



5.S00: Fifty Years of U.S. Energy Policy – Lessons for the Future

Open to undergraduate and graduate students; second half of fall term 2021

(Same subject as:)

Prereq: None

Units: 2-0-4

Review the energy issues that arose and the U.S. policy responses from the Nixon administration in 1969 to the present administration of Joe Biden. What lessons can be learned from this experience and how should they shape the country's current climate change policy? In what way might these lessons constrain our expectation about the pace, extent, and cost of success? Both domestic and international policy aspects will be addressed.

"Those who fail to learn from history are condemned to repeat it." Winston Churchill

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Lectures: Tuesday Friday 9:30 to 11 in E25-111

Subject objective: Students will have the opportunity to compare the working of U.S. policies in confronting a wide range of energy issues, from oil import dependence to nuclear nonproliferation, in an international context. The process will identify policy tools proven to be successful and those which have not and prepare the student to be a more informed and effective participant in the wide range of energy/climate policy deliberations that require difficult trade-offs and decisions. Participants will learn how evidence based analysis can contribute to desired outcomes while respecting views and interests of others.

Subject organization and requirements: Both undergraduate and graduate students are welcome. There are no prerequisites. The class will meet for 90 minute sessions, twice a week. Two brief papers (1000 words or less) and a final term paper will be assigned. The brief papers will ask students to express and opinion of a policy issue in order to reinforce class discussion. The student will choose a final paper topic from a list provided.

Grading: 1/3 on the short papers, 1/3 on the term paper, and 1/3 on classroom participation, which is vigorously encouraged.

Provisional list of topics to be covered:

Purpose and outline of the subject

Part I. U.S. Energy Policy History. (Five lectures; eight administrations)

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| 1. Nixon/Ford administrations. | R. (1969 – 1977) |
| 2. Carter administration. | D. (1977 – 1981) |
| 3. Reagan/George H.W. Bush administrations. | R. (1981 – 1993) |
| 4. Clinton administration. | D. (1993 –2001) |
| 5. George W. Bush administration | R. (2001 –2009) |
| 6. Obama administration. | D. (2009 – 2017) |
| 7. The changed approach in the Trump administration. | R. (2017 – 2021) |
| 8. Biden administration | D. (2021 –) |

Part II. Analyzing Lessons Learned. (Six lectures) Characterizing changes through different lenses: lifetime of energy policy initiatives organization and implementation of energy programs, international energy and national security matters.

Examples of lessons learned – technology successes and failures

Some Successes	Some Failures
Coal Bed Methane	Nuclear power: too cheap to meter
Photovoltaic R, D, &D (but not manufacturing)	Nuclear waste disposal – just a technical problem
Nuclear reactor and Enrichment Development (but not construction)	Large gov’t run demonstration projects: CRBR.
Synthetic Fuel Corporation	Synthetic Fuel Corporation
Unconventional oil and natural gas production (stimulation + directional drilling), private sector	Magnetic & Inertial Confinement Fusion

Examples of lessons learned – policy successes and failures:

Some Successes	Some Failures
Establishment of IEA	Assumed inevitable dependence on imported oil and supply disruption
National Energy Plan	Assumed inevitable dependence on imported natural gas
Nonproliferation policy (The Smiling Buddha 1974)	Coal generation for domestic electricity production
Establishing ARPA-E (but not the loan program)	Not ratifying Kyoto Agreement; withdrawal from Paris Agreement

Implications for Future U.S. Energy Policy.