SYLLABUS
SUMA K4170: Sustainable Operations

Fall 2015 - Thursdays, 6:10 to 8:00 p.m.
Class Location: 503 Hamilton Hall

Instructor information
Vance A. Merolla
e-mail: vm2467@ei.columbia.edu
Office Hours: by appointment

Curriculum and Grading Assistant:
Minyoung Shin
e-mail: ms5080@columbia.edu
Office Hours: by appointment

Course Overview
In this course, students will work to understand and communicate the importance of incorporating sustainability at each step along the value chain, including product design, procurement, distribution, manufacturing, product/service use and end-of-life disposition. By considering the organization holistically, students will perform analyses of the value chain, including life cycle and cost/benefit analyses, and incorporate effective sustainability strategies into the organizational culture and day-to-day operations. Students will conduct risk assessments and implement risk reduction measures in an effort to develop, produce, and distribute more sustainable products and services, aligned with overall business goals and stakeholder requirements. In addition to technical sustainability considerations such as climate change, energy, water and waste, students will be able to implement practical sustainability initiatives within operating organizations through innovative change management, culture change and other organizational strategies. Importantly, students will be challenged to think concretely about making choices and balancing elements of the triple bottom line in an overall business context.

Key Learning Objectives:
Operational Sustainability is a broad topic, applicable to nearly all sectors both public and private. This course will focus primarily on the private sector, however in order to address as many cross-sector themes as possible, we will look for meaningful operational sustainability elements applicable to most organizations, public and private. The primary learning objectives for students will include:

- Understand how to integrate business-driven Operational Sustainability across a value chain
- Learn to balance and align varying stakeholder (customers/consumers, NGOs, suppliers, employees and investors) expectations with business realities (both financial and cultural)
- Utilize life cycle thinking to prioritize sustainability efforts
• Gain practical experience in the application of various real-world sustainability tools related to carbon footprint analysis, energy efficiency, zero waste, sustainable buildings, water risks and supplier engagement
• Understand the importance of sustainability data management and validation in developing meaningful metrics and goals
• Learn to communicate Sustainable Operations implications and business benefits in simple, effect and authentic ways, and to present clear business-focused updates to executive management

Course Structure
As a way to help develop practical Sustainable Operations skills, the course will utilize two (2) distinct (fictional) private sector companies in the following business sectors: consumer goods and hospitality. Student teams will be assigned to these business sectors, and will be given real-world scenarios and data to utilize throughout the course. Team-based midyear and final presentations will be required as a way to share ideas and illicit discussion/debate on various strategies.

The course will be structured into the following main sections: Value Chain Analysis, Stakeholder Engagement and Sustainability Communications.

• Value Chain Analysis: we will begin by examining end-to-end operational aspects of sustainability through the lens of greenhouse gases (GHG), to help identify potential “hotspots” where focus might bring greatest value. This section will also cover: facility operations & manufacturing, procurement & logistics, and product use & end-of-life. Students will be challenged to complete assignments related to carbon footprint analysis, zero waste and sustainable buildings (LEED).
• Stakeholder Engagement: through critical analysis of varying internal and external stakeholder (customers/consumers, employees, NGOs, suppliers, and investors) expectations and business realities, this section will provide the backdrop to formulate successful sustainable operations strategies. Utilizing the private sector organizations assigned, teams will be challenged to complete activities related to designing and developing more sustainable products, tackling high-impact NGO priorities, assessing supplier water and climate risks (using WRI tools), and responding to investor inquiries and surveys (e.g. CDP, DJSI).
• Sustainability Communications: in this final section of the course, we will focus on developing and communicating sustainable operations metrics and goals. The importance of data management and validation will be discussed, as well as best practices in private sector companies “telling their stories” in simple, effect and authentic ways. Student teams will be challenged to develop and present clear business-focused sustainability reports (including goals, key metrics, and risks) in the form of Executive Summary slide presentations.

As appropriate, various industry subject matter experts will be invited to provide the class with their Sustainable Operations experiences and perspectives throughout the semester.
Course Schedule

Week 1 (Sept 10) – Introduction to Sustainable Operations
  ❖ Section 1: Value Chain Analysis
Week 2 (Sept 17) – The Value Chain Footprint
Week 3 (Sept 24) – Facility Operations: Energy Efficiency & Green Building
Week 4 (Oct 1) – Sustainable Procurement & Logistics
Week 5 (Oct 8) – Product Use and End-of-Life
Week 6 (Oct 15) – MIDTERM TEAM PRESENTATIONS
  ❖ Section 2: Stakeholder Engagement
Week 7 (Oct 22) – Customers/Consumers: Delivering Sustainable Products/Services
Week 8 (Oct 29) – Suppliers: Assessing Water & Climate Risks
Week 9 (Nov 5) – NGOs: Tackling high-impact priorities
Week 10 (Nov 12) – Investors: Surveys and Standards
  ❖ Section 3: Sustainability Communications
Week 11 (Nov 19) – Sustainability Data: Metrics, Validation & Goal Setting
Thanksgiving Holiday (Nov 26) – no class
Week 12 (Dec 3) – Sustainability Reporting: “telling your story” effectively
Week 13 (Dec 10) – FINAL TEAM PRESENTATIONS (Consumer Goods organization)
Week 14 (Dec 17) – FINAL TEAM PRESENTATIONS (Hospitality organization)

Method of Grading and Evaluation

1. Attendance and Class Participation – 10%
2. Individual Deliverables – 65%
3. Team Deliverables & Presentations – 25%

Grade Point System: the following identifies how points will be awarded and translated into letter grades for the course: A=94-100, A-=90-93, B+=87-89, B=84-86, B-=80-83, C+=77-79, C=74-76, C-=70-73, D=66-69, F=65 or lower

Course Deliverables and Point Scoring

✔ Attendance & Class Participation (10 points)
Participation in class is a critical element of the course and therefore attendance to each class is mandatory. Students are expected to arrive on time, attend all classes, and to stay until the end of class unless they have notified the instructor at the beginning of the session that they will be leaving early. Unexcused absences will affect a student’s grade in the class.

✔ Individual Deliverables (65 points)
Five (5) individual deliverables will be assigned to students as follows:
1. GHG Value Chain Footprint (15 points) – due week 4
2. LEED Scorecard economic analysis (15 points) – due week 5
3. “Zero Waste” definition (10 points) – due week 7
4. Supplier Water Risk Mapping (15 points) – due week 11
5. Key Sustainable Operations Metrics and Goals (10 points) – due week 12
Team Deliverables & Presentations (25 points)

Two (2) team deliverables will be assigned to students as follows:

1. Midterm Team Presentations: Senior Management briefing on Value Chain Analysis (10 points) – due week 6
2. Final Team Presentations: Sustainable Operations Executive Summary (15 points) – due weeks 13 & 14

Assignment Grading Criteria

A series of technical analyses and written management email memos will be assigned throughout the course. Additionally, two team oral presentations will be required.

Grading Criteria for All Written Assignments:

- Evaluated on a scale of 100 points using the following guidelines: 20 points for spelling, grammar, and the overall quality and clarity of the writing. 20 points for adherence to assigned format. 60 points for data analysis (where applicable), persuasiveness and effectiveness in communicating all key messages and meeting the objectives of the assignment.

Grading Criteria for All Verbal Presentations:

- The midterm and final team presentations will be graded on a scale of 100 points using the following guidelines: 20 points for technical analysis. 30 points for overall quality and clarity of written materials – including summary documents and ppt slides. 50 points for overall quality and clarity of the verbal presentation – including adherence to format guidelines, delivering within the prescribed time limit, and presentation effectiveness as related to the assigned objectives.

Course Readings

A variety of sources including journal articles, videos, webinars and websites will be used throughout this course. Documents can be found either on Courseworks or electronically. Unless otherwise noted, these readings are required and should be completed prior to the appropriate session.

Late Assignment Policy

Assignments are due on the dates/times identified. One letter grade will be deducted from any assignment submitted after the due date/time. No assignment will be accepted after the deadline for submitting final grades.

Incompletes

As outlined in the School’s grading and academic starts policy, “A grade of 'I' (incomplete) is a temporary grade indicating failure to complete assigned work. The mark is given only upon the request of the student and at the discretion of the instructor. The student and faculty member must sign a completed ‘Request for Grade of Incomplete Form’ before the final class session. The 'I' must be removed within one year after the end of the semester in which the student received the grade. Students seeking an extension of this time limit must have the approval of the instruction and successfully petition of the director of their program. If no petition is made, or if the petition is unsuccessful, the grade is changed to an N-Permanent Incomplete- which remains on the student’s permanent record.”
Academic Integrity
The School of Continuing Education does not tolerate cheating and/or plagiarism in any form. Those students who violate the Code of Academic and Professional Conduct will be subject to the Dean's Disciplinary Procedures. The Code of Academic and Professional Conduct can be viewed online: http://ce.columbia.edu/node/217
Please familiarize yourself with the proper methods of citation and attribution. The School provides some useful resources online; we strongly encourage you to familiarize yourself with these various styles before conducting your research: http://library.columbia.edu/help/howto/endnote.html
Violations of the Code of Academic and Professional Conduct will be reported to the Associate Dean for Student Affairs.

Accessibility Statement
Columbia is committed to providing equal access to qualified students with documented disabilities. A student's disability status and reasonable accommodations are individually determined based upon disability documentation and related information gathered through the intake process. For more information regarding this service, please visit the University's Health Services website: http://health.columbia.edu/services/ods/support
Week 1: Introduction to Sustainable Operations (September 10)
The first class will be dedicated to personal introductions, discussing course objectives, aligning expectations and reviewing course materials & assignments.

This Week’s Objectives:
- Provide an overview of the Sustainable Operations course
- Align on class objectives, course structure, and grading
- Review business sector organizational profiles
- Discuss course assignments

Preparation prior to class:
- Review the two (2) fictitious organizational profiles assigned within the Consumer Goods and Hospitality sectors (.xls files posted on Courseworks).
Course Section 1: Value Chain Analysis

Week 2: The Value Chain Footprint (September 17)

We will examine end-to-end operational aspects of sustainability through the lens of greenhouse gases (GHGs), keeping in mind that this approach may also be applied equally to numerous sustainability aspects beyond climate. This exercise will highlight a strategy of identifying potential “hotspots” where focus may bring greatest business and environmental value.

This Week’s Objectives:

- Understand the importance of taking a holistic view at an operational footprint (in this case via GHGs) to help identify areas of focus aligned with business goals
- Review how to analyze basic operational energy usage data (e.g. Scope 1 & 2) and convert to GHG emissions
- Appreciate the wide range of impacts associated with end-to-end operational GHGs (e.g. Scope 3 emissions), and gain experience utilizing leading industry approaches and tools (e.g. GHG Protocol and WRI Scope 3 Analyzer)
- Form working teams: Consumer Goods & Hospitality

Preparation prior to class:

- View the online WRI GHG Protocol video on Value Chain; 3:20min; http://www.ghgprotocol.org/feature/watch-brand-new-ghg-protocol-animation-video
- Review real-world company sustainability reports & corporate websites in the following business sectors (posted on Courseworks):
  - Consumer Products: Colgate-Palmolive, Procter & Gamble, Unilever
  - Hospitality: Marriott, Wyndham Worldwide, Xanterra

Individual Assignment #1 (due Week 4 Oct 1): GHG Footprint

Historically, your organization has primarily focused on improving its climate performance related to its own buildings and physical operations via energy efficiency. Although this is a very important aspect of your internal Sustainable Operations strategy, increased demands by internal stakeholders and external NGOs have gotten the attention of your management team. As a result, you are being asked to provide a prioritized evaluation of where the organization should focus its GHG reduction efforts beyond just the current facility operations.
Your assignment is to utilize industry accepted practices and tools to develop a topline GHG Footprint analysis for direct (Scope 1), indirect (Scope 2) and other (Scope 3) GHG emissions. First, using your organization’s energy usage data and GHG factors provided, estimate the total annual GHG emissions associated with your Scope 1 & 2 sources. Then, using the online World Resources Institute (WRI) Scope 3 Evaluator tool and your organization’s profile information, develop estimated GHG emissions associated with all 15 categories of Scope 3 emissions.

Based on your findings, create two Value Chain GHG Footprint pie charts which include 1) a % breakdown of the overall Scope 1, 2 and 3 emissions, and 2) a % breakdown of your organization’s Scope 1 & 2 and detailed Scope 3 emissions. Finally, provide the completed pie charts inserted into a brief email (max. 300 words) which summarizes your insights and recommendations based on the footprint results. You must include a discussion of what you see as the priority opportunity areas and offer some preliminary ideas to help improve your GHG footprint in these areas, in alignment with your organization’s business goals.

We will review and have an open discussion in class during week 4. Your assigned teams will also utilize these results in the midterm presentations.
Week 3: Facility Operations - Energy Efficiency & Green Building (September 24)
Focus will be on understanding the importance, from both an environmental and economic perspective, of investing in energy reduction and efficiency projects for your facility operations. Additionally, we will explore both technical and business opportunities related to green building strategies for operations, by conducting a LEED preliminary scorecard evaluation exercise.

This Week’s Objectives:
- To underscore the criticality of energy efficiency to Sustainable Operations
- Learn strategies to leverage the increasing costs of global energy to drive energy and GHG reduction projects within an organization’s typical ROI
- Analyze a Preliminary LEED Scorecard, including technical feasibility and cost implications, related to a newly proposed facility (e.g. manufacturing and hotel resort) in your organization

GUEST LECTURE: Criticality of Energy Efficiency
Tom Pagliuco, Director Global Energy Engineering
Allergan

Preparation prior to class:
- Read NY Times International article; Slowly, Asia’s Factories begin to Turn Green (January 2014)  http://www.nytimes.com/2014/01/08/business/international/asian-factories-see-sense-and-savings-in-environmental-certification.html?partner=yahoofinance&_r=2
- Visit USGBC website -  http://www.USGBC.org

Individual Assignment #2 (due Week 5, Oct 8): LEED Scorecard Analysis
Due to robust business growth, your organization is looking to expand its presence in India. Currently, your company is evaluating properties and architecture/engineering (A/E) firms to build a new state-of-the-art facility in Goa, India. You have been asked by the VP of Corporate Real Estate and Facilities to provide a recommendation related to sustainable building practice options for the new facility in India. He has heard a lot about the US Green Building Council’s (USGBC) LEED rating system, but does not know if it can be used for this type of facility, or outside of the US, and is also concerned about potential added costs. It has been made clear that the budget is very tight for this project, and only the most cost-effective practical sustainability activities related to the project are likely to be funded.
Since your VP understands that you are not a LEED expert or an architect, he has allowed some funding for you to hire a LEED-AP (accredited professional) consultant to provide you with a preliminary LEED scorecard and estimated on-costs associated with each potential LEED point. However he is counting on you to interpret the scorecard results, estimate total costs, and ultimately make a recommendation on how to proceed.

Your assignment this week is to review the Preliminary LEED Scorecard and cost estimates provided by the LEED consultant for your organization's new facility. Summarize the LEED-AP's findings & present your recommendations in a brief email memo (max 250 words) back to the VP. If you are recommending the company move forward with LEED-certifying the new facility, then highlight which points on the LEED NC Checklist you suggest the company should pursue, and what the cost implications and rationale are. If you are not recommending to move forward with LEED, then provide your written rationale, along with an alternative approach that ensures the building design encompasses relevant sustainability attributes.

**Team Assignment #2 (due Week 6, Oct 15): MIDTERM TEAM PRESENTATIONS – Value Chain Analysis: Senior Management Briefing**

Each of the 8 teams will prepare and present a 7-minute Senior Management briefing summarizing their Value Chain GHG Footprint findings, peer benchmarking observations, and recommendations related to sustainable operations areas of focus which would bring greatest business value. The presentations will be followed by a 3-minute question/answer session.

**Note:** The Senior Management team has allotted only 7 minutes on their agenda for your briefing. Your presentations will be timed and the 7 minute limit will be strictly enforced, so not completing your presentation within the time limit will impact your grading evaluation.

All presentations due by 6:00 PM, October 13th (Submit to Courseworks)
Week 4: Sustainable Procurement & Logistics (October 1)

Organizations engaged in sustainability must think and act beyond the walls of their own operations. Utilizing the results from the GHG footprint exercise conducted for our organizations, we will examine and discuss the opportunities related to suppliers and logistics.

This Week’s Objectives:

- Review the results of the GHG Footprint exercise assigned in Week 2 with focus on the Supplier and Logistics aspects
- Discuss the business importance, challenges, risks, strategies and practicalities of engaging suppliers in sustainability
- Discuss Deforestation as a dynamic model of supplier engagement for companies, NGOs and governments
- Review Sustainable Logistics opportunities via the US EPA SmartWay program

Preparation prior to class:

Supplier Engagement

- Read Harvard Business Review article The Sustainable Supply Chain by Steven Prokesch (October 2010) [https://hbr.org/2010/10/the-sustainable-supply-chain]
- Visit CDP Supply Chain website - [https://www.cdp.net/supplychain]

Deforestation

- Visit website – WRI Forests: [http://www.wri.org/our-work/topics/forests]
- Visit website – WWF deforestation: [https://www.worldwildlife.org/threats/deforestation]
- Visit website – The Forest Trust: [http://www.tft-earth.org/]

Logistics

- View webinar – US EPA SmartWay’s Vision 2020 for Supply Chain Sustainability (June 2015); 59:18min: [https://attendee.gotowebinar.com/recording/3814662501503649537]

No Assignment this Week.
Week 5: Product Use and End-of-Life (October 8)

The sustainability impacts stemming from the use and disposal of an organization's products and/or services can often be significant. Product design and material/ingredient choices combined with sourcing decisions together affect the sustainability profile of an organization's products and services as well as enable/disable the ability of consumers to reduce their impacts. This week we will take a life-cycle approach to analyzing energy, GHG, water and waste reduction opportunities relative to product use and disposal.

This Week's Objectives:

- Review the LEED Scorecard Analysis assignment from Week 3
- Examine the sustainability impacts related to the use of an organization's products and/or services
- Discuss upstream and downstream strategies and challenges to address GHG, water and waste reduction
- Focus in on Operational Waste reduction by examining "Zero Waste" efforts

Preparation prior to class:

- Visit website – US EPA Safer Choice (formerly Design for the Environment) [http://www2.epa.gov/saferchoice]
- Visit website - Closed Loop Fund [http://www.closedloopfund.com/]
- Read Yale Center for Environmental Law & Policy article - *Achieving Zero Waste to Landfill* (May 2011) [http://environment.yale.edu/envirocenter/achieving-zero-waste-to-landfill/]

Individual Assignment #3 (due Week 8, Oct 29): ZERO Waste Definition

As your organization explores the most meaningful methods of improving its overall Sustainable Operations performance, waste generation from facilities is one aspect which seems to be the most visible and important to your employees.
The VP of Human Resources and VP of Supply Chain Operations have decided that a meaningful exercise this year would be to explore the feasibility, environmental benefits and costs of achieving "Zero Landfill Waste" at one of your flagship facilities.

Your assignment this week is to research industry practices and peer performance related to "Zero Landfill Waste". Specifically, you should develop a "Zero Landfill Waste" definition applicable to your industry and consistent with your organization's most current waste generation data. Please provide your final technical "Zero Landfill Waste" definition, including transparency on all assumptions, exceptions and qualifiers, along with a summary explanation in a brief email memo (max 300 words) back to the VPs. You should include an analysis of your current waste data, and also suggest ideas on how best to engage employees in driving towards Zero Waste.
Each of the 8 teams will present a 7-minute Senior Management briefing summarizing their Value Chain GHG Footprint findings, peer benchmarking observations, and recommendations related to sustainable operations areas of focus which would bring greatest business value. The presentations will be followed by a 3-minute question/answer session.

**Note:** the Senior Management team has allotted only 7 minutes on their agenda for your briefing. Your presentations will be timed and the 7 minute limit will be strictly enforced, so not completing your presentation within the time limit will impact your grading evaluation.
Course Section 2: Stakeholder Engagement

Week 7: Customers/Consumers: Delivering Sustainable Products & Services (October 22)
Following our analysis of the value chain in Section 1 of the course, we begin Section 2 with a focus on understanding key stakeholder agendas and expectations. This week we will listen to what our customers and consumers are telling us about sustainability in terms of expectations and relevance, and discuss how best to integrate those in balance with other business drivers.

This Week's Objectives:
- Discuss Stakeholder Engagement within the context of understanding expectations and balancing with business realities and requirements
- Utilize the GHG Footprint developed in Section 1 to examine the impacts stemming from Consumer Use of Products/Service
- Discuss the organization's role in helping customers/consumers reduce their footprints

GUEST LECTURE: Customer & Consumer Sustainability Expectations
Faith Taylor, Senior Vice President Corporate Social Responsibility, Wyndham Worldwide

Preparation prior to class:
- Read Nielsen article Global Consumers are willing to put their Money where their heart is when it comes to Good and Services from Companies committed to Social Responsibility (June 2014); http://www.nielsen.com/us/en/press-room/2014/global-consumers-are-willing-to-put-their-money-where-their-heart-is.html
- Read US News & World Report article Save Money, Live Sustainably? (March 2015); http://www.usnews.com/opinion/economic-intelligence/2015/03/30/new-wal-mart-program-shows-how-hard-sustainability-ratings-are

No Assignment this Week.
Week 8: Suppliers: Assessing Water & Climate Risks (October 29)

Sustainable Operations are critically dependent upon understanding and managing the risks throughout the entire supply chain. This week we will examine approaches to analyzing and addressing water and climate risks associated with key material/service suppliers. An exercise using a real-world tool (World Resources Institute Aqueduct Water Risk mapping tool) will be included.

This Week’s Objectives:

- Review “Zero Waste” definition assignment from Week 5
- Discuss Stakeholder Engagement within the context of how best to partner with suppliers to gather critical input used to inform the assessment of current and future risks
- Understand the criticality of assessing and managing water and climate related risks associated with suppliers
- Learn the application of a real-world analytical tool (WRI's Aqueduct Water Risk mapping) in the supplier evaluation and selection process

Preparation prior to class:

- Visit WRI Aqueduct website - http://www.wri.org/our-work/project/aqueduct
- Attend Webinar by CDP & WRI: “Risky business; how to assess exposure to water risk using WRI’s Aqueduct tool” (April 2015); 53:29min
  https://cdproject.webex.com/ec0701ls13/eventcenter/recording/recordAction.do?theAction=poprecord&AT=pb&internalRecordTicket=4832534b00000002bb0b8257b874bd245a3ead7e370d734d6abc71d33ab0a67462f41f24f3c72a956&renewticket=0&isurlact=true&recordID=38804727&apiname=lsr.php&format=short&needFilter=false&sp=EC&rid=38804727&rcid=0d9b819b4d415c594c6bffe32d9e7bac&siteurl=cdproject&actappname=ec0701ls13&actname=%2Feventcenter%2Fframe%2Fg.do&rnd=7513635887&entappname=url0201ls13&entactname=%2FnbrRecordingURL.do

Individual Assignment #4 (due Week 11, Nov 19): Supplier Water Risk Mapping

Due to ongoing drought conditions, one of your key material suppliers in China has experienced periodic supply disruptions over the past 18 months. Your Global Procurement team is currently evaluating several alternative suppliers of this material in China to help maintain the required supply continuity and cost. As part of the alternate supplier evaluation, your Chief Procurement Officer has asked you if there are any quick and affordable water risk screening methods available to help inform the upcoming business decision. A more thorough and costly consultant-led water risk assessment may be warranted over time, however a generalized water risk evaluation is needed by next week as part of the new supplier screening.
Your assignment is to utilize WRI’s online Aqueduct water risk tool to map out the locations of 3 potential new suppliers in China, obtain water risk data associated with these supplier locations, and then summarize the findings and report back to the Global Procurement team. Use the online Aqueduct tool to analyze Current Conditions on “Overall Water Risk”, “Physical Risk Quantity”, “Flood Occurrence” and “Drought Severity” for all 3 suppliers. Also, report back on the Projected Change in Water Stress in 2020, assuming a Business-As-Usual scenario. Summarize your findings using relevant graphs/tables and recommendations inserted into a brief email memo (max 250 words) back to your Chief Procurement Officer.

Use the following alternate Supplier locations:

- Guangzhou, China
- Tanghe, Henan, China
- Guiyang, Fujian, China
Week 9: NGOs - Tackling high-impact Priorities (November 5)
Organizations today engage with an increasing array of non-government organizations (NGOs) dedicated to driving various sustainability agendas. This week we will survey the current external NGO landscape, examine the business connections to the value chain, and discuss beneficial NGO engagement strategies.

This Week’s Objectives:
• Understand the role of NGOs in driving Sustainable Operations, and survey the current external landscape
• Through examination of our value chain model, discuss which NGO issues are most relevant to Sustainable Operations
• Discuss various strategies in balancing NGO engagement with overall business risks & goals

Preparation prior to class:
• Read Guide to Successful Corporate-NGO Partnerships; GEMI/EDF (2008)
• Visit World Resources Institute (WRI) website; http://www.wri.org
• Visit Environmental Defense Fund (EDF) website; https://www.edf.org/
• Visit Greenpeace website; http://www.greenpeace.org/usa/
• Visit US Green Building Council (USGBC) website; http://www.usgbc.org/

Team Assignment #2 (due Weeks 13 & 14, Dec 10 & 17): FINAL TEAM PRESENTATIONS - Sustainable Operations Executive Summary
As a more comprehensive followup to the executive briefing conducted in Week 6, each of the 8 teams will now prepare and present a 15-minute Senior Management update summarizing their Sustainable Operations findings and recommendations, followed by a 5-minute question/answer session. With the limited amount of time, teams should focus their presentations on high-level learnings, strengths, opportunities and recommendations from the Value Chain Analysis, Stakeholder Engagement and Sustainability Communications work conducted this semester. The audience includes your organization’s CEO and COO, as well as management team leaders from finance, procurement, manufacturing/operations, human resources, corporate communications and sustainability.

Note: the Senior Management team has allotted only 15 minutes on their agenda for your briefing. Your presentations will be timed and the 15 minute limit will be strictly enforced, so not completing your presentation within the time limit will impact your overall assignment evaluation.

All presentations due by 6:00 PM, December 9th (Submit to Courseworks)
Week 10: Investors - Surveys and Standards (November 12)

As sustainability becomes more deeply embedded into global business practices, the investment community is taking an increasingly active role. This week we will discuss how sustainable operations intersect with investor and shareholder expectations from both risk management and value creation perspectives. We will utilize a leading investor-facing environmental initiative (e.g. CDP) to help frame the discussion, as well as examine emerging sustainability accounting standards (e.g. SASB).

This Week’s Objectives:

- Understand how investors view sustainability from both the risk management and value creation perspectives
- Through review of the CDP investor initiatives, gain an understanding of the breadth and depth of issues related to how institutional investors may act to reduce the long-term risks arising from environmental externalities
- Discuss investors as key stakeholders in driving sustainability, as well as how emerging accounting standards help to provide critical governance and support

Preparation prior to class:

- View TED talk The Investment Logic for Sustainability (Nov 2013); 12:19min
  
  http://www.ted.com/talks/chris_mcknett_the_investment_logic_for_sustainability?language=en

- Visit CDP website - https://www.cdp.net/

- View video WSJ and SASB Founder interview (March 2015); 3:53min
  
  http://www.sasb.org/economics-puts-spotlight-sasb/

- Visit website: Sustainability Accounting Standards Board (SASB) website – Principles;
  
  http://www.sasb.org/approach/principles/

No Assignment this Week.
Course Section 3: Sustainability Communications

Week 11: Sustainability Data: Metrics, Validation & Goal Setting (November 19)

Following our work to understand key stakeholder agendas and expectations in Section 2 of the course, we move into Section 3 with a focus on measuring, utilizing and reporting Sustainable Operations data and KPIs. This week we will discuss how, just as in any key business function, data, metrics and goals are essential to driving sustainability performance. Additionally we will examine how organizations go about collecting and validating sustainability data and set meaningful goals.

This Week’s Objectives:
- Review the Supplier Water Risk assessment using WRI Aqueduct from Week 8
- Discuss the types of sustainability data organizations collect, track and validate, with focus on the Global Reporting Initiative (GRI) indices
- Understand how to establish meaningful goal-setting processes

Preparation prior to class:
- Review the 6 real world company Sustainability Reports provided to gauge how KPIs, metrics and goals are communicated in the CPG and Hospitality sectors (posted on Courseworks)
- Visit GRI website https://www.globalreporting.org/Pages/default.aspx
- Read G4 Reporting Principles and Standard Disclosures (pages 3-5 preface & purpose; page 9 Table 1 Categories & Aspects; pages 16-18 Reporting Principles) https://www.globalreporting.org/resourcelibrary/GRIG4-Part1-Reporting-Principles-and-Standard-Disclosures.pdf
- Visit WWF website sections
  - Read WWF, CDP, McKinsey report The 3% Solution (Executive Summary; pages 6-9); https://c402277.ssl.cf1.rackcdn.com/publications/575/files/original/The_3_Percent_Solution_-_June_10.pdf?1371151781
- Visit website by CDP/UN Global Compact/WRI/WWF - http://sciencebasedtargets.org/
Individual Assignment #5 (due week 12, Dec 3): Key Sustainable Operations Metrics and Goals

Your organization has never set an absolute science-based Greenhouse Gas (GHG) reduction goal, and is now being asked to consider doing so from an investor group and a leading climate change NGO.

Your VP Investor Relations is not familiar with what a science-based GHG goal would mean, if they have the available data to develop one, and what it might take (both technically and financially) to achieve such a goal. You are being asked to advise your Investor Relations team on this issue.

Your assignment is to use WWF’s 3% Solution Carbon Target and Profit Calculator to model a 2020 science-based GHG (Scope 1, 2 & 3) goal for your organization, as well as estimate the financial implications associated with those reductions.

Prepare a brief email memo (max 300 words) to the VP Investor Relations describing the results of the WWF exercise, including how the goal compares to where the organization stands today, and specify what types of GHG reductions this might entail. In the memo, you should make a recommendation to set the goal or not. If you advise moving forward with setting a science-based GHG goal, you must address the feasibility, costs and implementation challenges of doing so. If you advise not to move forward at this time, you must explain why and provide a suggested strategic response back to the investor and NGO.
Week 12: Sustainability Reporting: “telling your story” effectively (December 3)

As organizations work to develop sustainability strategies and initiatives, reporting and communicating is essential to ensuring stakeholders at all levels have the clear information they need and expect. This week we will discuss the importance of meaningful, authentic and transparent public reporting, and what strategies to consider when developing a sustainability communications plan.

This Week's Objectives:
- Review the Key Metrics & Science-based Goals assignment from Week 11
- Appreciate the importance of meaningful, authentic and transparent sustainability reporting
- Ensure sustainability reporting is kept simple and clear for all stakeholders

Preparation prior to class:
- Visit EY website – Value of Sustainability Reporting
- Read Glass Lewis & Co. In Depth: Sustainability Reporting (April 2014)
- Visit Triple Pundit website – What is Sustainability Reporting? 8 Tips for the Casual Reader
  http://www.triplepundit.com/2012/08/what-is-sustainability-reporting/
- Utilize the 6 real world company Sustainability Reports provided to gauge differences, positives and negatives

No Assignment this Week.
Each of the 8 teams will present a 15-minute Senior Management update summarizing their Sustainable Operations findings and recommendations, followed by a 5-minute question/answer session. With the limited amount of time, teams should focus their presentations on high-level learnings, strengths, opportunities and recommendations from the Value Chain Analysis, Stakeholder Engagement and Sustainability Communications work conducted this semester. The audience includes your organization’s CEO and COO, as well as management team leaders from finance, procurement, manufacturing/operations, human resources, corporate communications and sustainability.

Note: the Senior Management team has allotted only 15 minutes on their agenda for your briefing. Your presentations will be timed and the 15 minute limit will be strictly enforced, so not completing your presentation within the time limit will impact your overall assignment evaluation.