

**US ENERGY POLICY**  
**PS 473/573**  
**SPRING 2013**  
**M & W 4:00 – 5:50**

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This 4-credit course will address US energy policy with respect to how the U.S. governs the production and use of different energy sources, along with the management of its energy infrastructure. The goal of the course is to gain an understanding of policies currently in place, as well as proposals for alternatives, while examining the economic, environmental, national security and energy security implications of different policy approaches.

The course will involve lecture, discussion, and small group work to explore topics such as shale gas development, tax incentives for the oil industry, how policy determines the market for renewable energy, governance of the electrical grid by federal and state authorities, the potential for greater energy efficiency, nuclear power, the costs and benefits of different energy sources, and how the national security and environmental impacts of energy usage have spurred policy changes.

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**LEARNING OUTCOMES**

*Undergraduates*

- Demonstrate comprehensive knowledge of the sources and volumes of current and projected US energy production and usage
- Comprehend major legislation governing oil production and the management of the electric power generation sector
- Explain the national security, economic and environmental consequences of current US energy policy.
- Explain the structure of the electric power market and understand the roles and responsibilities in the generation, transmission, distribution, and systems operations functions.
- Describe and compare the benefits and drawbacks of different energy sources and technologies, such as oil, coal, natural gas, nuclear and renewables.
- Develop the ability to understand and navigate energy information reports and databases from the US government, NGO's and international organizations.
- Develop the ability to write strong, clear and compelling policy briefs

*Graduates*

- All of the undergraduate learning outcomes, plus...
  - Analyze and critique the economic and environmental impacts of different energy policy options involving oil and electricity generation.
  - Analyze and critique the national and global security impacts of US production, usage and policy options involving oil.
  - Calculate and evaluate the direct, indirect and externalized costs and benefits of different energy sources and technologies.
  - Research and compose in-depth policy briefs and analyses on energy legislation and regulation.
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## COURSE REQUIREMENTS

### *Undergraduates*

|                           |     |
|---------------------------|-----|
| Article/Chapter Summaries | 20% |
| Policy Brief              | 20% |
| Midterm Exam              | 25% |
| Final Exam                | 25% |
| Participation             | 10% |

### *Graduates*

|                                |     |
|--------------------------------|-----|
| Policy Briefs (3)              | 30% |
| Midterm exam                   | 15% |
| Final exam                     | 15% |
| Research Paper/Policy Analysis | 30% |
| Participation/Presentation     | 10% |

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## READINGS

The texts for the course are Michael Hamilton, *Energy Policy: A Conceptual Framework*; and Bob Shively and John Farrare, *Understanding Today's Electricity Business*. There will also be additional articles that will be provided electronically on Blackboard. The reading assignment for the day must be read prior to class.

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## POLICY BRIEFS

You are to write a policy brief (three if you are a graduate student). A policy brief is a document that explains a policy problem and outlines the arguments for and against choosing a particular course of action in a current policy debate. The brief can be either advocate for a particular policy option (it will thus make a recommendation) or be neutral. Each policy brief should be no more than 2-3 single spaced pages. There are many different ways to organize a policy brief, and some examples are below. Generally, the brief will present the problem or issue, provide some background, give pros and cons to several alternative policies (no straw men policies allowed), and make a recommendation.

The criteria for assessing graduate level work will be different than that used to assess undergraduate work. Undergraduates will be expected to complete work that reflects an understanding of legislation, the structure of electric power markets, and/or the strengths and weaknesses of different energy sources, along with other items related to the undergraduate learning outcomes. Graduate students will need to demonstrate a higher level of understanding and ability, reflecting knowledge of how to analyze and evaluate the strengths and weaknesses of different policy options, calculating and evaluating the direct, indirect and externalized costs of energy sources, and analyzing the global and national security impacts of policy involving oil production and usage.

Examples of policy briefs, and guidelines for a policy brief: <http://www.rff.org/RFF/Documents/RFF-IB-09-11.pdf>  
[http://www.un.org/en/development/desa/policy/publications/policy\\_briefs/policybrief24.pdf](http://www.un.org/en/development/desa/policy/publications/policy_briefs/policybrief24.pdf)  
[http://www.rhsupplies.org/fileadmin/user\\_upload/toolkit/B\\_Advocacy\\_for\\_RHS/Guidelines\\_for\\_Writing\\_a\\_Policy\\_Brief.pdf](http://www.rhsupplies.org/fileadmin/user_upload/toolkit/B_Advocacy_for_RHS/Guidelines_for_Writing_a_Policy_Brief.pdf)

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## EXAMS

Exams will cover material from the readings and course lectures and discussions. The final exam will cover material addressed after the midterm exam.

## ARTICLE/CHAPTER SUMMARIES

This assignment is for undergraduates only. Your assignment is to complete a summary of the assigned articles. You do not have to submit a summary of every article or chapter, only one summary for each day readings are assigned. You may choose which items to summarize. The idea is for you to gain an understanding of the arguments and main ideas of each and to be able to explain how the authors support their arguments.

Each summary should be about a paragraph in length (so you should be able to get 2 to a page – single spaced).

The summaries are due every other Wednesday in class, with the first set due on April 10.

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## RESEARCH PAPER OR POLICY ANALYSIS

This assignment is for graduate students only. You may choose to complete either a typical research paper on a topic of your choosing, or a policy analysis. The goal of this assignment is for you to complete in-depth research and writing on a policy or problem you would like to address. Students will present their work to the class during the last week of the term.

The policy analysis is a far more comprehensive effort than a policy brief. You can have some flexibility in what the final product looks like, but in general, you will examine a particular energy policy (either existing or proposed) at the state or national level, looking at implications involving economic, environmental, energy supply, and/or national security aspects, while also looking at the stakeholders and the politics of the policy topic. A variation on this could be to make the point of focus a particular technology or fuel, and to analyze a set of policies that govern the topic you're addressing. The links below provide some suggestions on how to approach the policy analysis. It can be structured in a way that is similar to the policy brief, but it will be far more detailed and rigorous in its analysis.

<http://www.csulb.edu/~msaintg/ppa670/670steps.htm>

[http://www.cpa.ie/publications/HowTo\\_DoPolicyAnalysis\\_2006.pdf](http://www.cpa.ie/publications/HowTo_DoPolicyAnalysis_2006.pdf)

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## CLASS PRESENTATION

This assignment is for graduate students only. On one day of the class you will present a news article that is related to the day's topic. You will need to summarize the article and discuss its importance and relevance to the course content, being certain to relate the article to the readings assigned for that day in class. You will also need to be able to answer questions from the class about the article/topic you choose.

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## STUDENTS WITH DISABILITIES

Students who have any alternative needs as a result of a disability should see me right away. Accommodations are collaborative efforts between students, faculty and Disability and Access Services (DAS). Students with accommodations approved through DAS are responsible for contacting the faculty member in charge of the course prior to or during the first week of the term to discuss accommodations. Students who believe they are eligible for accommodations but who have not yet obtained approval through DAS should contact DAS immediately at 541-737-4098.

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## EXPECTATIONS FOR STUDENT CONDUCT

Students are expected to follow the academic and professional standards of the university and their academic units. These are described at <http://oregonstate.edu/admin/stucon/achon.htm>.

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## WEEKLY SCHEDULE OF TOPICS AND READINGS

### Week 1

#### Apr. 1 Introduction

#### Apr. 3 The Domestic Context

National Academy of Sciences, "What You Need to Know about Energy," 2008, <http://www.nap.edu/catalog/12204.html>.

US Energy Information Administration, *Annual Energy Outlook 2013 Early Release*, March 2013, <http://www.eia.gov/forecasts/aeo/er/index.cfm>.

\*Geri and McNabb, *Energy Policy in the US*, Chapters 1 and 4. (Required for graduate students, recommended for undergraduates.)

### Week 2

#### Apr. 8 The Global Context

Michael Klare, *Rising Powers, Shrinking Planet*, Prologue and Chapters 1-2.

US Energy Information Administration, *International Energy Outlook 2011 (Highlights)*, Sept. 2011, <http://www.eia.gov/forecasts/ieo/>.

\*International Energy Agency, *World Energy Outlook 2012*, <http://www.iea.org/publications/freepublications/publication/English.pdf>. (Required for graduate students, recommended for undergraduates.)

#### Apr. 10 Energy and Climate Change

David McKay, *Sustainable Energy - Without The Hot Air*, Chapter 1, <http://www.withouthotair.com/>.

Ian W.H. Parry and William Pizer, "Emissions Trading vs. CO2 Taxes vs. Standards," *Assessing US Climate Policy Options*, A Report by Resources for the Future, 2007, pp. 80-87, [http://www.rff.org/News/Features/Documents/CPF\\_COMPLETE\\_REPORT.pdf](http://www.rff.org/News/Features/Documents/CPF_COMPLETE_REPORT.pdf).

N. Gregory Mankiw, "One Answer to Global Warming: A New Tax," *New York Times*, 9/16/2007, [http://www.economics.harvard.edu/faculty/mankiw/files/One\\_Answer\\_to\\_Global\\_Warming.pdf](http://www.economics.harvard.edu/faculty/mankiw/files/One_Answer_to_Global_Warming.pdf)

\*Intergovernmental Panel on Climate Change (IPCC), *Climate Change 2007: Synthesis Report – Summary for Policymakers*, [http://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4\\_syr\\_spm.pdf](http://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr_spm.pdf). (Required for graduate students, recommended for undergraduates.)

\*Burton Richter, "Energy in Three Dimensions," *Issues in Science and Technology*, Spring 2011, <http://www.issues.org/27.3/richter.html> (Required for graduate students, recommended for undergraduates.)

### Week 3

#### Apr. 15 Oil – National Security Implications

Council on Foreign Relations, "National Security Consequences of US Oil Dependency," 2006, <http://www.cfr.org/energy-security/national-security-consequences-us-oil-dependency/p11683>

\*Christopher Dickey, "The Oil Shield," *Foreign Policy*, April 2006, [http://www.foreignpolicy.com/articles/2006/04/25/the\\_oil\\_shield](http://www.foreignpolicy.com/articles/2006/04/25/the_oil_shield). (Required for graduate students, recommended for undergraduates.)

\*Thomas Friedman, "The First Law of Petropolitics," *Foreign Policy*, May/June 2006, [http://www.foreignpolicy.com/articles/2006/04/25/the\\_first\\_law\\_of\\_petropolitics](http://www.foreignpolicy.com/articles/2006/04/25/the_first_law_of_petropolitics). (Required for graduate students, recommended for undergraduates.)

#### **Apr. 17 Oil and Gas – Current Policy**

Michael Hamilton, *Energy Policy Analysis*, Chapters 1 and 4.

International Center for Technology Assessment, *The Real Price of Gasoline*, Report No. 3, November 1998. [http://www.ethanol.org/pdf/contentmgmt/The\\_Real\\_Price\\_of\\_Gas.pdf](http://www.ethanol.org/pdf/contentmgmt/The_Real_Price_of_Gas.pdf).

"Oil – A Big Investment with Big Tax Breaks," Investopedia, February 19, 2011, <http://www.investopedia.com/articles/07/oil-tax-break.asp#axzz1ZpsoWh7r>.

Sima Gandhi, "Eliminating Tax Subsidies for Oil Companies," Center for American Progress," May 13, 2010, [http://www.americanprogress.org/issues/2010/05/oil\\_company\\_subsidies.html](http://www.americanprogress.org/issues/2010/05/oil_company_subsidies.html).

Chris Nelder, "The True Cost of Oil: \$65 Trillion a Year?" *Energy and Capital*, June 29' 2007, <http://www.energyandcapital.com/articles/oil-gas-crude/461>.

US Government Accountability Office, *Oil and Gas Royalties: The Federal System for Collecting Oil and Gas Revenues Needs Comprehensive Reassessment*, September 2008. <http://www.gao.gov/new.items/d08691.pdf>.

IHS Cambridge Energy Research Associates, *Comparative Assessment of the Federal Oil and Gas Fiscal System*, US Department of the Interior, 2011, pp. 1-2 and 5-8. <http://www.boem.gov/Oil-and-Gas-Energy-Program/Energy-Economics/Fair-Market-Value/Fair-Return-Report.aspx>.

#### **Week 4**

##### **Apr. 22 Oil and Gas – Current Policy**

Michael Hamilton, *Energy Policy Analysis*, Chapter 9.

US DOE, "Shale Gas: A Primer," 2009.

US EPA, "CAFE Standards," 2012.

Environmental Defense Center, "Fracking: Federal Laws - Loopholes and Exemptions," [http://www.edcnet.org/learn/current\\_cases/fracking/federal\\_law\\_loopholes.html](http://www.edcnet.org/learn/current_cases/fracking/federal_law_loopholes.html).

Bernell, "Ethanol: Politics, Policy, Impacts," March 2013.

##### **Apr. 24 Oil and Gas – Policy Options**

Amory Lovins, *Winning the Oil Endgame*, "Crafting Coherent Supportive Policies," pp. 169-213.

Alan Krupnick, Tony Knowles, et al., "Policies to Reduce Oil Consumption," *Toward a New National Energy Policy*, A Report by RFF and NEPI, 2010, pp. 45-67, [http://www.energypolicyoptions.org/wp-content/uploads/reports/RFF-Rpt-NEPI\\_Tech\\_Manual\\_Final.pdf](http://www.energypolicyoptions.org/wp-content/uploads/reports/RFF-Rpt-NEPI_Tech_Manual_Final.pdf).

Charles Krauthammer, "The Net Zero Gas Tax" *The Weekly Standard*, 1/5/09, <http://www.weeklystandard.com/Content/Public/Articles/000/000/015/949rsgj.asp?pg=1>

#### **Week 5**

##### **Apr. 29 Oil and Gas – Policy Options**

McKinsey & Co., *Energy Efficiency: A Compelling Global Resource*, "Electrifying Cars," pp. 53-60, 2010, <http://www.mckinsey.com/Search.aspx?q=energy%20efficiency>.

Walter Russell Mead, "Chitty Chitty Bang Bang: The Electric Car Industry Isn't Going to Save Us," *The National Interest*, 9/28/10, <http://blogs.the-american-interest.com/wrm/2010/09/28/chitty-chitty-bang-bang-the-electric-car-industry-isnt-going-to-save-us/>

**May 1 Oil and Gas – Policy Options (Take home midterm exam due today)**  
No new readings for today

**Week 6**

**May 6 The Electric Power System; Coal**

Bob Shively and John Farrare, *Understanding Today's Electricity Business*, Sections 1 and 2.  
Michael Hamilton, *Energy Policy Analysis*, Chapter 2.

**May 8 The Electric Power System; Hydropower**

Bob Shively and John Farrare, *Understanding Today's Electricity Business*, Sections 3 and 4.  
Michael Hamilton, *Energy Policy Analysis*, Chapter 8.

**Week 7**

**May 13 The Electric Power System; Nuclear Power**

Bob Shively and John Farrare, *Understanding Today's Electricity Business*, Sections 5 and 6.  
Michael Hamilton, *Energy Policy Analysis*, Chapter 3.

World Nuclear Association, "US Nuclear Policy," Oct. 2011, [http://world-nuclear.org/info/inf41\\_US\\_nuclear\\_power\\_policy.html](http://world-nuclear.org/info/inf41_US_nuclear_power_policy.html)

**May 15 The Electric Power System; Nuclear Power**

Bob Shively and John Farrare, *Understanding Today's Electricity Business*, Sections 7 and 8.

Public Citizen, "Nuclear Giveaways in the Energy Policy Act of 2005," <http://www.citizen.org/documents/NuclearEnergyBillFinal.pdf>

Public Citizen, "A Look at the Five Fatal Flaws of Nuclear Power," 2010 [http://www.citizen.org/cmep/article\\_redirect.cfm?ID=13447](http://www.citizen.org/cmep/article_redirect.cfm?ID=13447).

Nuclear Energy Institute, "New Nuclear Energy Facilities Will Promote Growth, Provide Clean Electricity," Apr. 2012, [http://www.nei.org/corporatesite/media/filefolder/Need\\_for\\_New\\_Plants\\_April\\_2012.pdf](http://www.nei.org/corporatesite/media/filefolder/Need_for_New_Plants_April_2012.pdf).

\*Nuclear Energy Institute, "Nuclear Energy Is Competitive in Independent Cost Analyses of New Generating Capacity," Sept. 2011, [http://www.nei.org/corporatesite/media/filefolder/Nuclear\\_Energy\\_Is\\_Competitive\\_in\\_Independent\\_Cost\\_Analyses\\_Sept\\_2011.pdf](http://www.nei.org/corporatesite/media/filefolder/Nuclear_Energy_Is_Competitive_in_Independent_Cost_Analyses_Sept_2011.pdf). (Required for graduate students, recommended for undergraduates.)

\*Mark Cooper, "The Implications of Fukushima," *Bulletin of the Atomic Scientists*, July 2011, <http://web.ebscohost.com/ehost/pdfviewer/pdfviewer?sid=55ce7548-0379-4cc3-9004-64944b499298%40sessionmgr114&vid=9&hid=125>. (Required for graduate students, recommended for undergraduates.)

**Week 8**

**May 20 The Electric Power System; Solar**

Bob Shively and John Farrare, *Understanding Today's Electricity Business*, Sections 9 and 10.  
Michael Hamilton, *Energy Policy Analysis*, Chapter 5.

Solar Energy Industries Association, *US Solar Market Insight – 2012 Year in Review*, Executive Summary, <http://www.seia.org/research-resources/us-solar-market-insight-2012-year-review>

\*\*H. Sterling Burnett, *Solar Power Prospects*, National Center for Policy Analysis, Rept. 334, May 2011 <http://www.ncpa.org/pdfs/st334.pdf>. (Recommended, but not required for graduates or undergraduates.)

\*\*Joshua Green, "The Elusive Green Economy," *The Atlantic*, July/Aug 2009, <http://www.theatlantic.com/magazine/archive/2009/07/the-elusive-green-economy/7554/> (Recommended, but not required for graduates or undergraduates.)

### May 22 The Electric Power System; Wind

Bob Shively and John Farrare, *Understanding Today's Electricity Business*, Sections 11 and 12.

Michael Hamilton, *Energy Policy Analysis*, Chapter 6.

\*Amory Lovins, "A Farewell to Fossil Fuels," *Foreign Affairs*, March/April 2012, [http://www.rmi.org/Knowledge-Center/Library/2012-01\\_FarewellToFossilFuels](http://www.rmi.org/Knowledge-Center/Library/2012-01_FarewellToFossilFuels). (Required for graduate students, recommended for undergraduates.)

### Week 9

#### May 27 Holiday – No Class Meeting

#### May 29 The Electric Power System; Conservation and Efficiency

Bob Shively and John Farrare, *Understanding Today's Electricity Business*, Sections 13, 14 and 15.

Michael Hamilton, *Energy Policy Analysis*, Chapter 10 and 13.

Lisa Margonelli, "Energy Security for American Families," *Issues in Science and Technology*, Winter 2009, <http://www.issues.org/25.2/margonelli.html>

\*McKinsey & Co., *Energy Efficiency: A Compelling Global Resource*, "Energy Efficiency: Unlocking the US Opportunity," pp. 4-17, 2010, <http://www.mckinsey.com/Search.aspx?q=energy%20efficiency>. (Required for graduate students, recommended for undergraduates.)

### Week 10

#### June 3 The Electric Power System – Options for Reform

& Michael Hamilton, *Energy Policy Analysis*, Chapter 14.

June 5 Jeffrey Leonard, "Get the Energy Sector off the Dole," *Washington Monthly*, Jan/Feb 2011, <http://www.washingtonmonthly.com/features/2011/1101.leonard-2.html>.

Richard Munson, "Reduce Greenhouse Gases Profitably," *Issues in Science and Technology*, Winter 2009, <http://www.issues.org/25.2/munson.html>

Thomas Friedman, "The Energy Internet," from *Hot, Flat and Crowded*, pp. 270-287.

Peter Huber, "The Million Volt Answer to Oil," *Energy Policy and the Environment Report*, Oct. 2008, [http://www.manhattan-institute.org/html/eper\\_03.htm](http://www.manhattan-institute.org/html/eper_03.htm)

Center for Climate and Energy Solutions, CCS Factsheet, <http://www.c2es.org/technology/factsheet/ccs>.

Chris Nelder, "Why Carbon Capture and Storage Will Never Pay Off," *Smart Planet*, March 6, 2013. <http://www.smartplanet.com/blog/take/why-carbon-capture-and-storage-will-never-pay-off/534>.

Frank Laird, "A Full Court Press for Renewable Energy," *Issues in Science and Technology*, Winter 2009, <http://www.issues.org/25.2/laird.html>

**FINAL EXAM: Wednesday, June 12, 9:30 AM**