

Yale School of Management
MGT 528a/FES 905a
Public and Private Management of the Environment
Fall 2004
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COURSE SYLLABUS

OVERVIEW

This course explores environmental management from the perspectives of government regulators, private corporations, and nonprofit organizations. The first part of the course centers on innovative market-based approaches to environmental policy, such as tradeable pollution permits. We also consider a variety of market-driven non-governmental initiatives, such as eco-labeling and certification. In the second part of the course, we focus on proactive corporate environmental strategies through a series of case studies. Can firms shape regulation to secure competitive advantage? Can firms earn cost savings by reducing their environmental impacts? What is the potential for product differentiation along environmental lines? What is the role of "socially responsible investment" in the environmental realm? In short, does it "pay to be green"?

Throughout the course, we will emphasize the interactions among the public, private, and nonprofit spheres of activity. Designing sound environmental policies, for example, requires creating the proper incentives for regulated firms to reduce their pollution. In turn, appropriate environmental strategies in the private and nonprofit sectors depend closely on the regulatory environment. The major theme of the course is the interaction between markets and the environment. How can environmental policies be designed to create or mimic markets, in order to provide regulated firms with the right incentives for environmental protection? What profit opportunities do markets provide innovative firms?

We also examine the roles played by nonprofit organizations in influencing corporate environmental actions, whether by confrontation or collaboration. While this course is concerned with environmental strategy and policy, the tools we develop will be useful to anyone interested in competitive strategy, corporate social responsibility, or the design of public policy.

ORGANIZATION OF THE COURSE

The first part of the course reviews the basic economic framework for thinking about environmental issues. We review the concepts of externalities and public goods; show how they relate to the famous "tragedy of the commons" and the problem of "collective action"; discuss the moral justification for doing benefit-cost analysis; and explore the nature of benefits that people might derive from environmental quality (and be willing to pay for). The main message of this opening section is that even though people may derive substantial benefits from environmental amenities (such as clean air or endangered species) they have strong economic incentives not to pay for them. This sets up the main question we grapple with in the rest of the course: how can governments, firms, and non-government organizations correct or overcome those incentive problems?

In the second part of the course, we examine the growing use of markets for environmental protection. We start by examining the economic theory and practice behind “market-based” or “incentive-based” instruments for environmental protection, such as emissions taxes and tradeable permits. We develop the economic rationale for such policies, comparing them with conventional “command-and-control” approaches. We then explore their implementation in a variety of real-world settings, from sulfur dioxide regulation to global climate change to the protection of fisheries and endangered species. We consider both government-driven efforts to create new markets (such as the sulfur dioxide trading system in the United States) with more recent efforts to create markets for ecosystem services in the private sector. This section of the course ends by assessing the hypothesis advanced by Michael Porter that environmental regulation will lead to cost savings for regulated firms.

The third part of the course centers on proactive corporate environmental strategies. By “proactive,” we mean corporate strategies that go beyond compliance with regulation. Proactive strategies actively seek to use the environment as a tool of competitive strategy: as a means of managing risk, securing strategic advantage over competitors, differentiating products, or identifying new market opportunities. After an overview, we examine each type of strategy in detail, through a particular case study. For example, a case on DuPont highlights the strategic opportunities available to firms that position themselves to take advantage of new environmental regulations. Later on, a case on British Petroleum points out the opportunities and risks inherent in moving ahead of regulatory action. Two cases on product differentiation – one by StarKist and another by a Swiss specialty chemicals company – explore the potential for capturing the value of environmental quality. Another case studies the growing practice of socially responsible investing, and invites us to ask how – if at all – investors can affect corporate behavior in the environmental realm. Finally, a case on Starbucks asks what responsibility firms have for contributing to sustainable development.

Throughout the second half of the course, we consider the interaction between the private sector and non-governmental organizations. Two cases that center on NGOs make this link explicit. A case on Greenpeace demonstrates the risks firms face if they fail to account for public opinion and the ability of NGOs to leverage it. A very different role for the non-profit sector is profiled in a case on Environmental Defense, which has developed a sterling reputation for collaboration with private firms.

COURSE REQUIREMENTS

Course information, case study questions, problem sets, and problem set answers will be posted on the course web page available through WebCT.

Class participation

Class participation will be evaluated as part of your course grade. While class participation is encouraged in lectures, it is absolutely essential to the case discussions in the later part of the course.

You are responsible for the material in each case. I will occasionally “cold-call” to start the discussion, but will generally rely on volunteers. Sheer volume is not a substitute for quality in your comments. Instead of maximizing “airtime,” you should aim for consistent and active contribution. Come to class prepared to make cogent and concise comments that offer original insights and analysis of the case. In building those arguments, you should draw on specific facts or evidence from the case, as well as your own calculations and material from other required readings (where relevant).

I will post case discussion questions on the course website well in advance of each case discussion. You should use these questions to help you prepare the case.

Readings and cases

A detailed reading list follows this course description. All cases are required reading. Other required reading is marked with an asterisk (*). Articles without asterisks are included in the hopes that they will be of interest, and to give you more material on the topic at hand; but they are not required reading for the course.

Most of the readings used in the course are included in two books:

Robert N. Stavins, ed., *Economics of the Environment: Selected Readings*, 4th ed. (New York: W. W. Norton, 2000). [referred to in the reading list as EE].

Forest Reinhardt, *Down To Earth: Applying Business Principles to Environmental Management* (Cambridge, MA: Harvard Business School Press, 2000).

Both are available at the Yale Bookstore or online. A few copies of each book will also be available on reserve at the Social Science Library, but you are encouraged to buy them.

In addition to these books, there will be two required reading packets, which include most of the cases we will read throughout the second half of the course. The reading packets will be available at the Course Distribution Center in the basement of the SOM classroom building (after the first few weeks of the semester, the packets will be available at the mailroom). A few of the cases (noted on the syllabus) will be made available electronically on the course website.

Coursework

Problem sets

In the first half of the course, we will reinforce the lessons of economic theory with three short problem sets. The problem sets are meant to give you practice in analyzing environmental policies from the viewpoint of economic theory. Exercises 1 and 3 should be turned in at the beginning of class on the day they are due. Exercise 2 will be an in-class exercise, to be handed in at the end of the class session.

Case writeups

In the second half of the course, which relies more heavily on case discussions, you will each write two case write-ups. Each of these should be four to five double-spaced pages long, and should provide cogent and concise analysis of the case at hand. You are free to choose which cases to choose to write up; the assignment is due by 5:30 pm on the day before the case will be discussed in class. You may submit your case writeups to me by email.

Note that an analysis is not just a summary of the case. Your analyses should discuss how the organization in the case approached a particular challenge or set of challenges and whether the strategy they chose was, in your view, the best one to follow. In other words, you should make an argument in your writeup, and back it up with facts from the case. You should use the case preparation questions posted on the website to help structure your analysis; in particular, you may choose to focus on one or two of the study questions in your writeup.

You may discuss both the problem sets and the case writeups in groups, but in both cases the final product must be your own work (see discussion of academic integrity below).

Midterm Exam

There will be a take-home midterm exam.

Final Project

The final project is a paper analyzing the environmental policy or approach taken by a firm, nongovernmental organization, or even government agency of your choosing, not covered by the cases in the class. Your paper should analyze the strategic environment of the organization (firm, NGO, or even government organization), evaluate its response to the environmental issues facing it, and explain why and to what degree the chosen strategy is or is not likely to be effective (or was/was not effective, if your paper reviews a past strategy). You should employ concepts from class discussions and readings where relevant, but also feel free to introduce novel ideas of your own. As with the case writeups, the central task is analysis – independent, critical thought – rather than description.

The term “environmental policy” is deliberately broad. Corporate environmental policies might include, for example: a change in how a product is made, in response to environmental concerns; the introduction of a new “green” product; a voluntary program to offset a company’s environmental impacts through other measures (e.g., planting trees to offset CO₂ emissions); or a company’s formal approach towards a particular regulatory decision. NGOs’ environmental policies could include lobbying efforts, legal measures, World-Wide-Web-based campaigns, independent actions (e.g., land preservation by the Nature Conservancy), boycotts, publicity campaigns, cooperative partnerships with the private sector, or other activities. A report on a nonprofit could also focus on the general “approach” taken by the organization, especially in the case of a relatively small organization with a well-defined and narrow approach to environmental issues.

Despite the broad range of possible topics, your paper should be focused enough to allow for substantial and specific analysis of a particular policy or strategy chosen by an organization. You are encouraged to choose an organization for which substantial information is available, either through public reports (e.g., corporate financial statements or NGO annual reports) or through contacts with people inside the organization. I will assist you as best I can in contacting people who might be able to provide information. I will also post a list of suggested topics on the course website during the first few weeks of the class, and am happy to help you identify possible topics.

The papers should be 15–20 pages double-spaced, not counting exhibits. Each report should include:

- a brief introduction describing the environmental problem facing the organization or decision-makers (approx. 2–3 pages);
- description of the organizational context (background on the firm or nonprofit organization or regulatory body and/or on the people involved in making the decision or designing the policy) (approx. 4–6 pages);
- discussion of the policy chosen by the organization and examination of its success or failure (approx. 4–6 pages);
- analysis of alternative options or policies (approx. 3–5 pages); and
- relevant exhibits (charts, graphs, figures, illustrations, tables, copies of documents, etc.) to illustrate the policy or provide numerical/factual support for your analysis.

You will work on the project in groups of three or four. (A solo-authored paper may be acceptable with prior approval from me.) To the extent possible (depending on course enrollment), each group should include both SOM and FES students. You will be asked to submit a preliminary list of group members on October 12. I will help out in “matchmaking” for groups wishing to add members or for students not yet attached to a group.

A one-page proposal of your project topic will be due on November 4. That proposal should describe the organization you will study, the environmental policy you expect to analyze, and

the sources of information you plan to draw on. During the last few class meetings, each group will give a brief presentation of their work in progress.

The final paper is due by the end of the day on Monday, December 21. Please send your report in to me (preferably in Microsoft Word) by email. There will be no final exam.

Grading

The problem sets and case writeups will be graded on a scale of 1 (worst) to 3 (best). In both cases, a 3 denotes excellent work; a 2 denotes work in line with expectations; and a 1 (rare!) is a signal of poor work with significant errors.

Although only two case writeups will be counted for the grade, you may do a third in an effort to improve your grade. In that case, the best two grades will be recorded.

The final course grade will be calculated as follows: class participation 20%; problem sets 10%; case write-ups 20%; midterm 20%; and research paper 30%.

ACADEMIC INTEGRITY

Citation of source material

You are required and expected to adhere to the highest standards of academic integrity in all your work. In particular, you may not use any material from any outside source without supplying a careful and comprehensive citation.

For the case writeups only, your reliance on the case at hand is understood; hence you need not cite the case itself when drawing on background information or general points contained in the case (although you should provide the relevant page numbers or exhibits when citing specific material from the case, e.g., financial data on company performance). Similarly, in citing required readings you may simply give the author and title of the work being cited. In the context of this class, standard concepts of strategy and economics (e.g., "Porter's Five Forces," Pareto efficiency, cost-effectiveness, Pigovian tax, etc.) may also be referred to without further citation.

For the final projects, you must cite your sources fully. This includes full citation of case studies read for the class, as well as acknowledgement of sources for quotations, financial data, and concepts used in your final paper. Citations should follow the standard format in the Chicago Manual of Style (i.e., author's name, title, journal (if applicable), publisher and place of publication (for a book), and date.) If you have questions, please visit the excellent guide to source citation at: <http://www.dartmouth.edu/~sources>.

Phrases and sentences taken from other sources must be surrounded by quotation marks, with the source cited in a footnote. If you take more than two sentences or so in a row, you must set the quotation off from the rest of the text, and include a proper citation of the source.

You must also cite ideas taken from another source, even if expressed in your own words, as well as facts that are not generally known or direct quotations of statements made by individuals. Note that changing one or two words in a sentence is usually not sufficient to qualify as "writing in your own words."

The best rule to follow: When in doubt, cite your source. There is almost no cost to including too many citations, but there are serious penalties from failure to include enough.

A common way of getting yourself in trouble is the lazy approach of importing text whole from another source into a draft paper, thinking you will edit it later. If “later” never comes, you can end up in front of a disciplinary committee and risk serious punishment. Never cut and paste anything from another source into a document without immediately putting it in quotation marks and including a footnote citing the source. To be safe, try to avoid ever pasting outside material into your documents unless it is absolutely necessary to include the quotation (e.g., what a person actually wrote has bearing on your argument).

Group work

Group work is encouraged in several of the assignments, including the problem sets, case write-ups, and final projects. Each group will produce only one final paper, which is handed in by the group as a whole. On the other hand, as already noted, each student must hand in her own work for the problem sets and case writeups.

Examples of acceptable collaboration in case writeups and problem sets:

- Two students get together to work on a case writeup. They discuss the case together and share ideas about it, offering possible analyses and critiquing each other’s ideas. After their meeting, on their own, they each write up their case analysis in their own words.
- In a group meeting to work on a problem set, one student knows how to set up or solve a problem or how to draw a graph that the other students are confused by. She does it on the board and the rest of the students in the group take notes that they use when writing up their own solutions to the problem set.

Examples of unacceptable collaboration:

- One student lends another student the problem set solution she intends to hand in. He either copies verbatim or rewrites the first student’s problem set in his own words and hands it in.
- After working in a group to discuss a case, one of the students emails a draft of his case writeup to his group members so they can compare it with their own or give him feedback on his.
- A student usually works with a study group, but can’t make it to the session where the group has worked on a particular problem set or case writeup. One of the students in the group gives the missing student her notes from the group.

COURSE PLAN

I FUNDAMENTALS		
8/30	Course introduction and overview	Lecture
9/1	Tragedy of the commons; common property collective action problems;	Lecture
9/8	Why do benefit-cost analysis?	Lecture
9/13	The willingness to pay for environmental quality	Lecture
II MARKETS FOR ENVIRONMENTAL PROTECTION		
9/15	Introduction to regulatory design	Lecture
9/17	Market-based instruments	Lecture
9/22	Tradeable permits in practice: U.S. Acid Rain program	Lecture / Discussion
9/24	Policy instruments for global climate change	Lecture/ Discussion
9/29	Markets for global climate change	Case: “The Chicago Climate Exchange”
10/4	Market-based solutions to common property problems	Case: “The Red Snapper Fishery”
10/6	Markets for ecosystem services	Lecture / Discussion
10/11	Eco-labeling and certification programs	Case: “Metsa-Serla”
10/13	Does regulation produce cost savings?	Lecture / Discussion
MIDTERM EXAM (Take home)		
III ENVIRONMENTAL STRATEGIES IN THE PRIVATE AND NON-PROFIT SECTORS		
10/25	An overview of corporate environmental strategy.	Lecture
10/27	Managing risk through self-regulation	Case: “Responsible Care”
11/1	NGOs: Forcing accountability?	Case: “Sunk Costs: The Plan to Dump the Brent Spar”
11/3	Managing competitors; strategic use of regulation	Case: “DuPont Freon Products Division”
11/8	Product differentiation and strategic mgmt of competitors	Cases: “StarKist (A) and (B)”
11/10	Cost savings and product differentiation	Case: “Ciba Specialty Chemicals”
11/15	Private-sector responses to global climate change	Case: “Global Climate Change and BP Amoco”
11/17	NGOs: Facilitating “win-wins”?	Case: “Environmental Defense”
11/29	Socially responsible investing and corporate policy	Case: “Sustainable Development and Socially Responsible Investing: ABB in 2000”
12/1	Sustainable development and social responsibility	Case: “Starbucks and Conservation International”
IV CONCLUSIONS		
12/6	Student presentations of final projects	
12/8	Student presentations of final projects, cont’d	
12/13	Student presentations, cont’d; and conclusions	

READING LIST

All cases and starred readings (*) are required.

I FUNDAMENTALS

Monday, August 30 – Course introduction and overview. Market efficiency and market failure.

* Don Fullerton and Robert N. Stavins, “How Economists See the Environment” [EE, ch. 1].

* “Schools brief: Missing markets,” *The Economist*, December 13, 1986, pp. 80–81.

Ronald Coase, “The Problem of Social Cost” [EE, ch. 3].

Wednesday, September 1 – Common property, collective action problems, and the “tragedy of the commons.”

* Garrett Hardin, “The Tragedy of the Commons” [EE, ch. 2].

R. David Simpson, “Ecosystem Analysis and Economics: Some Concepts and Issues” [EE, ch. 25].

Wednesday, September 8 – The hows and whys of benefit–cost analysis

* Kenneth Arrow et al., “Is There a Role for Benefit–Cost Analysis in Environmental, Health, and Safety Regulation?” [EE, ch. 13].

* Steven Kelman, “Cost–Benefit Analysis: An Ethical Critique,” and replies to Kelman [EE, ch. 15].

W. Kip Viscusi, “Regulating the Regulators” [EE, ch. 14].

Monday, September 13 – What are people willing to pay for environmental quality?

* V. Kerry Smith, “Nonmarket Valuation of Environmental Resources: An Interpretive Appraisal” [EE, ch. 9].

Maureen L. Cropper and Wallace E. Oates, “Environmental Economics: A Survey,” sections IV–V [EE, pp. 79–113].

II MARKETS FOR ENVIRONMENTAL PROTECTION

Wednesday, September 15 – Introduction to regulatory design: Market–based instruments vs. prescriptive regulation

Monday, September 20 - Market-based instruments, continued: Extensions to pollution “hot spots”; uncertainty about costs and benefits; technological change

Exercise 1 due at beginning of class on Wednesday, September 15

* Tom Tietenberg, “Economics of Pollution Control: An Overview,” pp. 334–362 in *Environmental and Natural Resource Economics* (Reading, MA: Addison Wesley Longman, 2000).

- * Robert N. Stavins, "Market-Based Environmental Policies," pp. 31–76 in Paul R. Portney and Robert N. Stavins, eds., *Public Policies for Environmental Protection* (Washington, D.C.: Resources for the Future, 2000).
- * Maureen L. Cropper and Wallace E. Oates, "Environmental Economics: A Survey," sections III [EE, pp. 50–79].

Wednesday, September 22 – Tradeable permits in practice: The U.S. Acid Rain Program

Exercise 2 due at beginning of class

- * Richard Schmalensee, Paul L. Joskow, A. Denny Ellerman, Juan Pablo Montero, and Elizabeth M. Bailey, "An Interim Evaluation of Sulfur Dioxide Emissions Trading" [EE, ch. 20].
- * Daniel Altman, "Just How Far Can Trading of Emissions Be Extended?" *New York Times*, May 31, 2002, p. C1.

Monday, September 27 – Market-based solutions to common property problems: Fisheries

Case: "The Red Snapper Fishery" (Stanford Law School), parts 1 and 2 and selected exhibits. [Web]

- * John Tierney, "A Tale of Two Fisheries," *The New York Times*, August 27, 2000.
- * Tietenberg, "Renewable Common-Property Resources: Fisheries and Other Species," ch. 13 in *Environmental and Natural Resource Economics* (op. cit).

Wednesday, September 29 – Policy instruments for global climate change

- * Michael J. Sandel, "It's Immoral to Buy the Right to Pollute," and replies to Sandel [EE, ch. 19].
- * William D. Nordhaus, "Reflections on the Economics of Climate Change" [EE, ch. 22].
- * Thomas C. Schelling, "The Cost of Combating Global Warming: Facing the Tradeoffs" [EE, ch. 23].

Monday, October 4 – Markets for global climate change

Case: "The Chicago Climate Exchange" [Web]

- * Jeffrey Ball, "Changing Climate: New Market Shows Industry Moving on Global Warming," *Wall Street Journal*, January 16, 2003, p. 1. [available on WebCT]

Wednesday, October 6 – Markets for ecosystem services

Exercise 3 due at beginning of class

- * Gretchen C. Daily and Katherine Ellison, *The New Economy of Nature: The Quest to Make Conservation Profitable* (Island Press: Washington, D.C., 2002), pp. 19–34.
- * Nels Johnson, Andy White, and Danièle Perrot-Maître, "Developing Markets for Water Services from Forests: Issues and Lessons for Innovators." Washington, D.C.: *Forest Trends*, 2001 (26 pp.) [available on WebCT]
- Danièle Perrot-Maître and Patsy Davis, "Case Studies of Markets and Innovative Financial Mechanisms for Water Services from Forests." Washington, D.C.: *Forest Trends*, May 2001 (48 pp.) [available on WebCT]

Monday, October 11 – Labeling and certification programs

Case: “Metsa-Serla”

U. S. Environmental Protection Agency, “Environmental Labeling Issues, Policies, and Practices Worldwide,” [available on WebCT]. (Note: skim this file – it is extremely long).

Wednesday, October 13 – Regulation, cost savings, and the search for “win-wins”

Preliminary final project group lists due

* Michael E. Porter and Claas van der Linde, “Toward a New Conception of the Environment-Competitiveness Relationship,” [EE, ch. 7].

* Karen Palmer, Wallace E. Oates, and Paul R. Portney, “Tightening Environmental Standards: The Benefit-Cost or the No-Cost Paradigm?” [EE, ch. 8].

* Reinhardt, chapter 4, “Reducing Costs Within the Firm.”

* Claudia H. Deutsch, “Together at Last: Cutting Pollution and Making Money,” New York Times, Sept. 9, 2001.

Noah Whalley and Bradley Whitehead, “It’s Not Easy Being Green,” Harvard Business Review May-June 1994, pp. 46-52. [available on WebCT]

“The Challenge of Going Green” (discussion of Whalley and Whitehead), Harvard Business Review July-August 1991, pp. 37-50. [available on WebCT]

MIDTERM EXAM (Take-home) due FRIDAY, OCTOBER 15

III ENVIRONMENTAL STRATEGIES IN THE PRIVATE AND NON-PROFIT SECTORS

Monday, October 25 – An overview of corporate environmental strategy

* Reinhardt, chapters 1, “The Environment as a Business Problem,” and 6, “Managing Risk and Uncertainty.”

Wednesday, October 27 – Managing risk through self-regulation

Case: “Responsible Care”

* Reinhardt, chapter 3, “Managing Competitors,” pp. 45-60.

Jennifer Howard, Jennifer Nash, and John Ehrenfeld, “Standard or Smokescreen? Implementation of a Voluntary Environmental Code.” California Management Review, vol. 42, no. 2, Winter 2000 [available on WebCT]

Monday, November 1 – NGOs: Forcing accountability through confrontation?

Case: “Sunk Costs: The Plan to Dump the Brent Spar”

Wednesday, November 3 – Managing competitors: Strategic use of regulation

1-page research project proposal due at beginning of class.

Case: “DuPont Freon Products Division (A)”

* Reinhardt, chapter 3, “Managing Competitors,” pp. 60-77.

Monday, November 8 – Product differentiation and strategic management of competitors

Case: “Starkist (A) and (B)”

* Reinhardt, chapter 2, “Environmental Product Differentiation.”

Wednesday, November 10 – The environment as a selling point: Product differentiation II

Case: “Ciba Specialty Chemicals”

Monday, November 15 – Private-sector responses to global climate change

Case: “Global Climate Change and BP Amoco”

Wednesday, November 17 – NGOs: Facilitating win-wins through collaboration?

Case: “Environmental Defense”

* Environmental Defense Strategic Plan (1997) [available on WebCT]

Monday, November 29 – Socially responsible investing and corporate policies

Case: “Sustainable Development and Socially Responsible Investing: ABB in 2000”

Wednesday, December 1 – Sustainable development and social responsibility

Case: “Starbucks and Conservation International”

IV CONCLUSIONS

Monday, December 8 – Student presentations of final projects.

Wednesday, December 10 – Student presentations of final projects, continued.

Monday, December 13 – Student presentations, cont’d; and conclusions.