

ENVIR 502 • Spring 2016

Notes on potential research project topics version 1c

April 11, 2016

The subject of the research project can be an individual firm, an industry, or a current issue in sustainable business.

Course topics: Business functions

We will cover these business functions via reading and cases. Each provides a different perspective on what a firm does. By extension, each provides a different perspective on environmental sustainability and business. Potential projects could address any of these topics more deeply than we have time for in our general class sessions.

1. Manufacturing & operations (including value chain, supply chain and “end of life”)
2. Marketing (including market segments and communicating with customers)
3. Accounting, measuring, and reporting (including LCA and formal reports)
4. Organization theory and organizational behavior
5. Competitive strategy and market dynamics

Sources of environmental impacts: Industry sectors

It is useful to consider which business/industrial activities generate the greatest levels of environmental impacts. One typology follows. I believe that each of these broad sectors creates roughly $\frac{1}{4}$ of overall greenhouse gas (GHG) emissions in the U.S.

1. Buildings
2. Food and agriculture
3. Transportation
4. Production of goods and services

Note that each of these sectors creates different types of environmental impacts – see below – and that the relative importance of each impact differs by sector.

Typology of environmental impacts/negative effects from business activity

We talked about different types of (negative) environmental impacts in the first week and I have found myself thinking about how there are [a] causes that can be identified as a value chain activity (e.g., emissions from manufacturing), and [b] outcomes from that cause (e.g., human health effects, economic costs, etc.)

Causes:

1. Pollution/emissions – GHG, toxics released
2. Other externalities – noise, vibration, heat
3. Disposal
4. Resource extraction/removal – minerals, topsoil, water
5. Use of infrastructure/built environment – transportation, electricity

Negative outcomes:

1. Health impacts
2. Economic/financial costs (externalized)
3. Depletion of resource availability or quality
4. Degradation of common pool resources
5. Overuse of infrastructure
6. Ecosystem impacts (cf. "Thinking like a mountain")
7. Loss of ecosystem services
8. Other system impacts – climate, pH, water temperature

One interesting typology I have seen recently lists the major materials that are created and used in industrial and commercial activity:

1. Concrete
2. Steel
3. Aluminum
4. Plastic
5. Paper

Potential subjects that cut across industries

1. Renewable energy (e.g., wind, solar, biofuels)
2. Recycling technology, logistics and/or economics
3. Reducing greenhouse gas emissions
4. Measuring and reporting
5. Social enterprise, B Corporations

Resources from UW Libraries

Articles and research databases at

<http://guides.lib.uw.edu/az.php>

1. Academic search complete.

Follow "Choose Databases" link to select "Business Source Complete."

2. Web of Science.

Very useful feature for research is listing of citations of a given work.

Newsletters

<http://www.environmentalleader.com>

<http://www.sustainablebrands.com>

www.energymanagertoday.com

Background

Ecological footprint

www.footprintnetwork.org/maps

University Centers

Yale School of Forestry and Environmental Studies

<http://environment.yale.edu>

Pace Academy for Applied Environmental Studies

<http://www.pace.edu/dyson/centers/dyson-college-institute-sustainability-and-environment/pace-academy-for-applied-environmental-studies>

UW Berkeley Center for Responsibly Business

<https://responsiblebusiness.haas.berkeley.edu>

Some local organizations that address business and the environment

Climate Solutions

www.climatesolutions.org

Sightline Institute

www.sightline.org

(Sightline has a lot of projects that address business concerns, but they are primarily concerned with policy matters rather than business perspective)

CleanTech Alliance

www.cleantechalliance.org

Network for Business Innovation and Sustainability (NBIS)

www.nbis.org

Sustainable Seattle

www.sustainableseattle.org

NEBC Northwest Environmental Business Council

<http://nebc.org>

GoGreen Seattle

<http://seattle.gogreenconference.net>

Have an annual conference; 2016 conference was on March 30