

5373 Energetics of Urbanization: Urban Theory Lab Research Practicum

Spring 2018 / Graduate School of Design, Harvard University

Instructors: Neil Brenner (Dept of Urban Planning & Design) and Kiel Moe (Dept of Architecture)

Inherited approaches to the study of energy and urbanization both exhibit epistemological and methodological limits. These limitations constrain not only how we understand and investigate the topics of energy and urbanization, but how we project theory, policy, pedagogy and practice. This exploratory seminar and research practicum aims to reckon with these limitations in order to explore the relationship between energetics and urbanization processes, especially in relation to (a) the continued worldwide entrenchment of fossil fuel regimes alongside (b) emergent strategies to construct new landscapes, infrastructures and ecologies of renewable or post-carbon energetics.

Two significant discourses on energy and urbanization are converging, with increasingly parallel questions and concerns. First, a discourse on extended urbanization and global capitalism has begun to stage energy as a central parameter through which to understand historical and contemporary relations regarding territory, accumulation and urbanization. As a response to the externalizations of capital, energy has emerged in this discourse as a less equivocal basis for construing and the variegated geographies and scales of capitalist industrial urbanization than traditional, city-centric epistemologies. Second, questions concerning energy in architecture are rapidly cycling up to the scale of urbanization and *longue durée* historical periodizations. Recent, empirically grounded approaches to ecological accounting of the built environment (at the scale of buildings and cities) emphatically suggest that larger and longer cycles of energy and material use are more appropriate indicators for pursuing programs of environmental “sustainability.” Taken together, these reorientations open up the prospect for a fruitful exploration of the *energetics of urbanization* in which (a) urbanization processes and their geographies are understood to be constituted through energy regimes, across diverse territories, scales and ecologies; and (b) energy regimes are finally understood in their actual spatial and temporal system boundaries as well as their proper energetic hierarchies, thus providing an entirely new basis for more ecologically, architecturally and politically cogent approaches to urbanization.

The course is framed as a shared inquiry with students into the new terrains of theory, research and visualization that are opened up by these conceptual reorientations. Opening weeks are devoted to establishing deep theoretical foundations in relation to fundamental literatures on urbanization, energy and their geographies. We then explore the historical geographies of urbanization and energy regimes in relation to one another. This leads, in the second part of the course, to team-based research projects on specific sites and contexts of urban/energetic transformation during the last 150 years and prospectively. Each research team will follow weekly protocols to advance their work in relation to a shared set of questions under exploration by the entire class. The semester will end with a day-long research colloquium in which we discuss the results of our work and critically reflect on their implications for theory, research and practice.

Course size: limited to 20 students total; one 3-hour weekly meeting (W, 3-6pm in Gund 516).

Student workload: heavy reading requirements in early part of the semester coupled with regular writing assignments; independent research projects to be undertaken in second part of the semester. This will require historical analysis, reviews of scholarly literatures and creative approaches to data collection and visualization. We strongly discourage students enrolled in a Studio course from taking this course, as our workload and end-of-term deliverables will likely approximate those of an Options Studio.

Prerequisites: priority enrollment is granted to students who have previously taken a course with either or both of the instructors. Any Ph.D. students or DDes students who wish to enroll should contact the instructors directly well in advance of the course lottery.