SOCIAL THEORY, CAPITALISM, ENERGY

SOCI 50131 / CCT 50131
Wednesdays, 9:30-12:30
Location: Rosenwald 432

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Office hours: by appointment (details TBA)

This interdisciplinary Ph.D. seminar considers some of the major critical-theoretical approaches to energy as a formative dimension of global capitalism, with a particular emphasis on its historical geographies, its intermeshing with social power relations and imperial geopolitics, its political-institutional mediations, and its wide-ranging socio-environmental dimensions, from the microbiological to the planetary scales. In exploring such issues, we are especially concerned with the role of fossil-capitalist energy regimes in the proliferation of environmental crises, disasters and emergencies under contemporary conditions, and with the possible pathways for post-fossil forms of societal development (whether in capitalist or post-capitalist forms).

Following some broad overview readings on the "Anthropocene" debate and on the environment-making, crisis-riven dynamics of capitalism, we consider several major social-theoretical perspectives on energy systems and regimes—including various forms of sociohistorical thermodynamics; and a range of heterodox, Marxian-inspired approaches to the *problematique*. On this basis, we examine in detail the influential "fossil capital" hypothesis introduced by Andreas Malm as a key perspective on the specifically energetic (as opposed to merely environmental) dimensions of the "Capitalocene," an epoch of historical time in which the dynamics, contradictions, and crisis tendencies of capital have fundamentally reshaped planetary environmental conditions. We then consider various historical-geographical perspectives on the pathways and transformations of fossil capital (and its extended, imperial metabolic dynamics) in relation to key political-economic transformations of the "long twentieth century," especially since the "Great Acceleration" of the post-World War II period. Finally, we explore scholarship on emergent "renewable" or "Green" energy transitions, with particular attention to their geopolitical, territorial and sociopolitical dimensions in an early 21st century context of proliferating environmental emergencies and imperial conflict. The class concludes with a brief engagement with several key perspectives on how a post-fossil social formation might (or should) be configured, constructed and governed.

This course is intended for doctoral students (and other well-prepared, highly motivated students) with a strong interest in critical environmental social science and environmental humanities. It offers a fast-moving, intensive survey of key perspectives in the vast literatures on energy, capitalism and environment, and will help students develop a solid theoretical foundation on which to pursue deeper studies in these fields, in preparation for conducting original scholarship. The class is also closely articulated to the newly formed Committee on Environment, Geography, and Urbanization (CEGU), a platform for historically attuned and spatially reflexive research and teaching in environmental social science and environmental humanities. CEGU will soon be launching a new Doctoral Certificate in this field. This course will be one among several options that will count towards the certificate's core "theory" requirement (further details to be conveyed in class).

Prerequisites

- This course is reading-intensive and theory-heavy. Students should be prepared to read complex, densely argued texts with appropriate care, focus and perseverance.

Requirements

- *Regular attendance and active participation* in all sessions. Since we only meet once per week (9 classes total), this is a mandatory requirement (exceptions only in case of emergency). For situations of illness, Zoom channel will be set up for the course via our Canvas website. If you are confronting any issues that are impeding your studies this term, please reach out to the instructors so that appropriate support can be found.

- *Intensive preparation* for all discussions by reading all assigned texts carefully and comprehensively in advance. The practice and discipline of reading is central to our work.

- Meet all *deadlines* for writing assignments, as specified below.

- *Weekly discussion posts*. These are brief reflections or questions regarding the week's readings, due each Tuesday by 6pm. These will be posted to a weekly "Discussion" thread on our Canvas site (look under "Discussions" tab for the relevant week). Prior to each week's Wednesday class, please also be sure to read the reflections posted by your classmates (check back after 6pm each Tuesday evening).

- *Two analytical essays.* These are about 7 pages each (approximately 2500 words). Deadlines are 11/2 and 12/7. Essay topics will be discussed in class. The second essay may be longer if needed (up to 3500 words / 10 pages).

Grading

- 25% Attendance and participation
- 25% Discussion Posts
- 25% Analytical essay #1
- 25% Analytical essay #2

Academic Honesty

Plagiarism will result in a failing grade for the assignment and possibly for the course, as well as a referral to the Dean of Students. Plagiarism is the accidental or intentional copying of phrases or sentences without proper citation to the author or source. This may include published texts, material found on the internet or the work of students and colleagues. Be sure to document the exact sources of everything you write down in your notes; use quotation marks if you are quoting anything, be it a phrase or a sentence. These are essential habits to "lock in" now to avoid making any future mistakes in this regard, whether as graduate students or in future professional / academic contexts.

SCHEDULE OF TOPICS AND DEADLINES

Week 1: September 28
Introduction and opening discussion

- Vaclav Smil, "Energy systems: their basic properties," in *Energy Transitions: History, Requirements, Prospects*. Santa Barbara, CA: Praeger, 2010, 1-24.
- Tess Riley, "Just 100 companies responsible for 71% of global emissions, study says," *The Guardian*, 10 July 2017.
- Paul Griffin, *The Carbon Majors Database: CDP Carbon Majors Report* 2017. CDP Worldwide, 2017.
- IPCC AR6 2021 DRAFT Executive Summary for Policymakers (skim).
- Robert Suits et. al., Visualization of energy use in the USA, post-1870: https://us-sankey.rcc.uchicago.edu/
- Adam Tooze, "Climate, carbon and class," *Chartbook Newsletter #24*, June 27, 2021.
- Marx and Engels, "Bourgeois and Proletarians," in *The Communist Manifesto* (1848), first part.

Week 2: October 5
Anthropocene, Capitalocene, Planationocene … Contours of a debate

- Will Steffen, Paul Crutzen and John McNeill, "The Anthropocene: Are Humans Now Overwhelming the Great Forces of Nature?" *Ambio* 36, 8, December 2007.
- Will Steffen et. al., "Planetary boundaries: guiding human development on a changing planet," *Science*, 347, 6233, 13 February 2015.
- Chris Otter and John Brooke, "The Organic Anthropocene," *Eighteenth Century Studies*, Vol. 49, No 2 (2016): 281-302
- Simon Lewis and Mark Maslin, "Defining the Anthropocene," *Nature* March 2015, 171-180.
- Kathleen Morrison, "Provincializing the anthropocene," *Seminar* 673, September 2015, 75-80.\
- Kathryn Yusoff, "Golden Spikes and Dubious Origins," in *A billion black Anthropocenes or none*. Minneapolis: University of Minnesota Press, 2019.
- Jason Moore, "The Capitalocene, Part 1: on the nature and origins of our ecological crisis," *Journal of Peasant Studies* 44, 3, 2017, 594-630.
- Christophe Bonneuil and Jean-Baptiste Fressoz, "Clio, the earth and the anthropocenologists" and "Who is the Anthropos?," in *The Shock of the Anthropocene: The Earth, History and Us*. London: Verso, 2016.

- Donna Haraway and Anna Tsing, *Reflections on the plantationocene: a conversation*, Edge Effects, University of Wisconsin-Madison, 2019.

- Wendy Wolford, "The Plantationocene: A Lusotropical Contribution to the Theory," *Annals of the Association of American Geographers* (2021): 1-18.

- Matthew Gandy, "An Arkansas parable for the Anthropocene," *Annals of the Association of American Geographers*, 112, 2, 2022, 368-386.

Week 3: October 12
Capitalist natures and metabolic rift theory—towards a world-ecology of capital

- Richard Lewontin and Richard Levins, "Organism and environment," *Capitalism, Nature, Socialism* 8, 2 (1997): 95-98.

- Anna Sturman, "Kohei Saito, *Karl Marx's Ecosocialism*," *Past and Present Reading Group*, September 28, 2021: https://www.ppesydney.net/kohei-saito-karl-marxs-ecosocialism/

- Neil Smith, "Nature as accumulation strategy," *Socialist Register*, March 19, 2009, 17-35.

- John Bellamy Foster, "Marx's theory of metabolic rift: classical foundations for environmental sociology," *American Journal of Sociology* 105, 2 (1999): 366-405.

- Brett Clark and Richard York, "Carbon metabolism: global capitalism, climate change and biospheric rift," *Theory and Society* 34, 4 (2005): 391-428.

- Jason W. Moore, "Metabolic rift or metabolic shift: dialectics, nature and the world-historical method," *Theory and Society* 46 (2017): 285-318.

- Jason W. Moore, "The Capitalocene, Part II: accumulation by appropriation and the centrality of unpaid work/energy," *Journal of Peasant Studies*, 45, 2 (2018), 237-279.

- Mindi Schneider and Philip McMichael, "Deepening, and repairing, the metabolic rift," *Journal of Peasant Studies* 37, 3 (2010): 461-484.

- Damian White, Brian Gareau and Alan Rudy, "Ecosocialisms, past, present and future: from the metabolic rift to a reconstructive, dynamic and hybrid ecosocialism," *Capitalism, Nature, Socialism* 28, 2 (2017): 22-40.

- Nancy Fraser, "Climates of capital: for a trans-environmental socialism," *New Left Review* 127 (2021): 1-45.

Week 4: October 19
Capitalism and energy (1): sociohistorical thermodynamics

Warmup and overview

- Gustav Cederlöf, "Out of steam: energy materiality and political ecology," *Progress in Human Geography*, 45, 1 (2019): 70-87.

Thermodynamic thought in philosophical and historical context

- Erwin Schrödinger, "Order, disorder and entropy," in *What is Life?* Cambridge: Cambridge University Press, 1944, 67-75.

- Thomas Niall, "The flow of matter," "The fold of elements," and "The planetary field," in *Theory of the Earth*. Stanford: Stanford University Press, 2021, 19-60.

- Cara New Daggett,"The novelty of energy," "A steampunk production" and "A geo-theology of energy," in *The Birth of Energy: Fossil Fuels, Thermodynamics and the Politics of Work*. Durham and London: Duke University Press, 2019, 15-82.

Conceptual openings and critical perspectives from environmental economics

- Nicholas Georgescu-Roegen, "Entropy, value, and development," in *The Entropy Law and the Economic Process*. Harvard University Press: Cambridge, Mass., 1971, 276-315.

- Nicholas Georgescu-Roegen, "Energy and economic myths," *Southern Economic Journal*, 41, 3, 1975: 347-381.

- Herman E. Daly, "The circular flow of exchange value and the linear throughput of matter-energy: a case of misplaced concreteness," *Review of Social Economy*, 43, 3 (1985): 279-297.

Energetics, ecology and society: Odum and beyond

- Howard T. Odum and Richard C. Pinkerton, "Time's speed regulator: the optimum efficiency for maximum power output in physical and biological systems," *American Scientist*, 43, 2, 1955, 331-343.

- Howard T. Odum, "Material circulation, energy hierarchy, and building construction," in Charles Kibert et. al. eds., *Construction Ecology: Nature as the basis for green buildings*. London and New York: Spon Press, 2001, 37-71.

- Howard Odum, *Environment, Power, and Society*. 1st edition. New York: Columbia University Press, 1971, 1-173

  Note: there is also a 2007 edition that is still in print. I have uploaded a better quality PDF but all of the diagrams are missing—and these are crucial to the argument. You may wish to consult both editions. If you read the newer edition, please read chs. 1-7 (pp 1-220).

- Howard T. Odum and David M. Scienceman, "An energy systems view of Karl Marx's concepts of production and labor value," in Mark T. Brown et. al. eds., *Emergy Synthesis 3: Theory and Applications of*

the Emergy Methodology. The Center for Enviornmental Policy. Department of Enviornmental Engineering Sciences, University of Florida, Gainesville, FL., 2005, 17-44.

Week 5: October 26
Capitalism and energy (2): heterodox eco-Marxist formulations

Energetics, Marx, Marxism

- John Bellamy Foster, "Ecological economics and classical Marxism: the 'Podolinsky business' reconsidered," *Organization & Environment*, 17, 1, 2004, 32-60.

- Paul Burkett and John Bellamy Foster, "Metabolism, energy, and entropy in Marx's critique of political economy: beyond the Podolinsky myth," *Theory & Society*, 35, 2006, 109-156.

- Paul Burkett and John Bellamy Foster, "The Podolinsky Myth: an obituary (Introduction to 'Human Labour and the Unity of Force', by Sergei Podolinsky," *Historical Materialism*, 16, 2008, 115-161.

- Paul Burkett, "Entropy in Ecological Economics: A Marxist Intervention" and "Energy, Entropy and Classical Marxism: Debunking the Podolinsky Myth," in *Marxism and Ecological Economics: Towards a Red and Green Political Economy*. Leiden and London: Brill, 2006, 142-207.

Energetics of ecologically uneven exchange (EUU)

- John Bellamy Foster and Hannah Holleman, "The theory of unequal ecological exchange: a Marx-Odum dialectic," *Journal of Peasant Studies*, 41, 2, 2014, 199-233.

- Stephen Bunker, "Energy values in unequal exchange and uneven development" and "Extractive economies and the degradation of natural and human environments," in *Underdeveloping the Amazon: Extraction, Unequal Exchange and the Failure of the Modern State*. Chicago: University of Chicago Press, 1985.

- Stephen Bunker, "Matter, space, energy, and political economy: the Amazon in the world-system," *Journal of World Systems Research*, IX, 2, Summer 2003, 219-258.

Fields of application

- Stephen Bunker, "Modes of extraction, unequal exchange, and the progressive underdevelopment of an extreme periphery: the Brazilian Amazon, 1600-1980," *American Journal of Sociology*, 89, 4, 1984, 1017-1964.

- Kirk S. Lawrence, "Energy use, CO_2 emissions, and GDP in the world system, 1975-2005," *International Journal of Comparative Sociology*, 50, 3-4, 335-359.

- Jason Hickel, Christian Dorninger, Hanspeter Wieland, and Intan Suwandi, "Imperialist appropriation in the world economy: Drain from the global South through unequal exchange, 1990-2015," *Global Environmental Change*, 73, (2022).

Analytic essay #1; topics to be discussed; due November 2

Week 6: November 2
Energy revolutions (1): the rise of fossil capital

Warmup

- Torbjörn Rydberg and Jan Jansén, "Comparison of horse and tractor traction using emergy anaysis," Ecological Engineering, 19 (2002): 13-28.

- Alf Hornborg, "Footprints in the cotton fields: the industrial revolution as time-space appropriation and environmental load displacement," *Ecological Economics* 59 (2006): 74-81.

- Matthew T. Huber, "Energizing historical materialism: fossil fuels, space and the capitalist mode of production," Geoforum, 40 (2008): 105-115.

The Malm hypothesis

- Andreas Malm, "The Origins of Fossil Capital: From Water to Steam in the British Cotton Industry," *Historical Materialism* 21, 1 (2013) 15-68.

- Andreas Malm, "China as chimney of the world: the fossil capital hypothesis," *Organization & Environment* 25, 2 (2012): 146-177.

- Andreas Malm, "Who Lit this Fire? Approaching the History of the Fossil Economy," *Critical Historical Studies*, Fall 2016, 215-248.

- Andreas Malm, "Long waves of fossil development: periodizing energy and capital," in Brent Ryan Bellamy and Jeff Diamanti eds., *Materialism and the Critique of Energy*. Chicago and Alberta: M-C-M', 2018, 161-196.

Also recommended:

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

Critiques and counterpoints

- Cara Daggett, "Energy and domination: contesting the fossil myth of fuel expansion," *Environmental Politics*, 30 4 (2021): 644-662.

- Ryan Cecil Jobson, "Dead labor: on racial capital and fossil capital," in Destin Jenkins and Justin Leroy eds., *Histories of Racial Capitalism*. New York: Columbia University Press, 2021, 215-230.

- Aaron Jakes, unpublished commentary on Andreas Malm, *Fossil Capital*, remarks at the Verso book launch event on *Fossil Capital* (NYC, May 17, 2016).

- Daniel Aldana Cohen, *Time to Pull the Plug on Urban Fossil Consumption*, remarks at the Verso book launch event on *Fossil Capital* (NYC, May 17, 2016).

Week 7: November 9
Energy revolutions (2): the long twentieth century, the 'Great Acceleration' and the (geo)politics of energy

Warmup

- Vaclav Smil, "Energy in the twentieth century: resources, conversions, costs, uses, and consequences," *Annual Review of Energy and Environment*, 25 (2000): 21-51.

- Christophe Bonneuil and Jean-Baptiste Fressoz, "Themocene: A political history of CO_2," "Thanatocene: power and ecocide," "Phagocene: consuming the planet," and "Capitalocene: a combined history of earth system and world-systems," *The Shock of the Anthropocene: The Earth, History and Us*. London: Verso, 2016 (Chs. 5, 6, 7, and 10).

- Christoph Görg, et. al., "Scrutinizing the Great Acceleration: the Anthropocene and its analytic challenges for social-ecological transformations," *The Anthropocene Review* 2019, 1-20.

Core readings and debates

- Timothy Mitchell, *Carbon Democracy: Political power in the age of oil*. London and New York: Verso, 2011.

- Elizabeth Chatterjee, "The Asian Anthropocene: Electricity and Fossil Developmentalism," *Journal of Asian Studies*, 79, 1 (2020: 3-24).

- Victor Seow, *Carbon Technocracy. Energy Regimes in Modern East Asia*. Chicago: University of Chicago Press, 2021 (Read introduction, "Carbon technocracy," and skim 1-2 other chapters according to interest).

Week 8: November 22 (note special meeting date / Zoom only—link is on Canvas)
21st century energy transitions—histories, geographies, politics, insurgencies

- Kolya Abramsky and Massimo De Angelis, "Introduction: energy crisis (among others) is in the air," *The Commoner*, 13, 2009: https://thecommoner.org/back-issues/issue-13-winter-2009

- Joel Wainright and Geoff Mann, "Climate leviathan," *Antipode* 45, 1 (2012): 1-22.

- Brett Christophers, "Fossilized capital: price and profit in the energy transition," *New Political Economy* 2021, in press.

- James McCarthy, "A socioecological fix to capitalist crisis and climate change? The possibilities and limits of renewable energy." *Environment and Planning A: Economy and Space*, 47, 12 (2015): 2485–2502.

- Jason Hickel and Girgos Kallis, "Is green growth possible?" *New Political Economy* 25, 4 (2020): 469-486.

- Cara Daggett, "Petro-masculinity: fossil fuels and authoritarian desire," *Millennium*, 47, 1 (2018): 25-44.

- Shannon Elizabeth Bell, Cara Daggett and Christine Labuski, "Toward feminist energy systems: why adding women and solar panels is not enough," *Energy Research and Social Science*, 68 (2020): 1-13.

- Kolya Abramsky, "Energy and social reproduction," *The Commoner*, 13, 2009: https://thecommoner.org/back-issues/issue-13-winter-2009

- Peter Newell and Dustin Mulvaney, "The political economy of the 'just transition'," *The Geographical Journal* 179, 2 (2013): 132-140.

- Nick Estes, "A Red Deal," *Jacobin* 8.06.2019: https://www.jacobinmag.com/2019/08/red-deal-green-new-deal-ecosocialism-decolonization-indigenous-resistance-environment

- Holly Jean Buck, *Ending Fossil Fuels: Why Net Zero is not Enough*. London: Verso, 2021, selections (read all, or any portions that interest you).

- Andreas Malm, *How to Blow up a Pipeline*. London: Verso, 2021, selections (read all, or any portions that interest you).

Week 9: November 30
Alternative energy futures: post-carbon living

- Maria Mies and Vandana Shiva, "People or popuation: towards a new ecology of reproduction," and Maria Mies, "The need for a new vision: the subsistence perspective," in Maria Mies and Vandana Shiva, *Ecofeminism* (London: Zed, 2014), 277-324.

- Kyle Whyte, "Indigenous climate change studies: indigenizing futures, decolonizing the Anthropocene," *English Language Notes*, 55, 1-2, 2017, 153-162.

- Olúfẹ́mi O. Táíwo, "The fight for reparations cannot ignore climate change," Boston Review, January 10, 2022: https://www.bostonreview.net/articles/the-fight-for-reparations-cannot-ignore-climate-change/

- Olúfẹ́mi O. Táíwo, "Toward an energy democracy," *NY Magazine*, January 24, 2022: https://nymag.com/intelligencer/2022/01/toward-an-energy-democracy.html

- Max Ajl, "A planet of fields" in *A People's Green New Deal* (London: Pluto, 2021), 117-146.

- Kate Soper, "Reconceiving Prosperity," *Post-Growth Living* (London: Verso, 2020), 137-159.

- Jason Hickel, "Is It possible to achieve a good life within Planetary Boundaries," *Third World Quarterly*, September 2018, 1-19.

- Andreas Malm, "Socialism or barbeque, war communism or geoengineering: some thoughts on choices in a time of emergency," in Kajsa Borgnäs et. al., *The Politics of Ecosocialism* (New York: Routledge, 2015), 180-194.

- Andreas Malm, "In wildness is the liberation of the World: on Maroon ecology and partisan nature," *Historical Materialism*, 26, 3, 2018, 3-37.

Also recommended

- Max Liboiron, *Pollution is Colonialism*. Duke UP: Durham, N.C., 2021.

- Kate Aronoff, Alyssa Battistoni, Daniel Aldana Cohen and Thea Riofrancos, *A Planet to Win: Why we Need a Green New Deal*. New York: Verso, 2019.

- Troy Vettese and Drew Pendergrass, *Half-Earth Socialism: A Plan to Save the Future from Extinction, Climate Change, and Pandemics* (New York: Verso, 2022).

- Reinhold Martin, "Abolish oil: from Green New Deal to Green reconstruction," *Places Journal*, June 2020: https://placesjournal.org/article/abolish-oil/

- Billy Fleming, "Design and the Green New Deal," *Places Journal* April 2019: https://placesjournal.org/article/design-and-the-green-new-deal/?cn-reloaded=1

Analytic essay #2: due Friday December 9.