

Law, Policy and Society C7312
Cities, Sustainability and Climate Change



Professor: Joan Fitzgerald

Class time: Monday 6:00-8:30pm.

Office: 337 Holmes

Office hours: Monday, 3:00-6:00, Tuesday, 9:00-11:00 and by appointment

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Course Overview and Objectives

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This course provides an overview of various aspects of urban policy and planning associated with climate change and sustainability. We will examine climate change and sustainability as urban planning and policy goals with ecological, economic, and social justice elements. Students will learn about what cities in the United States, Western Europe and China are doing to reduce greenhouse gas emissions and create more sustainable development and to understand these initiatives and policies within the context of smart growth, the new urbanism, transit-oriented development and related approaches to urban planning. We will focus on the two areas in which cities can have the largest impact in reducing energy consumption and greenhouse gas emissions—the built environment and transportation. From there, we will examine planning efforts to develop renewable energy and reduce waste. Several themes underpin the course, including: linking sustainability and climate change goals to social justice; synthesis (how can cities better link efforts that typically addressed separately to have bigger impact?); the need for state and national policy to support cities. Through course readings, discussion, and projects, students will:

- Understand and critically assess the concept of urban sustainability
- Understand and critically analyze methods for measuring sustainability and climate change initiatives
- Evaluate the effectiveness of urban sustainability and climate change policies
- Understand and analyze how city governments need to organize themselves to address climate change and sustainability
- Critically assess various approaches taken by different cities
- Understand and analyze state and national policy needed to support cities in their climate change efforts
- Compare initiatives across several countries.

Course Requirements

1. Readings

In keeping with the theme of the class, we will try to be as paperless as possible. Almost all readings are available either as PDFs on Blackboard or as internet links. You decide what you need to print (note that the new version of Adobe allows one to insert notes and highlight text). Class assignments will be submitted via Blackboard or email, as specified, and comments and grades returned electronically.

You will need to purchase one book:

Fitzgerald, Joan. 2010. *Emerald Cities: Urban Sustainability and Economic Development*. New York: Oxford University Press.

Please complete all the assigned readings before class and be prepared to discuss them when called upon. A high-quality graduate course depends upon all participants being prepared.

2. Assignments

In addition to participation, there are two written assignments for the course. The first assignment requires students to analyze a particular city's approach to climate change and sustainability. The second assignment provides an opportunity to go into more depth on a particular policy or technology.

- 1) The first assignment is ongoing throughout the semester and will result in a paper analyzing one city's sustainability/climate change efforts. Choose a city that is making a concerted effort in sustainability/climate change policy and planning. It can be a U.S. or foreign city, but make sure it is one for which you will be able to collect relevant data. For the classes indicated below, submit, via email, a short summary (no more than one page) of what the city is doing in that particular area. **Relate what the city is doing to the readings.**

A final paper is due on 22 November. Submit via blackboard. At the end of the semester you will need to organize your discrete segments into a coherent paper that evaluates your city with regard to the readings and other cities discussed in class. The paper should provide a critical analysis of your city's overall efforts at sustainability/climate change. Try to figure out for each topic the extent to which state and federal policy is in place to support what the city is doing (or should be doing). Also include the course theme of synthesis—how well is the city integrating the various aspects of its sustainability/climate change planning and policy? Please do not rely on the city's web site for all of your information. Go through the city's newspapers to see how its initiatives are received. Find local environmental, climate change, etc. organizations to get their responses to the city's efforts. I highly recommend that you try to contact people in city government and other organizations for interviews. The paper should be between 12-18 pages, no more than 20 pages. Please provide complete references (Chicago style preferred) for all material cited. We will discuss the paper more in class.

Due dates for preliminary papers for assignment 1:

20 September: submit your city choice for the assignment.

4 October: Present what your city is doing (and how long it has been taking action) in the area of energy efficiency and green building. Assess whether you think it is inadequate, adequate, or exemplary compared to what is suggested in readings.

18 October: What is your city doing to promote the use of renewable energy? What state policy supports the city's efforts?

1 November: What is your city doing to reduce vehicle miles traveled? Does the city have a public transportation system? Would it be feasible to develop one? Are there transit-oriented development initiatives?

8 November: How well is your city doing on recycling? To what factors do you attribute its high or low rates? Is your city doing anything besides recycling to reduce waste production?

22 November: Final paper due.



2) The second assignment can be done individually or in a group. The focus is a project, program, or technology. Group projects should have discrete parts for all participants that can easily be assembled into a final paper with a joint introduction, analysis and conclusion or recommendations. We will discuss options in class. **Individuals or groups should submit a proposal for a topic by 27 September.**

Examples:

- District Heating and/or Combined Heat and Power
- Creating an Urban Electric Car Infrastructure
- Effectiveness of Mayors Climate Agreement
- Bus Rapid Transit
- Eco-Municipalities
- Congestion Pricing
- Comparison of Atlantic Station (Atlanta); Treasure Island (San Francisco) and other efforts to redevelop areas of cities as ecological communities (or others, these are just examples).
- Affordable Green Housing

The last day of class will be dedicated to presentations on final papers. **The second assignment should be submitted via Blackboard on 9 December by midnight.**

With the exception of a prearranged agreement or an emergency situation, assignments submitted late will be docked half a letter grade for each day beyond the submission date.

Grading:

The components of the final grade are:

Class attendance and Participation	20%
Assignment 1	40%
Assignment 2	40%

I have not banned the use of laptops in the classroom, but I'm getting close! If you want to use your laptop for the purposes of taking notes, you may do so. I do ask, however, that you not read email or scan the internet, even if looking up a topic we are discussing. It is very distracting to me and I will ask you to close your computer if you are not complying with this request.

NU Academic Honesty Policy

Northeastern University takes the issue of academic honesty very seriously. The Academic Honesty and Integrity Policy includes cheating, fabrication, plagiarism, and other types of dishonest activities.

Plagiarism is defined broadly as taking ideas, concepts, or actual words of another person and passing them off as your own work. Of particular note in recent years is the increase in cut-and-paste plagiarism, which involves downloading phrases from websites or other Internet sources. If you have any doubts about what is regarded as plagiarism, please read the university's policy:

http://www.english.neu.edu/writingprogram/for_students/plagiarism_information/

(this is the English department's site, which has links to several sources as well as university policies).

Please note that Blackboard screens submissions are automatically scanned for plagiarized content.


Detailed Course Outline


Pre-course readings:

Summary of the Stern report:

http://www.hm-treasury.gov.uk/media/4/3/Executive_Summary.pdf

Summary of IPCC (Intergovernmental Panel on Climate Change) report:

<http://www.ipcc.ch/pdf/assessment-report/ar4/wg1/ar4-wg1-spm.pdf>

Slides will be presented in many of the classes. Specific slide shows are not identified.

September

13 Class Overview. Defining the Problem

Overview of class goals and assignments. Discussion of environmental protection, climate change, and peak oil as forces driving the need for sustainable urban development. Does it matter which is the motivator of an urban sustainability/climate change agenda? How does problem definition shape the policy agenda? How do we measure success?

Readings:

Urban Land Institute and Smart Growth America (2007) "Growing Cooler: The Evidence on Urban Development and Climate Change." PDF on Blackboard.

Lerch, Daniel. 2007. *Post Carbon Cities: Planning for Energy and Climate Uncertainty*. Sebastopol, CA: Post Carbon Press. Pp. v-36.

Fitzgerald, Chapters 1, 2 and 7

Fulton, William, Rolf Pendall, Mai Nguyen, and Alicia Harrison. 2004. *Who Sprawls Most? How Growth Patterns Differ Across the U.S.* Washington, D.C.: The Brookings Institution Center on Urban & Metropolitan Policy. PDF on Blackboard.

Banyan blog. 2010. Asia's alarming cities: How Asian cities are built will determine the prospects for global carbon emissions. Oh dear. *Economist*. (July 1). PDF on Blackboard or <http://www.economist.com/node/16481295>

20 **Smart Growth, the New Urbanism, and Sustainability: From Silos to Synergies**

We review the smart growth, new urbanism and ecocities movements and discuss their relevance and connections to urban sustainability. We will also examine how social justice fits into these movements. We will view a slide show of Stockholm and Malmö as a point of departure for a discussion on how to create synergies among different green goals.

CHOICE OF CITY FOR PAPER 1 DUE

Readings:

Berke, Philip R. 2008. The Evolution of Green Community Planning, Scholarship and Practice. *Journal of the American Planning Association*. V. 74, 4: 393-407. PDF on Blackboard.

Dreier, Peter and Beth Steckler. 2006. Not just for the gentry: Can the “new urbanism” of green city neighborhoods, convenient to transportation and jobs, also provide affordable housing? *The American Prospect* (December).

http://www.prospect.org/cs/articles?article=not_just_for_the_gentry

Lindsay, Greg. 2010. New Urbanism for the Apocalypse <http://www.fastcompany.com/1651619/the-new-urbanism-meets-the-end-of-the-world> (May 24).

Knapp, Gerrit and Xingshuo Zhao. 2009. Smart Growth and Urbanization in China: Can an American Tonic Treat the Growing

Pains of Asia? Chapter 1 in Yan Song and Chengri Ding (eds) *Smart Urban Growth for China*. Cambridge, Ma: Lincoln Institute of Land Policy. PDF on Blackboard or https://www.lincolninst.edu/pubs/dl/1548_858_Web%20Chapter.pdf

27. **Energy Efficiency: From Green Building to Stricter Building and Energy Codes**

We start with LEED, examining how it is being used in different U.S. cities to promote green construction. We compare it to other green building rating systems throughout the world and critically examine its impact. We will then move to the need to change building and energy codes in requiring more energy-efficient buildings.

CHOICE OF TOPIC FOR SECOND PAPER DUE.

Readings:

Fitzgerald, Chapter 4.

Ewing, Reid. 2007. Driving to Green Buildings: The Transportation Energy Intensity of Buildings. *Environmental Building News*. (September 1). <http://www.buildinggreen.com/auth/article.cfm?fileName=160901a.xml>

October

4 Creating the Energy Efficient City

We continue our discussion of energy efficiency by focusing on the federal policy needed to help cities reduce energy consumption. We will also examine approaches to energy efficiency in Chinese cities. A guest lecturer will discuss current efforts in U.S. cities.

Readings:

Sadownik, Bryn and Mark Jaccard. 2002. Shaping Sustainable Energy Use in Chinese Cities. DISP. 151:Pp. 15-22. PDF On Blackboard.

Federal government assistance to cities on energy efficiency:

<http://www.ens-newswire.com/ens/mar2009/2009-03-26-093.asp>

<http://www.eecbg.energy.gov/>

11 No Class—Columbus Day

18 Renewable Cities

In *Emerald Cities*, I argue that the United States needs an aggressive renewable energy policy to remain competitive with European and Asian nations. We'll start with Freiburg, Germany—the model for German renewable energy policy and then examine what U.S. cities (and states) are doing in the absence of a national energy policy. We will also discuss China's entry and quick dominance as a producer of wind and solar energy. We will view slides showing renewable cities being developed in China and elsewhere.

Fitzgerald, Chapter 3

Los Angeles Business Council and UCLA Luskin Center. 2010. Designing an Effective Feed-In Tariff for Greater Los Angeles. PDF on Blackboard or

http://www.labusinesscouncil.org/online_documents/2010/Designing-an-Effective-Feed-in-Tariff-for-Greater-Los-Angeles-040110.pdf

25. Sustainable Transportation

In our first transportation class we focus on how planners use land use policy and other mechanisms to reduce vehicle miles

traveled. We examine which types of public transportation make sense for different types of cities. We will view slides of new transit systems in U.S. cities and innovations in public transit in European and Asian cities.

Readings:

Fitzgerald, Chapter 6.

Handy, Susan. (2006). Longer view: The road less driven. *Journal of the American Planning Association*, 72(3), 274-278. PDF on Blackboard.

Articles from *TR News* (May-June, 2010):

Frankel, Emil and Thomas R. Menzies, Jr. Why Focus on Transportation for Emissions Reduction? *TR News*. Pp. 10-11.

Noland Robert B. Legislative and Regulatory Moves to Reduce Transportation's Greenhouse Gas Emissions pp 12-15.

Fulton, Lew. Curbing Carbon Dioxide Emissions from Transportation: Scenarios for Meeting the Global Challenge. Pp. 15-20.

November

1. Sustainable Transportation, cont.

In this class we continue our discussion of public transportation, discussed in the context of transit-oriented development.

Readings:

Ford Foundation convening on Transit-Oriented Development. PDF on Blackboard or go to link, click download and it should come right up:

http://reconnectingamerica.org/public/display_asset/ra_ford_brief_final

Wildermuth, John. 2010. Housing plan sets off San Francisco parking debate. San Francisco Chronicle. (August 2). PDF on Blackboard or <http://www.sfgate.com/cgi-bin/article.cgi?f=/c/a/2010/08/02/BA2M1EMDHB.DTL>

Newsom, Mary. 2010. Charlotte does light rail right. *Grist*. <http://www.grist.org/article/2010-06-25-charlotte-does-light-rail-right> or PDF on Blackboard.

Kotkin, Joel. 2010. Mass Transit: The Great Train Robbery. Forbes (August 19). PDF on Blackboard or <http://www.forbes.com/2010/08/09/cities-transportation-class-opinions-columnists-joel-kotkin.html?boxes=Homepagechannels>

8. Recycling and Beyond

Recycling is part of sustainability and has some impact on reducing greenhouse gases, but it is also an expense. We examine debates on the value of recycling and factors that contributes to high rates. A particularly heated debate in the U.S. is on using trash as energy.

Readings:

Fitzgerald, Chapter 5

Rosenthal, Elisabeth. 2010. Europe Finds Clean Energy in Trash, but U.S. Lags. *New York Times* (April 12). PDF on Blackboard.

Bradsher, Keith. 2009. China's Incinerators Loom as a Global Hazard. *New York Times*. (August 11). PDF on Blackboard.

15 Water

We will review models of how climate change will affect coastal cities and discuss mitigation strategies. We also review the severity of coming water shortages and then move on to storm water management.

Roy, Sujoy B. et. al. 2010. *Evaluating the Sustainability of Projected Water Demands Under Future Climate Change Scenarios*. Lafayette, Ca: Tetra Tech. PDF on Blackboard or http://rd.tetratech.com/climatechange/projects/doc/Tetra_Tech_Climate_Report_2010_highres.pdf

Gaynor, Tim and Steve Gorman. 2009. Fast-growing Western U.S. cities face water crisis. <http://www.reuters.com/article/idUSTRE52A1WY20090311>

McGranahan, Gordon, Deborah Balk and Bridget Anderson. 2007. The Rising Tide. Extract of article in *Environment and Urbanization*. <http://www.chinadialogue.net/article/show/single/en/910>

22 Whose the Greenest of Them All?

A lot of cities have acknowledged their commitment to sustainability and greenhouse gas reduction by signing on to the Rio Declaration on Environment and Development, Agenda 21, The Istanbul Declaration, and other international agreements, but how do we know what progress is being made toward achieving goals? What has been the impact of these efforts? And how much serious policy change is occurring and how much “greenwash”? We will discuss various indicators, including the Survey on Mayoral Leadership on Climate Protection by the U.S. Conference of Mayors. How do we build the synergy discussed in the last class into ratings/evaluation of cities and climate change/sustainability?

Readings:

Wheeler, Stephen. 2008. State and Municipal Climate Change Plans: The First Generation. *Journal of the American Planning Association*. 74,4: 481-496. PDF on Blackboard.

Sarzynski, Andrea, Marilyn Brown and Frank Southworth. 2008. *Shrinking the Carbon Footprint of Metropolitan America*.

Washington, D.C.: Brookings Institution. PDF on Blackboard or download at :
http://www.brookings.edu/~media/Files/rc/reports/2008/05_carbon_footprint_sarzynski/carbonfootprint_report.pdf.

U.S. <http://www.Sustainlane.com> (review methodology for rankings)

Conference of Mayors. 2007. Survey on Mayoral Leadership on Climate Protection.
<http://www.usmayors.org/climateprotection/climatesurvey07.pdf>

<http://www.popsci.com/science/gallery/2009-06/gallery-nine-worlds-most-promising-carbon-neutral-communities>

European Green City Rankings
<http://www.commoncurrent.com/notes/2009/12/european-green-city-index-rele.html>

29 Open Class for Discussion and or Guest Lecture

December

6. Presentations on Technical and Policy Papers