



# Utilities and Electricity Markets: Regulation in the United States

PPHA 36925

**Alternating Mon. & Weds., 9-11:50 a.m.**

**Periodic guest speakers via Zoom as well as office hours in evening of “off” weeks.**

**See “Course Plan” for full dates.**

***Instructor:***

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***Teaching Assistant:***

**TBD**

## Course description

Many services today considered public conveniences are provided by private companies in the United States, subject to extensive governmental regulation. This course provides an overview of that regulation, and is divided into three parts: 1) the institutions and basic practices of state utility commissions and their federal counterpart; 2) the regulatory evolution that has attended the emergence of competition in the industry, at least in certain places, from open access and interconnection to grids once owned by local monopolies, to auction-based markets for energy, to the de-monopolization of the customers’ relationship with their energy supplier; 3) recent issues—including decarbonization, threats to electric reliability, the advent of customer-side energy resources, and modern regulatory capture—that raise questions on whether and how the forms and institutions of regulation can adapt to the most pressing demands of our time. This course is offered as an elective.

## Learning objectives

Students can expect to emerge from the course with a strong foundation of knowledge in the subject matter described above. Just as importantly, students will learn how the institutions that administer regulation actually function, lending practical expertise to those who may wish to become involved in energy policy specifically or in government regulation generally. The course will be a combination of lectures with robust opportunities for student participation, as well as hands-on exercises that give students exposure to an industry in transition.



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### Course plan

The class will be taught intensively, with in-person instruction happening on Mondays and Wednesday from 9-11:50 a.m. on alternating weeks of the quarter. Those classes are denoted below.

Additional guest lectures and optional office hours, held via video conferencing technology, will occur on weeks when in-person instruction does not occur.

Class 1 (Apr. 4): Introduction to the Regulation of Public Utilities

Class 2 (Apr. 6): Tour of Joliet Generating Station (health-and-safety protocols permitting)

Class 3 (Apr. 18): Introduction to the Regulation of Public Utilities (cont'd)

Guest speaker: The Hon. Kent Chandler, Chairman, Kentucky Public Service Commission

Class 4 (Apr. 20): Interim Assignment [*see description below*]

Class 5 (May 2): The Origins of Restructuring: Open Access, Unbundling, and RTOs in the Electricity Sector

Class 6 (May 4): Electricity Markets in Practice

“Energy Market Game”: <https://www.energymarketgame.org/index.html>

Guest speaker: Stu Bresler, Senior Vice President, PJM Interconnection

*Week of May 8 via Zoom:* Guest Speaker: Beth Garza, Senior Fellow, R Street Institute & former ERCOT Independent Market Monitor

Class 7 (May 16): Contemporary Issues in Utility Regulation

Guest speaker: Jason Brown, Montana Consumer Counsel

Class 8 (May 18): Contemporary Issues in Utility Regulation (cont'd)

*Week of May 22 via Zoom:* Guest speaker: Jeanne-Mey Sun, Ph.D., Vice President, Sustainability, NRG Energy



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### Major readings

There will not be a course textbook, and with only two exceptions—Thomas McCraw’s *Prophets of Regulation* and John Wasik’s *The Merchant of Power*, both critically acclaimed biographical histories that may even be enjoyable by your friends and relations—all readings are available for download or otherwise will be electronically distributed.

Students should complete the readings that correspond to a particular class *before* that class, and prepare the “reading reflections” assignments described below accordingly.

### *Public Utility Regulation and Institutions*

*These classes will draw selected chapters and essays from the following works, in addition to selecting documents from a contentious utility proceeding before a state utility commission. (Depending on enrollment, there may be two such regulatory-commission proceedings to choose from for the exercise contemplated for Classes 3-4.)*

#### **Classes 1-2**

*Munn v. Illinois*, 94 U.S. 113 (1877). Accessible at [Library of Congress](#); start at p. 123 (page 11 of PDF) and read to end of document.

McCraw, Thomas. (1984). *Prophets of Regulation*. Harvard University Press, pages 1-56 (Charles Francis Adams)

Wasik, John F. *The Merchant of Power: Samuel Insull, Thomas Edison, and the Making of the Modern Metropolis* (2006).

Regulatory Assistance Project. (2016). *Revenue Regulation and Decoupling: A Guide to Theory and Practice*. Accessible at [RAP](#). Pages 3-10.

#### **Classes 3-4**

Prefiled testimony and post-hearing briefing of a utility rate case for a regulatory commission. To be provided. Associated with interim assignment (see below).

Hempling, Scott. (2008). “Commissions are not Courts; Regulators are not Judges.”  
<https://secureservercdn.net/198.71.233.202/012.6a8.myftpupload.com/wp-content/uploads/2021/11/Commissions-Are-Not-Courts.pdf>



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*The Origins of Restructuring and Electricity Markets*

*The readings for these weeks will focus on the liberalization of the utility sector, and discuss how electricity in particular remains an unfinished work—because of both greater political obstacles, the higher degree of physical complexity of the electricity system compared to other industries, and in some segments a more abiding presence of monopoly utilities.*

**Classes 5-6**

Competition introduced to regulated industries

McCraw, *Prophets of Regulation*, pg. 222-99 (Alfred Kahn).

Wholesale Markets for Energy

Federal Energy Regulatory Commission. (2020). Energy Primer: A Handbook for Energy Market Basics, Chapter 2 “Wholesale Electricity Markets” [https://www.ferc.gov/sites/default/files/2020-06/energy-primer-2020\\_Final.pdf](https://www.ferc.gov/sites/default/files/2020-06/energy-primer-2020_Final.pdf)

Cicala, Steve. (2022). “Imperfect Markets versus Imperfect Regulation in U.S. Electricity Generation” *American Economic Review*, 112(2): 409-441.

[https://www.stevecicala.com/papers/elec\\_gov\\_v\\_mkt/elec\\_gov\\_v\\_mkt\\_draft\\_2.pdf](https://www.stevecicala.com/papers/elec_gov_v_mkt/elec_gov_v_mkt_draft_2.pdf)

Retailing

Wolak, Frank & Hardman, Ian. *The Future of Electricity Retailing and How We Get There* (2021), pages 16-94. [https://fsi-live.s3.us-west-1.amazonaws.com/s3fs-public/the\\_future\\_of\\_electricity\\_retailing\\_and\\_how\\_we\\_get\\_there\\_compress.pdf](https://fsi-live.s3.us-west-1.amazonaws.com/s3fs-public/the_future_of_electricity_retailing_and_how_we_get_there_compress.pdf)

Electric Transmission

Peskoe, Ari. (2021). “Is the Utility Transmission Syndicate Forever?” *Energy Law Journal*, 42(1).

[https://www.eba-net.org/assets/1/6/5\\_-\\_5bPeskie%5d%5b1-66%5d.pdf](https://www.eba-net.org/assets/1/6/5_-_5bPeskie%5d%5b1-66%5d.pdf)

Administrative Regulation’s Long Durée

Kavulla, Travis. (2017). “There is No Free Market in Electricity: Can There Ever Be?” *American Affairs*. 1(2), 126-50. <https://americanaffairsjournal.org/2017/05/no-free-market-electricity-can-ever/>



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### *Contemporary Issues in Utility Regulation*

*The readings for these weeks are intended to layer on contemporary issues to previous weeks, using primary sources from policy or regulatory forums to elucidate these issues.*

- *Rise of and Dependency on Natural Gas*
- *Climate Change and Renewable Energy*
- *Electric Reliability in the Energy Transition*
- *Distributed Energy Resources*
- *Modern Regulatory Capture*

*These contemporary topics will also make appearances during the first seven weeks' discussion of fundamentals, so that these last two weeks should be understood as giving an opportunity for a deeper treatment—but not the only treatment—they will receive in the course.*

### **Class 7**

Gas, renewables, and electric reliability.

Read the executive summary and introduction of each of the below reports:

- California Independent System Operator (CAISO), California Public Utilities Commission (CPUC), and California Energy Commission (CEC). (2021). *Final Root Cause Analysis: Mid-August 2020 Extreme Heat Wave*. <http://www.caiso.com/Documents/Final-Root-Cause-Analysis-Mid-August-2020-Extreme-Heat-Wave.pdf>;
- Federal Energy Regulatory Commission (FERC), North American Electric Reliability Corporation (NERC), and NERC Regional Entities. (2021). *The February 2021 Cold Weather Outages in Texas and the South Central United States: Staff Report*. <https://www.ferc.gov/media/february-2021-cold-weather-outages-texas-and-south-central-united-states-ferc-nerc-and>

Decarbonization: What would it take?

Larson, Eric, et al., *Net-Zero America: Potential Pathways, Infrastructure, and Impacts* (2021). Final Report Summary.

[https://netzeroamerica.princeton.edu/img/Princeton%20NZA%20FINAL%20REPORT%20SUMMARY%20\(29Oct2021\).pdf](https://netzeroamerica.princeton.edu/img/Princeton%20NZA%20FINAL%20REPORT%20SUMMARY%20(29Oct2021).pdf)

Rival policy approaches to decarbonization in the electric sector

- Center for Climate and Energy Solutions. (2019). *Clean Energy Standards: State and Federal Policy Options and Considerations*. <https://www.c2es.org/document/clean-energy-standards-state-and-federal-policy-options-and-considerations/>
- NERA Economic Consulting. (2020). *Economic Impacts of the Climate Leadership Council's Carbon Dividends Plan Compared to Regulations Achieving Equivalent Emissions Reductions*. [https://clcouncil.org/reports/NERA\\_CLC\\_VOL1\\_Policy\\_Summary\\_121020.pdf](https://clcouncil.org/reports/NERA_CLC_VOL1_Policy_Summary_121020.pdf)



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### Climate policies in the context of an electricity market

- Energy and Environmental Economics. (2020). *Least Cost Carbon Reduction Policies in PJM*. [https://www.ethree.com/wp-content/uploads/2020/10/E3-Least Cost Carbon Reduction Policies in PJM-1.pdf](https://www.ethree.com/wp-content/uploads/2020/10/E3-Least-Cost-Carbon-Reduction-Policies-in-PJM-1.pdf)

### **Class 8**

### Distributed energy resources

- California's "Net Energy Metering 3.0". Rival filings from various parties. To be distributed.

### Modern regulatory and state capture

Hempling, Scott. (2021). "No Anticompetitive Conduct, No Unearned Advantage: Effective Competition Depends on Merit." <https://secureservercdn.net/198.71.233.202/012.6a8.myftpupload.com/wp-content/uploads/2021/10/No-Anticompetitive-Conduct-No-Unearned-Advantage-Jan-2021.pdf>

### Choice of two readings:

- Deferred Prosecution Agreement. (2020). *United States of America v. Commonwealth Edison Company*. Before the United States District Court for Northern Illinois. [https://www.sec.gov/Archives/edgar/data/22606/000110465920084325/tm2025018d1\\_ex10-1.htm](https://www.sec.gov/Archives/edgar/data/22606/000110465920084325/tm2025018d1_ex10-1.htm)
- Deferred Prosecution Agreement. (2021). *United States of America v. FirstEnergy Corp.* Before the United States District Court for Southern Ohio. <https://www.sec.gov/Archives/edgar/data/1031296/000103129621000071/ex101-8k7x22x21.htm>

Hartman, Devin & Haugh, Michael. (2020). *Electric Competition: The Antidote to Bad Behavior*. R Street Institute. <https://www.rstreet.org/wp-content/uploads/2020/09/Final-No-205-electric-competition-updated.pdf>

### **Readings associated with guest speakers**

### Market monitoring

- Readings tbd

### Climate interests of financial regulators and ESG investors

- Readings tbd



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### Assignments

The course is taught for a letter grade. There are three major elements of grading, equally weighted, with students (in exercising their right to choose a medium in Option #2) allowed to weight their grade more toward oral or written presentation.

1. **Class participation. Students will write four (4) “reading reflections,” to be submitted no later than the Saturday before weeks on which the course meets.** These will be no longer than two (2) pages, double-spaced. I will use those reflections to understand that a student has read the material and to guide discussion whenever possible, although they will not receive a letter grade. As well, students are expected to engage in class discussion, asking questions and contributing their views.
2. **Interim Assignment (Class 4, Apr. 20).** As an interim assignment, as an exercise relative to both the subject matter and institutions of utility regulation, a blended interactive/written exercise will be undertaken. Students will read certain critical materials from opposing parties in a utility rate case, and then will have the option either of:
  - Presenting their arguments (representing either the utility, the consumer, or another party) to a mock “Commission”: the instructor, the TA, and a real guest state public service commissioner, who also would give a short guest lecture and “render a decision” after student arguments were made. (Grading would not be determined by who ‘won’, but by the sophistication of the students’ understanding of the issues at hand.) *or*
  - Writing a policy memo, no more than 10 pages, from the perspective of Commission Advisory Staff, laying out the arguments of the two opposing parties, weighing them, and recommending to the Commission an outcome. **If a student elects this option, the policy memo is due Apr. 19 (the day before Class 4).**
3. **Final Paper, ~15 pages, due May 27.** Students will pick a topic of contemporary public-policy interest, propounding an analysis about whether and how utility regulation and electricity markets should adapt to address that topic. Ideally, students would use a case study or a selection of concrete examples to demonstrate the point. The paper’s proposed solution should offer a remedy to any problems identified, or should argue against remedies conventionally offered by others, or both.

### Grading Criteria

The assignments above will be equally weighted in calculating a final letter grade.

- Class participation will receive an aggregate letter grade. Individual “reading reflections” will not receive a letter grade.
- Organized and lucid analysis that evinces an understanding of the subject matter is the primary criterion by which the interim assignment and final paper will be measured.
- For the final paper, the assigned course readings are intended to be read, and relied upon, as an inspiration; however, students are expected to do their own research to arrive at a topic for the final paper. There are numerous “ripped from the headlines” opportunities in this regard!



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- The interim assignment, unlike the final assignment, does not require substantial external research. Instead, it will rely on readings from a utility-commission proceeding that have been assigned, to which students will apply what they have learned in lectures on the standards used in the regulation of utilities, and the conventions of ratemaking.
- Citation style for written products is at the student's discretion, but consistent use is expected.
- Late assignments will not be accepted without prior approval of instructor or TA.
- Failure to attend classes will result in a lower class-participation grade.

### Other Policies

Students should refer to the [University Policies and Regulations](#) for comprehensive details.