

U.S. Energy Policy in Global Context

GEOG 3780

Spring 2017



TTH 2:00-3:15pm
219 Jessup Hall (JH)

Energy is like love; you don't have to understand it to get involved with it. But unlike love, there is some chance you can understand energy. -- Anonymous

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Course Description and Objectives:

Energy defines how we live. It is what keeps us alive, moves us around, and shapes our relationships with each other. The discovery and exploitation of concentrated forms of energy from the earth -- coal and oil, the two principal fossil fuels -- gave rise to the industrial revolution and launched parts of the world on a trajectory of rapid economic growth. Fossil fuels also have been a source of social and geopolitical conflict. In the future, the world's appetite for energy is predicted to grow at a staggering rate, and the impacts of climate change caused by the burning of fossil fuels are expected to become more severe. Eventually, humans will have to draw on a wider array of energy sources. We appear to be at the beginning of a transition to using "unconventional" forms of fossil fuels and non-fossil fuel energy. This transition offers opportunities, but it also presents challenges and problems. As in the past, the United States and other energy intensive societies will have to make choices about how to find and consume energy. These choices are not easy, and they are inherently political. They must attempt to balance the interests of different stakeholders. They must consider factors of price and cost - both social and environmental -- that are not static and are often based on assumptions about the future that are highly uncertain. Finally, there is the challenge of making local, regional, and national policy toward energy markets that transcend these boundaries and are often global in scope.

The purpose of this course is to take a close look at how these policy choices in energy have been made by the United States in the recent past and what choices we face in moving into a new energy future. We will examine the historical and contemporary aspects of U.S. governmental planning and policymaking on a wide range of energy issues in global context. We will explore the legal, political, and administrative dimensions of producing energy from fossil fuel, nuclear, and renewable sources; we will look at how energy policy shapes systems of transportation, power and electricity generation, geopolitics and national security, and consumer and financial markets; and we will consider how the impacts of energy development affect the environment and environmental policy.

The course is designed in two parts. The first part of the semester, Weeks 1 through 8, will be devoted to studying the science and technology of energy generation and the structure of energy governance in the United States, reviewing recent U.S. energy policy history and laying out the larger policy issues. Graded assignments for the first part of the semester consist of **two in-class quizzes, two short papers (2-3 pages), and a midterm take-home essay (7-10 pages)**.

In the second part of the semester, Weeks 10 through 16, we will examine specific policy issues and controversies and look at different scenarios and prospects for our energy future. Graded assignments for the second part of the semester

consist of **three short papers (2-3 pages) and a final policy paper (10-12 pages)** on one of the issue areas listed in Weeks 8-16. **Attendance and participation** over the course of the semester will constitute **20 percent** of the final grade.

The main objective of this course is to improve your energy literacy, which is increasingly important to becoming an informed citizen in the 21st century. You should be able to evaluate debates over energy policy and take a position in those debates by marshaling evidence and formulating a logical argument. In addition to expanding your knowledge base, this course aims to improve your oral and written expression of ideas and sharpen your skills in critical reading and writing.

Course Requirements:

Required Text

The following book is available for purchase at Prairie Lights Bookstore (15 S. Dubuque St):

Timothy F. Braun and Lisa M. Glidden, *Understanding Energy and Energy Policy* (Zed Books, 2014), paperback (also available as an ebook through UI Libraries online catalog)

Additional readings are posted in PDF form on the Canvas course website.

Energy Wire (E&E News)

The University of Iowa Utilities and Energy Management, in partnership with the UI Office of Sustainability, pays for a campus-wide subscription access to *E&E Publishing*, a news service that offers objective, timely, and comprehensive information for professionals who track environment and energy policy news.

Anyone with a current **@uiowa.edu** email address has unrestricted access to E&E email alerts and current, in-depth information on energy, climate change, and environmental issues. For this class, **you are required to sign up for EnergyWire alerts through E&E News.** Each morning you will receive an email with a list of the latest stories on energy.

Go to http://www.eenews.net/email_alerts/ to sign up for access. Upon filling out the information and clicking *Sign Up Now*, you will be set up for access under the UI's license to E&E. Once signed up, you can access any of E&E News services via IP recognition at <http://www.eenews.net/>. In addition to EnergyWire, you may also choose, but are not required, to receive alerts for one or all the following other services: ClimateWire, E&E Daily, Greenwire, and E&ENews PM. Here is a brief description of each:

EnergyWire – Daily coverage on the transformation of the Energy Sector

ClimateWire – In-depth source on the politics and business of Climate Change

E&E Daily – News on energy and environmental legislation in Congress
Greenwire – Comprehensive coverage of Federal Agencies, States, Courts, Utilities, Industry, Endangered Species, and Natural Resources
E&ENews PM – Breaking Daily News
E&E TV – Interviews with Key Policy Leaders (*Complimentary Service*)

General Expectations

The general expectation is that you come to the course eager to learn about energy policy. The course is designed with the assumption that you have little prior knowledge of the subject. It helps for you to have some background in environmental studies, geography, economics, political science, or U.S. history, but this is not required.

According to University of Iowa guidelines, in a 3 semester-hour course students should expect (on average) 6 additional hours of outside work per week or a total around 9 hours per course if classroom time is included. A student taking 5 courses (3 s.h. each) should expect to spend around 45 hours a week on academic work. The university considers 45 hours of academic work a week the norm. Many students, especially those in their first-year, believe that studying "a lot" means about 12 hours a week. Make sure to adjust your expectations accordingly.

We will be using the **UIowa Canvas** Course Management Website, <https://uiowa.instructure.com> to manage materials for the class. The syllabus, PDFs of readings, website links, announcements, and grades can all be accessed through Canvas. Remember to check the Canvas course website regularly. You should also check your **UIowa email** account daily for messages or updates from me on the course. This will be my principal means of communicating with you outside of class.

Format

Each class meeting will be conducted primarily through discussions, with mini-lectures offered occasionally. You are responsible for arriving to class prepared for discussion and having done the assigned reading for the day. For the first eight weeks, a weekly study guide will usually be posted in Canvas a few days in advance. Lectures may be accompanied by PowerPoint slides, but not always. You should take notes on lectures and class discussions. Part of learning in a lecture format is listening actively and taking notes on things you find important.

Office Hours: Wed 1:00-3:00pm & Thus 3:30-4:30pm and by appointment.

Please come and talk with me whenever you have any questions about the course materials or requirements, if you need help, or would like to know more about a particular topic. If your schedule makes it difficult for you to come to my office hours, send me an email or talk to me after class so that we can set up an appointment at some time that works for both of us.

Attendance

This class demands a high level of engagement by students with the readings and assignments. Attendance is required to complete the course successfully. **Come to class having thoroughly prepared from the readings assigned for that day, and be ready to discuss them. I will call on students for their input. Occasionally, in-class activities will include short writing assignments to gauge your preparation and comprehension.** The results of these will be factored into your attendance and participation grade, twenty percent of which constitutes your final grade for the course. If you are unable to attend class because of illness, authorized University activities, or other circumstances that warrant special attention, you must notify me by email or telephone at the earliest possible opportunity or within 24 hours of missing the class. Only an excused absence entitles students to make up graded work. You are allowed a maximum of two *unexcused* absences without suffering a penalty. You are allowed two *excused* absences for short-term illness without medical documentation, provided that you notify me by email within 24 hours of missing the class. For illness that requires you to miss more than two classes, you must provide documentation for the absence, which may include a list of appointments from MyChart. For long-term absences (generally, more than five days of classes), I will require a notification from the Registrar of the reasons for the absences.

If a personal crisis affects your ability to complete the course or affects an entire semester's registration, you should immediately contact CLAS Academic Programs and Student Development (120 Schaeffer Hall). Students may call or stop by to make an appointment.

Classroom Conduct

Arrive to class on time and be attentive for the entire period. If you arrive late, come in quietly – but don't make arriving late a habit. During class time, do not chat with neighbors, read materials unrelated to class, eat or drink noisily, or otherwise disturb the meeting. **All phones and handheld devices must be stowed away during class time. I strongly discourage the use of laptop computers in class, but will permit them if absolutely necessary, provided that use of laptops are strictly related to the course.** Silence all cell phones before you enter the room. Do not answer phones or send/check messages during class. At all times, please be respectful of classmates and the professor. The goal is to learn from others' ideas in an open, tolerant atmosphere.

Evaluation

At A Glance:

<i>Assignment</i>	<i>Due Date</i>	<i>Points/Percentage</i>
Attendance	Ongoing	10 points (10%)
Participation	Ongoing	10 points (15%)
Quizzes (two total)	Jan 31 & Feb 14	10 points (10%)

Short papers (five total)	Various	25 points (20%)
Midterm Essay	Mar 10	20 points (15%)
Policy Paper	May 9	25 points (20%)
Total		100 points (100%)

Course Letter Grade:

There will be 100 points possible in the course, corresponding to the percentages listed above. Your final grade will be calculated according to the following scale:

100-93 - A

92-90 - A-

89-87 - B+

86-83 - B

82-80 - B-

79-77 - C+

76-73 - C

72-70 - C-

69-67 - D+

66-63 - D

62-60 - D-

59 - -- F

A grade: demonstrates exceptional work that goes beyond the mere recitation of content encountered in the class. Written A work demonstrates a high level of critical thinking and analysis and the ability to synthesize concepts learned throughout the semester to produce an insightful perspective on the subject at hand. To achieve an A, students must consistently attend class and demonstrate preparedness.

B grade: attempts critical thinking and analysis and shows solid grasp of the required reading. Students who achieve B-level work consistently attend class and demonstrate preparedness.

C grade: demonstrates a basic level of effort and competence with the course materials but also gaps in critical thinking, comprehension or synthesis of the material, and incomplete command of basic facts. Irregular attendance often results in C-level work.

D grade: does not meet basic standards of competency in the course. D-level work shows incomprehension of the course content and falls short of expectations for college-level coursework. A significant number of absences and a failure to complete assignments often result in substandard work.

There is a window of two weeks for appealing grades. Once you have received a grade for a given assignment (paper, quiz), you have two weeks to appeal if you think you have received an incorrect score. For example, I will not consider an

appeal at the end of the semester for the first paper. Rarely, and almost only in the case of an obvious error, do I change grades.

Attendance

I will take class attendance every period. Grading criteria is as follows:

10 - No more than 2 unexcused absences during the semester

9 - No more than 3 unexcused absences during the semester

8 - No more than 4 unexcused absences

7 - No more than 5 unexcused absences

6 - No more than 6 unexcused absences

0 - More than 6 unexcused absences

"F" for class - More than 10 unexcused absences

Participation

Participation will be evaluated in a number of ways, including timely arrival to class, oral participation, and occasional in-class assignments:

10 - frequent and insightful participation demonstrating a consistently high level of preparation and intellectual effort

8-9 - frequent and informed participation in class discussion that indicates good preparation

7-8 - infrequent participation in discussion that reflects merely adequate preparation and effort

6 - infrequent participation and inadequate preparation

5 or below - little-to-no participation

Quizzes

There will be two reading quizzes administered in class on January 31 and February 14. They will consist of five questions (multiple choice, fill-in-the-blank, or short answer) on the assigned reading and will take no more than 10-15 minutes of class time. They are intended to give you extra incentive to master the basic concepts of energy and energy policy. Each quiz is worth five points. The quizzes are worth a combined total of 10 points or 10% of your final grade.

Short Papers

Over the course of the semester, you will submit five short papers on a daily topic of your choice. Two papers must be submitted before Spring Break, and three papers will be submitted between Spring Break and the end of the semester. For the **first paper**, you will choose one of the topics marked with an asterisk* in the Schedule from **Weeks 4, 5, or 6**. For the **second paper**, you will choose a topic marked with an asterisk* from **Weeks 7 or 8**. For the **third paper**, you will choose a topic from **Weeks 10 or 11**, the **fourth paper** from **Weeks 12, 13, or 14**, and the **fifth paper** from **Weeks 15 or 16**.

Each paper should be 2-3 pages (500-750 words) in length and submitted as a Word document electronically through ICON. Your paper should be a **response/analysis/reaction to both the assigned reading and at least one story**

from EnergyWire (or a preapproved story from another news source) that discusses a recent policy development (within the last three months) on a topic covered in the assigned reading. All papers must be **submitted to Canvas by 9am** on the day of the class meeting to discuss your selected topic. Upload papers to both "Discussions" and "Assignments."

Midterm Essay

On Monday, February 27, I will provide a question/prompt for a 7-10 page essay that you will submit ten days later on Friday, March 10. The essay will have you synthesize material studied since the beginning of the semester with recent policy and political developments. Further instructions will be provided.

Policy Paper

On May 9 (second day of final exams) students will submit a 10-12 page policy paper (2500-3000 words) on any one of the issue areas discussed during the second half of the semester, except for any of the issues you wrote about for your third, fourth, or fifth papers. In the policy paper, you will write a comprehensive description and analysis of a particular issue along with policy options and your policy prescription or recommendation. More detailed instructions will be provided.

Missed Assignments

Only students whose absences are excused will be given the opportunity to make up overdue assignments without penalty. It is expected that all work will be made up as soon as possible after the missed assignment. It is the student's responsibility to contact the instructor immediately if a paper or exam was missed (or is about to be missed). Specific arrangements for make-ups will be made on a case-by-case basis. Unless there are truly extraordinary circumstances, students must contact the instructor within one day after the missed assignment to make arrangements.

Collaboration

In this class, students may study with classmates and collaborate on ungraded exercises. However, please be aware that to succeed in this class you will have to be able to work through and master the material on your own. You may not share your work with others or ask to see others' work prior to submitting the assignment for a grade, as it is considered academic misconduct. Students are responsible for understanding this policy; if you have questions, ask for clarification.

Extra Credit

Extra credit assignments or opportunities may be offered occasionally during the semester.

***Grades for each assignment will be posted within 10 days and usually no sooner than one week after the assignments are submitted.

CLAS and University Policies:

Administrative Home

The College of Liberal Arts and Sciences is the administrative home of this course and governs matters such as the add/drop deadlines, the second-grade-only option, and other related issues. Different colleges may have different policies. Questions may be addressed to 120 Schaeffer Hall, or see the CLAS Academic Policies Handbook at <http://clas.uiowa.edu/students/handbook> .

Electronic Communication

University policy specifies that students are responsible for all official correspondences sent to their University of Iowa e-mail address (@uiowa.edu). Faculty and students should use this account for correspondences ([Operations Manual, III.15.2](#), k.11).

Accommodations for Disabilities

The University of Iowa is committed to providing an educational experience that is accessible to all students. A student may request academic accommodations for a disability (which includes but is not limited to mental health, attention, learning, vision, and physical or health-related conditions). A student seeking academic accommodations should first register with Student Disability Services and then meet with the course instructor privately in the instructor's office to make particular arrangements. Reasonable accommodations are established through an interactive process between the student, instructor, and SDS. See <https://sds.studentlife.uiowa.edu/> for information.

Academic Honesty

All CLAS students have, in essence, agreed to the [College's Code of Academic Honesty](#): "I pledge to do my own academic work and to excel to the best of my abilities, upholding the [IOWA Challenge](#). I promise not to lie about my academic work, to cheat, or to steal the words or ideas of others; nor will I help fellow students to violate the Code of Academic Honesty." Please familiarize yourself with the university's policy on academic dishonesty at <http://clas.uiowa.edu/students/handbook/academic-fraud-honor-code>. Plagiarism, a form of academic dishonesty, includes, but is not limited to, intentional or unintentional use of direct quotes without proper attribution and/or quotation marks; the use of someone else's ideas without appropriate attribution; and handing in someone else's work as your own. You will submit papers in electronic form to an ICON drop box that includes a plagiarism detection function. Any student committing academic misconduct is reported to the College and placed on disciplinary probation or may be suspended or expelled ([CLAS Academic Policies Handbook](#)).

CLAS Final Examination Policies

The registrar announces the final examination schedule for each class around the fifth week of the semester. Final exams are offered only during the official final examination period. **No exams of any kind are allowed during the last week of classes.** All students should plan on being at the UI through the final examination period. Once the Registrar has announced the dates and times of each final exam, the complete schedule will be published on the Registrar's web site.

Making a Suggestion or a Complaint

Students with a suggestion or complaint should first visit with the instructor (and the course supervisor), and then with the departmental DEO. Complaints must be made within six months of the incident (CLAS [Academic Policies Handbook](#)).

Understanding Sexual Harassment

Sexual harassment subverts the mission of the University and threatens the well-being of students, faculty, and staff. All members of the UI community have a responsibility to uphold this mission and to contribute to a safe environment that enhances learning. Incidents of sexual harassment should be reported immediately. See the UI [Comprehensive Guide on Sexual Harassment](#) for assistance, definitions, and the full University policy.

Reacting Safely to Severe Weather

In severe weather, class members should seek appropriate shelter immediately, leaving the classroom if necessary. The class will continue if possible when the event is over. For more information on Hawk Alert and the siren warning system, visit the [Department of Public Safety website](#).

SCHEDULE

Week 1

1/17 - Introduction

1/19 - The Science of Climate Change

Reading: Braun and Glidden, *Understanding Energy*, pp. 1-11

Guest Lecturer: Professor Bradley Cramer, UI Department of Earth and Environmental Sciences

Week 2

1/24 - Basic Energy Concepts

Reading: Braun and Glidden, *Understanding Energy*, pp. 12-29

Website: American Physical Society, "Energy Units,"

<http://www.aps.org/policy/reports/popa-reports/energy/units.cfm>.

1/26 – Energy Governance in the United States

Reading: Braun and Glidden, *Understanding Energy*, pp. 29-37; Benjamin Sovacool, “National Energy Governance in the United States,” *Journal of World Energy Law and Business* Vol 4, No. 2 (2011) (PDF); CRS, “Introduction to the Legislative Process in the Congress” (PDF); Office of the Federal Register, “A Guide to the Rulemaking Process” (PDF)

Week 3

1/31 – National Energy Strategy and the Presidential Transition

Reading: David Goldwyn and Robert McNally with Elizabeth Rosenberg, Center for a New American Security, “Increasing Prosperity, Resource Stewardship, and National Security: An Energy Policy Strategy for the Next President” (PDF); Brad Plumer, Vox.com, “If Trump Wants to Dismantle Obama’s EPA Rules, Here Are All the Obstacles He’ll Face” (December 7, 2016), <http://www.vox.com/energy-and-environment/2016/12/7/13855470/donald-trump-epa-climate-regulations>

Quiz #1

2/2 – Energy in Iowa and at UIowa

Reading: Iowa Economic Development Authority and the Iowa Department of Transportation, “The Iowa Energy Plan” (December 2016) (PDF); University of Iowa Power Plant Brochure (PDF) – skim both

Guest Lecturer: Professor Therm (Doug Litwiller), Associate Director of Energy Conservation, UI Facilities Management

Week 4

***2/7 – Coal**

Reading: Braun and Glidden, *Understanding Energy*, pp. 38-42, 51-52

Interactive Documentary: *Coal: A Love Story*, <http://www.poweringnation.org/coal/#>

***2/9 – Oil and Gas**

Reading: Braun and Glidden, *Understanding Energy*, pp. 42-51, 52-59

Online Videos: *Switch Energy Project*, “Energy 101 Videos”: Oil, Natural Gas, <http://www.switchenergyproject.com/education/energy-101>; “Energy Lab Videos”: Fossil Fuels-Oil, Fossil Fuels-Natural Gas, <http://www.switchenergyproject.com/education/energy-lab>.

Week 5

2/14 – U.S. Energy Policy since 1945

Reading: Laurence R. Geri and David E. McNabb, "The Long Search for a Sustainable Energy Policy" in *Energy Policy in the U.S.* (PDF); CRS, "Energy Tax Policy" (PDF)

Quiz #2

***2/16 - Hydropower and Geothermal Energy**

Reading: Braun and Glidden, *Understanding Energy*, pp. 106-117

Week 6

2/21 - Nuclear Energy

In-Class Film: *Pandora's Promise*, <http://pandoraspromise.com/>

***2/23 - Nuclear Energy Cont.**

Reading: Braun and Glidden, *Understanding Energy*, pp. 60-91

Week 7

***2/28 - Biomass and Biofuels**

Reading: Braun and Glidden, *Understanding Energy*, pp. 92-105

Guest Lecturer: Kayley Lain, Graduate Student, Mechanical Engineering, and Research Assistant, UI Power Plant

***3/2 - Wind Power**

Reading: Braun and Glidden, *Understanding Energy*, pp. 118-131; David Roberts, "Get a Look at the Innards of a 270-foot Wind Turbine," Vox.com (January 5, 2017), <http://www.vox.com/science-and-health/2017/1/5/14123072/innards-270-foot-wind-turbine>

Guest Lecturer: Erin Hazen, UI Renewable Energy Business Development Manager

Week 8

***3/7 - Solar Power**

Reading: Braun and Glidden, *Understanding Energy*, pp. 132-161

Guest Lecturer: Tim Dwight, Business Development, Integrated Power Corporation

***3/9 - The Electric Grid**

Reading: University of Texas Energy Institute, The Full Cost of Electricity (FCE-) White Paper, "The History and Evolution of the U.S. Electricity Industry" (PDF); Tyler Priest, "The Marvel of Electricity," *Wall Street Journal* (July 15, 2016) (PDF); "Rise of the Supergrid: Electricity Now Flows Across Continents, Courtesy of Direct Current," *The Economist* (January 12, 2017) (PDF)

Recommended: Jim Lazar, Regulatory Assistance Project, "Electricity Regulation in the U.S.: A Guide" (PDF)

3/10 - **Midterm Paper Due 5pm in Canvas**

Week 9

3/14 - NO CLASS - SPRING BREAK

3/16 - NO CLASS - SPRING BREAK

Week 10

3/21 - Offshore Oil and Gas Leasing and Regulation

Reading: CRS, "Offshore Oil and Gas Development: Legal Framework" (PDF); NRDC, "Briefer on Presidential Withdrawal Under OCSLA Sec. 12 (a)" (PDF); Bureau of Safety and Environmental Enforcement (BSEE), U.S. Department of the Interior, "Decommissioning" (PDF)

3/23 - Hydraulic Fracturing

Reading: CRS, "An Overview of Unconventional Oil and Natural Gas: Resources and Federal Actions" (PDF); CRS, "Hydraulic Fracturing: Selected Legal Issues" (PDF); "U.S. Rail Transportation of Crude Oil: Background and Issues for Congress" (PDF)

Guest Lecturer: Bob Libra, Iowa State Geologist

Week 11

3/28 - Natural Gas: Emissions, Air Quality, and Exports

Reading: CRS, "Methane: An Introduction to Emission Sources and Reduction Strategies" (PDF); CRS, "An Overview of Air Quality Issues in Natural Gas Systems" (PDF); CRS, "Natural Gas Exports: Opportunities, Uncertain Outcomes" (PDF)

3/30 - Interstate Pipelines

Reading: CRS, "Pipeline Transportation of Natural Gas and Crude Oil: Federal and State Regulatory Authority" (PDF); CRS, "DOT's Federal Pipeline Program: Background and Key Issues for Congress" (PDF); CRS Insight, "Dakota Access Pipeline Siting Controversy" (PDF)

Website: Interactive Pipeline Map, *Milwaukee Journal Sentinel*,

<http://projects.jsonline.com/news/2017/1/15/intro/oil-and-water.html>.

Week 12

4/4 – Renewable Fuel Standard (“Ethanol Mandate”)

Reading: CRS, “Renewable Fuel Standard (RFS): Overview and Issues” (PDF), or shorter paper, CRS, “The Renewable Fuel Standard (RFS): In Brief” (PDF)

Website: EPA, Final Renewable Fuel Standards for 2014, 2015, and 2016,

<https://www.epa.gov/renewable-fuel-standard-program/final-renewable-fuel-standards-2014-2015-and-2016-and-biomass-based>; and 2017,

<https://www.epa.gov/renewable-fuel-standard-program/final-renewable-fuel-standards-2017-and-biomass-based-diesel-volume>

4/6 – *NO CLASS*

Online Video: Vpro BackLight, *The Breakthrough in Renewable Energy* (2016),

<http://topdocumentaryfilms.com/breakthrough-renewable-energy/>

Week 13

4/11 – Federal Gasoline Tax and Fuel Efficiency Standards

Reading: CRS, “The Federal Excise Tax on Gasoline and the Highway Trust Fund: A Short History” (PDF); CRS, “Tier 3 Motor Vehicle Emission and Fuel Standards” (PDF)

4/13 – Renewable Portfolio Standards

Reading: Lawrence Berkeley National Laboratory, “Renewable Portfolio Standards: A Factual Introduction to Experience from the United States” (PDF);

Website: NREL, “Renewable Portfolio Standards,”

http://www.nrel.gov/tech_deployment/state_local_governments/basics_portfolio_standards.html.

Week 14

4/18 – Renewable Energy Tax Credits

Reading: CRS, “The Renewable Electricity Production Tax Credit: In Brief” (PDF)

4/20 – Distributed Solar Generation and Net Energy Metering

Reading: Luke Bassett, Center for American Progress, “Net Energy Metering” (July 14, 2016) (PDF)

Week 15

4/25 – European Wind and Solar Policies (Feed-In Tariffs)

Reading: CRS, “European Union Wind and Solar Electricity Policies: Overview and Considerations” (PDF)

Website: NREL, “Feed-in Tariffs,”

http://www.nrel.gov/tech_deployment/state_local_governments/basics_tariffs.html.

4/27 – Electricity Transmission: Siting, Security, and Reliability

Reading: Alexandra B. Klass, “The Electric Grid at a Crossroads: A Regional Approach to Siting Transmission Lines,” *University of California, Davis Law Review* (2015) (PDF); Richard Campbell, “Blackout! Are We Prepared to Manage the Aftermath of a Cyber-Attack or Other Failure of the Electric Grid?” Congressional Testimony (April 11, 2016) (PDF); U.S. Department of Energy, *Grid Modernization Multi-Year Program Plan*, November 2015, “Executive Summary,” pp. x-xv” (PDF)

Week 16

5/2 – EPA Standards for Greenhouse Gas Emissions

Reading: CRS, “Clean Power Plan: Legal Background and Pending Litigation in *West Virginia v. EPA*” (PDF)

5/4 – Social Cost of Carbon (SC-CO₂) Estimates and Carbon Tax

Reading: CRS, “Carbon Tax: Deficit Reduction and Other Considerations” (PDF); EPA Fact Sheet, “Social Cost of Carbon,” https://www.epa.gov/sites/production/files/2016-12/documents/social_cost_of_carbon_fact_sheet.pdf.

Week 17

5/9 – **Policy Paper Due 5pm in Canvas**

Websites

Listed below are links and descriptions of energy websites that you might find useful over the course of the semester. The list is not exhaustive.

U.S. Energy Information Administration (EIA), <http://www.eia.gov/>. This is the most authoritative source of information on energy that you will find in the world. The EIA is a special agency within the U.S. Department of Energy that is devoted to collecting and disseminating data on every aspect of energy production and consumption. EIA data, studies, and reports are widely respected and indispensable for energy policymakers. And they are fully available to the public. It should be the first place you look for anything.

International Energy Agency (IEA), <http://www.iea.org/>. The IEA is another authoritative source of energy information. It is an autonomous organization founded in 1974 (in the aftermath of the Arab Oil Embargo) by the world’s largest oil consuming countries, including the United States. Today, it has 28 member nations. It focuses on topics and issues that affect the world’s major energy consumers.

The Organization of Petroleum Exporting Countries (OPEC), http://www.opec.org/opec_web/en/. OPEC was formed in 1960 to represent the collective interests of the world's major petroleum producing countries – largely, but not strictly, in the Middle East. This website is a valuable source of information for OPEC-related matters.

BP Statistical Review of World Energy, <http://www.bp.com/sectionbodycopy.do?categoryId=7500&contentId=7068481>. This is another respected source of statistical information, published on an annual basis by the oil giant, BP. It has user-friendly graphics and tools.

Fuelfix, <http://fuelfix.com/>. This is an energy blog written by reporters at the *Houston Chronicle*. In addition to *Houston Chronicle* stories, Fuelfix posts stories from other news organizations on the latest energy developments.

Vox Energy and Environment, <http://www.vox.com/energy-and-environment>. A first-rate, web-based news organization that strives for neutrality and objectivity in breaking down recent news developments.

The Fuse, <http://www.energyfuse.org/>. This website was recently launched by the organization, Securing America's Future Energy (SAFE), which advocates for reduced U.S. reliance on oil as a national security imperative.

Bipartisan Policy Center, Energy Project, <http://bipartisanpolicy.org/projects/energy-project>. A think tank that conducts research in several major policy areas and publishes well-informed reports. The BPC's Energy Program has a very useful "Energy Bill Tracker," that makes it easy to follow energy-related bills in Congress, <http://bipartisanpolicy.org/energy-bill-tracker/>.

Switch Energy Project, <http://www.switchenergyproject.com/>. A useful set of interviews, tutorials, and videos on all energy topics. Based on the feature-length documentary film, *Switch*, produced by Scott Tinker, director of the Bureau of Economic Geology at the University of Texas-Austin.

New York Times, Energy and Environment Page, <http://www.nytimes.com/pages/business/energy-environment/index.html?src=busfn>. This page compiles all reporting on energy and environmental topics. Clifford Krauss is one of the best energy-beat reporters in the nation. Access to some articles on the website may require a subscription to the NYT. You may access the full NYT through the UI online library catalog, but it takes a few more steps.

Washington Post, Energy and Environment Page, <http://www.washingtonpost.com/national/energy-environment>. Another

good daily source for energy and environmental news. Steve Mufson is also one of the top reporters working on energy policy.

Wall Street Journal Energy Page, <http://online.wsj.com/public/page/news-energy-oil-gas.html>. WSJ has a lot of good reporters covering energy. However, access to most articles on the webpage requires a subscription. You can access the journal for free through the UI online library catalog. But it is a bit more cumbersome than going straight to the webpage.

The Guardian Energy Page, <http://www.guardian.co.uk/environment/energy>. Complete coverage of energy issues, especially developments in Europe. Tends to be much more critical of oil and gas industry than one finds in U.S. reporting and leans politically to the left.

National Public Radio, Energy, <http://www.npr.org/sections/energy/>. Balanced and informed stories about all kinds of energy issues.

The Energy Collective, <http://theenergycollective.com/>. An excellent blog with informed commentary about energy and climate issues from across the political spectrum. Generally favorable coverage of renewables.

Resources for the Future, <http://www.rff.org/Pages/default.aspx>. A Washington-based think tank created in 1960 that publishes serious work on many different topics related to resources, energy, and the environment. Good for policy wonks.

Center for Energy Studies, Baker Institute, Rice University, <http://bakerinstitute.org/center-for-energy-studies>. An energy policy research center within Rice University's school of public policy, founded by former U.S. Secretary of State James Baker. Publishes informative policy reports and working papers. Receives substantial funding from the oil and gas industry and thus tends to support policy positions of the companies in that industry.

Center for Energy Studies, Louisiana State University, <http://www.enrg.lsu.edu/>. An expert energy research organization at LSU that receives the bulk of its funding from the State of Louisiana. Its studies have a strong economics focus and are usually strongly supportive of the oil and gas industry, and especially the offshore oil industry, which is very important to the Louisiana economy.

MIT Energy Initiative, <http://mitei.mit.edu/>. A research group at MIT that focuses on technology and innovation in energy.

Oxford Institute for Energy Studies, <http://www.oxfordenergy.org/>. A highly regarded, independent energy research center in Oxford England. Its series of working papers, which can be

freely accessed online, is superb. Wide coverage of timely policy issues on every energy topic.

European Energy Review, <http://www.europeanenergyreview.eu/>. Opinionated but informed articles on energy developments, mostly in Europe. Some articles require subscription.

Real Clear Energy, <http://www.realclearenergy.org/>. Great source for op-ed pieces on all aspects of energy.

Real Climate, <http://www.realclimate.org/>. Website published by leading climate scientists on the science, politics, and policy controversies of climate change. Good source for responding to assertions by climate change deniers.

Renewable Energy World, <http://www.renewableenergyworld.com/index.html>. The most comprehensive site for news about renewable energy developments.

Institute for Energy Research, <http://instituteforenergyresearch.org/>. A libertarian, right-leaning energy research organization. Regardless of your own political leanings, it produces thought-provoking research and policy papers.

National Renewable Energy Laboratory (NREL), <http://www.nrel.gov/analysis/publications.html>. Expert technical papers, journal articles, and conference presentations that analyze renewable energy and energy efficiency technologies. Funded through the U.S. Department of Energy, the NREL is the primary government laboratory for research on renewable energy and energy efficiency.

Manhattan Institute for Policy Research, Center for Energy Policy and the Environment, <http://www.manhattan-institute.org/energy-environment>. Another libertarian, right-of-center policy forum that produces useful materials and opinion pieces – by Robert Bryce, in particular.

The Rational Middle, <http://www.rationalmiddle.com/>. An organization sponsored by Shell Oil that produces a series of online films on energy. The purpose of the film series is to establish a middle ground and civil dialogue on energy debates.

Midwest Energy News, <http://www.midwestenergynews.com>. A nonprofit news site dedicated to covering energy news in the Midwest. Favorable coverage of renewables, and generally unfavorable coverage of fossil fuels.

Energy in Depth, <http://energyindepth.org/>. Website managed by the Independent Petroleum Association of America (IPAA). Informed coverage of domestic oil and gas issues, but biased toward the interests independent and

smaller oil and gas firms.

Coal Age, <http://www.coalage.com/>. Devoted to coverage of the coal industry.

*The professor reserves the right to modify the syllabus at any point during the semester. It is the student's responsibility to keep informed about announced changes.