

Defining Sustainability Through an Organic Lens

Get schooled in Organicology™. Frameworks for action: *Cradle to Cradle Design, The Natural Step, Natural Capitalism, and Triple bottom Line* and *The Necessary Revolution*

Key Concepts & Definitions:

The Natural Step Karl-Henrik Robert www.naturalstep.org

In order to reach sustainability the following four "systems conditions" must be met:

- Nature must not be systematically subjected to increasing concentrations of substances extracted from the Earth's crust (such as fossil fuels and heavy metals).
- Nature must not be systematically subjected to increasing concentrations of substances produced by society (such as synthetic toxic substances and materials).
- Nature must not be systematically manipulated, degraded, impoverished, or over harvested (such as over-cutting forests, depleting soils, polluting streams, or driving species to extinction)
- Resources must be used fairly and efficiently to meet the basic needs of people worldwide (such as producing more products with less resources and distributing them equitably).

Natural Capitalism Paul Hawken, Amory & Hunter Lovins www.natcap.org

In order to reach sustainability human society must:

- “Live on the “interest” of nature not the “principle”—Sustaining, restoring, and expanding the stocks and flows of natural capital. Stocks of natural capital include productive uncontaminated topsoil, clean water, clean air, a predictable climate, fertile forests, healthy estuaries and oceans.
- Radically increase productivity in the use of natural resources—efficient and effective use of matter and energy.
- Shift to biologically inspired production models and materials—Reducing toxic throughput of materials and substances and, like nature, constantly reuse materials in closed cycles.
- Move to a “service-and-flow” business model--shift from an economy in which the sale of goods is dominant to one based on services and flows (selling performance, quality, and utility, not objects).

Cradle to Cradle Bill McDonough & Michael Braungart www.mcdonough.com

Design principles of sustainability:

- Move from a ‘take-make-waste relationship’ to nature to a ‘borrow-use-return relationship’.
- Design products so they can safely recirculation back into one or both of two distinct metabolisms:
 - Biological cycles--composed of materials that biodegrade and become food for natural cycles.
 - Technical cycles--synthetic technical materials that stay in closed loops and continually circulate as valuable nutrients for industry.

Triple Bottom Line: Ecology, Economy, People

A sustainable economy must be built on the triple bottom line:

- Financial Bottom Line Considering the impacts on financial capital: cash flows, profits, shareholder value and tomorrow's economic viability.
- Social Bottom Line Considering the impacts on social capital: employees, local community, people in other regions/counties where raw materials are produced or are disposed of, and future generations.
- Environmental Bottom Line Considering the impacts on natural capital: the stocks and flows of ecological processes and species.

Zero Waste www.zeri.org

- Eliminate waste everywhere you can. Business should to “do more with less until everything is done without producing waste.”
- All forms of waste should be eliminated (not just wasted motion or solid waste), including all liquid, gaseous, hazardous, discharges into the air and solid wastes.
- Result is creation of multi-functional closed-loop production systems.

Lifecycle and Systems Thinking

When creating a product consider energy, waste, material impacts in the entire lifecycle from ‘upstream’ raw materials, through manufacture and use, to ‘downstream’ disposal (can it be a raw material for another process?). When we start ‘seeing systems’ we solve problems more effectively, considering the at the entire whole dynamic process and interrelationships at work.

The Necessary Revolution Peter Senge 2008

Benefits of embracing sustainability leadership:

1. There is significant money to be saved.
2. There is significant money to be made.
3. You can provide your customers with a competitive edge.
4. Sustainability in a point of differentiation.
5. You can shape the future of your industry.
6. You can become a preferred supplier.
7. You can change your image and your brand.

GROUP COLLABORATION QUESTIONS

What does 2040's sustainable food system look like?

What are the impediments moving forward? What needs re-definition or re-educating?”

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