PUAF 698O: ENERGY AND ENVIRONMENTAL POLICY  
(Spring 2003)

Time/Place: Thursdays 5:30-8:00, January 30 to May 15, Room 6208, Ariel Rios Building, 1200 Pennsylvania Ave NW, Washington, DC.

Coverage: Energy use greatly affects local and global environmental conditions, such as climate change, acid rain, urban air pollution, land use, and radiation hazards. In turn, past and future energy technology trajectories are intertwined with pathways of economic development, business investment decisions, social needs, and political priorities. This first half of the course will provide a basic understanding of energy in all of these dimensions—technical, economic, environmental, social, and political. Technologies covered include oil, gas, coal, renewable energy, energy efficiency, nuclear power, and hydrogen/fuel cells. Patterns of energy use in residential, industrial, and transport sectors will be discussed. The second half of the course will explore how a wide variety of policy mechanisms—technology policy, utility regulation and restructuring, emissions policies, multilateral interventions and agreements, and corporate strategies—can shape energy use and the environmental impacts of energy systems. Energy policy examples will draw from both developed and developing countries. Emphasis will be placed on renewable energy and promising technological trajectories for the future.

Instructor: Eric Martinot, Adjunct Professor, University of Maryland School of Public Affairs, and Climate Change Program Manager, Global Environment Facility. Phone 202-473-0169, email emartinot@worldbank.org. Office hours are Thursdays after class or by special arrangement.

Prerequisites: none.

Assignments: Four assignments and one final paper, no exams. The assignments (~5 pages) include two problem sets on energy patterns and quantitative analysis, a future energy and policy scenario, and a corporate case study of student’s choice. Assignments handed out 2 weeks in advance. The topic of the final paper (~15 pages) should relate to linkages between energy and public policy (i.e., environmental policy, technology policy, utility restructuring) and should be discussed with instructor in advance.

Grading: Grade based upon four short assignments (45%), final paper (35%), and participation in class discussions (20%).

Topical Outline and Assignments


Feb. 6 Energy supply technologies. Patterns of energy supply and demand. Developed vs. developing countries. Energy and power units. Energy supply technology characteristics and economic costs.


Mar. 6 Quantitative analysis. Problems for in-class solution and discussion.

Mar. 13 Policy and strategy overview. Policies and strategies affecting energy use: technology policies, utility regulation and restructuring, emissions policies, multilateral interventions and agreements, and corporate strategic decision-making and investment. Future energy use and policy scenarios.


Mar. 27 Spring break.

Apr. 3 Utility regulation and restructuring. Restructuring occurring in developed and developing countries. How regulation and restructuring can affect technology and fuel choices and the environmental dimensions of electric power.

Apr. 10 Emissions policies. How emissions reduction policies for the energy sector affect fuel and technology choices and energy use. Clean air act, emissions limits and pollution control requirements, emissions allocation and trading systems.

Third assignment due
Apr. 17  Multilateral interventions and agreements. The UN, World Bank, Global Environment Facility, and other multilateral institutions. Climate change policies and agreements.


May 1  Country comparisons. Comparative energy situations and policies of selected developed and developing countries. Finish student presentations of fourth assignment in class.


May 15  Course integration and group discussion. Final paper due.
Readings

Jan. 30


Feb. 6


Feb. 13


Feb. 20


Feb. 27


Mar. 13


Mar. 20


Apr. 3


Apr. 10


Apr. 17


May 1


May 8


