MBA Class - Spring 2010

Syllabus for OPIM-762 - Environmental Sustainability and Value Creation

Spring 2010-Q1 (January-March 2010)

Class
Mondays and Wednesdays
3:00 to 4:20 pm
Huntsman Hall, Room: 355

Instructor:

Erwann O. MICHEL-KERJAN

The Wharton School, 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, 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 services and financial products). A large range of companies, big and small, now out-compete their business rivals 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. Climate issues are a perfect illustration of what has become a true revolution in thinking.

This course is intended to familiarize students who are *not* environmental specialists with relevant facts and analyses on this recent environmentalism evolution. What is at stake? What are the key concepts? Who are the key interested parties? Who is leading the way in reshaping business strategies as well as public policies? What tools are companies using to do better not only sustaining the environment but also creating value? What are the lessons learned from successes and failures to integrate the environmental component, here and abroad? Also, why those who want to “do good” need to develop a robust business model to achieve that goal, and how is this done?

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 an environmental blueprint for action
3. Learn more about new financial products being developed to tackle the climate adaptation challenge (e.g. weather derivatives; catastrophe bonds; carbon trading);
4. Think strategically and act entrepreneurially to create value;
5. 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 study of their choice.

Bios and topic descriptions for guest speakers are listed below. (As of early January two have confirmed; the sustainability team at Wal-Mart is pending.)
**Course Grading**
Short write-ups and case study assignment: 30%
Participation and attendance: 20%
Course 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. Groups of two students 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 in the United States 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, Wall Street Journal, 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.

**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.
Course Project (50%)

Your course project (team of five students) is deliverable as a research paper (10-12 pages) or a YouTube-type video (20 minutes maximum), along with its presentation to the class. Each team will have a choice between two types of project:

1) Analyze a company’s sustainability efforts and recommend how these can be improved.

The team will select a company 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, and seek other sources of information, such as on the Internet, 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 must be submitted in writing or via email for professor approval by Monday, February 1, 2010. Each team project will be presented orally during that session to receive feedback.

Final project must be submitted as a PDF document (10-12 pages) or video/audio file by Monday March 1, 2010. Only electronic submission is acceptable.

Files should be named: TeamProject_OPIM762_<lastname>_ <firstname>.pdf.

e.g. TeamProject_OPIM762_MichelKerjan_Erwann.pdf, 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.

Teams will present their research results in a formal presentation to the rest of the class on the last session of the course (March 3, 2010).
<table>
<thead>
<tr>
<th>Date (2010)</th>
<th>Topic</th>
<th>Reading</th>
<th>Due</th>
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<tbody>
<tr>
<td>2. Mon., Jan. 18</td>
<td>No class - Martin Luther King, Jr. Day</td>
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<tr>
<td>3. Wed., Jan. 20</td>
<td>Environmental Strategy - The New Business Playing Field: (II) Understanding who are the key drivers and how they impact the firm</td>
<td>(3)*</td>
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<td>8. Mon., Feb. 8</td>
<td>Climate Change: What Do We Know and Don’t Know? What Is At Stake?</td>
<td>(6-7)*; (8-9)</td>
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<td>9. Wed., Feb. 10</td>
<td><strong>Guest Lecture (Mitigation): How To Offset CO₂ Emissions and Make a Business of It</strong></td>
<td>See below</td>
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<td>10. Mon., Feb. 15</td>
<td><strong>Guest Lecture (Mitigation): A Private Equity View on Green Energy</strong></td>
<td>See below</td>
<td>Opinion paper</td>
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<td>11. Wed., Feb. 17</td>
<td>Adaptation to Climate Change: Are We At War with the Weather?</td>
<td>(10)*</td>
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<td>12. Mon., Feb. 22</td>
<td>Adaptation to Climate Change: Are We At War with the Weather?</td>
<td>(11)*</td>
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<td>13. Wed., Feb. 24</td>
<td>Adaptation to Climate Change: Are We At War with the Weather?</td>
<td>(12)*</td>
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<td>14. Mon., March 1</td>
<td>End of the Lectures - Course summary/take-away by the instructor</td>
<td>Final project</td>
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<td>15. Wed., March 3</td>
<td>Last session (2 hours): Presentation of team projects to the class</td>
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Reading list:

All listed readings with a (*) are required; others are advanced readings and are optional. The readings for the course are available in the course calendar section on WebCafé @ https://webcafe.wharton.upenn.edu/eRoom/opim/762-sp10-1

(6)* Sir Nicolas Stern (2007), Stern Review: The Economics of Climate Change: Executive Summary
(10)* Chapters 1 (“A New Era of Catastrophes”) and 15 (“Winning the War against the Weather”) in H. Kunreuther and E. Michel-Kerjan (2009), At War with the Weather. New York: MIT Press.

Note 1: Additional homework might be required in preparation of the guest speakers’ lecture.
Note 2: There is no textbook for this class: if you are interested, I can suggest several good and accessible books; just ask me.
Case study

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; 2008 Revenues: $405 billion; Number of employees worldwide: 2.1 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.
Case Study: Wal-Mart's Sustainability Strategy cont’d.

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? What are the lessons for a small corporation that would not have such a complex operation, nor necessarily the resources to undertake such an effort?
Meet the Value Creator

- The next pages present the guest speakers and the topics they will be discussing with the class.
- The order of the speakers is subject to change.
Date: Wednesday, February 10

**Guest Lecture: Meet the Value Creator**

How to Offset CO\textsubscript{2} Emissions and Make a Business of It

**Guest speaker:**

Adam Stein, Vice President of Marketing at TerraPass

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 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. According to TerraPass, you can balance the CO\textsubscript{2} emissions of your driving for as little as $29.95/year.

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

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Adam Stein is Vice President of Marketing at TerraPass. Adam is a 2005 MBA graduate of the Wharton School, where, in addition to co-founding 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 enjoys the outdoors. Favorite expeditions include camping in Patagonia; a 10-day trek in the Gates of the Arctic national park, accessible only by bush plane; and the summiting of several decently-sized mountains in Ecuador. Adam also once rode a bicycle across the better part of Asia, a trip he wouldn't mind doing again someday. Adam holds a BS in biology from Stanford University and an MBA from the Wharton School.

**How to get prepared for the class:**

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

Also go to [http://www.climatecrisis.net/takeaction/carboncalculator/](http://www.climatecrisis.net/takeaction/carboncalculator/)
Guest Lecture: Meet the Value Creator
A Private Equity View on Green Energy

Guest speaker:
Todd Peterson, Operating Partner, Element Partners (Draper Fisher Jurvetson)

Todd C. Peterson is an Operating Partner at Element Partners, a $750 million cleantech growth equity fund affiliated with Draper Fisher Jurvetson. He is also Executive Vice president at Quench USA, Inc., the largest ultraviolet water filtration company in the United States, serving more than 20,000 businesses with an endless supply of fresh, safe, drinking water.

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).

How to get prepared for the class:
TBA
Access to WebCafé

The WebCafé site for the course is available at: https://webcafe.wharton.upenn.edu/eRoom/opim/762-sp10-1

The readings for the course will be available on WebCafé a few days in advance. Electronic versions of all presentation materials used in class will be posted on WebCafé after class.

A computing account is necessary to access WebCafé.

Note to New or Non-Wharton Students Taking This 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 not be formally enrolling or may have difficulty with the account application form. To resolve this issue, please let the instructor know. Registration information (first name, last name and University email address of the non-enrolling student) needs to come from 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.