

Management and the Environment

by Mark A. Cohen

When the first Earth Day celebration was held in 1970, environmentalists were viewed by most business leaders as a fringe group in society - a group that they need not deal with seriously. Business leaders were almost unanimous in fighting against these "extremist" views. Management of most firms ignored environmental concerns. Aside from hiring an environmental compliance staff (generally engineers who dealt with the construction and maintenance of pollution control equipment), the only other environmental management issue that concerned businesses might be lobbying Congress or the Environmental Protection Agency in favor of less stringent laws or regulations. Thus, environmental concerns were left to the purview of the legal staffs and technical engineers. For most business managers, environmental protection was considered to be just a cost of doing business.

Today, the world is vastly different. Eighty percent of the U.S. public claims to be "environmentalist," or have concerns about the environment. Managers at major corporations are beginning to integrate environmental considerations into virtually every functional area of business. Some are adopting environmental quality issues as major components of their strategic plans and corporate cultures.

Despite a growing need for "environmental literacy," few business schools offer courses dealing specifically with environmental issues. This past spring, Owen became one of a small but growing group of leading schools to attempt to fill this gap, when I developed a course on Management of Environmental Issues.

My major concern was that too few of our students would be interested in this subject. The course was entirely elective, and could not be applied to any major concentration at Owen. This proved to be the least of my worries, as the class quickly filled to capacity—even after restricting it primarily to second-year students. I attribute this demand to two basic factors: the fact that environmental issues have become a hot topic among business leaders, and the maturity of our students who are able to anticipate this growing interest and who desire to be at the fore-front of management education.

Take the Quiz

Included on these pages are the questions from a Roper Organization survey. Answers appear on page 8.

1. The U.S. government allows most aerosol products to contain chlorofluorocarbons (CFC's), which are known ozone depleters. T F
2. About 50 percent of the world's wild plant, animal, and insect species live in rain forests. T F

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I had several goals in mind when designing the course:

- Gain a basic technical/scientific understanding of the major environmental issues facing the world-what has often been termed “environmental literacy.” Students finishing the course would be exposed to environmental issues such as air pollution, water pollution, wetlands preservation, waste disposal, global warming, endangered species, and deforestation.
- Be able to understand and critically assess both sides of each issue. The course was not designed to indoctrinate students from either the right or the left. Instead, both sides of issues would be considered. The syllabus included readings from a number of vantage points: environmentalists such as Barry Commoner and Tennessee favorite son Vice-President Al Gore, respected scientists who question the scientific basis for many of the concerns raised by environmentalists, and economists who question the form of government intervention we have traditionally employed in the United States. The goal was to help students understand both sides of these extremely complex issues, so that they can deal with future business-related environmental issues from an informed and rational perspective. Effective management of environmental issues requires that business leaders understand and deal directly with the concerns of many disparate community and environmental groups.
- Gain the basic skills to analyze environmental issues from an economics perspective. Although many environmental issues ultimately are decided on the basis of much different criteria-including ethical values and/or political realities-economics provides a framework for understanding the social costs and benefits of our decisions. For example, even if society chooses to adopt a level of environmental cleanup that far exceeds the level that a pure economic analysis would advocate, economics can still help us decide the least costly way to implement that level of cleanup.
- Become aware of what some of the most forward-looking firms are doing in the area of environmental protection. Whether this ultimately proves to work towards their competitive advantage or not, several leading U.S. and foreign companies are transforming environmental protection into a strategic management issue and are attempting to incorporate environmental issues into their corporate culture. However, being “green” may or may not be profitable. Students interested in environmental issues need to become aware of what these firms are doing and have the tools to critically evaluate these efforts.

A Quiz on the First Day of Class

To begin the course, students were given an environmental quiz and a survey designed to elicit their views on the environment. Both the quiz and survey were designed by the Roper Organization, and given to a nationally representative sample of the U.S. population.¹ Thus, we were able to compare both the environmental literacy and views of the class to those of the average U.S. citizen.

Our students fared better than the average U.S. citizen, receiving a grade of 56 percent, compared to the average citizen grade of 33 percent.

The class survey results also proved interesting and served as a useful device to stimulate class discussion and to set the tone for the rest of the semester. When the Roper

Organization conducted its survey, it used a statistical procedure called cluster analysis to segment respondents into groupings with similar patterns of answers. Cluster analysis is often used by market research firms to help differentiate market segments and different customer needs. Using cluster analysis, the Roper Organization identified five distinct groups of consumers in the United States:

Basic Browns—35 percent of the population (the largest group) who are the least environmentally active. They generally do not recycle, and do not feel that individual behavior will have an effect on the environment. They generally oppose government regulation designed to improve the environment.

True-Blue Greens—20 percent of the population who are true environmental activists and are convinced that individuals can make a difference in improving the environment.

Sprouts—31 percent of the population who are the middle ground or swing group—consumers who are generally apathetic, but can become involved in certain environmental issues from time to time.

Greenback Greens—5 percent of the population who are willing to pay significantly higher prices for green products but who are not actively involved in environmental activities.

Grouzers—9 percent of the population who are relatively uninvolved in environmental activities and are convinced that individual behavior cannot help solve these problems. Forty percent of grouzers say they would spend nothing for environmentally friendly products (compared to 15 percent of the population nationally). Unlike the basic browns, grouzers do believe that individuals can make a difference in improving the environment. However, grouzers are quick to rationalize their lack of environmental activity with arguments such as the high cost of green products, the perceived lack of credibility of green-product labels, etc.

With only 55 students, a cluster analysis is unlikely to pick up such a rich diversity of beliefs. Instead, the cluster analysis identified two distinct groups in the class—what I have termed the Owen School’s “browns” and “greens.” Although our class had slightly more browns than greens, there was a healthy mix; 58 percent to 42 percent, guaranteeing lively classroom discussion.

3. Most of the biodegradable packaging we throw away in this country decomposes within ten years. T F

4. The worldwide average temperature for 1990 was the warmest on record.
 T F

(Note: this quiz was devised in 1991; please answer as you would have at that time).

5. The installation of modern sewer systems has eliminated the pollution of drinking water by human wastes. T F (continued on page 5)

Owen’s greens fared a little better on our environmental quiz than our browns (60.5 percent versus 52.8 percent). A similar pattern was found in the general population, as the true-blue greens in the Roper sample scored 40 percent compared to only 27

percent for the basic browns.

Owen's greens are also more likely to claim that they recycle on a regular basis and are willing to pay more for environmentally friendly products than the Owen browns. Perhaps more important, the Owen greens are much more willing to ban products and to impose stricter government regulation on companies.

Despite these differences, our class members tended to be more skeptical of government regulation and less skeptical of firm behavior than the U.S. population as a whole:

- 71 percent of the public believes the government does not do enough to enforce environmental laws. Only 38 percent of the class agreed.
- 59 percent of the public believes that firms do not do enough to make environmentally sound products. Only 29 percent of the class agreed.

Learning from Front Line Experts

One of the best ways to learn about a current business issue that has not yet "matured" into mainstream textbooks is to go to the front line experts—those who deal with these issues on a daily basis. A number of knowledgeable business people were willing to address the class. Among our speakers were:

- Gary Minck, a senior environmental official from Northern Telecom, a company that won the President's Environment and Conservation Challenge award for becoming the first major electronics company to eliminate the use of ozone-depleting chlorofluorocarbons from its U.S. and worldwide manufacturing and research operations. We learned about product life-cycle analysis and how a major corporation is exploring this methodology to design products that are environmentally friendly.
- Larry Selzer, director of the Freshwater Institute, a recent MBA graduate who decided not to enter mainstream corporate America, but to use his interest in environmental issues to help bridge the gap between environmental groups and business by working for a non-profit environmental organization. We learned about the growing trend towards "partnerships" between environmental groups and corporations, as well as the private sector's role in attempting to achieve sustainable development.
- Michael Haggerty, a Pulitzer Prize winning reporter who had covered the business desk for a major newspaper. We had a chance to hear the media's perspective on corporate public relations behavior in the event of an environmental disaster, and how to deal with the media in time of crisis.
- Kenneth Ayers, a former Environmental Protection Agency official who had a major role in implementing the Superfund program. Ayers is currently vice-president for environmental risk management at Willis Corroon. We learned why so little cleanup has actually taken place under Superfund, and what to do if your company is targeted as a potentially responsible party. (Superfund is the federal law that requires cleanup of existing hazardous waste sites across the country).
- Steve Hays, principal in Gobbel Hays Partners, Inc., a nationally recognized environmental engineering consulting firm. We learned about indoor air

pollution and sick building syndrome, and how it might affect virtually all businesses in the United States-whether through reduced productivity, employee lawsuits, or other forms of liability.

- David Dybdahl, managing director of environmental risk management services at Willis Corroon. We learned about the importance of managing environmental liability risks, including the role of risk assessments and liability insurance.
- A small business owner who became a convicted federal felon for an environmental offense! We learned how a well-meaning small business owner could walk unsuspectingly into an environmental and legal nightmare and how to avoid being placed in such a position. Environmental issues now touch virtually every functional area of a firm. The class spent some time exploring the implications of environmental concerns in each area. Examples of the topics include:

6. You may have heard that populations of American ducks and geese have been declining over the past decade. Is it primarily because of

- Parasites and diseases
- Loss of wilderness habitat
- Hunger
- Air pollution
- Don't know

7. Which one of the following materials was the most widely recycled in the United States last year-that is, having the highest percentage of the amount used being recycled for other purposes? Was it (choose one)

- Steel
- Plastics
- Paper
- Glass
- Don't know

8. In 1969, the Exxon Valdez oil tanker spilled ten to eleven million gallons of oil off the coast of Alaska. Compared to this amount spilled by the Valdez, how much used motor oil would you say is dumped by car owners in drains and sewers each year? Is it

- Less than one-tenth the amount of the Valdez oil spill
- About half the amount of the Valdez oil spill
- Twice as much as the Valdez oil spill
- More than ten times as much as the Valdez oil spill
- Don't know

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Green investing A growing number of mutual funds invest only in environmentally conscious firms. How can firms be distinguished along an environmental dimension? Is this investment strategy profitable?

Emission trading and "auctions" for the right to pollute Following calls by economists to use market forces to allocate pollution rights, the Clean Air Act

Amendments of 1990 included a provision for selling the right to emit sulphur dioxide. The Chicago Board of Trade held the first auction of pollution rights earlier this year.

Green marketing Companies are increasingly making claims that their products are environmentally friendly. Will consumers pay more for green products, or are these efforts more defensive?

Federal Trade Commission advertising guidelines for environmental marketing claims: Some of the early claims for environmentally friendly products were criticized as having little scientific basis. Other claims were true in theory, but the environmental benefits were unlikely to be realized due to a lack of proper recycling infrastructure, etc. The Federal Trade Commission has since written guidelines for advertisers who wish to make environmental marketing claims. Are these guidelines workable? Are they good or bad for the environment?

Environmental auditing A growing list of major corporations are routinely requiring environmental audits of all their facilities. The major accounting firms are establishing groups to conduct environmental audits, and there are many environmental consulting firms that specialize in this area. The EPA favors requiring such audits. One of the issues firms face, however, is increased liability exposure they incur from uncovering environmental risks that they voluntarily discovered.

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9. In terms of volume or tonnage, the top source of solid waste disposed of in landfills in this country is
 - a. Paper and paperboard
 - b. Metal
 - c. Food scraps
 - d. Plastics
 - e. Don't know

 10. Sulphur dioxide emitted by Mid-western coal-burning utilities is said to produce acid rain. From what you know, which one of the following is affected most by acid rain?
 - a. Black bears in the Smokey Mountains
 - b. School children in the Midwest
 - c. Fish in New England streams
 - d. Central American rain forests
 - e. Don't know

Going Green

Environmental issues will influence the career direction of a number of Owen students who found internships with environmentally oriented companies this summer.

Patrick Wayte has been interested in environmental issues since his undergraduate days as an economics major at the University of California San Diego. "When I applied to Owen all my essays and interviews were geared toward that. When Mark Cohen's class sprang up last year, it was a windfall for me," he says.

Wayte, who is concentrating in international marketing, spent the summer working as an intern for the Black Gold Corp., a Nashville based waste oil furnace manufacturing company owned by Wayne Robertson, VU Law '75. The furnaces are sold to service stations, trucking firms, and other companies that must deal with large quantities of used oil. Waste oil furnaces save the cost of having used oil hauled away, provide free heat on-site for the owner, and eliminate concerns that hauler will simply dump the oil and leave the company subject to Superfund liability.

Drew Herzog managed to secure a summer internship with the Freshwater Institute, a privately funded non-profit organization that is a division of the Conservation Fund. "The Freshwater Institute was a good fit with business school because it pursues economically sound ways to promote sustainable development," Herzog says. "It appeals to corporate partners because it doesn't engage in projects unless they show a positive net present value." One of Herzog's main projects during the summer was writing a business plan for a group of farmers using natural spring water to grow and sell rainbow trout.

Gretchen Robinson also spent the summer working for a non-profit organization, Co-op America, which provides support and encouragement to environmentally responsible businesses. Two of the more well-known members of its business network are Ben and Jerry's Ice Cream and the Body Shop. Much of her work at the Washington-based organization involved direct marketing.

"I am confident that concern for environmental issues is not just a momentary concern," says Robinson, whose undergraduate degree, from the University of Virginia, is in international studies. She has a double concentration in marketing and operations at Owen. Many countries are becoming more pro-active. Japan has gone wild with innovations, and up-and-coming countries like China are facing a great deal of environmental work."

Robinson, Herzog, and Wayte are among the six students taking Cohen's seminar class, offered for the first time this fall. The students are helping choose topics and readings that will eventually serve as part of the course syllabus. There's a false dichotomy that jobs and the environment cannot complement each other," says Wayte. "Through this class, we're trying to demonstrate that sound environmental management can be a competitive advantage for businesses."

SEC disclosure requirements: The Securities and Exchange Commission requires firms to report environmental liabilities that are likely to be material to the firm's valuation. How are firms responding to this disclosure requirement?

Life Cycle Analysis and Product Design issues: Some of the largest corporations in the United States and abroad are beginning to analyze product design from the perspective of the environmental implications throughout a product's total life cycle. This would include the environmental implications associated with extracting raw material inputs, production, marketing and distribution of products, and the final disposal of the product once it has exceeded its useful life.

Environmental TQM: How can the lessons of Total Quality Management be applied to product design and manufacturing for environmental considerations.

Worker and community right-to-know laws: The law now requires disclosure of known hazards to both workers and the community in which a plant is located. What are

the implications of these laws? What role does perception have in determining company policy in this area?

Establishing a green corporate culture How can management ensure that workers will take seriously a call for environmentally sound business decisions?

Strict liability offenses In many instances, environmental harm gives rise to civil and/or criminal liability for firms and employees regardless of whether there was either intent or negligence on the part of the polluter. For example, accidental oil spills may give rise to criminal and civil liability. Managers need to know what these offenses are and how to safeguard against a violation of the law.

Superfund and the doctrine of joint and several liability A firm that contributed only one pound of waste to a landfill found to be a hazardous waste dump under the Superfund law can be liable for the entire cost of cleaning up the landfill. This legal doctrine has important implications for future disposal decisions.

Criminal liability of corporate officers Under the doctrine of "responsible corporate official," there has been an attempt to hold corporate officers criminally liable for actions taken by their employees. In some cases, criminal liability can be assessed even if there is no intent to commit wrongdoing. Corporate managers need to be fully aware of these criminal liability risks.

Free Trade Issues How do environmental considerations enter into negotiations over free trade? Do less stringent environmental laws and/or enforcement put Mexico at a competitive advantage? Will NAFTA bring about a cleaner or dirtier environment?

International treaties and negotiations on the environment Since environmental concerns have now entered the global arena, firms can no longer be content with merely satisfying U.S. environmental regulations. Instead, companies must now be concerned with emerging treaty negotiations and the international competition for cleaner products.

Future Courses

Perhaps the most telling evidence of the success of management of Environmental Issues was the fact that several students felt strongly that a second course should be offered in the second year. Some hope to use their environmental management background in their careers.

In response to the students' needs, an advanced seminar in strategic environmental management issues had been added, exploring strategic management issues in a more systematic and detailed fashion. The students themselves have been assigned the task of developing the course syllabus, and hope to work with a local business in developing a strategic marketing plan for an environmentally sound product.

Quiz Answers:

1. False. 2. True. 3. False. 4. True. 5. False 6. B. 7. A. 8. D. 9. A. 10. C.