



## A Resource Guide For Understanding The Concepts Of Sustainability

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### A. Defining Sustainability:

#### At Lakeland:

Sustainability can prevail with a global culture that: preserves the environment, develops strong and peaceful relationships, while maintaining flourishing and just economies and societies.

- Understanding the inextricable relationship between diverse human cultures and natural systems
- Understanding the interconnections between economy, society, environment & culture
- Seeking equitable opportunities for livelihood and equitable distribution of resources
- Conserving resources, preserving and renewing natural systems

College Mission: To provide quality learning opportunities to meet the social and economic needs of the community.

1. Sustainability – Wikipedia <http://en.wikipedia.org/wiki/Sustainability>
2. United Nations Educational, Scientific and Cultural Organization  
Educating for a Sustainable Future: A Transdisciplinary Vision for Concerted Action  
EPD-97/CONF.401/CLD.1., November 1997.  
[http://www.unesco.org/education/tlsf/mods/theme\\_a/popups/mod01t05s01.html#emer](http://www.unesco.org/education/tlsf/mods/theme_a/popups/mod01t05s01.html#emer)
3. Second Nature.org - A must visit site for anyone interested in sustainability!  
<http://www.secondnature.org/mission/history>
4. Read the first few pages of this book: The Ethics of Sustainability  
<http://en.calameo.com/read/000908933c809484fe60d>



5. Good Paper reviewing the historic development and difficulty of defining and implementing sustainability.

<http://w3.unisa.edu.au/hawkeinstitute/publications/downloads/wp27.pdf>

6. STARS 2.0 Technical Manual, see pages 12-13 for Defining Sustainability

[http://www.aashe.org/files/documents/STARS/2.0/stars\\_2.0\\_technical\\_manual.pdf](http://www.aashe.org/files/documents/STARS/2.0/stars_2.0_technical_manual.pdf)

## **B. Lakeland Community College Reference Links and Reports**

1. Lakeland's sustainability page with information, videos, presentations and reports primarily on our Energy Efficiency initiative. These references are important to watch to become grounded in Lakeland's early efforts and major accomplishments to date. These have been the drivers for sustainability at Lakeland.

How to get there: Lakeland's home page/about/commitment to excellence/sustainability  
or: <http://lakelandcc.edu/web/about/sustainability>

- Growing Greener Schools and other videos on our Energy Savings Initiative (web videos)
- Recycling/Diversion Report 2014 (pdf)
- Waste Audit 2014 Report (pdf)
- Sustainability in a Nutshell (video and pdf. of .pptx)
- Recycling: A Sustainability Initiative of LCC (pdf. of .pptx)
- Annual Green House Gas Surveys 2004-2014 (pdf.)

2. Since we are members of AASHE any student, faculty or staff with an @mail.Lakelandcc.edu or @lakelandcc.edu address can sign up on the AASHE site for an account that will allow membership benefits like the searchable database which has all the member colleges and their reporting information.

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

3. STARS 2.0 Technical Manual Information Sustainability overviews on the Stars Credits –

[http://www.aashe.org/files/documents/STARS/2.0/stars\\_2.0\\_technical\\_manual.pdf](http://www.aashe.org/files/documents/STARS/2.0/stars_2.0_technical_manual.pdf)

4. AASHE site contains numerous colleges' reports on how they incorporated sustainability into New Student Orientation. (You may have to register with AASHE to get an account to access this material – go to the aashe homepage and sign in with a Lakeland email address only. It will recognize you as a member then.)

<https://stars.aashe.org/search/?q=ER-3>

5. EN 2: New Student Orientation

[http://www.aashe.org/files/documents/STARS/2.0/stars\\_2.0.2\\_credit\\_en\\_2.pdf](http://www.aashe.org/files/documents/STARS/2.0/stars_2.0.2_credit_en_2.pdf)



### C. Business – Economics – Social Responsibility (Equity & Social Justice)

Business plays a large part in Corporate Social, Environmental Sustainability and Life Cycle Analysis (LCA) and Social – Life Cycle Analysis (S-LCA).

1. Patagonia – Yvon Chouard won the Case Western Reserve University's Ethics Prize for 2013 because of his outstanding efforts at **Corporate Social and Environmental Sustainability** with his company. This site is chock full of information, books, checklist etc.  
<http://www.patagonia.com/us/environmentalism>  
<http://www.patagonia.com/us/product/the-responsible-company-what-weve-learned-from-patagonias-first-forty-years-paperback-book?p=BK230-0> One of his books. This page has a downloadable 'checklist on the left side of the page which can be used to rate a company's efforts and success/challenge.
2. MacDonald, Kate  
Many resources on **Human Rights** responsibility through supply-chain. [Dr Kate Macdonald Background Publications - School of ...](#)
3. Andrews E S, Barthel L-P, Beck T, Benoit C, et.al.  
2009. Guidelines for **Social Life Cycle Assessment** of Products. United Nations Environment Programme. Url: <http://lca-net.com/publications/show/guidelines-social-life-cycle-assessment-products/>
4. Benoit, C  
2009. Guidelines for **Social Life Cycle Assessment** of Products, UNEP SETAC Life Cycle Initiative, Web Url: [http://www.unep.fr/shared/publications/pdf/DTIx1164xPA-guidelines\\_sLCA.pdf](http://www.unep.fr/shared/publications/pdf/DTIx1164xPA-guidelines_sLCA.pdf)
5. Bitsch , Vera .  
2011. 'Sustainability Agriculture, **Social Responsibility** and Dairy Farming', Michigan Dairy Review, 16 (1). Web. URL: [www.dairyteam.msu.edu/uploads/files/Sustainability%20Agriculture.pdf](http://www.dairyteam.msu.edu/uploads/files/Sustainability%20Agriculture.pdf)  
This article tells how the social aspects of sustainability are lacking primarily because it impacts profits to increase wages and to decrease harmful but easy solutions to pests and fertility.
6. Cornish, Mary  
2012. **A Living Wage as a Human Right**. Canadian Centre for Policy Alternatives. Web. [www.lifecycleinitiative.org/starting-life-cycle-thinking/life-cycle-approaches/social-lca/](http://www.lifecycleinitiative.org/starting-life-cycle-thinking/life-cycle-approaches/social-lca/)
7. Dowell-Jones ,Mary  
2013. [Financial Institutions And Human Rights - Oxford Journals](#), Human Rights Law Review, 13(3):423-468, (pg. 15 of pdf). Web.
8. Global Issues.Org  
This website is focused on Global Issues including **Poverty**.  
<http://www.globalissues.org/issue/2/causes-of-poverty>



#### D. Green Chemistry

We are a consumer culture. Much of our LEED building work is based on greener chemicals.

1. Warner Babcock  
[http://www.warnerbabcock.com/green\\_chemistry/about\\_green\\_chemistry.asp](http://www.warnerbabcock.com/green_chemistry/about_green_chemistry.asp)
2. Great Lakes Green Chemistry Network – has wonderful archived webinars.  
[www.glgc.org](http://www.glgc.org)
3. EPA website on Green Chemistry  
<http://www2.epa.gov/green-chemistry>
4. Eureka  
2014. Plastics in Depth: recycling, Disposal, Toxicity, Health, and More . . . , Eureka Recycling Program . URL: <http://www.eurekarecycling.org/page.cfm?ContentID=126>
5. Great Lakes Green Chemistry Network.  
2014. URL: <http://www.glgc.org/>

#### E. Human Health and Wellbeing /Environmental Health – a correlation

1. Wolf, K.L., and K. Flora  
2010. Mental Health and Function - A Literature Review. In: Green Cities: Good Health (www.greenhealth.washington.edu). College of the Environment, University of Washington.  
This has many good empirical studies showing the health **benefits of human exposure to nature** on mental and physical well-being.
2. Article with citations on **Nature Deficit Disorder**  
<http://newswatch.nationalgeographic.com/2012/12/14/the-nature-deficit-disorder-and-how-it-is-impacting-our-natural-world-an-interview-with-dr-michael-hutchins/>
3. Tripoint Medical Center – Concord, Ohio

The idea here is that even locally – Drs. Are saying that exposure to **nature gives** humans a sense of **well-being**. There is much empirical research on the actual psychological mechanisms of stress reduction that comes from us being in and seeing nature. Thus, humans depend on nature for our sustenance and well-being.

This is a recent article from the News Herald about their new Four Seasons Wellness Walk.

It ties in with **human health related to environmental health and well-being**.

See also the link to Healthy Parks, Healthy People – National Parks Systems program.

<http://www.news-herald.com/lifestyle/20140618/tranquility-or-exercise-the-promise-of-green-space-in-just-opened-lake-health-wellness-walk>



4. National Parks Service  
2014. Healthy Parks Healthy People. from <http://www.hphpcentral.com/articles-research>

The National Parks Department has created a new strategy that correlates **human health and well-being to environmental health**. It is a partnership between the health care field, parks and communities.

[http://www.nps.gov/public\\_health/hp/hphp/press/1012-955-WASO.pdf](http://www.nps.gov/public_health/hp/hphp/press/1012-955-WASO.pdf)

5. Sustainable Food Systems  
A meta-analysis study of the benefits of **organically produced foods**: Have higher antioxidant and lower cadmium levels.  
<http://csanr.wsu.edu/significant-benefits-organic-plant-based-foods/>

6. University of California - Berkeley.  
2015. February 3. Add nature, art and religion to life's **best anti-inflammatories**. ScienceDaily.  
Retrieved February 7, 2015 from [www.sciencedaily.com/releases/2015/02/150203133237.htm](http://www.sciencedaily.com/releases/2015/02/150203133237.htm)

## F. **Buildings**

United States Green Building Council LEED (Leadership in Energy and Environmental Design) -  
<http://www.usgbc.org/>

Lakeland's Green Kiosk – covers Energy Related projects at the college.  
<http://campus.lakelandcc.greentouchscreen.com/>

See Sustainability Webpage for Greenhouse Gas Report

## G. **Recycling**

1. Recycling Reinvented  
2012. This organization advocates for the Extended Producer Responsibility (EPR), and for the Circular Economy model which encourages business and industry to take responsibility for materials and products end-of-life disposal/recycling. Shoreview, MN <http://recycling-reinvented.org/>
2. Lieber, Kurt  
Ocean Defenders Alliance, <http://www.oceandefenders.org/who-we-are/kurt-lieber.html>
3. Leonard, Annie  
2007. The Story of Stuff, Web, <https://www.youtube.com/watch?v=9GorqroigqM>



## H. News resource

EcoWatch newspaper – a **locally run, national news hub** on environmental issues.

<http://ecowatch.com/>

Union of Concerned Scientists - <http://www.ucsusa.org/>

Natural Resource Defense Council - <http://www.nrdc.org/>

## I. Scholarship

### Systems Thinking – Dynamic Complexity – Eco-Semiotics

This video gives a good overview of this seminal work in the field of **systems thinking** and the interconnectedness (and dependence) of all living systems with each other.

<https://www.youtube.com/watch?v=AqiHJG2wtPI>

Bateson, Gregory

1972, Steps To An Ecology of Mind. University of Chicago Press, Print. Systems Thinking

### HUMANITIES

This is a conference on Sustainability from the perspective of the Humanities. UNDERSTANDING SUSTAINABILITY: PERSPECTIVES FROM THE HUMANITIES

Inaugural National Conference on Sustainability and the Humanities Keynote Speaker: Carolyn Merchant, May 14-16, 2009, Portland State University.

[http://www.csuci.edu/cis/publishing-grant\\_opportunities/understandingsustainability.htm](http://www.csuci.edu/cis/publishing-grant_opportunities/understandingsustainability.htm)

Kagan, Sacha

2013. **Art and Sustainability**: connecting patterns for a culture of complexity, Bielefeld : Transcript, Print: Circulating Collection, Lakeland Community College Library.

### Early Childhood Education

UNESCO

2008. 'The contribution of early childhood education to a sustainable society'. Edited by Ingrid Pramling Samuelsson and Yoshie Kaga, Paris:UNESCO, Web, URL:

<http://www.bing.com/search?form=MOZPSB&pc=MOZO&q=the+contribution+of+early+childhood+education+to+sustainable+society>

### Geopolitics



Klare, Michael

2014. **RESOURCE CONFLICT**, Hampshire College, Amherst, MA. Web,  
<https://www.hampshire.edu/pawss/resource-conflict>

#### J. Additional Resources

Carson, Rachel

1962. *Silent Spring*, Connecticut: Fawcett Crest. Print.

Leopold, A., & Sewell, M.

2001. *A Sand County almanac : with essays on conservation*. New York : Oxford University Press, c2001.

O'Brien, D.

2001. *Buffalo for the Broken Heart: restoring life to a Black Hills ranch*. New York : Random House, c2001.

US Department of the Interior

2014. US Geological Survey, Water Science Survey, URL:

<http://water.usgs.gov/edu/gallery/global-water-volume.html>

Arizona State University Global Sustainability Institute

<https://sustainability.asu.edu/>

Edmonds Community College Sustainability Council

<https://sites.google.com/a/email.edcc.edu/sustainability-council/team-charter>

The Natural Edge Project – offers podcasts that include Ray Anderson (deceased) CEO Interface Carpets, Janine Benus on Biomimicry, Emory Lovins on Natural Capitalism for Colleges, etc.

<https://sustainability.asu.edu/>

For more information please contact Susan Walker-Meere, Dept. for Facilities Management, C-15  
[swalker-meere@lakelandcc.edu](mailto:swalker-meere@lakelandcc.edu)

#### K. AASHE short overviews of subject areas. From the AASHE Stars Technical Manual

[http://www.aashe.org/files/documents/STARS/2.0/stars\\_2.0\\_technical\\_manual.pdf](http://www.aashe.org/files/documents/STARS/2.0/stars_2.0_technical_manual.pdf)

##### **Air & Climate**

This subcategory seeks to recognize institutions that are measuring and reducing their greenhouse gas and air pollutant emissions. Global climate change is having myriad negative impacts throughout the world, including increased frequency and potency of extreme weather



events, sea level rise, species extinction, water shortages, declining agricultural production, and spread of diseases. The impacts are particularly pronounced for low-income communities and countries. In addition, institutions that inventory and take steps to reduce their air pollutant emissions can positively impact the health of the campus community, as well as the health of their local communities and regions.

(Taken from page 110 stars technical manual)

### **Buildings**

This subcategory seeks to recognize institutions that are taking steps to improve the sustainability performance of their buildings. Buildings are generally the largest user of energy and the largest source of greenhouse gas emissions on campuses. Buildings also use significant amounts of potable water. Institutions can design, build, and maintain buildings in ways that provide a safe and healthy indoor environment for inhabitants while simultaneously mitigating the building's impact on the outdoor environment.

(Take from page 127 stars tech manual)

### **Energy**

This subcategory seeks to recognize institutions that are reducing their energy consumption through conservation and efficiency, and switching to cleaner and renewable sources of energy such as solar, wind, geothermal, and low-impact hydropower. For most institutions, energy consumption is the largest source of greenhouse gas emissions, which cause global climate change. Global climate change is having myriad negative impacts throughout the world, including increased frequency and potency of extreme weather events, sea level rise, species extinction, water shortages, declining agricultural production, ocean acidification, and spread of diseases. The impacts are particularly pronounced for vulnerable and poor communities and countries. In addition to causing global climate change, energy generation from fossil fuels, especially coal, produces air pollutants such as sulfur dioxide, nitrogen oxides, mercury, dioxins, arsenic, cadmium and lead. These pollutants contribute to acid rain as well as health problems such as heart and respiratory diseases and cancer. Coal mining and oil and gas drilling can also damage environmentally and/or culturally significant ecosystems. Nuclear power creates highly toxic and long-lasting radioactive waste. Large-scale hydropower projects flood habitats and disrupt fish migration and can involve the relocation of entire communities.

Implementing conservation measures and switching to renewable sources of energy can help institutions save money and protect them from utility rate volatility. Renewable energy may be generated locally and allow campuses to support local economic development.

Furthermore, institutions can help shape markets by creating demand for cleaner, renewable sources of energy. (Taken From Page 184 stars technical manual)

### **Waste**

This subcategory seeks to recognize institutions that are moving toward zero waste by reducing, reusing, recycling, and composting. These actions mitigate the need to extract virgin materials from the earth, such as trees and metals. It generally takes less energy and water to make a product with recycled material than with virgin resources. Reducing the generation of waste also reduces the flow of waste to incinerators and landfills which produce greenhouse gas emissions, can contaminate air and groundwater supplies, and tend to have disproportionate negative impacts on low-income communities. Source reduction and waste diversion also save institutions costly landfill and hauling service fees. In addition, waste reduction campaigns can engage the entire campus community in contributing to a tangible



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sustainability goal.

(Taken From Page 217 stars technical manual)