

## List compiled by Pete Sherman (Univ. Redlands): Sustainability: The Next Industrial Revolution

### **The Next Industrial Revolution**

Lovins A., & P. Hawken (1999, May-June). A Road Map for Natural Capitalism. *Harvard Business Review*, 145-58.  
Hawken, P., A. Lovins, & H.S. Lovins. 1999. Natural Capital: Creating the Next Industrial Revolution. ISBN: 0-316-35300-0.  
Hawken P. 1993. The Ecology of Commerce: A declaration of sustainability. ISBN-13: 978-0-887-30704-1  
Natural Capitalism [www.natcap.org](http://www.natcap.org) . Web page of the next industrial revolution.  
McKibben. B. 2007. Deep Economy: The wealth of communities and the durable future. ISBN-10: 0805076263  
Earth Policy Institute [www.earth-policy.org](http://www.earth-policy.org) Great source of detailed quantitative information and explanation of the impact of the global economy on the environment and social conditions.  
Wiser Earth <http://www.wiserearth.org/>; Wiser Business: <http://www.wiserbusiness.org/>  
Brown. L., C. Flavin, S. Postel. 1991. Saving the planet: how to shape an environmentally sustainable global economy. ISBN-10: 0393308235

### **How to Proceed and Consultants**

Esty D.C., and A. Winston. 2006. Gold to Green: How smart companies use environmental strategies to innovate, create value and build competitive advantage. ISBN: 0300119976.  
Doppelt B. 2003. Leading Change Toward Sustainability: A change-management guide for business, government and civil society. ISBN: 1-874719-64-0  
Rocky Mountain Institute <http://www.rmi.org/>; Since 1982, RMI has worked with corporations, governments, communities, and citizens to help them solve problems, gain competitive advantage, increase profits, and create wealth through the more productive use of resources. RMI's Research & Consulting team provides a broad range of consulting services to businesses and organizations of all sizes. The Research & Consulting team is grounded in RMI's unique blend of whole-system thinking, integrative design, end-use/least-cost analysis, and an interdisciplinary knowledge of advanced technologies and techniques. Research & Consulting provides an array of advisory services within—and more importantly, across—three service groups. RMI's three teams are: Built Environment Team (BET), Energy & Resources Team (ERT), Transportation Practices (MOVE and PHEV)  
Rocky Mountain Institute Consulting <http://www.rmi.org/sitepages/pid43.php>  
McDonough Braungart Design Chemistry: <http://www.mbdcd.com/> Product redesign consultancy.  
National Industrial Symbiosis Programme (UK). NISP is an innovative business opportunity programme that delivers bottom line benefits for our members whilst generating positive outcomes for the environment and society. Put simply, our vision is to change the way business thinks. Operating at the forefront of industrial symbiosis thinking and practice, the programme helps companies take a fresh look at their resources. <http://www.nisp.org.uk/>  
The natural step: [www.naturalstep.org](http://www.naturalstep.org) Since 1988, The Natural Step has worked to accelerate global sustainability by guiding companies, communities and governments onto an ecologically, socially and economically sustainable path. More than 70 people in eleven countries work with an international network of sustainability experts, scientists, universities, and businesses  
Green Valley Initiative: <http://www.greenvalleynow.org/> A developing effort to make the Inland Empire the global hub of green business (much the same way Silicon Valley was to the high tech industry).  
Green Venture Capital and Assets: <http://www.greenvalleynow.org/green-assets/index.html>

### **Some Examples**

Ray Anderson, CEO. Anderson. 1998. Mid-Course Correction. ISBN: 0-9645953-5-4  
Interface Inc. [www.interfaceinc.com](http://www.interfaceinc.com)  
Ritter sport chocolates: [http://www.ritter-sport.de/en/ueberuns/210\\_leitbild.htm#leitbild](http://www.ritter-sport.de/en/ueberuns/210_leitbild.htm#leitbild)  
Norm Thompson: <http://www.normthompson.com>  
GreenBiz top 10 list: [http://www.greenbiz.com/news/reviews\\_third.cfm?NewsID=34384](http://www.greenbiz.com/news/reviews_third.cfm?NewsID=34384)  
Inc.com's top 50 list: [http://www.inc.com/magazine/20061101/green50\\_industrialist.html](http://www.inc.com/magazine/20061101/green50_industrialist.html)  
Herman Miller: <http://www.hermanmiller.com/CDA/SSA/Category/0,1564,a10-c382,00.html>  
<http://www.hermanmiller.com/CDA/SSA/WhitePapers/0,1599,a10-c77-k8,00.html>

### **Intelligent Product and System Design**

McDonough W., and M. Braungart. 2002. Cradle to cradle: remaking the way we make things. ISBN: 0-86547-587-3.  
Benyus J.M. 1997. Biomimicry: Innovation inspired by nature. ISBN- 10: 0-06-05322-6  
Herman Miller: <http://www.hermanmiller.com/CDA/SSA/Category/0,1564,a10-c609,00.html>  
Interface Inc. <http://www.interfacesustainability.com/mimicry.html>  
US Green Building Council (LEED): <http://www.usgbc.org/>

### **Industrial symbiosis and industrial ecology:**

International Society for Industrial Ecology. (with associated professional journal): <http://www.is4ie.org/>  
Chertow M. 2000. Industrial Symbiosis: literature and taxonomy. *Annual Review of Energy and the Environment*. Vol. 25: 313-337.  
go to this link for pdf of academic review article.  
<http://arjournals.annualreviews.org/doi/abs/10.1146/annurev.energy.25.1.313?journalCode=energy.2>

### **Some important keynote addresses:**

David Suzuki – USGBC: <http://www.usgbc.org/DisplayPage.aspx?CMSPageID=1623>

Important speeches for free download (note: Ray Anderson, Paul Hawken, Anne Mulcahy, Orin Smith)

<http://forum.wgbh.org/wgbh/forum.php?category=Business+and+Economics>

Choices you can make (by NO means is this comprehensive):

One-stop shopping: <http://www.coopamerica.org/pubs/greenpages/>

<http://www.green.ca.gov/default.htm>

Cleaning Supplies

[www.bio-o-kleen.com](http://www.bio-o-kleen.com)

[www.tkooranage.com](http://www.tkooranage.com)

[www.sixwise.com](http://www.sixwise.com)

[www.earth911.org](http://www.earth911.org)

[www.seventhgeneration.com](http://www.seventhgeneration.com)

<http://www.coopamerica.org/>

Air purifiers

[www.needs.com](http://www.needs.com)

[www.nontoxic.com](http://www.nontoxic.com)

Paper Products

<http://www.greenlinepaper.com/index.php>

<http://conservatree.com>

[www.seventhgeneration.com](http://www.seventhgeneration.com)

<http://www.fscus.org/>

<http://www.coopamerica.org/>

Hardwood Furniture

[www.ahappyplanet.com](http://www.ahappyplanet.com)

[www.eco-furniture.com](http://www.eco-furniture.com)

<http://www.fscus.org/>

Sustainable Construction, Materials and Retrofitting

[www.greenerbuildings.com](http://www.greenerbuildings.com)

[www.greenbuilder.com](http://www.greenbuilder.com)

[www.greenguide.com](http://www.greenguide.com)

[www.shastaenergygroup.com](http://www.shastaenergygroup.com)

[www.ecobydesign.com](http://www.ecobydesign.com)

[www.nontoxic.com](http://www.nontoxic.com)

[www.aurousa.com](http://www.aurousa.com)

[www.bioshieldpaint.com](http://www.bioshieldpaint.com)

[www.milkpaint.com](http://www.milkpaint.com)

[www.oshadhiusa.com](http://www.oshadhiusa.com)

[www.sawyerfinn.com](http://www.sawyerfinn.com)

[www.weatherbos.com](http://www.weatherbos.com)

[www.buildingforhealth.com](http://www.buildingforhealth.com)

[www.ecobusinesslinks.com/links/sustainable\\_building\\_supplies.htm](http://www.ecobusinesslinks.com/links/sustainable_building_supplies.htm)

[www.icynene.com](http://www.icynene.com)

[www.3phases.com](http://www.3phases.com)

[www.otherpower.com](http://www.otherpower.com)

[www.realgoods.com](http://www.realgoods.com)

[www.renewablechoice.com](http://www.renewablechoice.com)

[www.terrapass.com](http://www.terrapass.com)

[www.carbonfund.org](http://www.carbonfund.org)

[www.wellbuilding.com](http://www.wellbuilding.com)

[www.healthgoods.com](http://www.healthgoods.com)

[www.eere.energy.gov](http://www.eere.energy.gov)

[www.fueleconomy.gov](http://www.fueleconomy.gov)

[www.biodiesel.org](http://www.biodiesel.org)

[www.toyotausa.com](http://www.toyotausa.com)

[www.e85fuel.com](http://www.e85fuel.com)

[www.ases.org](http://www.ases.org)

[www.findsolar.com](http://www.findsolar.com)

[www.envbike.com](http://www.envbike.com)

<http://www.fscus.org/>

[www.interfaceinc.com](http://www.interfaceinc.com)

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#### FIRST STEPS:

Some general and specific steps that any seriously sustainable business should begin immediately.

- Streamline through intelligent design: Improve productivity by holistically optimizing your form, your workspace, your production and function.
- Eliminate the concept of uneconomical waste: convert all available waste into energy; similarly, get all your waste from nearby alternative sources such as land fills (methane) and other industry.
- Take the bull by the horns: Understand and respect limits that are imposed upon you from the environment, society and government and innovate ways to make them work for you.
- Be Sufficient: Make 'sufficiency', not just efficiency, the core concept of your design form and production strategy; do what nature does, take what you need and no more.
- Solar Productivity: Use skylights and natural light to improve productivity several fold.
- Invest in employee health and contentment: reduce sick day and number of quitters thereby saving huge money by avoiding need to replace and train.
- Teleconference: Avoid damaging and costly air and vehicle travel through teleconferencing.
- Power yourselves with renewables like solar, wind and *small* hydroelectric.
- Services NOT products: Sell your clients what they *really* want. (the Interface Inc. example of leasing carpet).
- Create cyclical production design: Eliminate all linear model production (raw resource → waste) and make it cyclical.
- Create life after death: Design your product with a strategic second and third life in mind and take control of your resource acquisition through leasing (not selling) your product thereby assuring customer loyalty.
- Clobber the competition: Run circles of innovation around complacent big business, quickly, *before* they finally catch on.
- Constraint from within: Be self-aware, self-adjusting and self-regulating.
- Mine your staff for creativity: Value the diversity of ideas in your company and regularly mine them for innovations.
- Resource Efficiency: Find innovative means of reducing resource use and pump your savings into healthful, well-trained, valued and contented workforce.
- Recycle Everything: Reuse whatever you can, recycle everything else. Buy only recycled materials.
- Create redundancy: in your workforce, create redundancy so that many people can do many jobs... creates a big-picture awareness of the operation and greater creativity of production process.
- Turn old logic on its head: Study how you can profit off of *reducing* the proprietary nature of your production innovations.
- Think and Buy Local: Use local expertise and supply whenever possible.
- Invest in your community: give back to your local community, become a good corporate citizen.
- Practice at home what you preach at the office: a truly economic person cannot waste, it becomes personally distasteful.
- Become an activist: Assert your societal standing by fighting to change incentives so we subsidize only that which we want to encourage and tax that which we want to discourage.
- Go Carbon Neutral: Do whatever it takes to reduce your carbon output to zero.
- Save the earth: Make protecting the environment AND your society an integral part of your bottom line.