

WAPS 176, Energy Politics and Policy
Lecture: M/T/W/R 3:30PM – 4:45PM (Zoom Classroom, ID: 919 3744 0413)

American Politics / Comparative Politics
Department of Political Science
University of California, Santa Barbara
Summer Session B 2020

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Office Hours: Tuesday 9AM-10:30AM, or by appointment

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Office Hours: Thursday, 1-4PM

Course Description

This course introduces students to the politics and policy of the contemporary global energy system. We will discuss major public policy and politics related to both electricity and transportation systems, with a greater emphasis on the former. We will focus energy politics and policy both specific to the United States and in other countries, including advanced economies like Germany and Japan as well as developing countries like India and China. Students wishing to take this course for credit in an American or Comparative Politics specialization will be required to write papers on American or Comparative cases, respectively. By the end of the course, students will be expected to:

- Understand characteristics of energy technologies;
- Perform basic calculations;
- Grapple with the political dimensions of the energy system, demonstrating an ability to identify key actors, policies, institutions, and interests in the energy system.

Students will demonstrate their knowledge of the energy system and its political dimensions through written and oral assignments on several energy politics cases.

Course Policies

Requirements & Evaluation

This course is designed around student participation. During lectures, the instructor regularly will request students' participation: e.g., summarizing key arguments from weekly readings or forming breakout groups to solve back-of-the-envelope calculations. Therefore, attendance to lecture is mandatory. Please contact the instructor at least 24 hours in advance if you plan on missing a lecture for a legitimate reason. Significant, unjustified absences from either lecture or section (if applicable) will result in a full grade deduction at the end of the term.

All assignments are to be submitted on Gauchospace as a Word document. Please do not submit PDFs, as it makes it difficult for the instructor to provide you with constructive feedback. For memos and papers, students may not exceed the stated page limit. Any text that goes beyond the page limit will not be read.

Assignments turned in after the listed time and date will be considered late and will lose on half-grade per day. This means an assignment that would have been an A+ if turned in on time would receive an A if turned in one day late, an A- if turned in two days late, a B+ if turned in three days late, and a B if turned in four days late. Assignments will receive a grade of 0 if turned in more than four days late. (Not worth it!)

Over the session, you will complete the following assignments:

Problem Sets: Students will complete **four** short problem sets during the session. The first and second problem sets will require students to compute basic energy quantities and answer questions about the energy system. The third and fourth problem sets will require students to analyze energy institutions, actors, and the resulting politics. Students are encouraged to work together on the problem sets but are required to hand in their own problem set with no text overlapping with other students' problem sets.

Policy Memo: Students will complete **one** policy memo (6 pages double-spaced, excluding references) during the session. Students in American or Comparative politics will work on an American or Comparative politics topic, respectively.

Participation: Students will be expected to participate in lecture. Active participation requires completing the readings in advance and contributing to discussions. Specifically, participation will be graded as follows:

- There will be a “live” lecture held every Monday, Tuesday, and Wednesday. You can receive full participation points for these live session in two ways.
 - Attend the live sessions, answering Zoom polls during lecture if applicable.
 - Watch recordings of these lives sections, answering Zoom polls on a Gauchospace forum page; both within one week of the “live” lecture date.
- Every Thursday, a pre-recorded module focusing on content specific to the course’s assignments will become available on Gauchospace. You can receive full participation points for these sessions simply by watching the module within one week of its posting. These modules also offer extra credit questions, the responses to which can be submitted on the Gauchospace page.
- The same late policy for assignments applies to participation.

Final grades will be calculated as follows:

Assignment	Quantity	Percentage	Notes
Problem Sets	4	50% total	20% will be allocated to a student’s highest scoring problem set; 10% will be allocated to the student’s three remaining problem sets.
Policy Memo	1	25%	-
Participation	10	25%	15% will be allocated to student’s participation in <u>lectures</u> ; 10% will be allocated to student’s participation in <u>pre-recorded</u> lectures.

Writing and formatting guidelines

Format

- * The memo and final paper should be double-spaced and in 12-point type. Please make sure to number pages.
- * Page limits are firm; we will not read beyond the assigned length.
- * Use a common style format (i.e. APA, MLA, Chicago), in text citations (e.g. "(Author, Year)") and a list of references at the end of the paper for all cited work. References do NOT count towards your page limit.

Style

Write for your reader and make your writing lively and interesting. That means:

- * Short, simple sentences are always better than long, complicated ones.
- * In nearly every case, the active voice is preferable to the passive voice.
- * Direct, concrete statements are better than vague, indirect statements.
- * Make your writing specific – who are 'they' and what are 'these'?
- * Write for an audience that consists of educated generalists who are unfamiliar with the topic, not for your TA or your professors. Along those lines, avoid jargon.
- * Take the time to write an outline and a draft in advance, so you have time to revise and edit. When you're editing, try reading your essay out loud. Eliminate unnecessary words.
- * Make your topic (first) sentences and your thesis to be as strong as possible. Your topic sentences are particularly important in your opening paragraph and conclusion. Put these sentences into the active voice. Write your thesis, and then edit it. And then edit it again. *Avoid dramatic writing and overuse of metaphors. Instead, provide evidence for your arguments (and cite it).
- * We strongly encourage you to use the CLAS Writing Lab and Writing Drop-In if needed.

Other

- * Submit your problem sets, memos and final paper via Gauchospace, and please submit a Word document, not a pdf.
- * Late problem sets/memos/papers lose one half-grade per day, zero after 4 days. We grant extensions only in documented emergencies and with advance notification.
- * Finally, be vigilant about plagiarism, as it is an extremely serious offense and quite easy to avoid. Whether you are quoting another author, or simply paraphrasing her ideas, you must cite the source. There are no exceptions, so when in doubt, cite the source. For guidance see: <http://judicialaffairs.sa.ucsb.edu/PDF/academicintegflyer.pdf>

Readings

Students are expected to do the assigned reading prior to each lecture and come prepared to discuss the material. All required readings will be posted on the course's Gauchospace site at least two weeks in advance.

Plagiarism and academic honesty.

UCSB defines plagiarism as "the use of another's idea or words without proper attribution or credit." It is a serious academic offense. For all assignments, and particularly problem sets, **you must on your own put the answer to the questions down on paper in your own words.**

Plagiarism and other types of academic dishonesty will be reported to the Student Judicial Affairs Office for disciplinary action and will result in an automatic fail. If you are not sure what constitutes plagiarism, ask us! Also ask us for help if you're struggling before you resort to such desperate measures.

Campus Resources

Disabled Students Program

Students with disabilities may request academic accommodations for exams online through the UCSB **Disabled Students Program** at <http://dsp.sa.ucsb.edu/>. Please make your requests for exam accommodations through the online system as early in the quarter as possible to ensure proper arrangement.

Managing your Health, Wellness and Stress

Undergrad courses are challenging. You're much more likely to understand the ideas and coding if you are eating well, sleeping well and taking care of your health and wellness. Keep in mind there are a lot of resources on campus that you can and should use! Everyone at UCSB wants you to succeed, so please use these resources when you need them. There is a food bank on campus for students who need extra support to get healthy food: <https://foodbank.as.ucsb.edu/>. There is also a counseling service on campus, CAPS: <http://caps.sa.ucsb.edu/>. Some reasons you might use CAPS include personal concerns such as stress, anxiety, relationships, depression, cultural differences, all of which interfere with your ability to succeed and thrive. There is also a sexual violence support center: <http://sexualviolence.ucsb.edu/>. Seek out help when you need it and support your fellow students' health and wellness if they need help.

Zero Tolerance for Hate Incidents

Diversity is our strength and UCSB is a welcoming place for everyone. Hateful actions based on race, ethnicity, religion, gender, sexual orientation, gender identity, citizenship status, age, or disability are not acceptable. In the event that a hate crime or incident does occur, please report it. Reports may be made anonymously. <http://judicialaffairs.sa.ucsb.edu/hate.aspx>.

Class Schedule

(Note: subject to change; * indicates class sessions with pre-recorded lecture.)

Course Section	Class	Weekday	Date	Topic
<i>Introduction</i>	1	Monday	Aug-4	Introduction & Energy System Overview
<i>Technologies</i>	2	Tuesday	Aug-5	Fossil Fuel Technologies: Oil, Coal (CCS), and Natural Gas
	3	Wednesday	Aug-6	Renewable Technologies: Wind, Solar, Geothermal, and Biofuels
	4*	Thursday	Aug-7	Problem Set A Module
	5	Monday	Aug-10	Other Technologies: Hydropower, Nuclear, Energy Efficiency
<i>Institutions/Actors</i>	6	Tuesday	Aug-11	US Energy Institutions: State
	7	Wednesday	Aug-12	US Energy Institutions: Federal
	8*	Thursday	Aug-13	Problem Set B Module
	9	Monday	Aug-17	Other Actors: Electric Utilities, Oil & Gas Companies
	10	Tuesday	Aug-18	Other Actors: Renewable companies and NGOs
	11	Wednesday	Aug-19	Other Actors: Public Opinion
	12*	Thursday	Aug-20	Problem Set C Module
	13	Monday	Aug-24	Other Actors: Public Mobilization
<i>Policy Instruments</i>	14	Tuesday	Aug-25	Policy Enactment and Implementation
	15	Wednesday	Aug-26	US Federal Policies: Existing
	16*	Thursday	Aug-27	Problem Set D Module
	17	Monday	Aug-31	US Federal Policies: Proposed
	18	Tuesday	Sep-1	US State Policies
<i>Comparative Cases</i>	19	Wednesday	Sep-2	Comparative Cases: Nuclear energy in Asia and Europe
	20*	Thursday	Sep-3	Policy Memo Module
	21	Monday	Sep-7	NO CLASS (Labor Day)
	22	Tuesday	Sep-8	Comparative cases: Electrification in Africa
	23	Wednesday	Sep-9	Comparative cases: Energy (Injustice)
	24*	Thursday	Sep-10	Comparative cases: Energy (Injustice) + Conclusion

Deadlines

Date	Weekday	Time	Assignment
Aug-12	Wednesday	Midnight	Problem Set A
Aug-19	Wednesday	Midnight	Problem Set B
Aug-24	Wednesday	Midnight	Problem Set C
Sep-2	Wednesday	Midnight	Problem Set D
Sep-13	Sunday	Midnight	Final Policy Memo

Readings

Lecture 1. Energy Systems Overview

- Chapters 1 & 2, *Energy Resources: An Introduction to Energy Resources*. Available at: <https://books.google.com/books?id=aLdtAgAAQBAJ&printsec=frontcover>
- Chapters 1 & 2, *Sustainable Energy – Without the Hot Hair*. David MacKay.
- Trancik, J. E., Chang, M. T., Karapataki, C., & Stokes, L. C. (2014). Effectiveness of a segmental approach to climate policy. *Environmental Science & Technology*, 48(1), 27–35. (OPTIONAL)

Lecture 2. Fossil Fuel Technologies: Oil, Coal, Natural Gas, and CCS

- Rogner, H. (2012). Energy for Development: Resources, Technologies, Environment. *Environment & Policy*, 54(3), 149–160.
- Schrag, D. P. (2012). Is Shale Gas Good for Climate Change? *Daedalus*, 141(2), 72–80.
- McNerney, J., Farmer, J. D., & Trancik, J. E. (2011). Historical costs of coal-fired electricity and implications for the future. *Energy Policy*, 39(6), 3042–3054. (skim)
- Lee, H. (2008). Oil Security and the Transportation Sector. In *Acting in Time on Energy Policy*, ed. K. Gallagher. Brookings Institute.
- Ross, M. L. (2011). Will oil drown the Arab spring? *Foreign Affairs*, 90(5), 2–7. (Reprinted in Harper's). (Skim)
- Ross, M. L., Hazlett, C., & Mahdavi, P. (2017). Global progress and backsliding on gasoline taxes and subsidies. *Nature Energy*.
- Chapter 23, *Sustainable Energy – Without the Hot Hair*. David MacKay.

Lecture 3. Renewable Energy Technologies: Wind, Solar, Geothermal, and Biofuels

- Chapters 4, 6, 10 (skim), and 16 (skim), *Sustainable Energy – Without the Hot Hair*. David MacKay.
- MacDonald, A. E., Clack, C. T. M., Alexander, A., Dunbar, A., Wilczak, J., & Xie, Y. (2016). Future cost-competitive electricity systems and their impact on US CO2 emissions. *Nature Climate Change*, (January), 1–6.
- Energy 101: Solar PV video: <http://energy.gov/eere/videos/energy-101-solar-pv>
Energy 101: Wind Turbines - 2014 Update video: <http://energy.gov/eere/videos/energy-101-wind-turbines-2014-update>

- [101-wind-turbines-2014-update](#)
- Energy 101: Geothermal Energy video: <http://energy.gov/eere/videos/energy-101-geothermal-energy>
- Energy 101: Biomass video: <https://www.youtube.com/watch?v=HZoPNJGi6ig>
- Energy 101: Biofuels video: <https://energy.gov/eere/videos/energy-101-biofuels>

Lecture 4. Other Technologies: Energy Efficiency, Nuclear, and Hydropower

- Chapters 8 and 24, *Sustainable Energy – Without the Hot Hair*. David MacKay.
- Charles, D. (2009). Leaping the Efficiency Gap. *Science*, 325(5942), 804–811.
- Dietz, T., Gardner, G. T., Gilligan, J., Stern, P. C., & Vandenberg, M. P. (2009). Household actions can provide a behavioral wedge to rapidly reduce US carbon emissions. *Proceedings of the National Academy of Sciences of the United States of America*, 106(44), 18452–6.
- Lovering, J. R., Yip, A., & Nordhaus, T. (2016). Historical construction costs of global nuclear power reactors. *Energy Policy*, 91, 371–382.
- David Roberts, Vox, “A beginner’s guide to the debate over nuclear power and climate change.” <https://www.vox.com/energy-and-environment/2019/9/6/20852313/december-democratic-debate-nuclear-power-energy>
- Guardian article: “Goodbye nuclear power: Germany's renewable energy revolution” <http://www.theguardian.com/sustainable-business/nuclear-power-germany-renewable-energy>
- Guardian article: “World Bank rethinks stance on large-scale hydropower projects” <http://www.theguardian.com/environment/2013/may/14/world-bank-hydropower-dam-rethink>
- NYT article: “In Tennessee, Time Comes for a Nuclear Plant Four Decades in the Making” <http://www.nytimes.com/2014/10/20/us/in-tennessee-time-comes-for-a-nuclear-plant-four-decades-in-the-making.html>

Lecture 5. US State Electricity Institutions

- Hirsh, R. F. (1999). *Power Loss: The Origins of Deregulation and Restructuring in the American Electric Utility System*. Cambridge: MIT Press. Ch. 1 and Ch. 15
- The U.S. Electricity System in 15 Maps: <https://www.sparklibrary.com/the-u-s-electricity-system-in-15-maps/>

Lecture 6. US Federal Energy Institutions

- DOE:
 - Department of Energy (DOE) Mission: <http://energy.gov/mission>
 - Gallagher, K.S. and L.D. Anadon, "DOE Budget Authority for Energy Research, Development, and Demonstration Database," John F. Kennedy School of Government, Harvard University; The Fletcher School, Tufts University; and Department of Science, Technology, Engineering & Public Policy, University College of London, March 4, 2016. Excel document – examine data.

- Michael Lewis, “Why the Scariest Nuclear Threat May Be Coming From Inside The White House”, *Vanity Fair*, <https://www.vanityfair.com/news/2017/07/department-of-energy-risks-michael-lewis>
- EPA:
 - EPA, Our Mission and What we Do <https://www.epa.gov/aboutepa/our-mission-and-what-we-do>
 - EPA, Criteria Air Pollutants (skim) <https://www.epa.gov/regulatory-information-topic/regulatory-information-topic-air#criteria-pollutants>
 - EPA, Hydraulic Fracturing (skim) <https://www.epa.gov/hydraulicfracturing>
 - Richard Conniff, “In Beijing, and Washington, a Breath of Foul Air”: <https://www.nytimes.com/2017/01/21/opinion/sunday/in-beijing-and-washington-a-breath-of-foul-air.html>
- Other agencies:
 - What FERC Does: <http://www.ferc.gov/about/ferc-does.asp>
 - Klass Alexandra, & Wilson, E. J. (2012). Interstate Transmission Challenges for Renewable Energy: A Federalism Mismatch. *Vanderbilt Law Review*, 65(6), 1801–1873. Read pp. 1801-12
 - US NRC, “What we do.” Presentation.

Lecture 7. Electric Utilities + Oil & Gas Companies

- Stokes, L. C. (2018). Short Circuiting Policy. Ch 3.
- Brulle, R. J. (2018). ‘The climate lobby: a sectoral analysis of lobbying spending on climate change in the USA, 2000 to 2016’, *Climatic Change*, 149/3–4: 289–303. *Climatic Change*. DOI: 10.1007/s10584-018-2241-z
- Farrell, J. (2015). Network structure and influence of the climate change counter-movement. *Nature Climate Change*, 6(November), 1–5.

Lecture 8. Other Energy Actors: NGOs, Private Sector

- Pooley, E. *The Climate War*. Ch. 6, 7, 8.
- Sierra Club, Beyond Coal campaign: <http://content.sierraclub.org/coal/>

Lecture 9. Public Opinion

- Smith, E. R. A. N. (2002). *Energy, the environment, and public opinion*. Lanham: Rowman & Littlefield Publishers. Ch 2, 3.
- Ansolabehere, S., & Konisky, D. M. (2014). *Clean and Cheap: How Americans Think About Energy in the Age of Global Warming*. Cambridge, MA: MIT Press. Ch 1.
- Stokes, L. C., & Warshaw, C. (2017). ‘Renewable energy policy design and framing influence public support in the United States’, *Nature Energy*, 2/17107.

Lecture 10. Public Mobilization

- Stokes, L. C. (2015). Electoral Backlash against Climate Policy: A Natural Experiment on Retrospective Voting and Local Resistance to Public Policy. *American Journal of Political Science*.
- Boudet, H. S., & Ortolano, L. (2010). A Tale of Two Sitings: Contentious Politics in Liquefied Natural Gas Facility Siting in California. *Journal of Planning Education and Research*, 30(1), 5–21.
- NYT article, “The Hamptons Love Green Energy. But That Wind Farm?”
<https://www.nytimes.com/2019/09/14/nyregion/hamptons-wind-farm.html>
- Windfall Documentary trailer (2 minutes):
<https://www.youtube.com/watch?v=8OZgoERceSU>

Lecture 11. Policy Enactment and Implementation

- John, P. (2003). Is There Life After Policy Streams, Advocacy Coalitions, and Punctuations:
- Using Evolutionary Theory to Explain Policy Change? *Policy Studies Journal*, 31(4), 481–498. Layzer, J. A. (2012). *The Environmental Case* (3rd Edition) Washington D.C.: CQ Press. Ch 1, pp 1-18.
- Breetz, H., Mildenerger, M., & Stokes, L. (2018). The political logics of clean energy transitions. *Business and Politics*, 1–31.

Lecture 12. US Federal Policies: Existing

- EPA, Overview of the Clean Power Plan,
<https://archive.epa.gov/epa/sites/production/files/2015-08/documents/fs-cpp-overview.pdf>
- EPA, FACT SHEET: Proposed Affordable Clean Energy Rule – Overview,
https://www.epa.gov/sites/production/files/2018-08/documents/ace_overview_0.pdf
- Myers, T. A., Nisbet, M. C., Maibach, E. W., & Leiserowitz, A. A. (2012). A public health frame arouses hopeful emotions about climate change. *Climatic change*, 113(3-4), 1105-1112.
- Morton, T. A., Rabinovich, A., Marshall, D., & Bretschneider, P. (2011). The future that may (or may not) come: How framing changes responses to uncertainty in climate change communications. *Global Environmental Change*, 21(1), 103-109.
- Keyes, A. T., Lambert, K. F., Burtraw, D., Buonocore, J. J., Levy, J. I., & Driscoll, C. T. (2019). The Affordable Clean Energy rule and the impact of emissions rebound on carbon dioxide and criteria air pollutant emissions. *Environmental Research Letters*, 14(4), 044018. (READ ABSTRACT ONLY!)

Lecture 13. US Federal Policies: Proposed

- NYT: “What is the Green New Deal? A Climate Proposal, Explained.”
<https://www.nytimes.com/2019/02/21/climate/green-new-deal-questions-answers.html>
- Vox: “The Green New Deal, explained.”
<https://www.youtube.com/watch?v=GxIDJWCbk6I>

- Washington Post: “Protesters want justice — including on social, economic and climate demands” <https://www.washingtonpost.com/politics/2020/06/12/protesters-want-justice-including-social-economic-climate-demands/>
- Bergquist, P., Mildenerger, M., & Stokes, L. C. (2020). Combining climate, economic, and social policy builds public support for climate action in the US. *Environmental Research Letters*, 15(5), 054019.

Lecture 14. US State Policies

Guest Lecture: Geoff Henderson (no readings)

Lecture 15. Comparative Cases: Nuclear Energy in Europe and Asia

- Araujo, K. “Energy at the Frontier” Ch 6.
- Wittneben, B. B. F. (2012). The impact of the Fukushima nuclear accident on European energy policy. *Environmental Science and Policy*, 15(1), 1–3.
- Zhou, Y., Rengifo, C., Chen, P., & Hinze, J. (2011). Is China ready for its nuclear expansion? *Energy Policy*, 39(2), 771–781.
- O’Donnell, J. K. (2013). Nuclear power in South Korea’s green growth strategy. *Council of Foreign Relations*.

Lecture 16. Comparative Cases: Electrification in Africa

- The Economist: “Lighting up Africa: How electricity will transform the continent.” November 2013.
- Briggs, R. C. (2012). Electrifying the base? Aid and incumbent advantage in Ghana. *Journal of Modern African Studies*, 50(4), 603–624.
- New York Times: “With Electricity in Short Supply, 10,000 Protest in Gaza, Defying Hamas.” January 2017.
- De Juan, A., & Wegner, E. (2019). Social inequality, state-centered grievances, and protest: Evidence from South Africa. *Journal of Conflict Resolution*, 63(1), 31-58. (SKIM)

Lecture 17. Energy and Environmental (In)justice

- The Jefferson Drill Documentary (25 minutes): <https://vimeo.com/133564846>
- Pellow, D. N. (2017). *What is critical environmental justice?*. John Wiley & Sons. (Chapter 1)
- Gaventa, J. (1982). *Power and powerlessness: Quiescence and rebellion in an Appalachian valley*. University of Illinois Press. (SKIM pp. 1-20)

Lecture 17. Energy and Environmental (In)justice & Conclusion

- “Memorandum on the Merowe Dam Project,” International Rivers: <https://www.internationalrivers.org/resources/memorandum-on-the-merowe-dam-project-4338>

- Left in the Dust, Greenpeace International (7 minutes):
<https://www.youtube.com/watch?v=ioRtzOWm07A>