

Energy History

Instructor: Liat Spiro

Course description:

This course will treat the history of energy regimes—animal, water, coal, nuclear, hydroelectric, oil, and renewables—since approximately 1750. Analyzing energy regimes, their proponents, and their discontents will enable us to understand the historical making of working conditions and labor politics, mechanization and the changing spatial relations of industry, imperialism and nationalism, regional development and the growth of metropolitan areas, and the origins of human-made climate change and “Anthropocene.”

We will explore energy infrastructures as socio-technical systems with political origins and wide cultural consequences. We will consistently keep an eye “upstream” and “downstream” of the energy sector to understand the sources of environmental inequality and the allotment and assessment of risk. The course readings and assignments will promote skills of use to history majors, students majoring in the social sciences and public policy, students of engineering, students of chemistry and physics, and students focusing on the environmental, biological, and health sciences. All comers welcome.

Assignments:

Weekly Response Papers (15%)—Write ~200 words reflecting on the week’s readings, plus one or two questions inspired by them.

Primary Source Analysis (15%)—I will circulate a few sets of primary sources, composed of images, data, and texts, two weeks prior to the due date. “Close read” the enclosed documents (which may be maps, surveys, projections, photographs, advertisements, excerpts of reports, etc.) in 4-6 pages, 12-pt Times New Roman, double-spaced.

Midterm Exam (20%)—Answer four (of six) identification questions and respond to two (of three) essay prompts, using the readings completed so far

Energy Project Op-Ed (25%)—Choose a specific energy project currently under consideration and in the works, and make an argument about whether or how it should be pursued. Draw on at least THREE course readings and THREE sources (primary or secondary) gathered in your own research. 6-8 pages, 12-pt Times New Roman, double-spaced.

Mapping Project (25%)—Construct a map or other visualization based on contemporary or historical data about an energy phenomenon (electricity distribution, fuel waste, price variations, etc.), and write 6-8 pages explaining how it adds to or modifies understandings (be they in the press or historiographical) of your chosen energy

phenomenon. We will hold workshops on how to collect and clean relevant data as well as how to use mapping tools such as ArcGIS.

Week 1—Panorama

Alfred W. Crosby, *Children of the Sun: A History of Humanity's Unappeased Appetite for Energy* (New York: Norton, 2006), selections

Vaclav Smil, *Energy and Civilization: A History* (Cambridge, MA: The MIT Press, 2017)

Optional:

Michael B. McElroy, *Energy: Perspectives, Problems, and Prospects* (New York: Oxford University Press, 2010)

Week 2—Energy in the Great Divergence

Kenneth Pomeranz, *The Great Divergence: China, Europe, and the Making of the Modern World Economy* (Princeton: Princeton University Press, 2000)

E.A. Wrigley, *Energy and the English Industrial Revolution* (Cambridge: Cambridge University Press, 2010)

Week 3—Steam

Andreas Malm, *Fossil Capital: The Rise of Steam-Power and the Roots of Global Warming* (London: Verso, 2016)

Optional:

Theresa Gutberlet, "Mechanization and the spatial distribution of industries in the German Empire, 1875 to 1907," *The Economic History Review* (May 2014): 463-491.

Week 4—Persistence of Biopower

Clay McShane and Joel A. Tarr, *The Horse in the City: Living Machines in the Nineteenth Century* (Baltimore: Johns Hopkins University Press, 2007)

Optional:

Anson Rabinbach, *The Human Motor: Energy, Fatigue, and the Origins of Modernity* (Los Angeles: University of California Press, 1992)

Week 5—Killing for Coal

Thomas Andrews, *Killing for Coal: America's Deadliest Labor War* (Cambridge, MA: Harvard University Press, 2008)

Primary sources:

Benjamin Smith Lyman, "Surveying by Photography," *The Philadelphia Photographer* (1866)

Benjamin Smith Lyman, "A Report on the Progress of the Geological Survey of the Oil Lands of Japan during the year 1876."

Optional:

Warren Alexander Dym, "Freiberg and the Frontier: Louis Janin, German Engineering, and 'Civilisation' in the American West," *Annals of Science* 68, no. 3 (July 2011): 295-323.

Primary Source Analysis Due**Week 6—Mineral Colonialisms and Anticolonial Nationalisms**

Grace Yen Shen, *Unearthing the Nation: Modern Geology and Nationalism in Republican China* (Chicago: University of Chicago Press, 2014), selections

Peter Shulman, *Coal and Empire: The Birth of Energy Security in Industrial America* (Baltimore: Johns Hopkins University Press, 2015), selections

Shellen Wu, *Empires of Coal: Fueling China's Entry Into the Modern World Order, 1860-1920* (Stanford, CA: Stanford University Press, 2015)

Primary source:

"Letter from Baron Richthofen on the Province of Hunan," 20th to 26th February, 1870, Letter on the Provinces of Chekiang and Nganhwei (Shanghai: North-China Herald Office, 1871)

"Chinese Coal for Europe," (from Saturday Evening Post) *The Chinese Students' Monthly*, Vol. 16

Bertrand Russell, *The Problem of China* (Century Co., 1922), selections

Optional:

Roger R. Thompson, "'If Shanxi's Coal is Lost, then Shanxi is Lost!': Shanxi's Coal and an Emerging National Movement in Provincial China, 1898-1908," *Modern Asian Studies* 45, 5 (2011): 1261-1288.

Week 7—Electrification, Inequality, and Difference

Ruth Schwartz Cowan, *More Work for Mother: The Ironies of Household Technology from the Open Hearth to the Microwave* (New York: Basic Books, 1983), selections

Thomas P. Hughes, *Networks of Power: Electrification in Western Society, 1880-1930* (Baltimore: Johns Hopkins University Press, 1993), selections

Ronen Shamir, *Current Flow: The Electrification of Palestine* (Stanford, CA: Stanford University Press, 2013), selections

Primary source:

Lewis Mumford, *Technics and Civilization* (Chicago: University of Chicago Press, 2010 [1934])

Optional:

Jeremiah D. Lambert, *The Power Brokers: The Struggle to Shape and Control the Electric Power Industry* (Cambridge, MA: MIT Press, 2015), chapters one and two ("Samuel Insull: Architect and Prime Mover of the Electric Utility Business in the United States" and "David Lilienthal and the Era of Public Power")

Midterm Exam

Week 8—High Modernism & Nuclear

Gabrielle Hecht, *Being Nuclear: Africans and the Global Uranium Trade* (Cambridge, MA: MIT Press, 2012)

Stephen Kotkin, *Magnetic Mountain: Stalinism as a Civilization* (Berkeley: University of California Press, 1995), selections

Stephanie A. Malin, *The Price of Nuclear Power: Uranium Communities and Environmental Justice* (New Brunswick, NJ: Rutgers University Press, 2015), selections

Optional:

Daniel A. Barber, *A House in the Sun: Modern Architecture and Solar Energy in the Cold War* (New York: Oxford University Press, 2016)

Wolfgang C. Müller and Paul W. Thurner, eds. *The Politics of Nuclear Energy in Western Europe* (New York: Oxford University Press, 2017)

Sonja D. Schmid, *Producing Power: The Pre-Chernobyl History of the Soviet Nuclear Industry* (Cambridge, MA: MIT Press, 2015), selections

Data Collection Workshops

Week 10—Hydroelectric & Regional Development

Andrew Needham, *Power Lines: Phoenix and the Making of the Modern Southwest* (Princeton: Princeton University Press, 2014), selections

Richard White, *The Organic Machine* (New York: Hill & Wang, 1995)

Primary source:

Audrey Topping, "Ecological roulette: Damming the Yangtze," *Foreign Affairs* (Sep 1995): 132.

Optional:

Jeremiah D. Lambert, *The Power Brokers: The Struggle to Shape and Control the Electric Power Industry* (Cambridge, MA: MIT Press, 2015)

Week 11—International Oil, Then and Now

Christopher Dietrich, *Oil Revolution: Anticolonial, Sovereign Rights, and the Economic Culture of Decolonization* (Cambridge: Cambridge University Press, 2017)

Alison Frank, "The Petroleum War of 1910: Standard Oil, Austria, and the Limits of the Multinational Corporation," *American Historical Review* 114, no. 1 (2009): 16-41.

Timothy Mitchell, *Carbon Democracy: Political Power in the Age of Oil* (London: Verso, 2011)

Mapping Workshops

Week 12—Fracking

Jennifer Haigh, *Heat and Light: A Novel* (New York: HarperCollins, 2016)

Daniel Raimi, *The Fracking Debate: The Risks, Benefits, and Uncertainties of the Shale Revolution* (New York: Columbia University Press, 2018), selections

Optional:

Joel A. Tarr, "Toxic Legacy: The Environmental Impact of the Manufactured Gas Industry in the United States," *Technology and Culture* 55, No. 1 (January 2014): 107-147.

Energy Project Op-Ed Due**Week 13—Reflections**

Dipesh Chakrabarty, "The Climate of History: Four Theses," *Critical Inquiry* 35, no. 2 (January 2009): 197-222.

Naoto Kan, *My Nuclear Nightmare: Leading Japan Through the Fukushima Disaster to a Nuclear-free Future* (Ithaca: Cornell University Press, 2017)

Optional:

Alison Frank, "Environmental, Economic, and Moral Dimensions of Sustainability in the Petroleum Industry in Austrian Galicia," *Modern Intellectual History* 8, no. 1 (2011): 171-191.

Week 14—Outlooks

Travis Bradford, *Solar Revolution: The Economic Transformation of the Global Energy Industry* (Cambridge, MA: MIT Press, 2006), selections

Michael H. Fox, *Why We Need Nuclear Power: The Environmental Case* (New York: Oxford University Press, 2014), selections

Optional:

Markku Lehtonen and Mari Martiskainen, "Nuclear power after Fukushima: prospects and implications," in *Global Energy: Issues, Potentials, and Policy Implications*, Paul Ekins, Mike Bradshaw, and Jim Watson, eds. (New York: Oxford University Press, 2015)
Peter Musgrove, *Wind Power* (Cambridge: Cambridge University Press, 2010)

Mapping Project Due