Sam Nunn School of International Affairs / Georgia Institute of Technology

INTA 8803-BW

Energy, Environment, and Policy

Instructor: Brian Woodall

Email: brian.woodall@inta.gatech.edu

Office: Habersham 146

Office hours: by appointment

COURSE OBJECTIVES AND ORGANIZATION

If one accepts the standard definition of energy security as "the uninterrupted availability of energy sources at an affordable price" (International Energy Agency), it is easy to imagine a community that is energy secure but environmentally or imperiled and/or plagued by social pushback. For this reason, the central aim of this course is to identify the enabling conditions to achieve *sustainable* energy security. This requires that stakeholders possess the wherewithal to simultaneously promote *energy security*, *environment stewardship*, and *social acceptance*, which represent the legs of a sustainability tripod. In this effort, *institutions* – policies, laws, and behavioral norms – will determine the manner in which a community's economic, environmental, and social capital assets can be marshalled in the pursuit of a sustainable energy future.

After laying the conceptual groundwork, we will explore the challenges of sustainable energy security in a variety of country-level contexts. The purpose of this exercise is to demonstrate that countries of the Global North pursue widely divergent approaches to sustainable energy security and that the Global South faces daunting challenges. At the end of this course, it is expected that students will possess the knowledge and skills needed to assess the energy security sustainability of a given community and to offer meaningful recommendations to its stakeholders. Topics covered in this course relate to a number of the United Nations' Sustainable Development Goals, including SDG #7 (ensuring access to affordable, reliable, sustainable, and modern energy for all), SDG #13 (taking urgent action to combat climate change and its impacts), and SDG #16 (promoting peaceful and inclusive societies for sustainable development).

LEARNING GOALS

Area E Approved Learning Outcome:

- Students will demonstrate the ability to describe the social, political, technological, and economic forces that influence social behavior.
- This course explores the ways in which historical, economic, political, social, technological, and spatial relationships shape national response to the challenges of simultaneously achieving energy security and environmental stewardship. Students will be able to describe how these factors shape individual, group, and state behavior as they pertain to sustainability in these linked policy domains.

Course Learning Outcomes:

- Through comparative analysis of energy policy choices and their environmental and social consequences, students will demonstrate an understanding of how – and with what consequences – the social, political, and economic forces that influence a critically important area of sustainability develop, persist, and change.
- Students will become more aware of the diversity of cultural and ethical systems in the world. This will include the ability to identify, critically analyze, and apply distinguishing traits, perspectives, formulations, and institutions in comparative or international empirical cases or issue areas.
- Students will be able to describe the social, political, and economic forces that interact with scientific and technological factors to shape energy and environmental policymaking at the national- and subnational levels in different contexts.
- Students will have the ability to use different sources of data to comparatively evaluate national or subnational responses to common energy- and environment-related challenges.
- Students will be able to express their arguments clearly and effectively both in written reports and class discussions.
- Students will be able to work in small groups in a way that demonstrates respect for their colleagues and efficiency in working collaboratively towards projects and goals.

INSTITUTE POLICIES

- *Honor Code*: Academic honesty is required of all Georgia Tech students by the Institute's honor code, the text of which is found at honor.gatech.edu.
- *Special Accommodations*: Students requesting academic accommodations based on a documented disability are required to register with the Access Disabled Assistance Program for Tech Students (ADAPTS) at http://www.adapts.gatech.edu.
- *Diversity & Inclusion*: The Ivan Allen College of Liberal Arts – of which the Nunn School is a constituent part – supports the Institute's commitment to creating a campus free of discrimination on the basis of race, color, religion, sex, national origin, age, disability, sexual orientation, gender identity, or veteran status. We further affirm the

importance of cultivating an intellectual climate that allows us to better understand the similarities and differences of those who constitute the Georgia Tech community, as well as the necessity of working against inequalities that may also manifest here as they do in broader society.

COURSE REQUIREMENTS

Course grades will be determined by your performance on a combination of individual and group assignments. Course grades will be weighted as follows:

Individual work

- discussion post/peer review: 20 points (three posts + documentary critique; 5 points each)
- midterm examination: 20 points
- anonymous peer assessment of oral presentations: 10 points

Group Work

- research design exercise (group project): 10 points
- oral presentation (group project): 20 points
- research paper (group project): 20

DISCUSSION TOPICS AND COMMON READINGS

There are no required textbooks for this course. Common readings are available on-line or through the Georgia Tech Library's website.

Week 1

Lecture topics:

- August 21: LECTURE A-Course Overview
- August 23: LECTURE B-Sustainability Tripod

Required readings:

- United Nations General Assembly (2015). *Transforming our World: The 2030 Agenda for Sustainable Development*(https://documents-dds-ny.un.org/doc/UNDOC/GEN/N15/291/89/PDF/N1529189.pdf?OpenElement)
- Marilyn A. Brown, Yu Wang, Benjamin K. Sovacool, and Anthony Louis D'Agostino, "Forty years of energy security trends: A comparative assessment of 22 industrialized countries," *Energy Research & Social Science*, Vol. 4 (2014) 64–77

- David Gelles, Brad Plumer, Jim Tankersley, and Jack Ewing (2023), "The Clean Energy Future Is Arriving Faster Than You Think," *New York Times* (August 17)

Week 2

Lecture topics:

- August 28: LECTURE C-Energy Security
- August 30: LECTURE D-Environmental Stewardship

Required readings:

- Daniel Yergin, "Ensuring Energy Security,"*Foreign Affairs* (March/April 2006), pp. 69-82
- Garrett Hardin, "The Tragedy of the Commons," *Science*162 (No. 3859, Dec. 1968): 1243-1248
- Elinor Ostrom, *Governing the Commons*(Cambridge: Cambridge University Press, 1990), pp. 1-32
- David Wallace-Wells (2023), "Floods, Heat, Smoke: The Weather Will Never Be Normal Again," *New York Times*(July 12).

Just for fun: listen to the "*Fracking Song*"

Discussion prompt: **TBD**

Timetable for discussion post / peer review

- Discussion Post (3 points each) due by Wednesday at 11:59PM.
- Peer Review assignments: Canvas will assign a classmate's post to peer review on Wednesday at 12:01AM.
- Peer Review (2 points each) due by Saturday at 11:59PM.
- Failure to adhere to this timetable will result in a grade reduction.

Week 3

Lecture topics:

- September 4 - *Official School Holiday*
- September 6: LECTURE E-Social Acceptance

Required readings:

- Rolf Wüstenhagen, Maarten Wolsink, Mary Jean Bürer, “Social acceptance of renewable energy innovation: An introduction to the concept, Energy Policy, Vol. 35 No.5, 2007), pp. 2683-2691
- Benjamin K. Sovacool, Raphael J. Heffron, Darren McCauley, and Andreas Goldthau, “Energy decisions reframed as justice and ethical concerns,” *Nature Energy*, Vol. 1 (May 2016), pp. 1-6
- Rebecca Windemer, “Acceptance should not be assumed. How the dynamics of social acceptance changes over time, impacting onshore wind repowering,” *Energy Policy*, Vol. 173 (2023), 113363
- Marina Povitkina, "The limits of democracy in tackling climate change," *Environmental Politics*, Vol. 27 (No. 3, 2018), pp. 411-432

Week 4

Lecture topics:

- September 11: LECTURE F- Assessing Sustainability
- September 13: View documentary (see list of approved documentaries)

Required readings:

- Adjo Amekudzi, Meleckidzedeck Khayesi, and C. Jotin Khisty, "Sustainable development footprint: a framework for assessing sustainable development risks and opportunities in time and space," *International Journal of Sustainable Development*, Vol. 18 (1/2, 2015), pp. 9-40

Discussion prompt: **TBD**

Timetable for discussion post / peer review

- Discussion Post (3 points each) due by Wednesday at 11:59PM.
- Peer Review assignments: Canvas will assign a classmate’s post to peer review on Wednesday at 12:01AM.
- Peer Review (2 points each) due by Saturday at 11:59PM.
- Failure to adhere to this timetable will result in a grade reduction.

Week 5

Lecture topics:

- September 18: LECTURE G-Stakeholders
- September 20: LECTURE H- Guiding Theories

Required readings:

- George T. Stigler, "The Theory of Economic Regulation," *The Bell Journal of Economics and Management Science*, Vol. 2, (No. 1, Spring, 1971), pp. 3-21
- Elinor Ostrom, "A General Framework for Analyzing Sustainability of Social-Ecological Systems," Science, Vol 325 (July 24, 2009), pp. 419-422
- Ronald Inglehart, "Globalization and Postmodern Values," *The Washington Quarterly*, Vol. 23 (No. 1, Winter 2000), pp. 215-228
- Anna Pegels, Georgeta Vidican-Auktor, Wilfried Lutkenhorst, and Tilman Altenburg, "Politics of Green Energy Policy," *Journal of Environment & Development*, Vol. 27 (No. 1, 2018), pp. 26–45

Week 6

Lecture topics:

- September 25: LECTURE I- Comparative Method
- September 27: Review for midterm examination

Required readings:

- Carsten Anckar, "On the Applicability of the Most Similar Systems Design and the Most Different Systems Design in Comparative Research," *International Journal of Social Research Methodology*, Vol. 11 (No. 5), pp. 389-401

Week 7

Lecture topics:

- October 2: Midterm examination
- October 4: LECTURE J-USA (Liberal Market System)

Required readings:

- Miranda A. Schreuers, "Divergent Paths," *Environment*45 (No. 8, 2003): 9-17
- US Energy Information Administration," US Energy Facts Explained" (https://www.eia.gov/energyexplained/us-energy-facts/Links to an external site.)*
- Lisa Friedman and Trip Gabriel, "A Green New Deal Is Technologically Possible. It's Political Prospects are Another Matter,"*New York Times,* February 21, 2019
- Nadja Popovich and Brad Plumer, "Why the U.S. Electric Grid Isn't Ready for the Energy Transition,"*New York Times* (June 12, 2023)

Week 8

Lecture topics:

- October 9 – *Fall Break*
- October 11: LECTURE K-Japan (Coordinated Market System/Developmental State)

Required readings:

- John Duffield and Brian Woodall, "Japan's New Basic Energy Plan," *Energy Policy*39 (June 2011): 3741–3749
- Brian Woodall, "The Development of Japan's Developmental State: Stages of Growth and the Social Costs of Energy and Export Promotion Policies," in *East Asian Development Model: 21st Century Perspectives*(Shiping Hua and Ruihua Hu, eds., London: Routledge, 2014), pp. 101-120
- "Japan 'left behind' by world over its lack of climate change measures,"*Mainichi Newspaper* (June 12, 2023)
- "Experts slam Japan's 'green transformation' bills for protecting nuclear power industry,"*Mainichi Newspaper* (April 18, 2023).
- Abby Brown, "Japan Is Showing the World How Not to Handle Radioactive Waste," *New York Times* (August 22, 2023).

Week 9

Lecture topics:

- October 16: LECTURE L-Denmark (Coordinated Market/Social Corporatism)
- October 18: LECTURE M-China (BRICS)

Required readings:

- Benjamin K. Sovacool, "Energy policymaking in Denmark: Implications for global energy security and sustainability," Energy Policy, Vol. 61 (2013), pp. 829–839.
- European Commission, Fourth Report on the State of the Energy Union (2019) (https://ec.europa.eu/commission/sites/beta-political/files/fourth-report-state-of-energy-union-april2019_en_0.pdf Links to an external site.)
- Richard Rhodes, "A Sensible Climate Change Solution, Borrowed From Sweden," New York Times, February 5, 2019
- Brian Woodall and Siqi Han, "The Development of China's Developmental State: Environmental Challenges and Stages of Growth," China Currents, Vol. 13 (No. 1, May 2014) (on-line at: /www.chinacenter.net/the-development-of-chinas-developmental-state-environmental-challenges- and-stages-of-growth/)

- Charlie Campbell, "China Is Bankrolling Green Energy Projects Around the World," Time (November 1, 2019) (https://time.com/5714267/china-green-energy/)

Discussion prompt: **TBD**

Timetable for discussion post / peer review

- Discussion Post (3 points each) due by Wednesday at 11:59PM.
- Peer Review assignments: Canvas will assign a classmate's post to peer review on Wednesday at 12:01AM.
- Peer Review (2 points each) due by Saturday at 11:59PM.
- Failure to adhere to this timetable will result in a grade reduction.

Week 10

Lecture topics:

- October 23: LECTURE N-Argentina (Developing Country)
- October 25: LECTURE O-Fiji (Small Island Developing State)

Required readings:

- Tomás Lanardonne and Brian D. Burstein, "Argentina: Energy Policy," chapter in Encyclopedia of Mineral and Energy Policy(Gunter Tiess, Tapan Majamder, and Peter Cameron, eds.). Berlin: Springer, 2016.
- Rok Spruk, "Why Argentina Declined, and How It Can Rise Again," The Bridge (https://www.mercatus.org/bridge/commentary/qa-why-argentina-declined-and-how-it-can-rise-again_(Links to an external site.)); 2018
- Ravita Prasad, R.C. Bansal, and Atul Ratur, "A review of Fiji's energy situation: Challenges and strategies as a small island developing state," Renewable and Sustainable Energy Reviews, Vol. 75 (August 2017), pp. 278-292.

Week 11

Lecture topics:

- October 30: LECTURE P-Uganda (Less Developed Country)
- November 1: LECTURE Q-Group Project Set-up

Required readings:

- Obadia Kyetuza Bishoge, Godlisten Gladstone Kombe, and Benatus Norbert Mvile, "Renewable energy for sustainable development in sub-Saharan African countries: Challenges and way forward," Journal of Renewable and Sustainable Energy, Vol. 12, (September 2020), pp. 1-14.
- Max Bear, "Clean Energy Projects Are Booming Everywhere. Except in Poor Nations," *New York Times* (September 4, 2023)
- Victoria Ritah Nalule and Ayebare Tom Rukund, "Uganda: Energy Policy," chapter in Encyclopedia of Mineral and Energy Policy(Gunter Tiess, Tapan Majamder, and Peter Cameron, eds.). Berlin: Springer, 2016.
- Chalmers Johnson, "South Korean Democratization: The Role of Economic Development," The Pacific Review, Vol. 2 (No.1, 1989), pp. 63-79.

Discussion prompt:

Timetable for discussion post / peer review

- Discussion Post (3 points each) due by Wednesday at 11:59PM.
- Peer Review assignments: Canvas will assign a classmate's post to peer review on Wednesday at 12:01AM.
- Peer Review (2 points each) due by Saturday at 11:59PM.
- Failure to adhere to this timetable will result in a grade reduction.

Week 12

November 6 & 8: Group Work

Week 13

November 13 & 15: Group Work

Week 14

November 20: Group Work

November 22 – *Student Recess*

Week 15

November 27 & 29: Group Work

Week 16

December 4: Group Presentations