

SEMINAR SERIES 18/19

Energy (In)Securities

Tuesdays – 14.00 – 16.00
E09, WiWi Sem. Mohlstrasse.

Institute for Political Science
University of Tübingen

COURSE HANDBOOK

Contact:

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Course Description:

What does it mean to be 'secure' in our relationships with energy, and how can we work towards reducing various forms of energy *insecurity*? This seminar series aims to explore the energy politics surrounding multiple facets of the current 'global energy dilemma' (Bradshaw, 2010), in the process introducing students to a range of energy insecurities that emerge at different spatial scales. As part of the course, students will be required to critically engage with different conceptual approaches to energy-related insecurities (including security of energy supply, security of energy demand, environmental acceptability, accessibility of energy resources, energy poverty, fuel poverty, and climate security), and will explore current and possible strategies for attending to these challenges. In the process, they will apply these frameworks to a range of relevant contemporary case studies, asking such questions as: Who or what is represented through these practices? Who or what is rendered (in)secure? What kinds of threats are imagined? What kinds of possible solutions are available for addressing said challenges? What can we do, as scholars, to address different forms of insecurity? And what are the political implications of these 'solutions'? No previous knowledge of security or energy politics is required, but students of the "Discourses of Security" lecture block and last semester's "Critical Security Studies" seminar series will find that this course provides a complementary expansion on some of the themes discussed in these sessions.

Assessments:

Students requiring **four credits** for this course will be required to produce a **short seminar presentation (10 minutes)**, in which they will apply that week's conceptual framework to a case study of their choosing. In addition, they will be given the opportunity to improve on their marks by producing a **short blog post (maximum 1500 words)** communicating one aspect of their presentation.

Students requiring **six credit points** will also be required to participate in a **take-home exam (3000 words)**. This will involve completing one of a choice of six essay questions to be released on ILIAS, students being given one week to complete the assignment. Questions will be released on Tuesday 23rd of January at 1pm, and the deadline for submission will be Tuesday 30th of January at 1pm. Late submissions (unless valid extensions are granted) will incur a 30% reduction in their mark.

Intended Learning Outcomes:

After successful completion of this course, students should be able to:

- **Identify** different conceptual frameworks for understanding energy insecurity's multiple manifestations
- **Critically communicate** the differences and relationships between these approaches to energy insecurity
- **Critically reflect** on a range of contemporary energy issues

Office Hours:

Office hours for this term are not fixed. Please contact me on: peter.forman@wiso.uni-tuebingen.de to arrange a meeting instead. I will be available most days.

Essential Resources:

All essential resources are available on the ILIAS course page 'P262 Energy (In)Securities'. These include reading lists, folders containing course learning resources, links to feedback forms, and forums for logging questions and answers. Please make full use of these resources.

Seminar Outline:

	Title	Date
	Nation States and International Energy Geopolitics	
1	An Introduction to Energy, (In)Security, and Energy Networks	24 th Oct
2	The Energised Nation State: Security of Supply and the 'Energy Weapon'	7 th Nov
3	The Energy Producing State: Security of Demand, Energy Cartels and the 'Resource Curse'	14 th Nov
4	The Politics of Extraction: Spectres of Scarcity and Entangled Ecologies	21 st Nov
5	Global Energy Dilemmas: Powering Societies in the Anthropocene	28 th Nov
6	Resistive Energy Landscapes: Petro-States, Carbon Lock-in, and the Politics of Energy Transition	5 th Dec
7	Narratives of Energy: Energy, Identity and Culture	12 th Dec
	Alternative Scales of Insecurity and Resistance	
8	Bodies: Exploring Social Energy Practices	19 th Dec
9	Products and Infrastructures: Exploring the Material Politics of Energy Assemblages	9 th Jan
10	Everyday (In)Securities: Energy Vulnerabilities and Improvised Architectures	16 th Jan
11	Communities: Local-Level Projects for Production, Distribution and Storage	23 rd Jan
12	Longitudinal Insecurities: Ethics and Energy Justice along the Pipeline	30 th Jan
13	Class Debate (Topic TBC)	6 th Feb

Seminar 1: An Introduction to Energy, (In)Security, and Energy Networks

What *is* energy and how does it become political? This seminar will explore how energy's circulation is productive of concerns for (in)security and will outline the general principles by which global energy systems operate. The session will also cover a basic overview of the course, including assessment requirements.

Set Readings

Illich, I. (2009) 'The Social Construction of Energy'. In: Gohsn, R. (Ed) '*Landscapes of Energy: New Geographies 02*' Massachussets: Harvard University School of Design.

Cherp, A. & Jewell, J. (2014) 'The concept of energy security: Beyond the four As' *Energy Policy* 75 pp.415-421.

Bridge, G. (2014) 'Energy (In)security: World-Making in an Age of Scarcity'. *Geographical Journal* 181(4) pp. 328-339.

Recommended Additional Materials:

Chester, L. (2010) Conceptualising Energy Security and Making Explicit its Polysemic Nature' *Energy Policy* 38 pp.887-895.

Sovacool, B. (2014) "What Are We Doing Here? Analyzing Fifteen Years of Energy Scholarship and Proposing a Social Science Research Agenda." *Energy Research & Social Science* 1 pp.1–29.

Calvert, K. (2016) "From 'Energy Geography' to 'Energy Geographies': Perspectives on a Fertile Academic Borderland." *Progress in Human Geography* 40.1 pp.105–125.

Hernandez, D. (2013) "Energy Insecurity: A Framework for Understanding Energy, the Built Environment, and Health Among Vulnerable Populations in the Context of Climate Change" *American Journal of Public Health* pp. e1-e3.

Winzer, C. (2012) 'Conceptualizing Energy Security' *Energy Policy* 46 pp.36-48.

Sovacool, B. (2011) 'Introduction: Defining, Measuring, and Exploring Energy Security'. In: Sovacool, B. (Ed) '*The Routledge Handbook of Energy Security*' London: Routledge.

Cherp, A. & Jewell, J. (2011) "The three perspectives on energy security: intellectual history, disciplinary roots and the potential for integration". *Current Opinion in Environmental Sustainability* 3(4) pp.202-212.

Vanderheiden, S. (2011) "The Politics of Energy: An Introduction" *Environmental Politics* 20(5) pp. 607-616.

Seminar 2 – The Energised Nation State: Security of Supply and the ‘Energy Weapon’

The overriding narrative of energy security frames it as *the security of supply*. This seminar will show how certain kinds of risk come to be associated with energy supply arrangements, and will outline some of the ways in which attempts are made to mitigate against these risks.

Set Readings:

Yergin, D. (2006) ‘Ensuring Energy Security’. *Foreign Affairs*. 85(2) pp.69-82.

Garibaldi, I. (2008) ‘Nato and European Energy Security’. *American Enterprise Institute for Public Policy Research* 1(1) pp. 1-5.

Urry, J. (2014) ‘The Problem of Energy’. *Theory, Culture, Society*. 31(5) pp.3-20.

Recommended Additional Materials:

Bigger, P. & Neimark, B. (2017) “Weaponizing nature: The geopolitical ecology of the US Navy’s biofuel program” *Political Geography* 60 pp.13-22.

Bradshaw, M. (2009) “The Geopolitics of Global Energy Security”. *Geography Compass*, 3(5), pp.1920–1937.

Cornell, P. (2009) “Energy Security Is National Security”. *Journal of Energy Security*, 2(1). Available at: <https://goo.gl/AQJyZi>

Bouzarovski, S. Bradshaw, M. & Wochnik, A. (2015) “Making Territory through Infrastructure: The Governance of Natural Gas Transit in Europe.” *Geoforum* 64 pp.217–228.

Bosse, G. (2011) “The EU’s Geopolitical Vision of a European Energy Space: When ‘Gulliver’ meets ‘White Elephants’ and Verdi’s Babylonian King.” *Geopolitics* 16.3 pp.512–535.

Dadwal, S. (2009) “India’s Energy Security: Challenges and Opportunities.” *Eurasian Geography and Economics* 50(6) pp.665–681.

Leung, Guy C. K. (2011) “China’s Energy Security: Perception and Reality.” *Energy Policy* 39(3) pp.1330–1337.

Glaser, C. (2013) “How Oil Influences U.S. National Security,” *International Security* 38(2) pp.112-146.

Victor, D. (2013) “The Gas Promise,” In: Kalicki, J. & Goldwyn, D. (Eds.) “*Energy and Security: Strategies for a World in Transition*” Baltimore: Johns Hopkins University Press. Chapter 3 – pp. 88-104.

Seminar 3 – The Energy Producing State: Security of Demand, Energy Cartels and the ‘Resource Curse’

In contrast to the previous week, this seminar is concerned with the insecurities that are associated with energy *producing* nations. We will explore the notion of *the security of demand* and attempts to mitigate against such demand insecurities through the creation of energy cartels, as well as looking at the topic of the so-called ‘resource curse’.

Set Readings:

Wittman, N. (2013) “OPEC: How to transition from black to green gold” *Energy Policy* 62 pp.959-965.

Watts, M. (2004) “Resource Curse? Governmentality, Oil and Power in the Niger Delta, Nigeria.” *Geopolitics* 9(1) pp.50–80.

Recommended Additional Materials:

YouTube Video: Mitchell, T. (2015) “Carbon Democracy and Corporate Futures” Lecture at Durham University. Available Online at: <https://goo.gl/gvPk8u>

Dike, J. (2013) “Measuring the security of energy exports demand in OPEC economies” *Energy Policy* 60 pp.594-600.

Le Billon, P. (2005) “*The Geopolitics of Resource Wars: Resource Dependence*” (Ed) London: Routledge.

Basedau, M. & Lay, J. (2009) “Resource Curse or Rentier Peace? The Ambiguous Effects of Oil Wealth and Oil Dependence on Violent Conflict” *Journal of Peace Research* 46(6) pp.757-776.

Dai, G. Ulgiati, S. Zhang, Y. Yu, B. Kang, M. Jin, Y. Dong, X. & Zhang, X. (2014) “The false promises of coal exploitation: How mining affects herdsman well-being in the grassland ecosystems of Inner Mongolia” *Energy Policy* 67 pp.146-153.

Carmody, P. (2009) “Cruciform sovereignty, matrix governance and the scramble for Africa’s oil: Insights from Chad and Sudan” *Political Geography* 28 pp.352-361.

Wegenast, T. & Schneider, G. (2017) “Ownership matters: Natural resources property rights and social conflict in Sub-Saharan Africa” *Political Geography* 61 pp.110-122.

Bannon, I. & Collier, P. (2003) “*Natural Resources and Violent Conflict: Options and Actions*”. Washington, DC: World Bank. Available Online <https://goo.gl/h4sGA4>

Maconachie, R. & Binns, T. (2007) "Beyond the resource curse? Diamond mining, development and post-conflict reconstruction in Sierra Leone" *Resources Policy* 32 pp. 104-115.

Hochman, G. & Zilberman, D. (2015) "The Political Economy of OPEC" *Energy Economics* 48 pp.203-216.

Brémond, V. Hache, E. & Mignon, V. (2012) "Does OPEC still exist as a cartel? An empirical investigation" *Energy Economics* 34 pp.125-131.

Alhajji, A. & Huettner, D. (2000) "OPEC and other commodity cartels: a comparison" *Energy Policy* 28 pp.1151-1164.

Adesoye, B. (2017) "Macroeconomic Effects of Export Demand in Nigeria" *EuroEconomica* 36(1) pp.122-130.

Stevens, P. Lahn, G. & Kooroshy, J. (2015) "The Resource Curse Revisited" Chatham House pp. 5-44. <https://goo.gl/vvFchL>

Zandoli, B. (2014) "Oil in the Hourglass: The Energy-Conflict Nexus in the South China Sea," *Journal of Energy Security* 24 <https://goo.gl/fYa1Tz>

Seminar 4 - The Politics of Extraction: Spectres of Scarcity and Entangled Ecologies

This seminar will focus on the political situations that develop around the points of energy's extraction. Two political situations in particular will form the basis of our discussion: first, the concept of peak oil and the limits of energy's accessibility (both absolute and economic), and second, the impacts of energy's extraction on proximate societies and ecologies.

Set Readings:

Bridge, G. & Wood, A. (2010) 'Less is More: Spectres of Scarcity and the Politics of Resource Access in the Upstream Oil Sector' *Geoforum* 41(4) pp.565-576.

Watts, M. (2001) 'Petro-Violence: Community, Extraction and Political Ecology of a Mythic Commodity'. In: Peluso, L. & Watts, M. (Eds) '*Violent Environments*'. Ithaca & London: Cornell University Press. Full chapter available on Google Books: <https://goo.gl/CojbmK>

Bridge, G. (2011) "Resource Geographies 1: Making Carbon Economies, Old and New." *Progress in Human Geography* 35(6) pp.820–834.

Recommended Additional Materials:

Bond, D. (2013) Governing Disaster: The Political Life of the Environment During the BP Oil Spill" *Cultural Anthropology* 28(4) pp. 694-715

Bridge, G. (2010) 'Geographies of peak oil: The other carbon problem' *Geoforum* 41(4) pp.523-530.

Bakker, K. & Bridge, G. (2006) "Material worlds? Resource geographies and the 'matter of nature'" 30(1) pp.5-27.

Bridge, G. (2014) "The Hole World: Scales and Spaces of Extraction". In: R. Ghosn, ed., *New Geographies 02: Landscapes of Energy*. Massachusetts: Harvard University Press, pp.43–49.

Baka, J. (2014) "What Wastelands? A Critique of Biofuel Policy Discourse in South India." *Geoforum* 54 pp.315–323.

Bebbington, A. (2012) "Underground Political Ecologies: The Second Annual Lecture of the Cultural and Political Ecology Specialty Group of the Association of American Geographers." *Geoforum* 43(6) pp. 1152–1162.

Lave, R. & Lutz, B. (2014) "Hydraulic Fracturing: A Critical Physical Geography Review." *Geography Compass* 8(10) pp.739–754.

Seminar 5 – Global Energy Dilemmas: Powering Societies in the Anthropocene

This seminar will focus on the linkages and tensions between energy security, climate change, food security and human security, as well as possible solutions.

Set Readings:

Bradshaw, M. (2010) “Global Energy Dilemmas: A Geographical Perspective.” *The Geographical Journal* 176(4) pp.275– 290.

Smil, V. (2005) “*Energy at the Crossroads: Global Perspectives and Uncertainties*”. Cambridge, MA: MIT.

Recommended Additional Materials:

Clark, N. (2013) “Geoengineering and geologic politics”. *Environment and Planning A*, 45(12), pp.2825–2832.

Dalby, S. (2013) “The Geopolitics of Climate Change” *Political Geography* 37 pp.38-47.

O’Lear, S. (2016) “Climate science and slow violence: A view from political geography and STS on mobilizing technoscientific ontologies of climate change” *Political Geography* 52 pp.4-13.

Latour, B. (2014) “Agency at the time of the Anthropocene” *New Literary History* 45 pp.1-18

Latour, B. (2011) “Waiting for Gaia. Composing the common world through arts and politics” Lecture. Available Online: http://www.bruno-latour.fr/sites/default/files/124-GAIA-LONDON-SPEAP_0.pdf

Latour, B. (2017) “*Facing Gaia: Eight Lectures on the New Climactic Regime*” London: Polity Press.

Ladislav, S. Book, K. & Zindler, E. (2014) “How Big a Deal is the US-China Climate Announcement?” *Center for Strategic and International Studies*
<http://csis.org/publication/uschina-joint-announcement-climate-change-howbig-deal>

Lilliestam, J. & Ellenbeck, S. (2011) “Energy security and renewable electricity trade—Will Desertec make Europe vulnerable to the “energy weapon?”” *Energy Policy*
<http://www.sciencedirect.com.ezpprod1.hul.harvard.edu/science/article/pii/S0301421511002151>

Seminar 6 – Resistive Energy Landscapes: Petro-States, Carbon Lock-in, and the Politics of Energy Transition

How do we go about transitioning from fossil fuel dependency to forms of low carbon society? What kinds of frictions stand in the way of these transitions? This seminar will explore the way that energy transition has been both conceptualised and practiced, and the ways in which the obstinacy of particular kinds of social and physical landscapes creates challenges for making these changes.

Set Readings:

Haarstad, H. & Wanvik, T. (2016) 'Carbonscapes and Beyond: Conceptualising the Instability of Oil Landscapes' *Progress in Human Geography* 41(4) pp.432-450.

Pasqualetti, M. (2011) "Social Barriers to Renewable Energy Landscapes." *Geographical Review* 101(2) pp.201–223.

Rohracher, H. (2008) "Energy Systems in Transition: Contributions from Social Sciences." *International Journal of Environmental Technology and Management* 9(2) pp.144–161.

Recommended Additional Materials:

Bridge, G. Bouzarovski, S. Bradshaw, M. & Eyre, N. (2013) "Geographies of Energy Transition: Space, Place and the Low-Carbon Economy." *Energy Policy* 53 pp.331–340.

Devine-Wright, P. (2009) "Rethinking Nimbyism: The Role of Place Attachment and Place Identity in Explaining Place- Protective Action." *Journal of Community & Applied Social Psychology* 19(6) pp.426–441.

Fast, S. (2013) "Social Acceptance of Renewable Energy: Trends, Concepts, and Geographies." *Geography Compass* 7(12) pp.853–866.

McEwan, C. (2017) "Spatial processes and politics of renewable energy transition: Land, zones and frictions in South Africa" *Political Geography* 56 pp.1-12.

Pasqualetti, M. (2001) "Wind Energy Landscapes: Society and Technology in the California Desert." *Society & Natural Resources* 14(8) pp.689–699.

Kern, F. & Smith, A. (2008) "Restructuring Energy Systems for Sustainability? Energy Transition Policy in the Netherlands." *Energy Policy* 36(11) pp.4093–4103.

Seminar 7 – Narratives of Energy: Energy, Identity and Culture

Expanding upon the discussions begun in the previous seminar, this session will focus on the roles that energy plays in understandings of culture and identity. In the process, it will explore how particular kinds of social relationship with energy are associated with certain notions of (in)security. It will then look to explore what these webs of meaning that surround energy use may mean for future patterns of energy consumption.

Set Readings:

Bouzarovski, S. & Bassin, M. (2011) “Energy and Identity: Imagining Russia as a Hydrocarbon Superpower” *Annals of the Association of American Geographers* 101(4) pp. 783–794.

Kumar, A. (2015) “Cultures of Lights.” *Geoforum* 65 pp. 59–68.

Pearce, L. (2012) “Automobility in Manchester Fiction.” *Mobilities* 7(1) pp.93–113.

Recommended Additional Materials:

Biersack, J. & O’Lear, S. (2014) “The Geopolitics of Russia’s Annexation of Crimea: Narratives, Identity, Silences, and Energy” *Eurasian Geography and Economics* 55(3) pp.247–269.

Desbiens, C. (2013) *Power from the North: Territory, Identity, and the Culture of Hydroelectricity in Quebec* Vancouver: UBC.

Powell, D. (2015) “The Rainbow Is Our Sovereignty: Rethinking the Politics of Energy on the Navajo Nation” *Journal of Political Ecology* 22 pp. 54.

Strauss, S. Rupp, S. & Love, T. (2013) *Cultures of Energy: Power, Practices, Technologies*. (Eds) Walnut Creek, CA: Left Coast Press.

Manzo, K. (2012) “Earthworks: The geopolitical visions of climate change cartoons” *Political Geography* 31 pp.481-494.

Shove, E. (2002) 'Car cultures' *Business History* 44(1) pp. 143-143.

Huber, T. (2013) *Lifeflood: Oil, Freedom, and the Forces of Capital* Minneapolis: University of Minnesota Press.

Seminar 8 – Bodies: Social Energy Practices and the Governance of Energy Demand

The second half of this seminar block will look at alternative scales of energy (in)securities. The first seminar will focus on the body, looking at how the body is a site of energy needs and practices that can help us to better understand consumer usage and demand.

Set Readings:

Shove, E. & Walker, G. (2014) "What Is Energy For? Social Practice and Energy Demand." *Theory, Culture & Society* 31(5) pp.41–58.

Walker, G. "The Dynamics of Energy Demand: Change, Rhythm and Synchronicity." *Energy Research & Social Science* 1 (2014): 49–55.

Horne, C. & Huddart Kennedy, E. (2017) "The power of social norms for reducing and shifting electricity use" *Energy Policy* 107 pp.43-52.

Recommended Additional Materials:

Walker, G. Cass, N. Burningham, K. & Barnett, J. (2010) "Renewable Energy and Sociotechnical Change: Imagined Subjectivities of 'the Public' and Their Implications." *Environment and Planning A* 42(4) pp. 931–947.

Shirani, F. Butler, C. Henwood, K. Parkhill, K. & Pidgeon, N. (2013) "Disconnected futures: exploring notions of ethical responsibility in energy practices" *Local Environment* 18(4) pp.455-468.

Hards, S. (2013) "Status, stigma and energy practices in the home" *Local Environment* 18(4) pp.438-454

Shove, E. Watson, M. & Spurling, N. (2015) 'Conceptualising connections: energy demand, infrastructures and social practices' *European Journal of Social Theory* 18(3) pp. 274-287.

Shove, E. Walker, G. & Brown, S. (2014) 'Material culture, room temperature and the social organisation of thermal energy' *Journal of Material Culture* 19(2) pp. 113-124.

Shove, E. (2014) 'Putting practice into policy: reconfiguring questions of consumption and climate change' *Contemporary Social Science* 9(4) pp. 415-429.

Shove, E. (2012) "Energy Transitions in Practice: The Case of Global Indoor Climate Change". In G. Verbong & D. Loorbach (Eds) *Governing the Energy Transition: Reality, Illusion or Necessity?* Routledge, London, pp. 51-74.

Shove, E. Chappells, H. & Lutzenhiser, L. (2009) *Comfort in a Lower Carbon Society* (Eds). Building Research and Information Series. Taylor and Francis, London.

Seminar 9 – Products and Infrastructures: Exploring the Material Politics of Energy Assemblages

Contemporary debates on energy security have tended to discursively efface the materialities of circulating energy products (Bridge, 2014); a phenomenon that has often been coupled with a limited framing of the significance of infrastructural materialities (Haarstad & Wanvik, 2016). In contrast to these narratives, this seminar consequently looks to explore how attending to the materialities of energy products, and the qualities of their circulatory infrastructures, can reveal a plethora of forms of (in)security that would otherwise be overlooked.

Set Readings:

Mitchell, A. (2009) “Carbon Democracy” *Economy & Society* 38(3) pp.399-432.

Huber, M. (2008) “Energizing Historical Materialism: Fossil Fuels, Space and the Capitalist Mode of Production” *Geoforum* 40 pp.105-115.

Graham, S. (2010) “When Infrastructures Fail” In: Graham, S. (Ed) *“Disrupted Cities: When Infrastructures Fail”* London: Routledge.

Recommended Additional Materials:

Barry, A. (2013) *“Material Politics: Disputes Along the Pipeline”* London: Wiley-Blackwell.

Mitchell, A. (2011) *“Carbon Democracy: Political Power in the Age of Oil”* London: Verso.

Sovacool, B. (2012) “Reconfiguring Territoriality and Energy Security: Global Production Networks and the Baku–Tbilisi–Ceyhan (BTC) Pipeline.” *Journal of Cleaner Production* 32 210–218.

Haarstad, H. & Wanvik, T. (2016) ‘Carbonscapes and Beyond: Conceptualising the Instability of Oil Landscapes’ *Progress in Human Geography* 41(4) pp.432-450.

Patterson, W. (2008) *“Managing Energy: Rethinking the Fundamentals. Managing Energy Wrong.”* Energy, Environment and Resource Governance Working Paper. London: Chatham House.

Bridge, G. (2014) ‘Energy (In)security: World-Making in an Age of Scarcity’. *Geographical Journal* 181(4) pp. 328-339.

Bennett, J. (2005) “The agency of assemblages and the North American blackout”. *Public Culture*, 17(3), pp.445–466.

Bennett, J. (2009) *Vibrant Matter: A Political Ecology of Things*. Durham: Duke University Press.

Cupples, J. (2011) "Shifting Networks of Power in Nicaragua: Relational Materialisms in the Consumption of Privatized Electricity." *Annals of the Association of American Geographers* 101(4) pp.939–948.

Lovell, H. (2007) "Exploring the Role of Materials in Policy Change: Innovation in Low-Energy Housing in the UK." *Environment and Planning A* 39(10) pp.2500–2517.

Seminar 10 – Everyday (In)Securities: Energy Vulnerabilities and Improvised Architectures

This seminar focuses on the manifestations of energy insecurity experienced at the level of individuals and households, particularly along race, gender and class lines. It explores notions of insecurity and vulnerability, energy poverty and fuel poverty, and covers some of the ways in which novel strategies have been developed to overcome such challenges.

Set Readings:

Middlemiss, L. & Gillard, R. (2015) “Fuel poverty from the bottom-up: Characterising household energy vulnerability through the lived experience of the fuel poor” *Energy Research and Social Science* 6 pp.146-154.

Silver, J. (2014). Incremental infrastructures: Material improvisation and social collaboration across post-colonial Accra. *Urban Geography*, 35(6) pp.788-804.

Bouzarovski, S. (2014) “Energy Poverty in the European Union: Landscapes of Vulnerability.” *Wiley Interdisciplinary Reviews: Energy and Environment* 3(3) pp.276–289.

Harrison, C. (2015) “Extending the ‘White Way’: Municipal Street Lighting and Race, 1900–1930.” *Social & Cultural Geography* 16(8) pp. 950–973.

Recommended Additional Materials:

Bouzarovski, S. & Petrova, S. (2015) “A Global Perspective on Domestic Energy Deprivation: Overcoming the Energy Poverty–Fuel Poverty Binary.” *Energy Research & Social Science* 10 pp. 31–40.

Murray, A. (2015) “Invisible power, visible dispossession: The witchcraft of a subterranean pipeline” *Political Geography* 47 pp.64-76.

Harrison, C. & Popke, J. (2011) “‘Because You Got to Have Heat’: The Networked Assemblage of Energy Poverty in Eastern North Carolina.” *Annals of the Association of American Geographers* 101(4) pp. 949–961.

Hiteva, R. (2013) “Fuel poverty and vulnerability in the EU low- carbon transition: the case of renewable electricity” *Local Environment* 18(4) pp.487-505.

Silver, J. (2015). Disrupted Infrastructures: An Urban Political Ecology of Interrupted Electricity in Accra. *International Journal of Urban and Regional Research*, 39(5) pp. 984-1003.

Harrington, B. Heyman, B. Merleau-Ponty, N. Stockton, H. Ritchie, N. & Heyman, A. (2005) "Keeping warm and staying well: findings from the qualitative arm of the Warm Homes Project" *Health Social Care Community* 13(2) pp.59–67.

Anderson, W. White, V. & Finney, A. (2012) "Coping with low incomes and cold homes". *Energy Policy* 49 pp.40–52.

Brunner, K. Spitzer, M. & Christanell, A. (2012) "Experiencing fuel poverty, coping strategies of low-income households in Vienna/Austria." *Energy Policy* 49 pp.53–59.

Moore R. (2012) "Definitions of fuel poverty: implications for policy". *Energy Policy* 49 pp.19–26.

Walker R, Liddell C, Mckenzie P, Morris C, Lagdon S. (2014) "Fuel poverty in Northern Ireland: humanizing the plight of vulnerable households". *Energy Research in Social Science* 4 pp.89–99.

Waddams Price C, Brazier K, Wang W. (2012) "Objective and subjective measures of fuel poverty". *Energy Policy* 49 pp.33–9.

Gibbons D, Singler R. (2008) "Cold comfort: a review of coping strategies employed by households in fuel poverty". London: Centre for Economic and Social Inclusion

O'Neill, T. Jinks, C. Squire, A. (2006) "Heating is more important than food: older women's perceptions of fuel poverty. *Journal of Housing for the Elderly* 20 pp.95–108.

Walker G, Day R. (2012) "Fuel poverty as injustice: integrating distribution, recognition and procedure in the struggle for affordable warmth" *Energy Policy* 49 pp.69–75.

Stern P. (2014) "Individual and household interactions with energy systems: toward integrated understanding". *Energy Research in Social Science* 1 pp.41–8.

Bouzarovski S. (2014) "Energy poverty in the European Union: landscapes of vulnerability". *Wiley Interdisciplinary Review of Energy and Environment* pp. 276–89.

Harrison, C. & Popke, J. (2011) "Because You Got to Have Heat": The Networked Assemblage of Energy Poverty in Eastern North Carolina' *Annals of the Association of American Geographers* 101(4) pp.949-961.

Buzar, S. (2007) "The "hidden" geographies of energy poverty in post socialism: Between institutions and households". *Geoforum* 38(2) pp.24–40.

Shortt, N. & Rugkasa, J. (2007) "The walls were so damp and cold": Fuel poverty and ill health in Northern Ireland: Results from a housing intervention'. *Health & Place* 13 pp.99–110.

Seminar 11 – Communities and Cities: Local-Level Projects of Energy Production, Distribution and Storage

This seminar focuses on alternative scales of energy institutions and infrastructures and evaluates the opportunities and challenges of generating/transporting/consuming energy products at these scales.

Set Readings:

Bulkeley, H. Luque-Ayala, A. & Silver, J. (2014) “Housing and the (Re)Configuration of Energy Provision in Cape Town and São Paulo: Making Space for a Progressive Urban Climate Politics?” *Political Geography* 40 pp. 25–34.

Walker, G. (2008) “Decentralised Systems and Fuel Poverty: Are There Any Links or Risks?”. *Energy Policy* 36(12) pp. 4514–4517.

Aiken, G. (2012) “Community Transitions to Low Carbon Futures in the Transition Towns Network (TTN).” *Geography Compass* 6(2) pp.89–99.

Bomberg, E. & McEwen, N. (2012) “Mobilizing Community Energy” *Energy Policy* 51 pp.435-444.

Recommended Additional Materials:

Hoffman, S. & High-Pippert, A. (2005) “Community Energy: A Social Architecture for an Alternative Energy Future” *Bulletin of Science, Technology & Society* 25(5) pp.387-401.

Rae, C & Bradley, F. (2012) “Energy autonomy in sustainable communities—A review of key issues” *Renewable and Sustainable Energy Reviews* 16 pp. 6497-6506.

Seyfang, G., Park, J. & Smith, A. (2013) “A thousand flowers blooming? An examination of community energy in the UK” *Energy Policy* 61 pp. 977-989.

Feola, G. & Nunes, R. (2014) “Success and failure of grassroots innovations for addressing climate change: The case of the Transition Movement” *Global Environmental Change* 24 pp.232-250.

Ornetzeder, M. & Rohracher, H. (2013) “Of solar collectors, wind power, and car sharing: Comparing and understanding successful cases of grassroots innovations” *Global Environmental Change* 23 pp.856-867.

Catney, P. Dobson, A. Hall, S. Hards, S. MacGregor, S. Robinson, Z. Ormerod, M. & Ross, S. (2013) “Community knowledge networks: an action-orientated approach to energy research” *Local Environment* 18(4) pp.506-520

Aitken, G. (2016) "Prosaic state governance of community low carbon transitions" *Political Geography* 55 pp.20-29.

Moss, T., Becker, S. & Naumann, M. (2015) "Whose Energy Transition Is It, Anyway? Organisation and Ownership of the Energiewende in Villages, Cities and Regions." *Local Environment* 20(12) pp.1547–1563.

McGuirk, P. Dowling, R. & Bulkeley, H. (2014) "Repositioning Urban Governments? Energy Efficiency and Australia's Changing Climate and Energy Governance Regimes." *Urban Studies* 5 pp.2717–2734.

Rutherford, J. & Coutard, O. (2014) "Urban Energy Transitions: Places, Processes and Politics of Socio-Technical Change." *Urban Studies* 51(7) pp.1353–1377.

Rutherford, J. & Jaglin, S. (2015) "Introduction to the Special Issue—Urban Energy Governance: Local Actions, Capacities and Politics." *Energy Policy* 78 pp.173–178.

Armstrong, A. & Bulkeley, H. (2014) "Micro-Hydro Politics: Producing and Contesting Community Energy in the North of England." *Geoforum* 56 pp.66–76.

Hargreaves, T. Hielscher, S. Seyfang, G. & Smith, A. (2013) "Grassroots Innovations in Community Energy: The Role of Intermediaries in Niche Development." *Global Environmental Change* 23(5) pp.868–880.

Walker, G. Hunter, S. Devine-Wright, P. Evans, B. & Fay, H. (2007) "Harnessing Community Energies: Explaining and Evaluating Community-Based Localism in Renewable Energy Policy in the UK." *Global Environmental Politics* 7(2) pp. 64–82.

Seminar 12 - Longitudinal Insecurities: Ethics and Energy Justice - Along the Pipeline

This seminar focuses on the concept of energy justice to explore what happens when we view the politics of energy insecurities longitudinally, and how we might bring about a more just global energy system.

Set Readings:

Jenkins, K. McCauley, D. Heffron, R. Stephan, H. & Rehner, R. (2016) "Energy Justice: A Conceptual Review" *Energy Research and Social Science* 11 pp.174-182.

Jenkins, K. McCauley, D. & Warren, C. (2017) "Attributing responsibility for energy justice: a case study of the Hinkley Point Nuclear Complex". *Energy Policy* 108 pp.836-843.

Bouzarovski, S. & Simcock, N. (2017) "Spatialising Energy Justice" *Energy Policy* 105 pp.640-648.

Recommended Additional Materials:

Percebois, J. (2007) "Energy Vulnerability and Its Management" *International Journal of Energy Sector Management* 1(1) pp.51-62.

Bickerstaff, K. Walker, G. & Bulkeley, H. (2013) "Energy Justice in a Changing Climate". (Eds) London: Zed Books.

Hall, S. Hards, S. & Bulkeley, H. (2013) "New Approaches to Energy: Equity, Justice and Vulnerability. Introduction to the Special Issue." *Local Environment* 18(4) pp. 413–421.

Hall, S. (2013) "Energy justice and ethical consumption: comparison, synthesis and lesson drawing" *Local Environment* 18(4) pp.422-437.

Jenkins, K. McCauley, D. & Forman, A. (2017) "[Editorial] Energy justice: a policy approach". *Energy Policy* 105 pp.631-634.

Heffron, R. & McCauley, D. (2014) "Achieving sustainable supply chains through energy justice" *Applied Energy* 123 pp.435-437

Alvial-Palavicino, C. & Ureta, S. (2017) "Economizing justice: Turning equity claims into lower energy tariffs in Chile" *Energy Policy* 105 pp.642-647.

Heffron, R. & McCauley, D. (2017) "The concept of energy justice across the disciplines" *Energy Policy* 105 pp.658-667.

Carnegie LaBelle, M. (2017) "In Pursuit of Energy Justice" *Energy Policy* 105 pp.615-620.

Lappe-Osthegea, T. & Andreas, J. (2017) "Energy justice and the legacy of conflict: Assessing the Kosovo C thermal power plant project" *Energy Policy* 105 pp.600-606.

Islar, M. Brogaard, S. & Lemberg-Pedersen, M. (2017) "Feasibility of energy justice: Exploring national and local efforts for energy development in Nepal" *Energy Policy* 105 pp.668-667.

Munro, P. van der Horst, G. Healy, S. (2017) "Energy justice for all? Rethinking Sustainable Development Goal 7 through struggles over traditional energy practices in Sierra Leone" *Energy Policy* 105 pp.635-641.

Sovacool, B. Burke, M. Baker, L. Kumar Kotikalapudi, C. Wlokas, H. (2017) "New frontiers and conceptual frameworks for energy justice" *Energy Policy* 105 pp.667-691.

Fuller, S. McCauley, D. (2016) "Framing energy justice: perspectives from activism and advocacy" *Energy Research and Social Science* 11 pp.1-8.

Dueholm Rasch, E. & Köhne, M. (2017) "Practices and imaginations of energy justice in transition. A case study of the Noordoostpolder, the Netherlands" *Energy Policy* 107 pp.607-614.

Seminar 13 – Class Debate (Topic TBC)

There will be no set readings for this final session. Instead, students will be required to come prepared to debate a prearranged topic.