

HARVARD BUSINESS SCHOOL

**BUSINESS AND THE
ENVIRONMENT**

Course Syllabus, Fall Term 2009

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COURSE OVERVIEW

Companies in many industries are facing new environmental challenges: these include heightened uncertainty about domestic and international environmental regulation, and intensifying demands for accountability and transparency regarding their environmental efforts and performance. In this climate, general managers need to understand the factors that drive business value when dealing with the environment, both to recognize business opportunities and to manage business risks. This course also helps prepare managers to better understand how to engage these issues with stakeholders, including investors, regulators, and non-governmental organizations, as well as customers and suppliers.

Educational objectives

This course focuses on identifying opportunities to create business value from environmental and sustainability issues, and executing on these opportunities. We seek to improve our ability to design and implement business strategy in situations where environmental considerations are important. To do so, we need to think creatively but realistically about the central question of environmental management: under what circumstances can firms accommodate social demands for environmental improvement while simultaneously delivering superior returns to shareholders?

To make sense of this question, the course draws ideas from business strategy, natural resource economics, political economy, and the theory of the firm. We want to understand a set of important market imperfections and their implications for business strategy. Among other topics, we study the links between market structure and profitability, the relationships between regulation and market structure, and the effects of incentives within the firm on managerial performance.

Many of the managers studied in the course are trying to design incentive systems and exercise leadership in large organizations where short-term and long-term objectives conflict and where values that are intangible and difficult to measure may be extremely important. Obviously, environmental cases are not the only ones in which these conditions apply. From an administrative point of view, analyzing the management of environmental externalities and public goods yields insights with applications to a wide range of managerial situations.

Content and Organization

Business and the Environment consists of 20 class sessions. Most of the discussions are based on company cases, although government and non-profit institutions figure prominently as well.

Environmental problems affect each of the traditional functional areas of the firm. For this reason, the cases draw heavily on concepts introduced in various required MBA courses, and many of the cases would fit easily in courses on strategy, finance, marketing, control, business-government relations, or general management. At the same time, environmental problems are inherently cross-disciplinary, spilling across the boundaries that separate traditional academic disciplines. The cases in the course therefore draw on economics, politics, natural science, engineering, and law. Because of time limitations, the modules are short, and each case needs to serve more than one learning objective.

The first module, **Foundations of Environmental Management and Leadership**, introduces fundamental concepts of public goods, externalities, and natural resource pricing that we will use throughout the course. The course's first case, Clearwater Seafood, encapsulates many of the course's ideas. It treats strategy at the business unit and the corporate level in a heavily regulated, environmentally sensitive industry. Clearwater confronts considerable problems, many of which appear to be more severe and more urgent than its environmental management problems. It may also be, however, that concern for the environment and social aspirations for sustainable resource use create opportunities for the firm. How to manage these various problems, and how to integrate environmental considerations into the core strategy of the firm's businesses, are critical questions in the case, and indeed throughout the course. Following the Clearwater case, we examine another heavily regulated, resource-based industry at a turning point in its evolution: the forestry business in the northwestern United States at the time of the spotted owl crisis. We continue with a case about the effect of the 1990 Clean Air Act Amendments on American energy markets, and end the module with a case about a confrontation between a firm that prides itself on its contributions to sustainable development and a group of activists convinced that the firm should abandon an important hydroelectric investment.

The second module considers the **Environment in Operations and Supply Chain Management**. In this module, we critically examine a variety of company initiatives to reduce the environmental impacts of their internal operations and supply chains. We will address how companies prioritize issues, set targets, measure performance, and evaluate environmental programs. We will discuss the organizational sustainability of environmental sustainability initiatives, and how some companies are integrating environmental issues into their broader strategies of promoting corporate citizenship and their brand reputation.

In the third module, **Business Strategy and the Environment**, we broaden our appraisal of the ways in which social concern about the environment can affect the firm's customers' willingness to pay for its outputs, the firm's own costs, and the risks that the firm faces in trying to create value. In cases about a food processor, a consortium of banks a Swiss retailer, a car company, a consortium of banks, a global manufacturer of electronic equipment, and an agribusiness giant, we analyze the relationships between firms' fundamental strategic choices and their behavior with respect to environmental problems. In particular, firms that choose voluntarily to reduce their environmental loadings, or to provide environmental benefits beyond the levels required by law, need to find ways to offset the increases in their costs. Some have tried to do so through environmental product differentiation that enables them to recapture increased costs from consumers. Others have attempted to identify private cost savings that more than offset the increased costs of environmental protection. Still others try to satisfy both environmental and shareholder value objectives through strategic behavior, raising rivals' costs and thus securing competitive advantage through environmental performance. Obviously not all of these approaches will be feasible for all firms. We examine the circumstances under which each of them is likely to be appropriate. In all of these cases, as in the earlier cases on seafood, timber, and energy, we need to understand the ways in which the firm's economics are affected by government policy, and to study the relations between a firm's behavior in the marketplace and its behavior in the non-market arena.

The course concludes with a special focus on **Global Climate Change and the Firm**. We will consider the effects of social concern about climate change on a major oil company and on a California start-up. We will also examine the issue from the perspective of a leading Chilean electric company. The cases in this module build on climate-related cases from Finance and BGIE in last year's required MBA curriculum.

The course ends with a broad discussion of the opportunities and challenges that concern about the environment creates for young business leaders.

Student group project

Students are also required to write a paper. Students are encouraged to form teams of three to four people, and to work together to identify a topic and write a paper of 15 to 25 pages. Topics must be approved by the instructor prior to the end of September.

A paper might focus on a particular firm confronting a particular environmental issue, or it might assess the impact of a particular issue on the economics and politics of an industry. Alternatively, a paper might consider the strategy of a government entity or an activist group.

Papers can be written with the cooperation of the entity about which they are written, but this is not required. Students should bear in mind that if a paper is written with the cooperation of a firm, the firm's desires for confidentiality may be in conflict with the course's requirement that students present their papers to each other in class.

The research librarians at Baker Library are available to assist you through the research process - from developing your topic to finding relevant data and information to citing your sources. They can help you identify library resources that focus on company and industry analysis and overviews, environmental policy, government regulations, CSR ratings, and much more. For example, one section within the Energy Research Guide (http://www.library.hbs.edu/guides/energy_industry.html) highlights the best resources to use in the research of energy policy and regulation. Additionally, the Socrates database (<http://www.library.hbs.edu/go/socratesweb.html>) rates companies based on CSR initiatives. They include environmental ratings ranging from clean energy to pollution prevention.

Contact Baker Library staff at infoservices@hbs.edu to schedule a research consultation, call them at (617) 495-6040, or just stop by the Stamps Reading Room. For Library Hours see: <http://www.library.hbs.edu/info/hours.html>.

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ADMINISTRATIVE MATTERS

Business and the Environment meets 20 times throughout the fall term. In two of these class sessions, students will present an interim report and a final report about their team project. Class participation will account for 60% of each student's grade, with the remainder based on a team project, which includes the two in-class presentations and a final paper. The course is open to a limited number of cross-registrants. It is not open to auditors.

BUSINESS AND THE ENVIRONMENT

LIST OF MATERIALS

Cases:

Clearwater Seafood	707-012
Champion International Corporation	792-017
Acid Rain: Burlington Northern (A)	792-018
International Rivers Network and the Bujagali Dam Project (A)	204-083
Environmental Risk Management at Chevron Corporation	799-062
Genzyme Center (A)	610-008
Sustainability at Millipore	610-012
Wal-Mart's Sustainability Strategy	OIT-71
Nestlé: Sustainable Agriculture Initiative	705-018
The Equator Principles: An Industry Approach to Managing Environmental and Social Risks	205-114
Migros	706-028
Toyota Motor Corporation: Launching Prius	706-458
Sustainable Development and Socially Responsible Investing: ABB in 2000	701-082
Monsanto: Realizing Biotech Value in Brazil	507-018
Global Climate Change and BP	708-026
Arcadia Biosciences: Seeds of Change	709-019
Colbun: Powering Chile	709-060

Other Readings:

Ronald Coase, "The Problem of Social Cost," *Journal of Law and Economics*, Vol 3. (October 1960), pp. 1-44.

Aldo Leopold, excerpts from *A Sand County Almanac*, with Essays on Conservation from Round River (1949).

Robert Solow, *An Almost Practical Step Toward Sustainability*. Washington, D.C.: Resources for the Future, 1992.

Michael E. Porter and Claas van der Linde, "Green and Competitive: Ending the Stalemate," *Harvard Business Review*, September-October 1995.

SCHEDULE OVERVIEW

Module 1. Foundations of Environmental Policy and Management

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|---|--------------------|
| 1. Clearwater Seafood | Wed., September 2 |
| 2. Champion International Corporation
(also: Coase, Leopold) | Tues., September 8 |
| 3. Acid Rain: Burlington Northern (A) | Wed., September 9 |
| 4. International Rivers Network and the
Bujagali Dam Project (A) (also: Solow) | Mon., September 14 |

Module 2. Environment in Operations and Supply Chain Management

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| 5. Environmental Risk Management at Chevron Corporation | Tues., September 15 |
| 6. Genzyme Center (A) | Wed., September 16 |
| 7. Sustainability at Millipore | Mon., September 21 |
| 8. Wal-Mart's Sustainability Strategy | Tues., September 22 |

Module 3. Business Strategy and the Environment

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| 9. Nestlé: Sustainable Agriculture Initiative | Mon., September 28 |
| 10. The Equator Principles: An Industry Approach to Managing
Environmental and Social Risks | Tues., September 29 |
| 11. Student Team Project: Interim presentations | Wed., October 14 |
| 12. Migros (also: Porter and van der Linde) | Mon., November 9 |
| 13. Toyota Motor Corporation: Launching Prius | Tues., November 10 |
| 14. Sustainable Development and Socially Responsible)
Investing: ABB in 2000 | Mon., November 16 |
| 15. Monsanto: Realizing Biotech Value in Brazil | Tues., November 17 |

Module 4. Special focus: Global Climate Change and the Firm

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| 16. Global Climate Change and BP | Mon., November 23 |
| 17. Arcadia Biosciences: Seeds of Change | Tues., November 24 |
| 18. Colbun: Powering Chile | Wed., November 25 |

Conclusions

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| 19. Student team projects: Final presentations | Tues., December 1 |
| 20. Concluding session | Wed., December 2 |

BUSINESS AND THE ENVIRONMENT: ASSIGNMENTS

Module 1. Foundations of Environmental Policy and Management

Class No. 1, Wednesday, September 2

Topic: Natural Resources and Business Strategy

Reading:

Clearwater Seafood, case number 707-012

We analyze the strategy of a company that harvests scallops, clams, lobsters, shrimp, and other marine creatures off the coasts of Canada and in the South Atlantic and sells them all over the world. It faces significant challenges in each of its product lines, and needs to decide in which species, and which regions, it can effectively compete.

Questions for class preparation:

1. Where and how does Clearwater make most of its profits? How will this change over time? Does the firm have the right degree of vertical integration, and the right level of horizontal and geographic scope?
2. Clearwater attempts to compete in a different way from most of its competitors. Has it been successful? Why or why not?
3. Clearwater has been investing in basic science (marine biology and ecology) and has sought to promote sustainable development. Does either of these initiatives make sense from a shareholder value standpoint?

Class No. 2, Tuesday, September 8

Topic: The Political Economy of Natural Resources and the Environment

Readings:

Champion International Corporation: Timber, Trade, and the Northern Spotted Owl, case number 792-017

Ronald Coase, "The Problem of Social Cost," Journal of Law and Economics, vol. 3 (October 1960), pp. 1-44.

Aldo Leopold, excerpts from A Sand County Almanac, with Essays on Conservation from Round River (1949).

We continue our analysis of business and the environment by traveling with Tag Edwards, a timber company vice president, to the northwestern United States. The federal government's listing of the northern spotted owl as an endangered species has

radically altered timber markets in that region. Edwards needs to understand the implications for his various operations, and to consider what changes to implement in response.

The readings from Coase and Leopold encapsulate divergent and useful ways of thinking about environmental questions. We will draw frequently on these perspectives during the course. Coase won the Nobel Prize for Economics in 1991, largely for writing "The Problem of Social Cost" more than thirty years earlier. Read at last parts I through VI and part X. Leopold was one of the pioneers of ecological science, and an intellectual godfather of western environmentalism. Read at least the first several pages of the Leopold excerpts.

Questions for class preparation:

1. What are the basic economics of the industries in which Edwards competes? Is timber production a profitable activity? What, for example, are the returns to investments in planting trees at Kapowsin? Is lumber manufacture a profitable activity?
2. How have the government's actions in this case affected the markets for forest products in the Northwest?
3. What motivates the government's interventions in northwestern timber markets? Do you think this is good policy?
4. What should Edwards do? To whom is the company responsible?

Class No. 3, Wednesday, September 9

Topic: The political economy of pollution control

Reading:

Acid Rain: Burlington Northern (A), case number 792-018

In this case we study the politics and economics of air pollution legislation. Burlington Northern, a railroad that moves coal from western mines to electricity generators in the Midwest, needs to determine its economic interests in the 1990 Congressional debate about acid rain, and to decide on its business and political strategies.

Questions for class preparation:

1. Is Burlington Northern's operation in the Powder River Basin profitable? Why or why not?
2. What is the economic significance of the Clean Air Act for Burlington Northern?
3. The case quotes BN managers making arguments about the desirability, from a public policy point of view, of technology forcing and cost sharing. Are these arguments valid? Does the validity of BN's arguments matter to BN's shareholders or to its managers?
4. Would BN benefit from legislation that established tradable emission rights for utilities?

5. What should BN do about the clean air legislation? Should it commit managerial and economic resources to direct involvement in the political process?

Class No. 4, Monday, September 14

Topic: Interactions among Firms, Governments, and Activist Groups

Readings:

International Rivers Network and the Bujagali Dam Project, case number 204-083

Robert Solow, "An Almost Practical Step Toward Sustainability." Washington, D.C.: Resources for the Future, 1992.

This case analyzes the interaction between International Rivers Network (IRN), an environmental non-governmental organization (NGO) based in Berkeley California, and AES Corporation, one of the world's largest power project developers, over the construction of the Bujagali Hydroelectric Dam Project in Uganda. This case and many of the subsequent cases raise questions about the appropriate definition of "Sustainable Development" and the ways in which sustainability can be incorporated into private and public decision making. Nobel Laureate Solow's paper serves as an introduction to this topic.

Questions for class preparation:

1. Is the Bujagali Dam project good for the citizens of Uganda?
2. Which party or parties--the Ugandan government, sponsors (AES or Madvhani), financiers (commercial bankers, ECA's, World Bank/IFC), or NGO's (domestic or international)--has responsibility to protect the health and financial well-being of Ugandan citizens? Has the appropriate party (parties) done its job satisfactorily?
3. Should IRN be involved with the Bujagali Dam Project?
4. What should the IRN team do as of early June 2002?
5. As an AES executive, what would you do as of June 2002? In the future, would you invite IRN (or other international NGOs) to collaborate in developing new projects? What are the advantages and disadvantages of collaborating with them?

Module 2. Environment in Operations and Supply Chain Management

Class No. 5, Tuesday, September 15

Topic: Environmental Risk Management

Reading:

Environmental Risk Management at Chevron Corporation, case number 799-062

Executives at Chevron Corporation, managing a worldwide value chain integrated from the oil field to the gasoline pump, confront significant business risk in their daily operations. They are considering the use of analytical risk management tools that are intended to help them manage those risks more systematically and efficiently.

Questions for class preparation:

1. Is Chevron using the right tools for managing environmental business risk? Why do those tools differ from those used to manage other types of business risk?
2. Should Chevron make company-wide use of quantitative risk management tools like DEMA?

Class No. 6, Wednesday, September 16

Topic: Green Building

Reading:

Genzyme Center (A), case number 610-008

Genzyme is in the midst of designing the Genzyme Center, its new headquarters in Cambridge, Massachusetts. The building's design is meant to foster collaboration within the company, and reflect the company's mission of being innovative, progressive, and transparent. An internal assessment of the interim design concluded that the building would likely earn a LEED Silver or Gold rating, and the CEO has asked the project team to consider how to achieve the more stringent LEED Platinum rating, while being mindful that the building's design is already over budget.

Questions for class preparation:

1. What do you think of Genzyme's motives to invest in green building practices?
2. Would you recommend that Genzyme make the additional investments required to enable Genzyme Center to achieve LEED Platinum? Why or why not?
3. If Genzyme were to invest in additional features to enable Genzyme Center to achieve LEED Platinum, what decision criteria would you recommend they use to deciding which features to implement? Which green features should they implement?

4. Looking ahead to other building projects, what green building policy should Genzyme adopt? Should the policy differ depending for offices, laboratories, and manufacturing sites? Should the company adopt the same policy for sites in United States, Europe, and Asia?

Class No. 7, Monday, September 21

Topic: Environmental Issues in Operations

Reading:

Sustainability at Millipore, case number 610-012

The case describes the first two years of Millipore's environmental sustainability initiative, and several dilemmas David Newman, director of sustainability, faces as he considers the company's future sustainability efforts.

Questions for class preparation:

1. Do you think the Sustainability Initiative's focus on environmental rather than social issues is appropriate?
2. How should Millipore prioritize projects for the Sustainability Initiative?
3. What factors should Millipore consider in setting its next greenhouse gas reduction target? Recall that key parameters include choosing between an absolute or relative reduction, a percentage reduction level, its duration, and the scope of emissions covered.
4. Considering their pros and cons, should Millipore purchase carbon offsets as part of its strategy to meet its greenhouse gas reduction objectives?
5. Should Millipore continue to respond to the annual Carbon Disclosure Project questionnaires, given the risks involved?
6. What changes, if any, would you recommend to Millipore's Chairman, CEO and President, Martin Madaus to improve the effectiveness and/or efficiency of the Sustainability Initiative?

Class No. 8, Tuesday, September 22

Topic: Environmental Issues in Operations and Supply Chains

Reading:

Wal-Mart's Sustainability Strategy, case number OIT-71

This case describes Wal-Mart's sustainability strategy, focusing on three primary sustainable value networks (seafood, electronics, and textiles) and their effect on the company's operations, supplier relationships, and results. It also explores how Wal-Mart

is measuring and communicating its ideas about sustainability to its suppliers, associates, customers, and the public.

Questions for class preparation:

1. How is the company deriving business value from its sustainability strategy?
2. Evaluate the progress of the electronics, seafood, and textiles networks. Which networks have been most successful? What factors explain the success (or lack of success) of these networks?
3. How is Wal-Mart motivating its suppliers to share information about and continuously reduce the environmental impacts of products and processes? How can the company stimulate the development of disruptive, breakthrough innovations?
4. For the network to which you have been assigned, propose one new “game changer” or “innovation project” not described in the case. To support your proposal, outline the environmental benefits, the profit opportunity for Wal-Mart, the greatest challenges in implementation, and how Wal-Mart could overcome them.
5. Wal-Mart’s sustainability strategy has generally been profitable (see Exhibit 12). However, Wal-Mart’s e-waste take-back events and some of its investments to reduce greenhouse gases have not been profitable. Should Wal-Mart continue each of these two initiatives? Why or why not?
6. Is “sustainability” as defined by Solow a useful concept for government leaders? For business strategists?

Module 3: Business Strategy and the Environment

Class No. 9, Monday, September 28

Topic: Environmental Issues in Supply Chains

Reading:

Nestlé: Sustainable Agriculture Initiative, case number 705-018

Food giant Nestlé is attempting to integrate what it calls “sustainability principles” into the company’s purchasing of agricultural commodities, starting with milk, coffee, and cocoa. The idea is to improve the economic performance of the farmers who supply raw materials to Nestlé while enhancing the firm’s own competitive position.

Questions for class preparation:

1. Why did Nestlé launch its sustainability initiative? What is its most important objective?
2. What is the relationship between Nestlé’s initiative and the sustainability concerns outlined in Solow’s paper?
3. What are the implications for government leaders and business strategists of numbers like those in case Exhibit 8?
4. What advice would you give to Hans Joehr?

Class No. 10, Tuesday, September 29

Topic: Private Collective Action

Reading:

The Equator Principles: An Industry Approach to Managing Environmental and Social Risks, case number 205-114

Ten leading banks have announced a voluntary framework to guide their project finance lending decisions. The adoption of the Equator Principles poses interesting questions for bankers, NGOs, governments, and business leaders outside of banking.

Questions for class preparation:

1. What problem are the banks trying to solve by adopting the principles? Will the principles solve the problem?
2. Why are NGOs criticizing the Equator Principles? Are their criticisms valid?

3. What should the Equator banks do now: marketing (encouraging other banks and ECAs to adopt the principles), implementation (developing policies and procedures), and damage control (responding to NGO criticism)?
4. If you were a banker, would you adopt the principles?
5. How will history judge the actions taken by the Equator bankers? Will the principles be seen as a bold step toward achieving sustainable development, a negligible step with little long-term impact, or simply a “public relations stunt”?
6. What are the lessons of the case for leaders of other industries besides banking?

In October, please focus on your group project. We meet only once in October.

Class No. 11, Wednesday, October 14

Topic: Interim presentations of student projects

In this session, every student group will present the progress of its project, seek specific feedback from the class, and respond to questions from the class.

Class No. 12, Monday, November 9

Topic: Environmental Product Differentiation

Readings:

Migros, case number 706-028

Porter and van der Linde, “Green and Competitive: Ending the Stalemate,” *Harvard Business Review*, September-October 1995.

We continue our attempts to relate environmental concerns to the fundamental ideas of competition and strategy: value creation and value capture; industry structure and competitive positioning; and the scope of the firm. We study an attempt by a Swiss retailer to differentiate products along environmental lines. The classic article by Michael Porter and Klaas van der Linde provides useful background for this and the other cases of this module.

Questions for class preparation:

1. Has Migros been successful? Why or why not? What are the sources of its competitive advantage?
2. Why is Migros so active in the environmental and social arenas? Are these activities advantageous from an economic standpoint?
3. Do the German discounters represent a serious threat to Migros? How should it respond?

4. Should Migros build more stores outside Switzerland? Should it aggressively try to increase the sales of its products outside Switzerland? Neither? Both?

Class No. 13, Tuesday, November 10

Topic: Environmental Product Differentiation

Reading:

Toyota Motor Corporation: Launching Prius, case number 706-458

Oil price increases, and uncertainty about future prices, prompt investments in vehicles that use fuel more efficiently. In this case, we study an early mover in this arena: Toyota's Prius.

Questions for class preparation:

1. Does the hybrid powertrain as implemented in the Prius increase buyers' willingness to pay? If so, why?
2. How attractive is the automobile industry? Does the hybrid powertrain technology make the industry more or less attractive? Why?
3. Why is Toyota pursuing the Prius project? What factors are important to make this project a success?
4. Should Okuda push for an acceleration of the Prius launch?
5. Are the lessons of the Prius generalizable beyond the motor vehicle industry?

Class No. 14, Monday, November 16

Topic: Environment and the Capital Markets

Reading:

Sustainable Development and Socially Responsible Investing: ABB in 2000, case number 701-082

ABB is a European manufacturer of process automation equipment and of machinery for the transmission and distribution of electricity. Over the past several years, it has aggressively positioned itself as a champion of "sustainable development." Today's case focuses on the company's relationships with firms that sell services relating to "socially responsible investment": firms, that is, that try to differentiate their own investment management services along environmental lines. ABB needs to assess the benefits to its own shareholders of closer relationships with such firms. The case allows consideration of the relationships between a firm's environmental behavior and its financial performance.

Questions for class preparation:

1. Evaluate ABB's strategy, and the way the firm is being managed. Are you impressed?
2. Evaluate ABB's environmental management systems and its initiatives in the environmental arena.
3. Do you think ABB should try to become more "proactive" in the social arena, as it has been in the environmental arena?
4. Consider KLD, the SAM Group, and Innovest. Which has the best strategy?
5. Do KLD, the SAM Group, Innovest, and their competitors present a significant opportunity or a significant risk to ABB? If so, how should ABB respond?
6. What relation, if any, does ABB's agenda for sustainable development have to the ideas outlined in Solow's speech?

Class No. 15, Tuesday, November 17

Topic: Biotechnology and Sustainable Development

Reading:

Monsanto: Realizing Biotech Value in Brazil, case number 507-018

Monsanto, a leader in the biotechnology industry, needs to consider how to capture the private value that is created by its products.

Questions for class preparation:

1. How do you expect that markets for genetically modified agricultural products will evolve over the next ten or twenty years? On what assumptions does your answer depend?
2. What are the sources of Monsanto's competitive advantage in agricultural biotechnology and seeds?
3. Why did Monsanto implement a delivery-based collection system in Brazil? Was POD successful? Why or why not?
4. Should Monsanto increase its breeding and biotechnology investment in Brazil?
5. Should Monsanto apply the POD system to other countries?
6. What are the main obstacles to Monsanto's success in China and India? How might it overcome these obstacles?

Module 4: Special focus: Global climate change and the firm

Class No. 16, Monday, November 23

Topic: Corporate Strategy Regarding Global Climate Change

Reading:

Global Climate Change and BP, case number 708-026

Among major oil companies, BP was a leader in asserting that climate change was an important problem and in taking steps to address it. We examine the benefits and limitations of BP's approach.

Questions for class preparation:

1. Why did BP act unilaterally to reduce its emissions of carbon dioxide? Did this action make sense from a financial and strategic standpoint? Would further unilateral reductions make sense?
2. Would mandatory restrictions on carbon dioxide leave society better off? If so, why are they so difficult to impose? If not, why does pressure to impose them persist?
3. How do you expect carbon dioxide markets to evolve over the next decade? Who will profit?
4. What advice would you give to BP's executives about their current strategies with respect to climate change?

Class No. 17, Tuesday, November 24

Topic: Entrepreneurship and Global Climate Change

Reading:

Arcadia Biosciences: Seeds of Change, case number 709-019

California-based Arcadia has rights to an agricultural technology that promises to deliver both private and public benefits, and it needs to decide on its strategy to capture some of this value.

Questions for class preparation:

1. What is the approximate value of Arcadia's Nitrogen Use Efficiency (NUE) technology? On what factors does this number depend?
2. What should Eric Rey do?

Class No. 18, Wednesday, November 25

Topic: Colbún: Powering Chile

This case is about Colbún, Chile's second largest electricity generator. Political problems with the contracted supply of natural gas from Argentina, coupled with regulatory changes, force Colbún to decide whether it needs to revise its business strategy and its sourcing mix. Further complications ensue when American environmental activists protest the construction of new dams in Chile's southern regions. CEO Bernardo Larraín needs to decide how Colbún should react to the new environment.

Questions for class preparation:

1. How do Larraín's power supply options compare in terms of their expected costs and risks? Which should he choose?
2. What further advice would you give to Larraín about his strategy?
3. What are the lessons of the case for NGOs and government officials in Chile and elsewhere?

Conclusions

Class No. 19, Tuesday, December 1

Topic: Final Presentations of Student Projects

In this session, every student group will present the results of its project and will respond to questions from the class.

Class No. 20, Wednesday, December 2

Concluding Session

No readings. We will consider the implications of the cases and other writings we have studied for emerging leaders interested in business and in environmental problems.