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# BASD 505 — Environmental Management, Economics, and Technology

MBA Period 2, 23 February - 30 March 2009

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## 1 Objectives

This MBA module is about formulating business strategy with respect to managing environmental objectives. This course rigorously explores the foundations of corporate environmental strategy: the economic principles underlying environmental policy and environmental law, the managerial practices that respond to policy interventions, and the environmental technologies that facilitate pollution prevention and pollution abatement. Theory and practical applications are explored equally. Students taking this course will gain an appreciation of the complexity of designing corporate environmental strategy in the presence of diverse and competing stakeholder interests.

The module is taught using a combination of lectures, case studies, independent reading, and team work. Small student teams will be given the opportunity to analyze a Canadian company in order to analyze their past and current corporate environmental strategy and make an in-class presentation. The purpose of the group work is to explore and discuss competing environmental strategy approaches.

There are no particular prerequisites for this module, although the modules on *Managerial Economics* (BAPA 500), *Government and Business* (BAPA 501), and *Cost-Benefit Analysis* (BAPA 503) are highly recommended as they develop important concepts that are utilized in this module.

## 2 Outline

There are six double sessions. Classes start on February 23 and end on March 30. We meet every Monday between 18:00 and 21:30 in UCLL 101. There are two 15-minute breaks at 19:00-19:15 and 20:15-20:30. Each session is thus divided into three blocks of one hour each. The last session is reserved for student presentations and a final exam.

1. Corporate Environmental Strategy
  - (a) Introduction and Overview
  - (b) Environmental Economics: rationale for intervention and policy instruments
  - (c) Environmental Management: strategies for planning and implementing environmental objectives
  - (d) Environmental Technology: methods for accomplishing environmental objectives
  - (e) Competing Objectives
  - (f) Stakeholders and the Strategy Context
- (g) Canada's Corporate Environmental Profile
2. Basics of Environmental Economics
  - (a) Negative Externalities and Market Failure
  - (b) Open Access and Property Rights
  - (c) Public Goods
  - (d) Pollution Supply and Pollution Demand
  - (e) Cost-Benefit Analysis
3. Environmental Policy in Perspective
  - (a) Regulation, Regulatory Threat, and Voluntary Measures
  - (b) Policy Instruments
  - (c) Standards: Efficiency vs. Safety
  - (d) Environmental 'Green' Taxes
  - (e) Tradeable Permits
  - (f) Case: The EU ETS
4. Environmental Management Systems
  - (a) Target Process or Performance?
  - (b) The ISO 14000 Standards Series
  - (c) Environmental Audits
  - (d) Organization and Staffing
  - (e) Short Case: [TBA]
5. Environmental Management Practice
  - (a) Uncertainty: Basic Concepts
  - (b) Managing Risk
  - (c) Hazard and Risk Assessment
  - (d) Outsourcing through Offsite Transfers
  - (e) Performance Reporting
  - (f) Short Case: [TBA]
6. Environmental Law: Canada
  - (a) Constitutional Allocation of Responsibilities
  - (b) Interjurisdictional Coordination
  - (c) Canadian Environmental Protection Act (CEPA)
  - (d) Compliance and Enforcement
  - (e) National Pollutant Release Inventory (NPRI)
7. International Environmental Law
  - (a) International Treaties
  - (b) International Trade, the GATT, and NAFTA
  - (c) Practical Implications of the Kyoto Protocol
8. Environmental Technology for Pollution Abatement
  - (a) Air Pollution: Dispersion, Transnationality, and Abatement Technology
  - (b) Water Pollution: Modeling and Control
  - (c) Solid Waste: Reduction and Recycling
  - (d) Hazardous Waste: Toxins and Micropollutants

## Course Web Site

<http://strategy.sauder.ubc.ca/antweiler/basd505/>

9. New Environmental and Energy Technologies
  - (a) Case Study: Wind Turbine Installations
  - (b) Case Study: Photovoltaic Solar Systems
10. Green Strategies for Companies
  - (a) Green Purchasing
  - (b) Green Marketing
  - (c) Eco-Labeling
  - (d) Short Case: [TBA]

### 3 Marks

The grade for this module will be the weighted average of class participation (25%), team project (25%), and final exam (50%). Passing the final exam is a minimum requirement for passing the course.

#### 3.1 Participation

Participation marks are based on a number of contributions in class. These contributions can include: providing useful illustrations of a topic; providing motivation for a tool or technique; helpful recapitulation or summarizing; making observations that link or integrate concepts or discussions; responding to questions; playing “devil’s advocate” by presenting or supporting alternative or unpopular positions. I expect participants in this course to prepare for classes by reading assigned cases and material.

#### 3.2 Final Exam

There will be a two-hour exam at the end of the module. This final exam consists of two parts for a total of 100 marks. Part I contains a true/false quiz with a total of 48 responses, grouped into 8-10 questions. Each correct response receives one mark. Part II contains four short-answer questions, each question worth 13 points. The short answer questions typically involve a small case or scenario that proposes a particular course of action for a company. Other questions may be somewhat more open-ended. In this section students will demonstrate their ability to make sound decisions by rigorously applying the analytical framework introduced in class.

#### 3.3 Team Project

Participants in this module are required to form into teams of 3-4 students. The last session is set aside for team presentations. Each presentation should take about twenty minutes, followed by a question and answer period of about five to ten minutes.

The team project involves either the development of a strategic environmental action plan for a Canadian business, or the analysis of an existing corporate environmental strategy of a Canadian business. The first type of project is forward looking and should make the case for the action plan, while the second type of project is backward looking and should involve a rigorous analysis of the success or failure of the existing strategy. The basic idea is that teams are assuming the role

of the company’s ‘director of environmental strategy’ who is advising the company’s executives (represented by the audience in the classroom). The audience is allowed to question the presenting team at the end of the presentation. Teams are welcome to use audio-visual means in your presentation and should prepare a brief handout (an executive summary, up to 4 pages) to be distributed at the beginning of the presentation.

Teams will be evaluated through a combination of inter-team peer evaluations and the instructor’s evaluation. Grades are assigned by team and thus do not differ for members of a team. Peer rankings are facilitated through a ballot for ranking all presentations except one’s own. Peer rankings will be combined with the instructor’s ranking using pre-assigned weights, and then translated into a numerical score. Evaluation criteria include: (a) managerial relevance of the suggested/analyzed strategies [breadth]; (b) quality and accuracy of the research and analysis [depth]; and (c) form and style of the presentation, and effective communication. Each of these should be given roughly equal weight.

### 4 Readings

- Benidickson, Jamie: *Environmental Law*. Irwin Law, Concord ON, 1997.
- Bishop, Paul L.: *Pollution Prevention: Fundamentals and Practice*. Waveland Press, 2004.
- Burke, Gwendolyn; Singh, Ben R.; and Theodore, Louis: *Handbook of Environmental Management and Technology*, 2nd edition. Wiley-Interscience, New York, 2004.
- Cairncross, Frances: *Green Inc.: A Guide to Business and the Environment*. Island Press, Washington DC, 1995.
- Daly, Herman; Farley, Joshua: *Ecological Economics: Principles and Applications*, Island Press, 2003.
- Etsy, Daniel E.: *Green to Gold: How Smart Companies Use Environmental Strategy to Innovate, Create Value, and Build Competitive Advantage*. Yale University Press, 2006.
- Friedman, Frank B.: *Practical Guide to Environmental Management*, 9th edition. Environmental Law Institute, 2003.
- Goodstein, Eban S.: *Economics and the Environment*, 3rd edition. Wiley, New York: 2002.
- Gunningham, Neal A.: *Shades of Green: Business, Regulation, and Environment*. Stanford University Press, 2003.
- Hoffman, Andrew J.: *From Heresy to Dogma: An Institutional History of Corporate Environmentalism*. Stanford University Press, 2001.
- Hoffman, Andrew J.: *Competitive Environmental Strategy: A Guide to the Changing Business Landscape*. Island Press, 2000.
- Thompson, Dixon (ed.): *Tools for Environmental Management: A Practical Introduction and Guide*. University of Calgary Press, 2006.
- Wang, Lawrence K. et al.: *Air Pollution Control Engineering*, Humana Press, Totowa: 2004.