

# **Environmental Sustainability and Value Creation**

## **LGST/OIDD 762**

### **Fall 2020**

**Professor:** Gary Survis

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**Classes:** Mondays, 3pm to 6pm EST, Zoom

**Professor Office Hours:** Mondays after class and by appointment, phone or Video (Zoom, Teams, FaceTime)

**Teaching Assistant Office Hours:** Wednesdays (Zoom) starting 9/16 from 8-9pm EST and by appointment, Phone or Video (Zoom, Teams, FaceTime)

### **Course Objectives**

1. Understand the role of environmental sustainability in business today as it relates to corporate strategy, business operations, financial objectives, and social responsibility.
2. Learn how corporations that have made sustainability a core tenant of their strategy are making a significant impact on the environment, independent of government regulation, while driving strong performance.
3. Gain an appreciation for the trade-offs that are being made daily in business around sustainability issues and understand that there is not always a “right answer.”
4. Explore exciting opportunities for businesses and entrepreneurs to drive value creation through sustainable strategies and tactics.
5. Focus on real world topics through case studies and current news discussions, enabling exposure to how the issues of business and sustainability are creating opportunity, while still being debated, managed, and evolved very rapidly.

### **Course Overview**

It was not long ago when business looked at environmental issues and their impact as a compliance exercise. Slowly, at first, leading businesses began to change their concept of environmental management to look beyond simply meeting governmental dictates. These organizations began to evolve and utilize “sustainability strategy” to create new ways to drive value creation by bringing sustainability to the core of their business strategy. This seismic shift was accompanied by a bottom-line emphasis that, in some cases, turned sustainability efforts into profit centers. Today, there has been a shift, yet again, with a world post COVID-19 pandemic where business resiliency will become core. Businesses cannot be caught unprepared for the impact of climate change on their operations

and must be fully positioned to drive value creation and innovation in these challenging times. *Business cannot simply react to environmental mandates; they must lead and drive change!*

Sustainable initiatives are increasingly not hidden within the silos of sustainability or EHS (environmental, health, and safety) departments, but have become much more seamlessly integrated into the operations of enterprise functional disciplines. Today, to effectively work in senior management, an executive needs to be knowledgeable not only about their specific business function, but also on how their business will be impacted by environmental supply chain disruptions, requirements around sustainability reporting, ESG (environmental, social, and governance) demands on a business, ability to market sustainable product attributes, managing energy, water, and food needs globally, and sustainable technology to drive new initiatives.

This course will focus on sustainability and value creation strategies within this new paradigm. It is meant to be introductory, yet provide a comprehensive overview of emerging approaches to business and its relationship with the environment. While it will cover academic research and overarching management theories, the class will be integrative and practical in its application of sustainability strategies, management, tactics, and tools.

The time spent in class will be integral to the learning experience. Each class will begin with a discussion of current environmental news and events. Emphasis will be given to topics that deal with sustainable innovations, environmental controversies, and break-through business strategies within the sustainability space. As well, lectures will include interactive discussions integrating digital media and online resources. Finally, all classes will integrate case analysis into the lecture and some classes may have guest participants to complement the lecture topic.

## Course Plan

Meeting Date	Focus Area
9/14/20	Class Introduction/Sustainability Strategy and Value Creation
9/21/20	Sustainability Reporting and Environmental Footprint
9/29/20*	Sustainability Marketing and Communications
10/5/20	Climate Change: Managing Risk and Exploiting Opportunity
10/12/20	The Nexus of Food, Water, and Energy
10/19/20	Class Wrap-up/Sustainable Technology and Opportunity

\*N.B., Class is meeting on Tuesday 9/29 due to the professor's observance of the Jewish holiday Yom Kippur on 9/28.

## Course Requirements

**Attending Class:** Let us start by stating the obvious, class will be very different this year. Our class will be delivered virtually, and this is a new paradigm for everyone. I recognize that this is a challenge for me as an instructor, but most certainly, as well, for you as the student. I have thought long and hard, consulted experts and have worked to develop, what I hope, is an interactive, stimulating, and

ultimately educational experience for students. Your attendance and interaction on the video platform will be a critical component of our learning.

We will be leveraging both synchronous and asynchronous learning techniques. An asynchronous Base Concepts Lecture will be posted on Canvas as part of the preparation prior to the live class. The Interactive Learning Session will be live where time will be dedicated to utilizing the preparation through a combination of interactive presentation, case analysis, readings and real-world example reaction discussions, and breakout group problem solving.

**For those registered in different time zones, please note that the class can be fully experienced through the asynchronous recordings and through the many options to participate offline discussed below.**

***Class Participation:*** I recognize that it is difficult to pay attention during video classes...trust me I live it every day in my never-ending parade of Zoom video calls. However, I know that participation begins with being present, both physically and mentally. The success of our class time is dependent on a vibrant, participatory group. The weighting on your course grade reflects this importance. Emphasis in participation grading will be on consistent, meaningful contribution to the class, not on the amount of screen time—it is quality over quantity.

We have taken this unique opportunity to re-envision participation and hopefully provide both varied and more opportunities to contribute. Your participation grade will be based on six components:

- **Required:** Class attendance (or asynchronous recording of the class)
- **Required:** Learning consolidation quiz
- Online session interaction through both chat and speaking
- Offline contribution and discussion through articles posted and thoughtful responses on Canvas
- Breakout group participation in class through Mural (peer reviewed)
- Feedback Fruits annotations on articles

If you anticipate **missing a class**, you must inform the professor and/or teaching assistant via email. Absences will be excused **only** for advanced notice of family or personal medical emergencies, illness, and religious holidays. Your attendance is otherwise imperative for our dynamic learning environment. After completing the required readings (and case) for the week, reviewing the lecture slides, listening to both the asynchronous recorded lecture and the live class recording, an excused student may earn their participation grade by doing the following no later than **12pm EST on the Friday** before the start of the next class:

- **Required:** Complete the areas of inquiry questions in the respective Canvas discussion for the week
- **Required:** Complete learning consolidation quiz for the respective week's base concepts
- Offline contribution and discussion through articles posted and thoughtful responses on Canvas
- Feedback Fruits annotations on articles

**Readings:** It is expected that all required readings will be completed prior to attending class. **Readings that are required will be denoted with an asterisk (\*).** An "SN" denotes availability as part of Study.Net on Canvas. All others will be on Canvas in the files section and some will be on library reserve (LR) in Canvas. Additional readings may be listed for a given topic and are **not** required but are highly recommended. They are provided in the hope that they may spark further exploration and add to the class discussion.

**Value Creation Reflection:** For each class, several assigned students will identify and reflect on a recent article in a response (maximum 2 pages) related to an organization's creation of shared value through environmental sustainability. It will incorporate class lectures and readings to demonstrate the understanding of a firm's application of core course concepts within the real world.

Each student will complete this once during the course and it will account for 10% of their final grade. Students will sign up in Canvas for their preferred date on a first-come, first-served basis in Canvas at 7pm EST immediately following the first class. The response will answer the following questions and fulfill the following requirements:

- What business imperative has compelled the organization to address this environmental issue?
- How can its response drive value creation in the short and long-term?
- How strong is the organization's response to this environmental challenge?
- What more could they be doing? Why?
- The response will be a maximum of 2 double-spaced pages and submitted as a PDF. The article URL will be easily accessible and either included after the conclusion or attached as a PDF to the response.
- The response will also adhere to the course policy on citations and the University's policy and definition of plagiarism, as outlined later in the syllabus.

After submitting their reflection, students will share the chosen article with a pre-assigned group prior to class and lead a 10 to 15-minute group Zoom breakout discussion during class where they focus on one of the questions answered.

The teaching assistant will recommend helpful resources on Canvas for students to consult when identifying an article for the reflection. The response is due for submission on Canvas **by 7pm EST on Thursdays**. The system will provide a **30-minute grace period** and then locks out submissions.

**Cases:** Each lecture has an associated case. These cases are provided to bring the subject alive and challenge students to broaden their understanding of a topic by encountering real world issues with all their complexity. Two cases will be prepared for individual submission (maximum 5 pages) and the remainder will be only for class discussion. Cases that are for **submission are due by 12pm EST** on the due date. The system will provide a **30-minute grace period** and then locks out submissions.

**Final Project:** The final project of the course will be a group project on how a single business has driven value creation through its sustainable business strategy. The analysis should be comprehensive and include detailed research. The goal is to integrate the knowledge learned in class, readings, and cases and present a comprehensive picture of a major corporation's sustainability strategies and outcomes. The paper will be no longer than 20 pages. Full details of the paper requirements will be provided separately.

## Assessment

Weighting		Grading	
Class Participation/Attendance	25%	A+	97-100
Value Creation Reflection (1)	10%	A	93-96
Case Analyses (2)	30%	A-	90-92
Final Project	35%	B+	87-89
		B	84-86
		B-	80-83
		C+	77-79
		C	74-76
		C-	70-73
		Below these scores...let's talk!	

N.B., Final grading levels for Wharton MBA students will not be subject to Wharton CMGPA requirements or curving.

## **Additional Information**

**Materials for the Class:** Most materials are posted in the files section of Canvas. As well, some book readings are reserved through the Penn Library Reserves. Finally, there are additional Harvard articles and cases available in Study.net on Canvas.

**Citations and Plagiarism:** Students must give adequate citations for all sources quoted or used in writing papers. No specific form of citations in footnotes is required, as long as the source is identified sufficiently for it to be found and checked. Every written submission, including the final paper, must be the student's own work. Any incident of plagiarism will be fully prosecuted through the usual channels. The University's policy and definition of plagiarism may be found [here](#).

**Writing Center:** Staffed by friendly, well-qualified peer and faculty writing specialists, The Writing Center is open to Penn students and provides feedback on papers, proposals, manuscripts, and other texts. They focus on many facets of the writing process from tips on how to make your papers more engaging to strengthening sentences, paragraphs, diction, grammar, and mechanics. We strongly advocate for students to utilize this resource. Starting the first week of classes, graduate students can schedule 60-minute virtual appointments (once per week) using the [Writing Center Scheduler](#). On the main page, students can create an account, then log-in and select the schedule labeled "Graduate Tutoring: Fall 2020." For more information on how to schedule and attend an online writing consultation, please visit The Writing Center's [guide](#).

**Mental Health and Wellness:** The COVID-19 pandemic has created much uncertainty, which can manifest additional stress to studying at Penn. If you are feeling overwhelmed or facing unprecedented challenges, we encourage you to reach out to us. As well, there are professional resources for support at Penn. These include all of the offices under Wellness at Penn. Even during the COVID-19 Pandemic, all wellness services remain fully operational and have incorporated more telehealth for ultimate student choice and convenience. In office visits are in alignment with the CDC and local public health guidelines.

Counseling and Psychological Services (CAPS) offers a wide range of services including individual and group counseling and therapy, crisis intervention, outreach programming, medication management, and consultation. Services are now being provided virtually with some in-person presence. Students taking all online classes may access a counselor confidentially by calling 215-898-7021 (24/7) and pressing 1. More information on CAPS can be found [here](#).

Student Health Services (SHS) offers primary care, gynecologic care, sports medicine, and more. If you are feeling sick or would like a wellness visit, please call 215-746-3535 to schedule an appointment. All students must have a scheduled appointment before arriving at SHS.

## Curriculum and Assignments

N.B., \* denotes required reading, **SN** denotes part of Study.net case pack, **LR** denotes library reserve, on Canvas

### **9/14 - Focus Concept: Sustainability Strategy and Value Creation**

Modern business has been challenged to do things differently. The issues of environmental sustainability and the threats of climate change are creating new opportunities for business to drive value. Yet, many organizations have failed to develop a coherent strategy around these issues and ultimately have delivered less value.

#### **AREAS OF INQUIRY**

- What is the role of goals in driving meaningful sustainability initiative results?
- How are organizations driving value from their sustainability initiatives?
- How do different models for competitive sustainability strategies compare?
- Can competitive businesses collaborate on sustainable initiatives?
- Does it pay to be good?

**CASE FOR CLASS DISCUSSION:** *Unilever's New Global Strategy: Competing through Sustainability*, by Christopher A. Bartlett: Harvard Business School. **SN**

\*Winston, Chapter Six: Set Big Science Based Goals **LR**

\*Green Innovation Games: Value-Creation Strategies for Corporate Sustainability, Lampikoski, Westerlund, et al, *California Management Review*, Fall 2014 **SN**

\***VIDEO:** Whiteboard Session: The Business Case for Sustainability, Andrew Winston, HBR Video

\*Creating Shared Value, Porter and Kramer, *Harvard Business Review*, Jan. 2011 **SN**

#### **HIGHLY RECOMMENDED**

Contesting the Value of Creating Shared Value, Crame, Palazzo, et al, Feb. 2014 **SN**

The Business of Sustainability, Bonini and Gerner, McKinsey, 2011

The Collaboration Imperative, Nidumolu, Ellison, Whalen, & Billman, *Harvard Business Review*, April 2014 **SN**

Saving the Planet: A Tale of Two Strategies, Martin and Kemper, *Harvard Business Review*, April 2012 **SN**

## 9/21 - Focus Concept: Environmental Footprint and Sustainability Reporting

Every organization has an environmental footprint. The ability for a business to perform a base line analysis of its impact both “upstream” and “downstream” is critical in developing an environmental strategy. The sometimes elusive goal of a circular economy is more recently being integrated into some strategies. The ability to measure and deliver on reduction of a businesses’ environmental footprint is core to driving value.

As well, business lives by numbers. So do organizations that take a strategic view of sustainability. From basic tracking metrics to sophisticated systems to measure value creation and performance, no successful sustainability program can succeed without measurement and goals. The more recent demands of investors have pushed ESG reporting and the value of quantifiable results to the forefront. Yet, reporting standards are a relatively new space and there are few agreed upon guidelines or benchmarks.

### AREAS OF INQUIRY

- What is the circular economy and the actions business is taking to close the loop?
- What are the key components of a Life Cycle Assessment (LCA)?
- What is the impact of materiality on metrics and reporting?
- What standards exist for measuring and reporting environmental business?
- How are calls for integrated reporting shaping the direction of sustainability reporting?
- What is natural capital and how do you value it?
- How does data drive ESG investing?
- How does purpose translate into value creation?

**GUEST CLASS PARTICIPANT:** [Libby Bernick](#), formerly from [Trucost](#) (S&P) and [Morningstar](#)

**CASE FOR CLASS DISCUSSION:** *Blackrock: Linking Purpose with Profit*, by Deshpande, Dey, and Serafeim, Source: Harvard Business School. **SN**

\*[Towards the Circular Economy: Business Rationale for an Accelerated Transition](#), Ellen MacArthur Foundation, 2015

\*Winston, Chapter Ten: Put a Number on the Value of Natural Capital **LR**

\*[GRI, IRF, and SASB Updated Guidance on Reporting Frameworks](#), GreenBiz, 10/19

\*[What is Material in your Sustainability Strategy](#), Sustainability Roundtable, 11/19

\*[Final Report: Recommendations of the Task Force for Climate-Related Financial Disclosures](#), Financial Stabilities Board, June, 2017, [Executive Summary, Pages 1-30](#).

\*[Purpose: Shifting from Why to How](#), *McKinsey Quarterly*, Q2 2020, pp. 116-127

\*Letter from the Board of Directors, PMI (Philip Morris International), 2019

## HIGHLY RECOMMENDED

[Larry Fink's 2020 CEO Letter](#)

The Circular Economy: From Concept to Business Reality, Knowledge@Wharton, 2017

The Performance Frontier: Innovating for a Sustainable Strategy, Eccles and Serafeim, *Harvard Business Review*, May, 2013 **SN**

[Why Companies Should Report the Financial Risks from Climate Change](#), Robert G. Eccles and Michael Krzus, *MIT Sloan Mgmt. Review Blog*, 10/27/17

\*[ESG Reports and Ratings: What They Are, Why They Matter](#), Harvard Law School Forum on Corporate Governance, 7/17

## 9/29 - Focus Concept: Sustainability Marketing and Communications

\*N.B., Class is meeting on Tuesday 9/29 due to the professor's observance of the Jewish holiday Yom Kippur on 9/28.

Business is being challenged to determine how best to communicate the ways that sustainability is creating value for the enterprise, yet still meet the evolving standards expected by its stakeholders. As well, sustainable marketing has become more mainstream and a critical element in driving value creation. While it is important to incorporate green marketing into the whole marketing mix, there is also a need to understand the unique considerations and issues inherent in green marketing.

Consumers today actively weigh the sustainability attributes of a product in their buying decisions. But, different people put different levels of import on this product feature. As well, meaningless environmental claims made by businesses, and a reputation for poor performance by "green" products have made some consumers wary of sustainability claims. Recent FTC actions have made it clear that a thorough understanding of how to promote a product's green attributes is critical.

### AREAS OF INQUIRY

- How should green messaging be communicated to different stakeholders?
- What works today in green marketing?
- How do you avoid "green-washing?"
- What are "allowable" green claims?
- What are some of the different ways to segment the market for green products?
- How do different generations make sustainable purchase decisions?
- Why is it necessary for companies to be purpose driven today to attract customers and employees?

**INDIVIDUAL CASE WRITE-UP:** *Heineken: Brewing a Better World*, by Reinhardt, Alvarez, Junker, and Beyersdorfer, Source: Harvard Business School. **SN**

\*[Earth Day and the Polling of America 2020](#), GreenBiz, 4/20

\*[The Pull Factor Project](#), BBMG/Sustainable Brands, 2018

\*[Growing Green: Three Smart Paths to Developing Sustainable Products](#), Unruh and Etterson, *Harvard Business Review*, Jun. 2010. **SN**

\*[Environmental Claims: Summary of the Green Guides](#), Federal Trade Commission, Oct, 2012.

### HIGHLY RECOMMENDED

[Engaging Tomorrow's Consumer](#), World Economic Forum, 2013

[The State of Consumer Spending: Gen Z Shoppers Demand Sustainable Retail](#), First Insight, 2020

[Understanding the Effective Use of Green Product Labels](#), UL Labs, 2013

## 10/5 - Focus Concept: Climate Change: Managing Risk and Exploiting Opportunity

We have reached the tipping point of impact from the global change to our climate. Business is acutely aware of the risk to its operations and the need for adaptation. It has a unique role to create resilient companies in the face of dramatic climate changes, but also mitigate the damage already done. It has never been clearer that business must take a leadership role in collaborating with industry and world bodies to manage this change. Ultimately, climate change will present many opportunities for business to drive value creation.

### AREAS OF INQUIRY

- What has COVID-19 taught us about climate change?
- How has and will climate change impact business?
- What are the risks to business of not mitigating and adapting to climate change?
- What is a resilient business?
- What are the special challenges that climate change poses to supply chains?
- How is business valuing carbon and should a carbon tax be part of the solution?
- What opportunities to drive value creation does climate change present to business?
- Why is climate change considered a “wicked problem?”

**CASE FOR CLASS DISCUSSION:** *ExxonMobil: Business as Usual (A) and (B)*, by Serafeim, Rajgopal, and Freiberg, Source: Harvard Business School. **SN**

\*Winston, Chapter 14: Build a Resilient, Antifragile Company **LR**

\*Leading a New Era of Climate Action, Andrew Winston, *HBR*, Jan, 2020 **SN**

\*RISKY BUSINESS: The Economic Risks of Climate Change in the United States, Risky Business Project, 2014. 1-19, 45-49

\*Supply Chain Resilience in the Era of Climate Change, Kara Baskin, *MIT Sloan Review*, Feb, 2020

\*10 Reasons Why Climate Change is a “Wicked” Problem, Murtgudde, *The Wire*, 12/19

\*En-ROADS Guided Assignment for Interactive Learning Session:

<https://www.climateinteractive.org/tools/guided-assignment/>

### HIGHLY RECOMMENDED

4 Ideas from COVID-19 to Fight Climate Change, Kara Baskin, *MIT Sloan Review*, June 2020

Making the Case for Climate Change Adaptation, Janine White, *Wharton Magazine*, Spring/Summer 2020

Climate Change in 2020: Implications for Business, Henderson, Reinert, Oseguera, HBS, 2020 **SN**

**VIDEO:** HBR The Big Idea: Tough Business Questions about the Climate Crisis, Andrew Winston, HBR, 2020

## **10/12 - Focus Concept: *The Nexus of Food, Water, and Energy***

The global middle class will grow by 3 billion people in the next 20 years. The supplies of food, water, and energy will be stretched to provide for this growing segment of the population. This nexus will create incredible challenges because of its interconnectivity; as well as, opportunities for business that innovate. The ability for business to demonstrate “nexus thinking” will be critical value creation strategy.

### **AREAS OF INQUIRY**

- How are food, water, and energy interconnected?
- What is “Nexus thinking?”
- How is climate change impacting the Nexus?
- Why is energy management becoming a core focus for business?
- What are strategies to reduce food waste and drive output?
- Why is water conservation the most critical, but most under-resourced of Nexus issues?
- How will innovation reduce the impact of the Nexus on business and drive value creation?

**GUEST CLASS PARTICIPANT:** [Philip Behn](#), CEO, [Imperfect Foods](#)

**INDIVIDUAL CASE WRITE-UP:** *Bunge: Food, Fuel, and World Markets*, by Khanna, Mingo, & West, Source: Harvard Business School. **SN**

\*Winston, Chapter 2: Scarcer (and Richer) **LR**

\*[The Nexus of Food, Water, and Energy](#), Knowledge@Wharton and IGEL, 2013

\*[Energy Strategy for the C-Suite](#), Andrew Winston; George Favaloro; Tim Healy, *HBR*, 1/17 **SN**

\*[How Large Retailers Can Help Solve the Food Waste Crisis](#), Kor, Prabhu, and Esposito, *HBR*, 12/17 **SN**

\*[Water: A Human and Business Priority](#), Hundertmark, Lueck, and Packer, *McKinsey Quarterly*, Q2 2020, pp. 46-53

### **HIGHLY RECOMMENDED**

[Energizing Renewable Powered Data Centers](#), *451 Research*, Apr. 2015

## 10/19 - Focus Concept: Sustainable Technology and Opportunity

There are many that believe that our most pressing sustainability challenges will not be solved by existing approaches, but by major, discontinuous advances that leverage technology. The massive amounts of data available, big data, are beginning to be harnessed to deliver meaningful results to organizations' sustainability initiatives and tackle some of the world's toughest environmental issues that drive massive value creation.

Yet, it is not simply about big data, but also the Internet of Things (IOT), blockchain, advances in urban mobility, the SmartGrid, and a host of other technologies. Advances in technology and data will transform our lives, but also, maybe, help preserve them.

Eco-entrepreneurship continues to be an engine for uncovering major opportunities to reduce environmental impact. In particular, cleantech businesses have been seen as sources of eco-innovation that are worthy of venture and government funding. While there is great hope for innovation to solve our most pressing issues, there is much to be learned from the challenges to be successful in this sector.

### AREAS OF INQUIRY

- How are different industries leveraging big data to drive value creation?
- Can technology help battle climate change?
- Will blockchain, AI, IOT and other tech create new sustainable opportunities?
- What environmental issues have cleantech businesses addressed?
- How has the definition of cleantech evolved?
- What is the current venture environment for cleantech businesses?
- What are the challenges of cleantech businesses?
- How has impact investing changed cleantech investing?

**GUEST CLASS PARTICIPANT:** [Ashwin Madgavkar](#), CEO, [Ceres Imaging](#)

**CASE FOR CLASS DISCUSSION:** *Khosla Ventures: Biofuels Strategy*, by Joseph B. Lassiter; William A. Sahlman; Alison Berkley Wagonfeld, Source: Harvard Business School. **SN**

\*[A Closer Look at Impact Investing](#), Pandit and Tamhane, *McKinsey Quarterly*, 2/18

\*[Unlocking Technology for the Global Goals](#), World Economic Forum, 1/20

\*The Cautionary Cleantech Tale of KiOR

\*The Truth about 60 Minutes and the Cleantech Crash

\*Vinod Khosla's Open Letter to 60 Minutes

\*RIP KiOR

\*The Cleantech Crash, 60 Minutes, VIDEO

**HIGHLY RECOMMENDED**

Driving Forward: The Future of Urban Mobility, Knowledge@Wharton and IGEL, 2017

Beyond the Supercycle: How Technology is Reshaping Resources, McKinsey Global Institute, 2/17

Sustainability Doesn't Make Money without a Solid Business Plan, FastCompany.com