

RR, 1/15/2008

Stern School Undergraduate Seminar

Environmental Economics

C30.0300.001

Roy Radner

Spring 2008

Tue and Thurs, 2-3:15, KMC 8-191

Prerequisite: introductory microeconomics

Environmental problems typically arise from “market failures.” This seminar will examine several environmental issues at the local, national, and international levels, such as smog, acid rain, energy, fishing, and global warming. Drawing on the theories of externalities, market failure, and mechanism design, we shall explore the causes of these problems, and some of the potential remedies, including government regulation, voluntary associations, treaties, and markets for emissions, as well as potential related business opportunities.

The final grade will be based on class participation plus a term paper.

Reading: T. Tietenberg, *Environmental Economics and Policy* (5th ed.). Addison-Wesley, Boston, 2007, (hereafter cited as TT).

Plus various articles, most of which are found in the following two collections:

Stavins, R. N., ed., *Economics of the Environment: Selected Readings* (4th ed.). W. W. Norton, New York, 2000 (hereafter cited as EE).

Oates, W. E., ed., *The RFF Reader in Environmental and Resource Policy* (2nd ed.). Resources For the Future, Washington, DC, 2006 (hereafter cited as RFF).

Copies of these articles will be distributed in class.

Outline and Reading Assignments (preliminary and incomplete)

1. Introduction

TT, Ch. 1, 1-12.

TT, Ch. 13, 257-80.

Fullerton, D., and R. Stavins (1998), “How Economists See the Environment,” *Nature*, 395, 6701 (EE, Ch. 1).

Hardin, G. (1968), “The Tragedy of the Commons,” *Science*, 162, 1243-48 (EE, Ch. 2).

2. Air Pollution, I. Stationary Source Local Pollution

TT, Ch. 14, 281-305.

Henderson, J. V. (1996). "Effects of Air Quality Regulation," /Amer. Econ. Review/ 86 (4), 789-813.

3. Air Pollution, II. Transportation

TT, Ch.16, 334-68.

Austin, D., and T. Dinan (2005). "Cleaning the Air: The Costs and Consequences of Higher CAFE Standards and Increased Gasoline Taxes," *J. of Environmental Economics and Managements*, 50 (3), 562-582.

Espey, M., and S. Nair (2005). "Automobile Fuel Economy: What Is It Worth?" *Contemporary Economic Policy*, 23 (3), 1-7.

4. Acid Rain

TT, Ch. 15, 306-313.

Joskow, P. L, and R. Schmalensee (1988), "The Political Economy of Market-Based Environmental Policy: The U.S. Acid Rain Program," *J. of Law and Economics*, 41, 37-83 (EE, Ch. 28)..

Schmalensee, R., *et al* (1998), "An Interim Evaluation of Sulfur Dioxide Emissions Trading," *J. of Economic Perspectives*, 12, 53-68 (EE, Ch. 21).

Stavins, R. N. (1998), "What Can We Learn from the Grand Policy Experiment? Lessons from SO₂ Allowance Trading," *J. of Economic Perspectives*, 12, 69-88 (EE, Ch. 22).

5. Valuing the Environment

TT, Chapters 2-3, 113-58.

Portney, Paul R. (1994), "The Contingent Valuation Debate: Why Economists Should Care," *J. of Economic Perspectives*, 8, 3-17.

Hanemann, W. Michael (1994), Valuing the Environment through Contingent Valuation," *J. of Economic Perspectives*, 8, 19-43.

6. Externalities and Market Failure

TT, Ch. 4, 59-84.

7. Energy

TT, Ch. 8, 135-161.

8. Introduction to Game Theory

Radner, R. (2001), "Notes on Noncooperative Game Theory," Econ. Dept., Stern School, NYU (unpublished).

9. Fishing

TT, Ch. 7, 122-134.

TT, Ch. 12, 234-56.

RFF, pp. 35-41, 61-62,131-135.

White, L. J., "The Fishery as a Watery Commons: Lessons from the Experiences of Other Public Policy Areas for U.S. Fisheries Policy." Stern Econ. Dept., Nov. 2006

10. Climate Change

TT, Ch. 15, 314-33.

Nordhaus, W. D. (1993), "Reflections on the Economics of Climate Change," *J. of Economic Perspectives*, 7, 11-25 (EE, Ch. 22).

Schelling, T. C. (1997), "The Cost of Combating Global Warming: Facing the Tradeoffs," *Foreign Affairs*, 76, 8-14 (EE, Ch. 23).

Jacoby, H., et al (1998), "Kyoto's Unfinished Business," *Foreign Affairs*, 77, 54-66 (EE, Ch. 24).

Weitzman, M. L. (2007). "The Stern Review of the Economics of Climate Change," Economics Dept., Harvard Univ., Cambridge, MA, March 13, 2007 (unpublished).

Tol, R. S. J. (2006), "The Stern Review of the Economics of Climate Change," Economic and Social Research Institute, Hamburg, Oct. 30, 2006 (unpublished).

Dutta, P. K., and R. Radner (2004), "Self-Enforcing Climate-Change Treaties," *Proc. National Academy of Sciences of the U.S.*, 101, 4746-4751.

Supplementary References

Vaitheeswaran, Vijay V., *Power to the People*, New York: Farrar, Strauss, and Giroux, 2003.

Smil, Vaclav, *Energy at the Crossroads*, Cambridge, MA: The MIT Press, 2003.