The Wharton School  
University of Pennsylvania  

Syllabus for OPIM-762 - Environmental Sustainability and Value Creation  

Spring 2009-Q1 (January-March 09)  

Class  
Mondays and Wednesdays  
3:00 to 4:20 pm  
Huntsman Hall, Room: 340  

Instructor:  
Erwann O. MICHEL-KERJAN  
The Wharton School, OPIM Dept., Huntsman Hall, 5th Floor, Room 556  
3730 Walnut Street, Philadelphia, PA 19104  
Email: ErwannMK@wharton.upenn.edu – Website: http://opim.wharton.upenn.edu/risk/faculty/EMK.html  

Office Hours:  
M, W – 4:30-5:30 (after class) or by appointment  

Format: Lectures, case studies, videos, class discussion, web-based games, outside speakers with experience relevant to the course. This course is one of the mini-electives satisfying the core requirement.  

Final exam: No final exam. Grades will be determined by class participation, writing assignments and a course project.
Course Description

With the growing globalization of social and economic activities worldwide, environmentalism has become a fundamental component of the new business playing field (think not just “greening,” but climate, energy, water, toxins, food, health, land use, supply chains, new service and financial products). A large range of companies, big and small, now out-compete their competitors by implementing a robust environmental stewardship, engaging stakeholders (government bodies, NGOs, trade associations, citizens’ groups, universities) and by making these efforts both measurable and visible.

This course is intended to familiarize students who are not environmental specialists with relevant facts and analyses on this recent environmentalism evolution. What are the key concepts? What is at stake? Who are the key interested parties? Who is leading the way in reshaping business strategies as well as public policies? What are the lessons learned from successes and failures to integrate the environmental component, here and abroad? Also, why must those who want to “do good” need to develop a robust business model to achieve that goal, and how is this done? The course will also focus on some of the challenges associated with climate change in both developed and developing countries, as well as new opportunities this creates for innovative thinking.

This course will allow students to:

1. expand their awareness about the environment as an increasing part of the core business model and day-to-day operations of many organizations;
2. develop a necessary environmental blueprint they may carry into their future career;
3. think strategically and act entrepreneurially to create value;
4. interact with practitioners who have been pioneers in this field.

A course project will enable students to work individually or in small groups on a concrete case of their choice to create value on their own.

Four value creators have been invited to come to the class as guest speakers. Bios and topic descriptions for guest speakers are listed below.
Course Grading
Short write-ups and case study assignment: 30%
Participation and attendance: 20%
Personal project: 50%

Short write-up assignments (30%)

Opinion paper (10%) – There will be one short write-up assignment based on a question I will share with you as part of the homework. In order to stimulate students’ interest, each of you will compose a 600-to-800 word opinion paper on a problem related to the course topics. This short paper is meant to challenge you on some fundamental aspects of environmentalism. The focus of this paper can be the U.S. or any other country. In this opinion paper, you should be able to defend a strong point of view (in favor or against). As with any opinion paper, you must bring facts to your arguments, not only an ideal view of the world. Ask yourself: “Why might others have a different view? How can I convince them of my point of view? If I were employed in an organization, how would I convince my colleagues and/or higher levels of the organization?” If you propose a new concept, ask yourself: “What are the main limitations to its implementation?” Think of it as something that you might submit to the Financial Times, New York Times, International Herald Tribune, Washington Post or to be posted on a popular blog (some of them might end up being published).

Case Study (20%) – One session will be devoted to discussion on a specific case study. There is one writing assignment based on this case study.

Note: Unless otherwise specified, assignments are due at the beginning of class on the day they are assigned.

Participation and attendance (20%)
“Participation” means participating in class discussions and small group exercises, making presentations in class, sharing relevant news items, and contributing to team projects. An important part of contributing to any endeavor is showing up prepared. Be ready to discuss assigned readings and cases. “Attendance” means being in the classroom when the instructor starts the class. Each session of this class comprises about 8% of the content of the course, so every session is critical.
**Your Team Project (50%)**

A team project is a research paper (10-12 pages) or a podcast (between 20 and 30 minutes maximum), along with its presentation to the class. Teams of three or four students will be responsible for a joint project. Each team will have a choice between two projects:

1) **Analyze a company’s sustainability efforts and recommending how it can be improved.**

The team will select a company of its choice and assess its environmental performance using the tools and concepts learned in the course. (Only companies that publish annual environmental reports will be considered). You are free to contact the company directly to access more information, conduct interviews of decision makers there; other sources of information should be available on the web, through publicly available case studies, media analyses, academic publications, and financial sources (e.g., U.S. Securities and Exchange Commission), etc.

2) **Identify a potential business opportunity (a new idea or a new version of an existing practice) to improve environmental sustainability.**

Here you have to ask yourself: “Is our idea really new? Why? Has there been any patent registered on that concept or product? Who would be the market, in which countries? How do we propose to develop this product? At what cost? What would we need to make it real?”

Note: Other creative project concepts can be proposed, as long as they are closely related to environmental sustainability and create value.

**Deliverables:**

Initial proposal (maximum 2 pages single space) for the final project topic and abstract should be submitted in writing or via email for professor approval by Wednesday, February 4, 2009. Each team project will be presented orally during that session to receive feedback.

Final project is expected to be submitted in writing (10-12 pages) or video/audio file by Monday March 2, 2009. Electronic submission is acceptable.

Files should be named: TeamProject_OPIM762.<##>_<lastname>_<firstname>.pdf.

E.g. TeamProject_OPIM762_MichelKerjan_Erwann.doc, and contain on the first page the names and email addresses of all members of the team. If your submission is a podcast, this information should be clearly stated in your email.

The results of the team’s research will be presented in a formal PowerPoint presentation to the rest of the class on the last session of the course (March 4, 2009).
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<thead>
<tr>
<th>Date (2009)</th>
<th>Topic</th>
<th>Homework</th>
<th>Due</th>
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<tbody>
<tr>
<td>1. Wed., Jan. 14</td>
<td>Presentation of environment strategy as a fundamental component of the new business playing field – (I) Introduction &amp; Course Overview</td>
<td>(1)*; (2)</td>
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<td>2. Mon., Jan. 19</td>
<td>No class - Martin Luther King Day</td>
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<td>3. Wed., Jan. 21</td>
<td>The new business playing field: (II) Understanding who are the key drivers, their values and their (conflicting) agendas Video: Exporting Harm</td>
<td>(3)*</td>
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<td>4. Mon., Jan. 26</td>
<td>The new business playing field: (III) Developing an adequate strategy within the organization</td>
<td>(4)*; (5); (6)</td>
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<td>5. Wed., Jan. 28</td>
<td>Planning team project: Meet with your group to discuss your project and distribution of responsibilities</td>
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<td>6. Mon., Feb. 2</td>
<td>Your professor reports on Davos 2009 (World Economic Forum) Brief presentation and class discussion of the team projects See below</td>
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<td>(1) Initial value creation proposal</td>
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<td>8. Mon., Feb. 9</td>
<td>Guest lecture: <em>Are you really carbon neutral?</em> Focus: Green individual behaviors, or the need for financial transfer instruments –Terrapass See below</td>
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<td>10. Mon., Feb. 16</td>
<td>Climate Change: (I) the coordination and incentive issue; Game + Video segment An Inconvenient Truth (8-9)*; (10-11-12)</td>
<td>(3) Opinion paper</td>
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<td>12. Mon., Feb. 23</td>
<td>Climate Change II: value creation. Financial innovations to protect poor countries</td>
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<td>14. Mon., March 2</td>
<td>End of the lectures on climate change Course summary/take-away by the instructor</td>
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<td>(4) Final team project</td>
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<td>15. Wed., March 4</td>
<td>Last session (2 hours): Presentation of team projects to the class</td>
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Reading list

Textbook for this class: Andrew Hoffman, *Competitive Environmental Strategy -A Guide for the Changing Business Landscape*, Island Press. Available at the Penn bookstore – All listed readings with a (*) are required; others are advanced readings and are optional.

The readings for the course other than Hoffman’s book are available @ https://webcafe.wharton.upenn.edu/eRoom/opim/762-sp09-1

(1)* Chapters 1, 2 and 3 in Hoffman: “From Environmental Management to Environmental Strategy”; “Regulatory Drivers” and “International Drivers”


(3)* Chapters 4, 5 and 6 in Hoffman: “Resource Drivers,” “Market Drivers” and “Social Drivers”

(4)* Chapter 8 in Hoffman: “Strategy Originates within the Organization”


Additional reading is required in preparation of each *Meet the Value Creator* session.
The next two pages present a brief description of the case study that will be analyzed in class. The full case is available on webcafé.

Assignments for this will be distributed in class 10 days before the due date.
Case Study
Wal-Mart's Sustainability Strategy (2007)

Authors of the case: Erica L. Plambeck and Lyn Denend

Company Snapshot: Fortune 500 rank: 1; 2007 Revenues: $380 billion; Number of employees worldwide: 2 million

Context:

In October 2005, in an auditorium filled to capacity in Bentonville, Arkansas, Lee Scott, Wal-Mart’s president and CEO, made the first speech in the history of Wal-Mart to be broadcast to the company’s 1.6 million associates (employees) in all of its 6,000+ stores worldwide and shared with its 60,000+ suppliers. Scott announced that Wal-Mart was launching a sweeping business sustainability strategy to dramatically reduce the company’s impact on the global environment and thus become “the most competitive and innovative company in the world.” He argued that, “Being a good steward of the environment and being profitable are not mutually exclusive. They are one and the same.” He also committed Wal-Mart to three aspirational goals: “To be supplied 100 percent by renewable energy; to create zero waste; and to sell products that sustain our resources and the environment.”

Against this backdrop, the case introduces Andrew Ruben, vice president of corporate strategy and business sustainability, and Tyler Elm, senior director of the same group. Ruben and Elm, who were chosen by Scott to lead the sustainability strategy, recognized that they needed to keep environmental improvement tightly coupled with business value and profitability for the strategy to succeed.

The case describes Wal-Mart’s efforts to accomplish this, focusing on three of the company’s primary focus areas (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.

Learning Objectives:

To familiarize students with how Wal-Mart is opening up to external stakeholders (e.g., environmental nonprofits), measuring its environmental impacts, and giving its employees responsibility (as part of their daily work) for reducing those impacts in such a way that the company derives profit. To compare and contrast three of Wal-Mart's focus areas (called sustainable value networks) and understand the conditions required for this strategy to be effective (where, why, and how it is working best). To highlight the fact that 90% of the potential for environmental improvement exists within Wal-Mart's supply chain and understand how the company is working with suppliers to address these opportunities. To assess how the company is measuring environmental performance and using the results to communicate with and motivate associates, suppliers, customers, policy makers and the public.
A framework to read and analyze this case

1. What do you know about the company?
2. Does it have a history (successful or not) of efforts to address the new environmentalism? Does one of its competitors have such a history? If so, what is the likely impact on Wal-Mart?
3. What do you know about the environmental sustainability program?
   - When has it be launched? By whom? Why?
   - What is the common goal? Growth path? Reputation? Risk management?
   - What is the timeline? Expected return on investment?
   - Who are the key drivers? Internal, external, markets, institutional, etc.? How do they cooperate? Role of captains and sustainable value networks.
5. How can we measure the success (or lack of) of this program?
   - What have been the successful networks? Why?
   - What have been the less successful networks? Why?
6. What do you think about Wal-Mart’s choice not to publicize its sustainability strategy?
7. What lessons can we draw from Wal-Mart’s example for another large corporation? For a small one that would not have such a complex operation, nor necessarily the resources to undertake such an effort?
Meet the Value Creator

- The next four pages present the guest speakers and the topics they will be discussing with the class.
- The order of the speakers is subject to change.
Meet the Value Creator

Focus: Individuals. Good intentions to good actions. The need for financial transfer instruments

Guest speaker:
Adam Stein, Co-founder, TerraPass

Adam Stein is a co-founder of TerraPass and works there as an Emissions Reduction Project Manager to find and fund projects in the U.S. that reduce greenhouse gas emissions. Through his work at TerraPass, he is also a contributor to several online media outlets focused on sustainability. Adam is a 2005 MBA graduate of the Wharton School, where, in addition to cofounding TerraPass, he served as a Vice President of the school’s Net Impact chapter. Prior to Wharton, Adam served in a variety of positions at technology start-ups. At Tellme Networks, Adam was as a senior product manager and founded the company's professional services group. At Trilogy Software, Adam was a senior consultant responsible for some of the company's largest client accounts.

Adam holds a BS in biology from Stanford University.

Further readings:

Go to http://www.mycarbonfootprint.eu/ and learn how you can reduce your own carbon footprint.

Also go to http://www.climatecrisis.net/takeaction/carboncalculator/

Adam will discuss the creation of TerraPass along with the company's plans for developing new business opportunities based upon a low-carbon world. TerraPass is the brainchild of colleague and Wharton professor and OPIM chair, Karl Ulrich. Along with 41 of his students, Karl launched TerraPass in October, 2004 as a way to help everyday people reduce the climate impact of their driving, flying, and home energy use.

In the U.S., driving creates about 20% of carbon dioxide emissions, the principal cause of global warming. Through your driving habits and choice of vehicle, you have a lot of control over your personal contribution to climate change. In addition to conservation, you can choose to balance your carbon emissions by funding clean energy and carbon reduction projects that result in the reduction of an equivalent amount of carbon emissions elsewhere.

Within its first year, TerraPass registered over 2,400 members, reduced 102 million pounds of CO₂, and earned countless national press and blog articles. Recent partnerships include Expedia, the world’s online travel agency, and Enterprise Rent-A-Car, the world’s largest car rental agency.

As the carbon market develops both worldwide and here in the U.S., TerraPass continues to evolve. In addition to its retail focus, the company has recently expanded its mission to serve the growing regulatory needs of its customers.

Further readings:

Go to http://www.mycarbonfootprint.eu/ and learn how you can reduce your own carbon footprint.

Also go to http://www.climatecrisis.net/takeaction/carboncalculator/
Wednesday – February 11, 2009

Meet the Value Creator

Focus: Market drivers.

Guest speaker:
Todd Peterson, Managing Director, Potomac Energy Fund & Operating Partner, Element Partners (Draper Fisher Jurvetson)

Todd will discuss various forces (market, technology, public policy, etc.) that are driving environmental sustainability. As a private equity investor focused on the "cleantech" sector, Todd finances companies that benefit from these forces. Although there can be compelling economic reasons to improve sustainability, there are significant differences in the payback and risks associated with the available options. Moreover, the consequences of these choices are not always obvious. Todd will discuss not only the forces that continue to drive sustainability but also the pros and cons of various approaches to achieving it.

Todd will frame the discussion with examples of companies he has been involved with through his work at Potomac Energy Fund and Element Partners, two cleantech private equity funds.

Todd C. Peterson is a Managing Director of Potomac Energy Fund, a private equity firm that invests in energy technology companies. Todd is also an Operating Partner at Element Partners, a $750 million cleantech growth equity firm affiliated with Draper Fisher Jurvetson.

Todd serves on the Board of Directors of Electro-Petroleum, Inc., an enhanced oil recovery company spun out of General Electric. He is a Board Observer of NanoPack Inc., a nano-materials company that sells barrier packaging. Todd is also an advisor to Quench USA, a water filtration company backed by Element Partners.

Previously, Todd co-founded Foster Chamberlain LLC, a firm that commercializes energy and materials technologies spun out of large corporations and research labs. Since its founding, Foster Chamberlain has worked with more than 20% of the Dow Jones Industrials on some of the world’s most disruptive technologies, receiving such awards as: Frost & Sullivan’s Product Innovation of the Year, Industry Week’s Technology of the Year, Automotive News’ PACE Award, and Best of NeoCon – Gold Award.

Before founding Foster Chamberlain, Todd worked in the energy & chemicals practice of strategy consulting firm Booz|Allen|Hamilton. Prior to that, he held various finance positions in the US and UK for Enron Corporation, including being a founding member of the company’s natural gas M&A group and of its European capital and trading operations.

Todd holds BS and MBA degrees from The Wharton School, where he was the Ford Motor Company fellow (fellowship awarded to the student who achieved the highest academic performance during the first-year of the Wharton MBA program).

Further Readings:

"Hot, Flat & Crowded", by Thomas Friedman
"Look Before You Leap" by Dr. Irving Mintzer, chapter in a book to be released by The Brookings Institute in January 2009
Meet the Value Creator (to be confirmed)

Focus: External drivers. How consulting firms can help energy companies create value and sustain the environment

Guest speaker:
Albert Cho, Manager, McKinsey & Company
To be confirmed

Albert will discuss his work at McKinsey in the energy sector.

Further readings:

Meet the Value Creator

Focus: Non-profit drivers. Building a business case for sustainable healthy environment – How to work with corporations, media and celebrities to leverage your goal.

Kate Roberts is the Founder of YouthAIDS, a global education and prevention initiative of Population Services International (PSI), that use media, pop culture, music, theatre and sport to stop the spread of HIV/AIDS and reach 600 million young people in more than 60 countries with life-saving messages, products, services and care. Most recently she has embarked on Five & Alive, a new project for PSI in hopes of raising funds and awareness for PSI’s child survival programs. Five & Alive will strive to protect the lives of children five and under from preventable diseases in a sustainable way.

Prior to her role at PSI, Kate worked with Bates, Saatchi & Saatchi Advertising from 1995 to 1999. As Managing Director, Roberts established the promotion agency “141” in Russia, the Ukraine, and Romania, which provided integrated marketing communications for twenty-two clients and she oversaw operations for other Eastern European markets. Roberts worked for Independent Media in Moscow for a year as Marketing and Distribution Manager, launching Russian Cosmopolitan Magazine as well as acting as a Public Relations and Events Consultant for The Moscow Times.

In July 2006, she was given the distinct honor of speaking at the Aspen Ideas Festival in Colorado along side panelists such as Queen Noor, Colin Powell and President Clinton and leading health officials. Kate has recently been awarded the honor of “Young Global Leader of the World 2007” by The World Economic Forum (Davos) that recognizes 250 global young leaders for their professional accomplishments, their commitment to society and their potential to contribute to the shaping of the future world. Most recently she was featured on CNN International’s “Heroes” series.

She is originally from the United Kingdom where she graduated from Southport University of Art and Technology in England and also studied at Harvard’s Kennedy School. She speaks five languages.

Further Readings:
- Steven Chapman, Hibist Astatke, Kimberly Ashburn (2005), “The performance of social marketing interventions in developing countries: A systematic review”
Access to WebCafé

The WebCafé site for the course is available at: https://webcafe.wharton.upenn.edu/eRoom/opim/762-sp09-1

The readings for the course (except the course book from Hoffman, available at Penn bookstore) will be available on WebCafé. Electronic versions of any presentation materials used in class will be posted on WebCafé after class.

A COMPUTING ACCOUNT IS NECESSARY TO ACCESS WebCafé.

WHEN NEW OR NON-WHARTON STUDENTS TAKE YOUR COURSE:
In some cases Wharton courses may be taken by students who are from other schools at Penn or who are new to the University. Consequently, not all students will initially have the Wharton computing account necessary to use webCafé. Students who are enrolled in the class but who do not yet have a Wharton computing account will be able to apply online at this site: http://accounts.wharton.upenn.edu

In cases, a non-Wharton student will also not be formally enrolling or may tell you that they are have difficulty with the account application form, please let the instructor know. To resolve this issue, please let me know. That information about first name, last name and University email address of the non-enrolling student needs to come from you as the instructor -- unfortunately, the webCafé team can't accept course room access requests directly from students.

Early in a term during the add/drop periods, features like the room member list, nightly notification e-mails, and the "alert" (paper airplane) button will not include the students who don't yet have Wharton computing accounts.