

Sarah Lawrence College
Political Economics of Energy and Climate Change
Seminar, Spring 2015
Mondays and Wednesdays 9:30 – 10:55 A.M.; Westlands 104

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Course Description

Welcome to the seminar course on The Political Economics of Energy and Climate Change! Humanity faces perhaps its greatest-ever collective challenge in the need to reduce greenhouse gas emissions to prevent catastrophic global climate change. Many of the solutions for doing so involve changes to how societies produce and consume energy, specifically by improving energy efficiency and employing more renewable energy. In this course, we will examine the threat that climate change poses and how we may avoid its worst impacts from the perspectives of both environmental and ecological economics. How should the present generation value the impact of its actions on future generations? How should societies determine the proportion of resources to devote to mitigating climate change instead of adapting to its impacts? Who should reduce greenhouse gas emissions, and by how much? What are the political and institutional barriers to doing so? Which policies can best be used to regulate emissions? Why is renewable energy such a small portion of the energy portfolio in most economies? Exploring these questions will involve investigating economic theory and the political economy of climate change policy both in the United States and in other major economies, and we will consider how a low-emissions economy can be more equitable and improve well-being for most of its constituents.

Course Objectives

By the end of the course, you should be able to:

- Understand the scope of the economic challenge that climate change poses to humanity
- Know the main sources of greenhouse gas emissions globally, and in more detail within the US
- Discuss various sources of energy and the role they play in worsening global warming
- Articulate possible policy solutions that would mitigate greenhouse gas emissions
- Analyze such solutions using economic concepts
- Realize the complexity of political interests that often hinder progress on these solutions

Required Text

Robin Hahnel, *Green Economics*, M.E. Sharpe, Armonk, NY: 2011. ISBN: 978-0-7656-2795-7.

Recommended Texts

Frank Ackerman, *Can We Afford the Future: The Economics of a Warming World*, Zed Books Ltd, London: 2009. ISBN: 978-1-84813-037-1.

Clive Hamilton, *Earthmasters: The Dawn of the Age of Climate Engineering*, Yale University Press, New Haven: 2013. ISBN: 978-0-300-18667-3

Assignments

Readings: Please read all assignments before class and come prepared to discuss the material. The quality of our discussions will depend on you.

Essay: In addition to your conference work, I will ask you to write a short (roughly 1,500-word) essay on an energy source of your choice that we will further cover in class. You will become an expert on this energy source and help lead the discussion when we come to this topic. Further guidelines will be forthcoming.

Take-home exams: To ensure that you are developing an understanding of the concepts we discuss in class and find in the readings, there will be three take-home exams. The first will consist mainly of problems with a writing component from our discussion of economic theory. The latter two will consist of essay questions that ask you to develop themes and wrestle with dilemmas that we discuss in class and that you can find in the readings.

Conference Paper: You will be required to write a research paper for your conference work, ideally connecting it to an issue that you are personally passionate about. Further guidelines can be found below.

Conference Paper Presentations and Peer Review: At the end of the semester, each student will present their conference work. Additionally, you will provide a draft to a partner in the class who will provide you with feedback and serve as a discussant after your presentation.

Class Policies

Evaluations: When writing your evaluations at the end of the course, I will take a number of factors into account. Roughly one-third of your grade and evaluation will come from class participation, attendance and completion of all assignments on time. Another third will come from your conference project, presentation, and peer review. The final third will come from your take-home exams and essay. I understand that students have different strengths, and I will take this into consideration in the evaluations. I expect you to show me, in some way, that you are getting something out of the course and that you are able to discuss most of the topics listed under “Course Objectives” on the previous page.

Attendance: In order to get the most out of the course, it is imperative for you to attend every seminar and conference and to be on time. If a conflict does arise for some reason, be sure to contact me and let me know why you will be unable to attend. You should also email me any assignments that are due so that I can continue to provide you with feedback. Missed conferences will not be rescheduled. Instead, I will send you feedback electronically, and you may ask any questions that you have over email. Except in the case of extenuating circumstances, missing several class meetings will have a strongly negative impact on your evaluation and may reduce the amount of credit you are given for the course.

Academic freedom: In this course, we will be discussing a number of politically charged issues, and it is inevitable that there will be a range of opinions, including my own. You will never be penalized in any way for disagreeing with me or challenging my views. Part of the learning process for all of us is having our existing beliefs and assumptions challenged over the course of the year. Being able to do this in a respectful and constructive way can allow us to grow more intellectually.

Disability support: If you have a physical, learning, or other disability that requires accommodation, you can let me know in the way that is most comfortable for you. I will do my best to work with you and the College to make any necessary accommodations. In keeping with the College’s policy, however, I cannot retroactively make accommodations, nor can I do so with very little notice.

Class Schedule

Mon., Jan 26	<p><i>Introduction & Basic Economic Concepts</i></p> <ul style="list-style-type: none"> • Hahnel, Ch. 1 • Nicholas Stern, “The state of the climate – and what we might do about it,” TED Talk, September 2014.
Wed., Jan 28	<p><i>Introduction to Climate Change & Emissions Sources</i></p> <ul style="list-style-type: none"> • US National Climate Assessment (2014) Overview • Turn Down the Heat (2012), World Bank, Executive Summary • US Greenhouse Gas Inventory 2014, US EPA, Executive Summary
Mon., Feb. 2	<i>SNOW DAY</i>
Wed., Feb. 4	<p><i>Cost-Benefit Analysis & Discounting</i></p> <ul style="list-style-type: none"> • Hahnel, Ch. 2 • Ackerman, Ch. 2 • Intro to Cost Benefit Analysis, Conservation Strategy Fund, May 2014 • Sign up for energy paper topics
Feb. 8 & 11	<p><i>Externalities & The Coase Theorem</i></p> <ul style="list-style-type: none"> • Hahnel, Ch. 4 & 6 • Federal Reserve Bank of St. Louis, “Externalities”, The Economic Lowdown Video Series • Timothy B. Lee, “The Coase Theorem is Widely Cited in Economics. Ronald Coase Hated It.” <i>The Washington Post</i>, Sept. 4, 2013
Feb. 16 & 18	<p><i>Critiques of Mainstream Environmental Economics</i></p> <ul style="list-style-type: none"> • Hahnel, Ch. 5 & 7 • Ackerman, Ch. 3 & 4
Mon., Feb. 23	<p><i>Modeling Economic Impacts of Climate Change</i></p> <ul style="list-style-type: none"> • Bonen et al. (2014) “Economic Damages from Climate Change: A Review of Modeling Approaches” Schwartz Center for Policy Analysis Working Paper, p. 1-8. • Elizabeth Stanton (2014) “Modeling Pessimism: Does Climate Stabilization Require a Failure of Development?” in <i>Climate Change and Global Equity</i>. • Exam 1 Posted Feb. 23
Feb. 25 & Mar. 2	<p><i>Regulating GHG Emissions</i></p> <ul style="list-style-type: none"> • Frank Ackerman (2014) “Carbon Markets are Not Enough,” in <i>Climate Change and Global Equity</i>. • Joseph Aldy & Robert Stavins (2011) “The Promise and Problems of Pricing Carbon: Theory and Experience,” NBER Working Paper 17569.

	<ul style="list-style-type: none"> • Steven Hackett (2006) <i>Environmental and Natural Resource Economics</i>, Ch. 10 (excerpt) 255-270 • Exam 1 Due March 2
Wed., March 4	<p><i>Fossil Fuels: Coal</i></p> <ul style="list-style-type: none"> • “Energy 101: Electricity Generation” <i>Energy & Environmental News</i>, 2011. • Charles C. Mann, “Renewables Aren’t Enough. Clean Coal is the Future,” <i>Wired</i>, March 2014. • Michelle Nijhuis, “Can Coal Ever Be Clean?” <i>National Geographic</i>, April 2014.
Mon., March 9	<p><i>Fossil Fuels: Natural Gas</i></p> <ul style="list-style-type: none"> • Marathon Oil Corp., “Animation of Hydraulic Fracturing (fracking)” April 26, 2012 • Earthworks, “Hydraulic Fracturing 101.” • Richard Heinberg (2013) <i>Snake Oil: How Fracking’s False Promise of Plenty Imperils Our Future</i>, Chapter 5.
Wed., March 11	<p><i>Nuclear Energy</i></p> <ul style="list-style-type: none"> • “Inside a Nuclear Reactor Core,” <i>Bang Goes the Theory</i>, British Broadcasting Corporation, 2013. • David Biello, “How Nuclear Power Can Stop Global Warming,” <i>Scientific American</i>, December 12, 2013 • David Roberts, “Why Germany is phasing out nuclear power,” <i>Grist</i>, March 23, 2012.
Mon., March 29	<p><i>Renewable Energy: Wind</i></p> <ul style="list-style-type: none"> • Peter Musgrove (2010) <i>Wind Power</i>, Chapter 8 (selected countries). • “Wind Energy & Politics: Not on my beach, please,” <i>The Economist</i>, August 19, 2010. • Diane Cardwell, “Intermittent Nature of Green Power is Challenge for Utilities,” <i>The New York Times</i>, August 14, 2013
Wed., April 1	<p><i>Renewable Energy: Solar</i></p> <ul style="list-style-type: none"> • Tom Randall, “While You Were Getting Worked Up Over Oil Prices, This Just Happened to Solar,” <i>Bloomberg News</i>, October 29, 2014. • Timilsina et al. (2012) “Solar Energy: Markets, Economics, Policies,” <i>Renewable and Sustainable Energy Reviews</i>. • Exam 2 Posted April 1
Mon., April 6	<p><i>Energy Efficiency</i></p> <ul style="list-style-type: none"> • International Renewable Energy Agency (2013) “Smart Grids and Renewables: A Guide for Effective Development,” Working Paper. Ch. 5 (p. 21-39) • “Energy Efficiency: The Invisible Fuel,” <i>The Economist</i>, Jan. 17, 2015.
Wed., April 8	<p><i>Renewable Energy: New Technologies and Putting It All Together</i></p> <ul style="list-style-type: none"> • Brian C. Black & Richard Flarend (2010) <i>Alternative Energy</i>, Chapter 5, p. 119 – 127; 135 – 141. • International Renewable Energy Agency (2013) “Biomass Co-firing Technology Brief,” p. 5-9.

	<ul style="list-style-type: none"> David MacKay (2012) "A reality check on renewables," TED Talk. Exam 2 Due
Mon., April 13	<i>Carbon Markets & Renewable Energy Promotion in Practice</i> <ul style="list-style-type: none"> David Talbot (2012) "The Great German Energy Experiment," <i>MIT Technology Review</i> Chris Mooney, "British Columbia Enacted the Most Significant Carbon Tax in the Western Hemisphere. What Happened Next Is it Worked," <i>Mother Jones</i>, March 16, 2014. "2014 Year in Review of State Advanced Energy Legislation," Center for the New Energy Economy, Colorado State University, December 12, 2014.
Wed., April 15	<i>Vehicle Emissions & Oil</i> <ul style="list-style-type: none"> Brad Plumer, "Why oil prices keep falling – and throwing the world into turmoil," <i>Vox.com</i>, December 31, 2014. Union of Concerned Scientists, "Fuel Economy Basics." Mark Fischetti & Kevin Schultz, "Toyota and Honda Have the Most Fuel-Efficient Cars," <i>Scientific American</i>, Oct. 14, 2014. Final Energy Papers Due
April 20	<i>Firms and Voluntary Targets</i> <ul style="list-style-type: none"> Nicholas Reksten, Doctoral Dissertation, 2015 (excerpts).
April 22 & 27	<i>Climate Treaty Negotiations</i> <ul style="list-style-type: none"> Hahnel, Ch. 8-10 Brian Clark Howard, "5 Key Takeaways from UN Climate Summit in Lima," <i>National Geographic</i>, December 12, 2014.
Wed., April 29	<i>Climate Treaty Exercise</i> <ul style="list-style-type: none"> Hahnel, Part IV Appendix
Mon., May 4	<i>Geoengineering</i> <ul style="list-style-type: none"> Selections from Hamilton Final exam posted
Wed., May 6	<i>Conference Work Presentations</i>
Mon., May 11	<i>Conference Work Presentations</i> <ul style="list-style-type: none"> Final exam and conference papers due for seniors
Wed., May 13	<i>Conference Work Presentations & Reflections</i> <ul style="list-style-type: none"> Final exam and conference papers due for all others

Conference Work Schedule

There will be six conferences this semester. At least 24 hours before each appointment, I ask that you submit a **progress report** and **your assignment** to me electronically, at nreksten@sarahlawrence.edu. I prefer assignments in Word document form or as a PDF, but Google Docs will work as well. Late submissions will impact your grade and assessment. If you are unable to attend the conference, please let me know in advance, send me the assignment and progress report on time, and we will discuss it over the telephone or through email. If you come to a conference without having done the assignment, or at least without having made a strong attempt, you will be asked to leave and use the conference time to work on your project. However, if you are having trouble making progress in spite of having

spent some time on the project, we can discuss where the roadblock is and strategies for getting around it.

Your final product should be a paper of about 6,000 to 8,000 words. Different topics will lead to more or less dense writing. As we move through the writing process, I will be able to suggest a more precise length for you to shoot for.

In the age of things like Dropbox and Google Drive, there is no excuse to not back up your work. Make sure that you keep it saved in multiple places so that you do not have to start over in the event of a single computer crashing.

Your progress report should detail the work you've done since our last meeting and the questions that emerge from that work. These could be questions related to the substance of the work or more technical issues (like formatting or citations). Your progress report will give us an agenda for our meeting and help guide our conversation. Even if you do not produce much in the way of new written work, you should have a progress report to talk about what you have done instead.

Conference 1 (Weeks of Feb. 2 & 9)

Write a paragraph-long summary of your proposed topic or question. If you are deciding among several topics, write a paragraph for each. When choosing your topic, please bear in mind your time constraints and your background (or lack thereof) in economics and data/statistics. Your topic may very well change in the future. At this point, you want to be brainstorming and jotting down ideas for further investigation.

We can also discuss your topic choice and general plan for your essay on an energy source.

If your topic involves the interpretation of data, visit a research librarian *soon* to determine whether the SLC library has (or can get access to) the data you need. If not, you may have to change your topic.

Begin keeping track of the sources you use in some way. I use Microsoft Word's reference organizer for my own work, but there are many other options out there, like [Zotero](#), which is free.

Conference 2 (Weeks of Feb. 16 & 23)

You should try to settle on a topic for this meeting. Submit an annotated bibliography containing summaries and commentaries on a minimum of five sources (articles, books, reliable internet sources) that are highly relevant to your topic, along with a list of all of the sources you have consulted so far. Ideally, your sources should be peer-reviewed journals, books from respected publishers, or government/reliable NGO data sources. When in doubt as to the quality of your resource, speak to me or a research librarian.

Conference 3 (Weeks of March 2 & 9)

Write and submit a detailed outline of the paper, including your objective and approach used to meet that objective. That is, what are you trying to show with your work?

Keep reading and making notes on relevant controversies or questions that spring from the literature.

Conference 4 (Weeks of March 30 & April 6)

Submit the first few pages of your paper that includes a detailed explanation of what you want to accomplish, how you will accomplish it, and why this is important. This will also give me a chance to give you some initial feedback on your writing, especially regarding issues like style, tone, and citations.

Conference 5 (Weeks of April 13 & 20)

You can submit a rough draft of your paper during this time. I will only have time to review one full draft of your paper during the semester, and this is the period where you should ask for that review.

Conference 6 (Weeks of April 27 & May 4)

Submit a revised draft of your paper with detailed notes on where you made changes since the review of your rough draft. We will discuss any further changes that need to be made, overall impressions of the work, and how you might continue to explore the topic further in the future.