valuation and health	Draft of paper due
Th Nov 26	THANKSGIVING – NO CLASS	
T Dec 1	Water	ESG Rd 4 due
Th Dec 3	Guest speaker	
T Dec 8	ESG debrief	ESG memos due
Th Dec 10	Catch-up	Paper due

READINGS

Tuesday, September 8: Intro lecture

Keohane and Olmstead, Chapter 1.

Plumer, Brad. "Why Google Halted its Research into Renewable Energy." *Vox.com* 11 November 2014.

Thursday, September 10: Econ review: competitive markets and efficiency

Keohane and Olmstead, Chapters 2 and 4 (skip 3 for now).

Tuesday, September 15: ESG Intro

"Instructions for the Electricity Strategy Game." [handout]

"Auctions Handout." [handout]

Thursday, September 17: Econ review: public goods, externalities, and the Tragedy of the Commons

Keohane and Olmstead, Chapter 5.

Plumer, Brad. "Space Trash is a Big Problem. These Economists Have a Solution." *Washington Post Wonkblog* 24 Oct 2013.

Tuesday, September 22: More public goods and externalities; Coase

Keohane and Olmstead, pp 125-129: Coase Theorem.

Borenstein, Severin. "Learning and Forgetting the Wisdom of Coase." *Energy Economics Exchange* 9 Sep 2013.

Seelye, Katharine. "Utility Buys Town It Choked, Lock, Stock and Blue Plume." *New York Times* 13 May 2002.

Thursday, September 24: Climate change

Weitzman, Martin. "A Review of William Nordhaus' The Climate Casino: Risk, Uncertainty, and Economics for a Warming World." *Review of Environmental Economics and Policy* Winter 2015. [Please focus on pages 145 – 152.]

Plumer, Brad. "The EPA Outlines Our Choices on Global Warming: Moderate Disaster or Major Disaster." *Vox.com* 23 June 2015.

Gutting, Gary and Jamieson, Dale. "What Can We Do About Climate Change?" *New York Times* 18 May 2015.

Greenstone, Michael. "If We Dig Out All Our Fossil Fuels, Here's How Hot We Can Expect It to Get." *New York Times* 9 April 2015.

Tuesday, September 29: Market power review, natural monopoly, and price regulation

Optional market power review: Saylor Foundation, Principles of Microeconomics, Chapter 10. Pp 483-522.

Viscusi, Harrington and Vernon, Chapter 11. [I will tell you which pages to prioritize]

Thursday, October 1: Price regulation in theory and practice; electricity markets

Viscusi, Harrington and Vernon, Chapter 12. [I will tell you which pages to prioritize]

Tomich, Jeffrey. "Battles over Fixed Charges Proliferate across Midwest in Wake of Wis. Cases." *EENews.net* 15 June 2015.

Tomich, Jeffrey. "Xcel blamed for cost overruns at Minn. nuclear plant." *EENews.net* Feb. 2015.

Thursday, October 6: Electricity restructuring

Griffin, James and Puller, Steven. "A Primer on Electricity and the Economics of Deregulation" in *Electricity Deregulation: Choices and Challenges*. Griffin and Puller eds., Chicago: University of Chicago Press, 2005.

Tuesday, October 13: Nuclear power

Davis, Lucas W. and Catherine Wolfram. "Deregulation, Consolidation, and Efficiency: Evidence from US Nuclear Power." *American Economic Journal: Applied Economics* 4.4 (2012): 194-225. [I will tell you which sections to focus on.]

Davis, Lucas W. and Hausman, Catherine. "Market Impacts of a Nuclear Power Plant Closure." [I will tell you which sections to focus on.]

Thursday, October 15: Oil markets

Dilbert "Fungible oil" cartoon. [Be prepared to talk about the economics behind this cartoon!]

Additional reading(s) to be determined.

Thursday, October 22: Environmental regulation, theory

Berck and Helfand, Chapter 12.

Tuesday, October 27: Environmental regulation, in practice

Freeman, Myrick A. III. "Environmental Policy Since Earth Day I: What Have We Gained?" *Journal of Economic Perspectives* 16.1 (Winter 2002): 125-146.

Thursday, October 29: Market-based emissions regulation, part 1

Keohane and Olmstead, Chapter 8.

Porter, Eduardo. "U.S. Leaves the Markets Out in the Fight Against Carbon Emissions." *New York Times* 30 June 2015.

Tuesday, November 3: Market-based emissions regulation, part 2

Tietenberg, Tom. "Reflections—Carbon Pricing in Practice." *Review of Environmental Economics and Policy* 7.2 (2013): 313-329.

Thursday, November 5: Renewables, subsidies, RPS

Borenstein, Severin. "The Private and Public Economics of Renewable Electricity Generation." *Journal of Economic Perspectives* 26.1 (2012): 67-92.

Roberts, David. "The Economic Limitations of Wind and Solar Power." *Vox.com* 24 June 2015.

Plumer, Brad. "Why Google Halted its Research into Renewable Energy." *Vox.com* 11 November 2014.

Tuesday, November 10: Energy efficiency, standards, and info policies

Wolfram, Catherine. "The MPG Illusion." *Energy Economics Exchange* 3 Jun 2013.

Plumer, Brad. "Energy Efficiency Can Be Incredibly Valuable — But We Do Need to Measure it Properly." *Vox.com* 26 June 2015.

Davis, Fuchs and Gertler (summary of). "Cash for Coolers: A Good Policy?" *EI@Haas Research Review* (Fall 2012): pp 2,6.

Thursday, November 12: Energy use in developing countries

Wolfram, Catherine, Orie Shelf and Paul Gertler. 2012. "How Will Energy Demand Develop in the Developing World?" Working paper. [I will tell you which sections to focus on.]

Woody, Todd. "Here's Why Developing Countries Will Consume 65% of the World's Energy by 2040." *The Atlantic* 3 December 2013.

Tuesday, November 17: Fracking and energy markets

Hausman, Catherine and Ryan Kellogg. "Welfare and Distributional Implications of Shale Gas." Working paper. [I will tell you which sections to focus on.]

Thursday, November 19: Fracking and the environment

Jackson, Robert B. et al. "The Environmental Costs and Benefits of Fracking." *Annual Review of Environment and Resources*. [I will tell you which sections to focus on.]

Small, Mitchell J. et al. "Risks and Risk Governance in Unconventional Shale Gas Development." *Environmental Science and Technology*.

Tuesday, November 24: Valuation and health

EPA. "Analyzing Benefits." *Guidelines for Preparing Economic Analyses*, Chapter 7. December 2010.

Tuesday, December 1: Water

CBC News. "1/3 of World's Major Aquifers are Being Sucked Dry, NASA Data Shows." 17 June 2015.

Mansur, Erin and Sheila Olmstead. "Use Prices to Conserve Water when Supplies are Scarce." *RFF.org* 2011.

Salzman, James. "Why Rivers No Longer Burn." *Slate.com* 16 Dec 2014.