RR, 1/12/2015

Syllabus and Outline
[Subject to Change]

Business and the Environment
ECON-UB.0225, ECON-UA.290.001
Spring 2015
Tue and Thurs, 2 – 3:15 p.m., KMC 5-75

Environmental problems typically arise from "market failures." This course examines several environmental issues at local, national, and international levels, with a particular focus this year on energy and climate change, but also briefly on water and population. Drawing on the theories of externalities, market failure, and mechanism design, it explores the causes of these problems and some of the potential remedies, including government regulation, "cap-and-trade," and carbon taxes, as well as potential related business opportunities. The schedule will include lectures by relevant industry representatives.

Prerequisite: Microeconomics (ECON-UB 1) or Introduction to Microeconomics (ECON-UA 1) or Environment and Society (ENVST-UA 101), or equivalent.

Textbook: Burton Richter, *Beyond Smoke and Mirrors: Climate Change and Energy in the 21st Century***,** Cambridge U. Press, Cambridge, UK, 2014, Second Edition (hereafter cited as BR).

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

Daedalus, The Alternative Energy Future, v. 1, American Academy of Arts and Sciences, 141 (2), Spring 2012 (hereafter cited as DAED).
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 most of the articles cited below can be downloaded from JSTOR. I shall arrange for the others to be available. Other references will be added during the semester, especially in the area of potential business opportunities.

Outline and Reading Assignments
(Optional readings are listed as "Supplementary")

1. **Introduction to the Course**
   Hardin, G. (1968), "The Tragedy of the Commons," *Science*, 162, 1243-48 (EE, Ch.2).
   BR, Ch. 1, pp. 1-16.

2. The Problem of Climate Change

BR, Chs. 2-5, pp. 19-76.

Supplementary:

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

National Academy of Sciences, "Overview and Summary: Technology and Transformation," *America's Energy Future*, National Academies Press. Washington, D.C., 2010, 47 pp.

National Academy of Sciences, *Hidden Costs of Energy: Summary*, National Academies Press. Washington, D.C., 2010, 21 pp.

3. Principles of Economic Analysis, Externalities. Market Failure and Environment

BR, Chs. 6, 7, pp. 79-102

R. Radner, "Notes."

Sandel, M. J., "It's Immoral to Buy the Right to Pollute (with replies)," *N.Y. Times*, Dec. 15, 1997, p. A29.

Supplementary:

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

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

4. Energy, I: Fossil Fuels and "Nuclear" Energy

BR, Chs. 8-10, 12, pp. 103-149, 189-218.

Supplementary:

BR, Ch. 12, pp. 219-237.

5. Energy, II: Renewable and Biofuels

BR, Chs. 13, 14, pp. 238-290.

6. Energy III: Efficiency

BR, Ch. 11, pp. 150-188.

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

7. Energy IV: Summary

BR, Ch. 15, pp. 291-311.

8. Energy V: Demand

R. Radner, "Notes."

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 Management*, 50 (3), 562-582.

9. Climate-Change Policy

BR, Chs. 16-18, pp. 315-349.

Fri, R. W., and S. Ansolabehere, "The Alternative Energy Future: Challenges for Technical Change," *DAED*, 5-9.

Greenstone, M., and A. Looney, "Paying Too Much for Energy? The True Costs of Our Energy Choices," *DAED*, 10-30.

One or more of the following topics will be briefly treated, depending on the time available; references will be provided as needed: fishing, water, population, sustainability.

Additional Supplementary References, I

The following references contain case studies of environmentally efficient and socially responsible companies that are succeeding in their integration of those principles with profitability.

Chouinard, Yvon, *Let my people go surfing – the education of a reluctant businessman*, New York: Penguin Press, 2005.

Erickson, Gary, and Lorentzen, Lois, *Raising the Bar – Integrity and Passion in Life and Business.* San Francisco: Jossey-Bass, 2004.

Fava, James A., Figge, Cynthia L., Saur, Konrad, and Young, Steven B., *Mapping the Journey – Case studies in strategy and action toward sustainable development.* Sheffield: Greenleaf Publishing, 1999.

Hawken, Paul, Lovings, Amory, and Lovins, L. Hunter, *Natural Capitalism – Creating the next Industrial Revolution.* Back Bay Books, 2000.

Heal, Geoffrey M., *Corporate Environmentalism: Doing Well by Being Green* (August 2007). Available at SSRN: http://ssrn.com/abstract=1009755.

McDonough, William, and Braungart, Michael, *Cradle to Cradle – Remaking the way we make things*. New York: North Point Press, 2002.

Additional Supplementary References, II

The following references provide more information about the topics in this course.

Aldy, J. E., and R. N. Stavins, " Using the Market to Address Climate Change: Insights from Theory and Experience," *DAED*, 45-59.

Aldy, J. E., et al (2010), "Designing Climate Mitigation Policy," *J. of Economic Literature*, vol. XLlVIII, 903-934.

Ansolabehere, S., and D. M. Konisky, "The American Public's Energy Choice," *DAED*, 61-71.

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

Graetz, M. J., "Energy Policy: Past or Prologue?", *DAED*, 31-44.

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

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).

National Academy of Sciences, *America's Energy Future*, National Academies Press. Washington, D.C., 2010, 9 vols.

National Academy of Sciences, *Hidden Costs of Energy*, National Academies Press. Washington, D.C., 2010.

Nordhaus, W. D. (2007), "A Review of *The Stern Review of the Economics of Climate Change*, *J. of Economic Literature*, vol. XLV, no. 3, 686-702.

Radner, R. (2007), "Notes on Noncooperative Game Theory," Econ. Dept., Stern School, NYU (unpublished).

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

Schrag, D. P., "Is Shale Gas Good for Climate Change?", *DAED*, 72-80.

Stavins, R. N. (1998), "What Can We Learn from the Grand Policy Experiment? Lessons from $S0_2$ Allowance Trading," *J. of Economic Perspectives*, 12, 69-88 (EE, Ch. 22).

Stern, N., *The Economics of Climate Change*, Cambridge U. Press, Cambridge, UK, 2007.

"Symposium: Energy Challenges," *J. Econ. Perspectives,"* v. 26 (1), 2012, 3-137.

Tietenberg, T., and L. Lewis, *Environmental Economics and Policy* (6^{th} ed.). Addison-Wesley, Boston, 2009.

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

Weitzman, M. L. (2007). "A Review of *The Stern Review of the Economics of Climate Change*, *J. of Economic Literature*, vol. XLV, no. 3, 703-24.

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