Green Business: Theory and Practice

KAIST College of Business | Fall 2016

Course ID	GG501EA | Practitioner track
Course title in Korean	녹색경영
Lecture	Tuesdays and Thursdays, 10:00-11:20am @ 9701
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Office hours	After class & by appointment

1. Course Description

Markets are growing for environmentally-preferable products and services, while environmental issues are leading companies to face many challenges, including competition over natural resources, intensifying demands for accountability, and uncertainty regarding environmental regulations. In this context, managers need to understand sources of business opportunities and risks. This course is designed to provide graduate students with an overview of business strategies and managerial decision making and to help better understand how to address the emerging issues of designing and implementing environmentally sustainable business.

This field has been generally viewed as a collection of multi-discipline approaches, including strategy, government policy, organization studies, operations, marketing, accounting, and so on. We will find significant differences among the approaches as well as points of convergence and collaboration between them. In doing so, we will discuss various managerial issues with a focus on the nature of business-environment relations and a variety of stakeholders and audiences that affect the relations, including (but not limited to) employees, customers, suppliers and exchange partners, the communities, and societies in which business organizations operate.

If you wish to study the issues from the academic perspectives, please take GG501EB. We will primarily focus on cases of many real-world problems and meet executive consultants to examine most up-to-date managerial problems in the domain of green business, yet you are also strongly encouraged to develop fundamental research capabilities that you can build upon for working on your thesis. It is prerequisite to take the GG510 Green Technology and Green Industry or equivalent.

While sessions may differ somewhat in their execution, each session will begin with a more general discussion of the definition, key components and mechanisms of the assigned readings. In other words, we will start from the fundamentals in order to have a solid understanding of the empirical context and theoretical approaches. This elaboration will be followed by a more in-depth exploration of the articles as well as assigned cases to better understand how the theories have been framed and tested in what context.

2. Objectives

This course is designed to sharpen your strategic management skills for green business. Specifically, the course aims to improve your ability to identify opportunities to create business value from environment and sustainability issues in green growth, and to implement competitive environmental strategies that make a superior market position and environmentally sustainable performance. Upon completion of this course, you are expected to:

- understand new environmental challenges that are most likely to pose both growth opportunities and threats to green business,
- analyze the tradeoffs inherent in strategic options and evaluate the benefits and costs of those options,
- build environmental capabilities that your rivals cannot imitate,
- identify conditions under which companies can maintain an appropriate balance between accommodating social and institutional demands for environmental issues and achieving superior performance,
- consider alternative approaches to design organizational structures that resolve coordination and control problems,
- change the alignment between business strategy and organizational structure as the green business environment evolves, and
- understand how to engage with various stakeholders, including competitors, customers, suppliers, regulators, and non-governmental organizations.

3. Textbook and References

This course mainly uses business cases, supplemented by a wide range of academic and practical reading materials, business novels, paintings, video games, movies, and other video clips. **Appendix I** includes a weekly reading list of cases, book chapters, and articles. In addition to the reading list, I recommend that you read the following books as supplementary materials:

- *Doing Good Better* by William MacAskill, 2015. (번역본: 냉정한 이타주의자, 2017)
- *Strategic Sustainability: A Natural Environmental Lens on Organizations and* Management by Daniel S. Fogel, 2016.
- *Harvard Business Review on Greening Your Business Profitably* by Harvard Business Press, 2011.

If you're highly motivated to learn more about academic studies, please contact me; an extensive list of additional (supplementary) readings is available upon request.

4. Teaching Framework

This is an intensive course that demands a lot from students. Most of our time in class will be spent discussing assigned study materials with a focus on the cases and sharing your work experiences. Case discussions work best when students are prepared and are willing to engage in

debate with one another and with the professor. It is perfectly acceptable and encouraged to argue with one another as long as the tools of engagement are sound logic and rationality. It is critical that you read the case and accompanying material for each session prior to class. If you do not, then you will not benefit as much from class, and you will not be able to contribute to the discussion of the case.

No spoon-feeding: You will be in charge of active learning in class
We will organize teams—essential learning units in the study of this course. In the first week, you will be required to sign up for a learning team consisting of 2-3 students. Each learning team is expected to work together to prepare for class discussion of readings and cases. While the instructor provides a general overview of the course materials, learning teams provide their analysis of cases and lead the discussion. Your team should be ready to comments on the case's background and context, the key issues and problems, and a course of action for designing and implementing solutions for the case discussed. I recommend that all team members meet with me in advance to make sure you are on the right track.

The discussion leaders (as well as other members of the class) should familiarize themselves with the required readings for that week. A good discussion should have active debates. If someone proposes an idea that is contrary to your view and explanation, think about constructive ways to reconcile the differences. Your task is to engage one another in an assessment and deep understanding of the readings. During discussion, you are not just students who passively listen to me; rather I will regard you as my colleagues who will competently contribute to our lively conversation and often question my own arguments as well. I will (sometimes) be intentionally provocative to facilitate ideas and conversation.

No free-riding: Make substantial contributions to class by active participation
We will learn together in a family-like learning community, As such, this course requires a substantial degree of student involvement and contributions. You are expected to come to class thoroughly prepared to discuss the articles assigned for that week, and this is a minimum requirement to make meaningful contributions to the learning community. As your contribution to class discussion is a very important part of the seminar, active participation is a substantial portion of your final grade (see Course Evaluation in this syllabus).

As a note on teamwork and free-riding, please understand that all team members will generally receive the same grade for team-based assignments, even though some might have worked harder than others. Thus, it is important to manage your work so that everyone contributes equally. As your workload grows throughout the semester, you will be increasingly tempted to be a "free rider." Overcome the temptation. What you get out of this course will depend on how much you put in. Free riding will be taken quite seriously in this class. To prevent free riding, you will be required to submit a team evaluation form individually at the end of this semester. This peer evaluation will be conducted anonymously. This will give you an opportunity to independently evaluate your own and your team members' work.

5. Course Evaluation

Evaluation of your performance will be based on a combination of individual and team efforts with varying weightage as shown below.

- Discussion-leading & case-updating (team-based): 40%
- Midterm and final essay-writing (individual-based): 40%
- Class attendance and participation (individual-based): 20%

6. Course Policies

- *Resumé*: Please send one-page resumé that includes your contact information, career objectives, work experiences, future career aspiration, plans for the next 5 years, and recent photo. Such information helps me to recognize you as an individual in class and restructure the overall course in a way that best fits your demands.
- *Emails*: Instructors will make every effort to respond to e-mail correspondence within one (1) business day. All e-mails regarding this class must have the course number in the subject heading. E-mails that lack this subject heading may not receive a response.
- *Special needs*: Any students who require special arrangements for lectures, attendance, and examination should contact me as early in the semester as possible.
- *Academic integrity*: Academic dishonesty will not be tolerated in any form. Incidents of cheating or plagiarism will result in a failing grade for the relevant test and assignments.
- The instructors reserve the right to modify this syllabus during the semester as needed. The most current version of the syllabus will be available on the course website. Changes will be announced in class as well.

7. Course Schedule at a Glance

This course consists of 5 key modules. As many environmental problems that green business has to face are by nature cross-disciplinary, most of our discussions are based on cases that cut across the boundaries of traditional academic disciplines, such as organization studies, marketing, operations, finance, accounting, natural science, economics, political science, engineering, law and sociology.

Module 1, **Organization-Environment Relations**, offers a quick overview of the course. We then use an American drama film, *Promised Land*, directed by Gus Van Sant and starring Matt Damon to discuss some of the most fundamental issues in the organization-environment relations—the central focus of this course. The discussion for the first two weeks invites active participation from all students with very different background and thereby establishes the first step toward comprehensive understanding about various topics in an enjoyable way.

Module 2, **Competitive Environmental Strategy**, provides the most fundamental understanding of how companies find a business position that can create sustainable economic value while addressing social demands for environmental issues. To do so, we examine an array of green business initiatives that explore and exploit new market opportunities to develop sustainability products and services building on the growing popularity and interest in green growth and other

related environmental issues. We will also understand how the growing concerns about environments can affect a company's industry analysis and competitive positioning by altering customers' willingness to pay a premium for environmentally-preferable products and services and promoting government intervention for green growth—large-scale market changes that affect the opportunities, costs and risks that managers face when engaging in designing and implementing green strategy.

Module 3, **Government Policy and Environmental Strategy**, will provide a much wider array of theoretical and practical perspectives that go beyond competitive environmental strategy. For instance, we will focus on understanding the strategic importance of navigating the waters of regulated industries. Given the significance of public policy in green growth, we need to understand how government can influence a company's strategic positioning, performance and survival via regulatory approvals or disapprovals of product and service offerings, product standards and production requirements, and market entry and exit rules. In addition, we also examine the role that non-governmental bodies and activists play in shaping opinions of customers and regulators. These stakeholders can harm organizational performance by damaging reputation, reducing access to resources, and increasing the costs of pursuing business goals. We will examine the opportunities and risks managers face in engaging these stakeholders and the specific tactics that managers can use to address their influence in designing green strategy.

Module 4, **Interdisciplinary Approaches to Environmental Strategy**, is designed to help understand various topics from multiple disciplines, including business strategy, organization behavior and theory, operations and technology, marketing, accounting, and finance. For instance, the issue of greenwashing—a gap between what firms claim to be and what they actually do—requires us to draw upon multiple disciplines to fully understand its antecedents, processes, and consequences. Environmental disclosure and various forms of corporate reporting can also be better understood by building upon accounting, finance, marketing, and other social sciences that are guided by behavioral approaches.

Module 5, **Emerging and Future Perspectives**, offers a very important opportunity for you to provide original perspectives that you develop throughout the semester. You will give a short presentation in class and receive constructive comments on your presentation; Your team will then incorporate some of the best comments and complete a final report.

Below is the snapshot of course schedule. Please see Appendix I for a detailed outline that includes the full list of materials, assignments, and discussion questions. The lecture and reading schedule is subject to change, especially when we have guest speakers.

Module 1	**Organization-Environment Relations**	
	▪ Course overview and introduction ▪ Discussion based on *Promised Land*	W1 – W2
Module 2	**Managing Competitive Environment and Sustainable Development**	
	▪ Market structure and environmental analysis	W3 – W4

	▪ Environmental product differentiation	W5 – W6
	▪ Strategy implementation and organization design	W7 – W8
Midterm		
Module 3	**Managing Social and Institutional Pressures**	
	▪ Strategic implications of regulatory infrastructure	W9 – W10
	▪ Regulatory agencies and social movement activists	W11 – W12
Module 4	**Interdisciplinary Approaches to Environmental Strategy**	
	▪ Technology and operations management	W13
	▪ Marketing and accounting	W14
Module 5	**Emerging and Future Perspectives**	
	▪ Team presentations and final report ▪ Course wrap-up	W15-W16

APPENDIX I: LECTURE AND READINGS SCHEDULE

Module 1 | W1 – W2
Organization-Environment Relations

Video clip: JTBC Interview with Matt Damon
https://www.youtube.com/watch?v=ac798BDBMaI

Movie:
- Promised Land

Readings (optional):
- Hoffman, Andrew J. and Pratima Bansal. 2013. "Retrospective, perspective, and prospective: Introduction." In Bansal, Pratima and Andrew J. Hoffman (eds.). The Oxford Handbook on Business and the Natural Environment. Oxford University Press, Oxford, UK: 3-25.
- Dakeuchi Gazmasa. 2014. The Ambition of Elon Mask (이수형 역: 엘론 머스크, 대담한 도전), 비즈니스북스.
- Amram and Kulatilka, 2009. "The invisible green hand: How individual decisions and markets can reduce greenhouse gas emissions," California Management Review, 51(2): 194-218.

In this introductory session, we will discuss what "green business" really means. We will also examine environmental and economic drivers for green business and sustainability as well as the promise of green business in the context. Finally, we will discuss what makes for good and bad research on green business in the broader context of sustainability and social responsibility.

Questions for class discussion:

1. Discuss motivations and barriers to corporate environmental management.
2. Does the environmental management make the firm more competitive?
3. Why would sustainable green business be inevitable? Discuss the promise of green business.
4. Can business management be compatible with environmental protection?
5. What are the environmental and economic drivers behind the green business movement?
6. How would you conduct research, discounting neither rigor nor relevance?

Module 2 | W3 – W8
Competitive Environmental Strategy

Market structure and environmental analysis I, II
Environmental product differentiation I, II
Strategy implementation and organization design I, II

Readings:

- Michael E. Porter and Claas van der Linde, 1995 "Green and Competitive: Ending the Stalemate," *Harvard Business Review*.
- Hoffman, A. 2000. *Competitive Environmental Strategy.* Washington DC: Island Press. Chapter 1 (pp.3-26) and Chapter 10 (pp.203-227) (optional)
- N. Anand and Richard Daft. 2007. "What is the Right Organization Design?" *Organizational Dynamics*, 36(4): 329-344. (optional)

Business cases:

- Clearwater Seafood (Harvard Business School Case 9707012-PDF-ENG) by Forest Reinhardt, James Weber. 2011
- Monsanto: Realizing Biotech Value in Brazil (Harvard Business School Case 507018-PDF-ENG) by David E. Bell, Mary Shelman. 2007
- Colbun and the Future of Chile's Power (Harvard Business School Case 713047-PDF-ENG) by Forest Reinhardt, Shon R. Hiatt. 2013
- Toyota Motor Corp.: Launching Prius (Harvard Business School Case 706458-PDF-ENG) by Forest Reinhardt, Dennis Yao, Masako Egawa. 2006
- McDonald's Corporation: Managing a Sustainable Supply Chain. (Harvard Business School Case 907414-PDF-ENG) by Ray A. Goldberg, Jessica Droste Yagan. 2007.

Exercise:
- McDonald's Videogame (http://www.mcvideogame.com)

Note: Please see a short description about the business cases and discussion questions on pp. 10 - 15.

Module 2: Market structure and environmental analysis I

- Clearwater Seafood (Harvard Business School Case 707012-PDF-ENG) by Forest Reinhardt, James Weber. 2011

Clearwater harvested shellfish from the Canadian Atlantic fishery and sold this in markets around the world. It prided themselves on their sustainable fishing practices: Clearwater's innovations and technology investments enabled it to produce a higher quality, value-added product, but it faced the challenge of convincing buyers to pay a premium price.

This case shows how concerns about the environment as well as sustainable resource use create business opportunities for the firm. Thus it is important to understand that key strategic decisions including industry analysis and market interactions are often shaped by the unique characteristics of green business and sustainability issues. In particular, we learn how companies operating in green business can often charge a price premium, thereby altering competitive dynamics among other firms that do not build upon principles of green business. We discuss how to manage these various problems and how to integrate environmental considerations into the firm's businesses.

Questions for class discussion:

1. Describe the firm's business environment and identify key players in the environment including its competitors.

2. Where and how does Clearwater make most of its profits? How will this change over time?

3. Clearwater attempts to compete in a different way from most of its competitors. Has it been successful? Why or why not?

4. 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?

Module 2: Market structure and environmental analysis II

- Monsanto: Realizing Biotech Value in Brazil (Harvard Business School Case 507018-PDF-ENG) by David E. Bell, Mary Shelman. 2007

In 2003, Monsanto's patented "Roundup Ready" technology was used illegally on 70-80% of the soybean area in southern Brazil. Under pressure from U.S. soybean growers, who were paying to license the technology, the firm implemented an innovative delivery-based collection system in Brazil. Growers paid a post-harvest "indemnity" fee for those soybeans grown with illegal seed. Although there were initial concerns by farmers and grain companies, who collected the fee on Monsanto's behalf, the system worked smoothly, with over 97% of the farmers "self-declaring" their Roundup soybeans the first year. Jerry Steiner, executive vice-president of commercial acceptance, must decide if the situation in Brazil is stable enough to support a significant increase in breeding and biotech spending to develop products specifically designed for the Brazilian market.

This case focuses on the challenges of introducing new technology in uncertain legal and consumer environments. The case also offers the opportunity to discuss a long-standing debate regarding agricultural biotechnology for genetically modified (GM) foods. New technologies are often controversial, attracting a number of concerns from important stakeholders, such as farmers as well as environmentalists. In the case, Monsanto needs to consider how to navigate these concerns and capture the value its products create—yet, this key issue is highly applicable to many green companies that draw their business operations upon new, potentially controversial technologies.

Questions for class discussion:

1. What are the sources of Monsanto's competitive advantage in agricultural biotechnology and seeds?

2. Why did Monsanto need to implement a delivery-based collection system in Brazil?

3. Should Monsanto increase its breeding and biotechnology investment in Brazil? What about other countries?

Module 2: Environmental product differentiation I

- Colbun and the Future of Chile's Power (Harvard Business School Case 713047-PDF-ENG) by Forest Reinhardt, Shon R. Hiatt. 2013

This case is about Colbun, Chile's second largest electricity generator, which is facing significant uncertainty regarding the cost and availability of alternative energy sources. Problems with the contracted supply of natural gas and the volatility of oil prices, coupled with pressure from collective activists, force Colbun to revise its business strategy and its sourcing mix. The company's CEO, Bernardo Larrain Matte, has to take all these different considerations into account when planning Colbun's future, especially in the light of new opportunities and challenges posed by global climate change.

The case enables students to analyze the Chilean energy sector and the operations of Colbún to better understand the complexities associated with conducting a domestic business highly influenced by global markets (including available energy sources and prices), government regulations, and environmental activism. The case also allows students to examine the relative attributes and drawbacks of various energy generating sources in terms of costs, risks, and environmental impacts.

Questions for class discussion:

1. How do Larrain'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 Larrain about his strategy?

3. Assume that Colbun wishes to move to renewable energy sectors, and make appropriate recommendations regarding what resources and capabilities they will need to develop in order to outperform in the sectors.

Module 2: Environmental product differentiation II

- Toyota Motor Corp.: Launching Prius (Harvard Business School Case 706458-PDF-ENG) by Forest Reinhardt, Dennis Yao, Masako Egawa. 2006.
- [Optional] The Hybrid Vehicle Market (Harvard Business School Case 612084-PDF-ENG) by Michael Toffel and Nazli Uludere Aragon. 2013.

This case helps examine an array of important traditional strategy topics including market structure, competitive advantage, and competitive strategy, as well as environmental topics such as environmental protection, green marketing, and social responsibility. In 1995, Hiroshi Okuda, president of Toyota Motor Corp., considers whether to push for a more aggressive launch of the Toyota Prius (an automobile that incorporates Toyota's new and technically advanced hybrid power train). This launch decision allows discussion of the importance of the Prius in Toyota's overall product strategy. In particular, we focus on environmental product differentiation as a strategy that enables companies to recapture increased costs from consumers.

Questions for class discussion:

1. How attractive is the automobile industry? Does the hybrid powertrain technology make the industry more or less attractive? Why?

2. What are Toyota's competitive advantages and capabilities?

3. Why is Toyota pursuing the Prius project? What factors are important to make this project a success? (In other words, what capabilities are needed to make the hybrid a success?)

4. Should Okuda push for an acceleration of the Prius launch?

Module 2: Strategy implementation and organization design I

Exercise:

- McDonald's Videogame (http://www.mcvideogame.com)

Readings:

- N. Anand and Richard Daft. 2007. "What is the Right Organization Design?" *Organizational Dynamics*, 36(4): 329-344. (optional)

Strategy implementation is mainly about designing organizational structure to best help companies to achieve strategic goals. In this session, we use an interesting video game, McDonald's, to understand the basic concepts of designing organizational structure and development for green strategies. We first discuss four basic challenges of organizational design—i.e., making a good balance (1) between differentiation and integration, (2) vertical integration and horizontal integration, (3) centralization and decentralization, and (4) standardization and mutual adjustment. We then extend our discussion to include issues of organizational change and design. More specifically we examine how companies manage restructuring and revitalization as they grow in size and/or as their business environment is changing. Finally, we examine how managers can manage global expansion in a multiunit enterprise, in particular achieving integrative consistency versus local responsiveness. This issue is critical as legal institutions for green growth vary widely across countries—understanding how to deal with institutional complexity is of growing strategic importance in green business.

Questions for class discussion:

1. What are the main problems that McDonals is experiencing?

2. How would you improve the organization's design to enable better coordination and collaboration between functions?

3. What would you do to go green in the restaurant franchising business? Draw organizational chart to show how you would design the organizational structure to best support its green strategy.

Module 2: Strategy implementation and organization design II

Readings:

- McDonald's Corporation: Managing a Sustainable Supply Chain. (Harvard Business School Case 907414-PDF-ENG) by Ray A. Goldberg, Jessica Droste Yagan. 2007.

This case describes McDonald's Sustainable Supply Chain initiative and ask: "To investigate how a major food service company takes a pro-active role in sustainability of the food supply chain?" In this case, McDonald's seeks to learn from a successful response to Greenpeace's Amazon deforestation campaign in order to make its supply chain more socially and environmentally responsible.

Questions for class discussion:

1. What is your evaluation of how McDonald's responded to Greenpeace's McAmazon campaign?

2. What other responses should McDonald's have considered? Compared to what the company actually did, what are the strengths and weaknesses of these alternatives: a. From McDonald's perspective? b. From the perspectives of other affected stakeholders?

3. In general, why do you think McDonald's is pursuing a "sustainable" supply chain strategy?

4. Given the lack of consensus regarding which supply chain practices are considered "sustainable", how should McDonald's decide which practices its suppliers should adopt and which are impermissible? Should these decisions be made by McDonald's country managers to allow flexibility or at the corporate level to have a single uniform policy?

Module 3 | W9 – W12
Government Policy and Environmental Strategy

Strategic implications of regulatory infrastructure I, II
Regulatory agencies and social movement activists

Readings:

- Hoffman, A. 2000. *Competitive Environmental Strategy.* Washington DC: Island Press. Chapter 2.
- Hiatt, Shon and Sangchan Park (authors alphabetical order). 2013. "Lords of the harvest: Third-party influence and regulatory approval of genetically modified organisms." Academy of Management Journal 56(4): 923-944.

Optional readings:

- Rogers, James E. "The CEO of Duke Energy on Learning to Work with Green Activists," *Harvard Business Review* (May 1, 2011)
- Hiatt, Shon and Sangchan Park. 2015 "Collective identity claims in response to market category delegitimation: Evidence from the U.S. wood-biomass pellet sector." Working Paper, KAIST College of Business.

Business cases:

- Acid Rain: Burlington Northern, Inc. (A) (Harvard Business School Case 792018-PDF-ENG) by Forest Reinhardt. 1993.
- Sykue Bioenergya (Harvard Business School Case 412062-PDF-ENG) by Shon R. Hiatt. 2012.
- Method: Entrepreneurial Innovation, Health, Environment, and Sustainable Business Design (Darden Business Publishing Case UV0815-PDF-ENG) by Andrea Larson. 2007.

Note: Please see below a short description about the business cases and discussion questions (pp. 17-19).

Module 3: Strategic implications of regulation and institutional infrastructure I

- Acid Rain: Burlington Northern, Inc. (A) (Harvard Business School Case 792018-PDF-ENG) by Forest Reinhardt. 1993.

This case illustrates the politics and economics of environmental legislation in the context of air pollution. Burlington Northern hauls low-sulfur coal from the northern Great Plains to electric utilities in the Midwest. Acid rain legislation may affect the geographic scope of its markets. Railroad managers need to assess the economic effects of acid rain controls.

Questions for class discussion:

1. How would profits earned by Burlington Northern from its Powder River Basin operation be impacted by the U.S. Clean Air Act Amendments of 1990?

2. The case quotes Burlington Northern managers making arguments about the desirability, from a public policy point of view, of technology forcing and cost sharing. Are these arguments valid?

3. Would Burlington Northern benefit from legislation that established tradable emission rights for utilities?

4. What should Burlington Northern do about the clean air legislation? Should it commit managerial and financial resources to direct involvement in the political process?

Module 3: Strategic implications of regulation and institutional infrastructure II

- Sykue Bioenergya (Harvard Business School Case 412062-PDF-ENG) by Shon R. Hiatt. 2012.

Sykue Bioenergya (Sykue) was formed in April 2006 with the goal of building four 30 megawatt (MW) bioelectricity power plants in Brazil's Bahia province, 1,500 kilometers north of Sao Paulo. Bahia's savannah-like conditions were perfect for growing elephant grass, a biomass with substantial energy-generating potential. In November 2010 the first plant was online and Power Purchasing Agreements (PPAs) had been signed for 27 MW of the 30 MW capacity. Despite this accomplishment, however, the four years between conception and implementation were littered with management setbacks, including lack of capital, an abundance of debt, and increased skepticism among prospective investors and clients about the potential of the project.

Although new technologies provide promise in addressing our planet's energy problems, they often face hurdles to adoption and implementation, particularly when they are not well understood or accepted and when existing institutional infrastructure does not exist to support them. New technologies may also initially not be economically viable, requiring state support in the form of favorable regulations or incentives to foster initial adoption. Furthermore, developing and implementing new renewable energy technologies in emerging economies with weak political institutions and rule of law presents risks regarding security and property rights for entrepreneurs. These challenges are not trivial, and understanding how organizations and entrepreneurs can navigate them in developing new technologies is a critical step toward designing an effective strategy to address the world's energy challenges.

Questions for class discussion:

1. Can bioelectricity be competitive in Brazil on a large scale? Under what assumptions can it expand? Can it be competitive in other parts of the world?

2. Is the opportunity that Sykue is pursuing an attractive one from a business standpoint?

3. What were the causes of Sykue's challenges?

4. At the end of the case, what actions should the company take?

Module 3: Regulatory agencies and social movement activists

- Method: Entrepreneurial Innovation, Health, Environment, and Sustainable Business Design (Darden Business Publishing Case UV0815-PDF-ENG) by Andrea Larson. 2007.

Companies typically view environmental issues as problems to be solved by the public sector through regulation. They were not expected to take initiative. The issues were considered externalities and the responsibility of governments. Government regulations require companies to conform; accordingly, environmental health and safety (EH&S) offices were established inside companies and were tasked with the required monitoring and reporting. These offices also had the responsibility of avoiding lawsuits, fines, fees, and other punishments that resulted from regulatory transgressions or ignorance. EH&S was a cost center and imposed additional overhead expenses, which reinforced the notion that environmental and human health concerns were problems and could be very costly if not handled properly.

This case provides an example of how an innovative and fast-growing startup company like Method moved from traditional approaches to sustainability perspectives to recognize and exploit green business opportunities in government policy. Sustainable design principles have been a guiding force in Method's strategy, and being biofriendly is critical. It faces a critical challenge when it has to source raw materials from China, yet there is no way to certify that the product is free of genetically modified organisms. In class, we will also engage in general discussion regarding how regulatory agencies affect the rise and spread of genetically modified organisms and what business opportunities and risks reside in such processes.

Questions for class discussion:

1. How do regulatory agencies typically shape business strategies? What are the two general approaches to regulations?

2. What does "environment" mean to Method's founders? How is Method differentiating itself from its competitors?

3. Should Lowry make a decision to use the corn-based cloth from China? If yes, why? If no, why not?

Module 4 | W13 – W14
Interdisciplinary Approaches to Environmental Strategy

Technology and operations management

Readings:

- Robert D. Klassen and Stephan Vachon. 2013. "Greener Supply Chain Management." In Bansal, Pratima and Andrew J. Hoffman (eds.). The Oxford Handbook on Business and the Natural Environment. Oxford University Press, Oxford, UK: Ch. 15.
- Nigel P. Melville. 2013. "Information Systems, Business, and the Natural Environment: Can Digital Business Transform Environmental Sustainability?" In Bansal, Pratima and Andrew J. Hoffman (eds.). The Oxford Handbook on Business and the Natural Environment. Oxford University Press, Oxford, UK: Ch. 18.
- Liao, Lou and Gao, "Sustainable Development of Electrical and Electronic Equipment: User Driven Green Design for Cell Phones", Business Strategy and the Environment, 22, 36-48, 2013

Marketing and accounting

Readings:

- Debra Scammon and Jenny Mish. 2013. "From Green Marketing to Marketing for Environmental Sustainability." In Bansal, Pratima and Andrew J. Hoffman (eds.). The Oxford Handbook on Business and the Natural Environment. Oxford University Press, Oxford, UK: Ch. 19.
- Rob Gray and Irene Herremans. 2013. "Sustainability and Social Responsibility Reporting and the Emergence of the External Social Audits." In Bansal, Pratima and Andrew J. Hoffman (eds.). The Oxford Handbook on Business and the Natural Environment. Oxford University Press, Oxford, UK: Ch. 22.
- Charles Cho, Dennis Patten and Robin Roberts. 2013. "Corporate Environmental Financial Reporting and Financial Markets." In Bansal, Pratima and Andrew J. Hoffman (eds.). The Oxford Handbook on Business and the Natural Environment. Oxford University Press, Oxford, UK: Ch. 24.
- Bryan Routledge. 2013. "Corporate Decision Making, Net Present Value, and the Environment." In Bansal, Pratima and Andrew J. Hoffman (eds.). The Oxford Handbook on Business and the Natural Environment. Oxford University Press, Oxford, UK: Ch. 27.
- Weber, "Environmental Credit Risk Management in Banks and Financial Service Institutions", Business Strategy and the Environment, 21, 248-263, 2012.

Business cases:

- FIJI Water and Corporate Social Responsibility - Green Makeover or "Greenwashing"?

(Richard Ivey School of Business Case 909A08-PDF-ENG) by James McMaster, Jan Nowak. 2011.

- Carbon Footprints: Methods and Calculations. HBS background note. 611075-PDF-ENG. By Michael W. Toffel, Stephanie van Sice. 2013 (optional)
- Equator Principles: An Industry Approach to Managing Environmental and Social Risks (Harvard Business School Case 205114-PDF-ENG) by Benjamin C. Esty, Aldo Sesia, and Carin-Isabel Knoop, 2007.
- [Optional] Long Journey from wind to electricity: Taebak wind farm (KAIST EEWS Research Center) by Ryu, Park, and Lee, 2014.

Note

- Please see below a short description about the business cases and discussion questions (pp. 22-23).

Module 4: Interdisciplinary Approaches to Environmental Strategy

- FIJI Water and Corporate Social Responsibility - Green Makeover or "Greenwashing"?. (Richard Ivey School of Business Case 909A08-PDF-ENG) by James McMaster, Jan Nowak. 2011.
- Carbon Footprints: Methods and Calculations. HBS background note. 611075-PDF-ENG. By Michael W. Toffel, Stephanie van Sice. 2013 (optional)

At the surface level, this case is about skillful marketing of the FIJI brand and the huge environmental and corporate social responsibility (CSR) challenges the marketing of this brand faces. However, you will soon notice that the challenges of FIJI cannot be properly managed simply by focusing on marketing as a specific function in an organization. For instance, this case enables you to understand the significant influence of social movement activists. In other words, the case vividly illustrates the triumph of clever marketing but, at the same time, the alleged failure of CSR; the central message is that having a superb product backed up by a brilliant marketing strategy cannot guarantee sustainable success in the marketplace unless social and environmental issues surrounding that product and strategy are properly addressed and acted upon.

Management and strategy scholars have analyzed the efforts of collective activists to target companies by means of such tactics as consumer boycotts, protests, and blockades. This kind of direct engagement with businesses, often designated private politics, is increasingly popular among activists across various domains of green business sectors. In this context, this case demonstrates the motives and challenges of working with non-governmental organizations and environmental activists. In addition, we examine the controversies surrounding the Carbon Negative program and discuss how the company has to respond to a number of sustainability and green strategy implementation issues, including gaining authenticity and credibility of their efforts to reduce carbon footprint.

Questions for class discussion:

1. What is ethical and socially responsible ways of doing business?

2. What is greenwashing and how can it be identified? Do you think FIJI Water is engaged in greenwashing? What could the company do to gain environmental credibility?

3. Are the Fiji government's concerns about the "negative" contribution of the FIJI Water to the local economy justified? Does the company do enough to improve its relations with the Fiji government and the local community? What else should it do to improve those relations?

Module 4: Interdisciplinary Approaches to Environmental Strategy

- Equator Principles: An Industry Approach to Managing Environmental and Social Risks (Harvard Business School Case 205114-PDF-ENG) by Benjamin C. Esty, Aldo Sesia, and Carin-Isabel Knoop, 2007.
- [Optional] Long Journey from wind to electricity: Taebak wind farm (KAIST EEWS Research Center) by Ryu, Park, and Lee, 2014.

In June 2003, 10 leading international banks adopted new voluntary guidelines, called the Equator Principles, to promote sustainable development in project finance. In recent years, nongovernmental organizations (NGOs) had raised issues about the lenders' responsibilities in projects that could harm the environment and/or society. Although many banks had environmental policies in place, a uniform industry standard did not exist. The principles, borrowed from and with the active support of the World Bank's International Finance Corp. (IFC), established guidelines to ensure that banks financed only projects that were "socially responsible and reflected sound environmental management practices." Some NGOs applauded the banks' efforts, others criticized the principles for reasons related to their scope, implementation procedures, and enforcement mechanisms. The Equator banks had to decide what to do next. They could try to recruit more banks (and export credit agencies), develop implementation procedures, or respond to the criticism directly.

Our class discussion will explore what role and responsibilities, if any, financiers (particularly commercial banks) have to ensure that risks to the environment and society are appropriately managed in large-scale projects. We will also highlight the challenges of developing and implementing industry-wide policies on sustainable development. This case will help you to assess the likely effectiveness of voluntary standards for environmental and social accountability and to determine the extent to which such standards change the competitive landscape.

Questions for class discussion:

1. Illustrate a private–sector attempt to promote sustainable development.a Assess whether the Equator Principles will help mitigate environmental and, to a lesser extent, social risks in project–financed deals.

2. Assess the likely effectiveness of voluntary standards for environmental and social accountability. How much and what kind of disclosure is needed for the standards to work? What kinds of enforcement mechanisms, if any, are needed?

3. Discuss the importance of uniformity and consistency when establishing regulations. Will limited adoption be sufficient to prevent a "race to the bottom" among financial institutions in their willingness to finance environmentally harmful deals?

4. Analyze the likely effectiveness of a financing strategy designed to minimize reputation and termination risks. Will the Principles reduce the probability that a blocking coalition of stakeholders (e.g., NGOs, political opponents, CSOs, etc.) will delay or stop a project?

Module 5 | W15 – W16
Emerging and Future Perspectives

So far we have examined various perspectives developed by other scholars; now it's time to talk about yours through in-class presentations!

APPENDIX II: SPECIAL LECTURES BY GUEST SPEAKERS (TBA)