

The Sustainable Development Movement: Current Efforts in Higher Education

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I. Introduction: From Peak Oil to Sustainability

A. Defining Sustainable

1. The root word of sustainable is sustain. Something is considered completely sustainable if it is able to be sustained or maintained indefinitely.
2. Brundtland Commission definition of sustainable development: “development that meets the needs of the present without compromising the ability of future generations to meet their own needs.”¹
3. In order to take a holistic, systems approach to sustainability there are three main areas of consideration: environmental, social, and economic. This has become known as the triple bottom line.

B. Today’s Society is Highly Unsustainable

1. Energy sources such as oil, natural gas, and coal are approaching production peaks.
2. Global climate change is undeniably underway.
3. David Orr, chair of the Environmental Studies Program at Oberlin College, describes our unsustainable actions as “intergenerational tyranny” because we are threatening future generations’ rights to life, liberty, and the pursuit of happiness.²

C. The Natural Step Framework³

1. Karl-Henrik Robert, M.D., Ph.D. and a leading cancer scientist in Sweden, realized that we have developed a linear system which creates “molecular garbage” and used the laws of thermodynamics to create a framework for a sustainable society.
2. The four system conditions for a sustainable society on Earth are that nature is not subject to systematically increasing:
 - a. concentrations of substances extracted from the Earth’s crust
 - b. concentrations of substances produced by society
 - c. degradation by physical means; and in that society...
 - d. people are not subject to conditions that systematically undermine their capacity to meet their needs.

II. The Coming Wave of Sustainable Development in Higher Education

A. Efficiency and Energy Use Reduction

1. Rice University and Dartmouth College are purchasing energy efficient vending machines.
2. Oberlin College is currently replacing 2,500 incandescent bulbs with compact fluorescent bulbs in student-owned lighting fixtures (many campuses are enacting plans for installing these energy efficient bulbs).⁴
3. Ball State University installed waterless urinals.⁵
4. BSU has adopted a comfort range with “temperature set-points of 68 in winter and 76 in summer” (Berea has a similar policy).⁵
5. Ithaca has adopted a similar comfort range and set points which are estimated to save \$125,000-\$200,000 in the current fiscal year.⁶
6. Northwestern University has adopted a policy for all university purchases to be Energy Star-rated.⁷
7. Passive Solar (counts toward LEED certification)
 - a. UWSP has installed passive solar water heating systems for three residence halls and the pool in their Health Enhancement Center.⁸
 - b. Oberlin College’s Adam Joseph Lewis Center is situated on an east-west axis with large south-facing windows to maximize passive solar heating and lighting.⁹
8. Green Roofs such as the roofs on UWSP’s Albertson Learning Resource Center can reduce heating and cooling costs, reduce and filter stormwater run off, increase the roof life span, filter air, and provide “amenity space.”⁸

B. Waste Reduction, Recycling, and Composting – Less waste means less time, money, and energy spent transporting the waste, as well as more usable resources.

1. Ithaca College recycled 680 tons of material in 05-06 avoiding over \$40,000 in landfill fees and creating \$7,500 in recycling income.⁶
2. Ithaca also processes food waste for campus landscaping soil amendments, fertilizer and irrigation water which saves \$2,500 annually. This effort, coupled with the above (1.) effort accounts for about 45% of the college’s waste stream.⁶
3. Ithaca has a “Take it or Leave it” program which collects reusable household items and appliances left behind by residents at the end of the year thereby diverting 2.5 tons from the waste stream. The items are resold to incoming residents, providing funding for educational and social programs.⁶
4. Oberlin College holds a similar “Big Swap” twice a year. Last year they collected 388 bags of clothing, books, and dorm room items.⁴
5. UWSP reused/maintained 75% of the existing building structure and shell of the Dreyfus University Center during the 2006 remodeling and addition project.²⁸

6. UWRF recycled over 90% of the Ames Building materials in construction of the new Student Center (contributes to LEED certification).¹⁰
7. RecycleMania is a nation-wide college recycling and waste reduction competition which counts toward the ACUPCC.
8. Oberlin reduced use of take-out boxes in a targeted dining hall by 40% in Spring of 2006.⁴

C. Teach and Advocate Environmental Literacy - Responsible individuals make a responsible university, saving money on energy and cleanup costs.

1. Stevens Point has a 3 credit Environmental Literacy general education requirement.¹¹
2. Northwestern University offers undergraduate degrees in Environmental Engineering and Sciences, Environmental Policy and Culture, two separate degrees in Environmental Sciences, and a Sustainable Manufacturing course.⁷
3. Bowdoin College has published:¹²
 - a. a green living guide
 - b. a recycling guide
 - c. "Commute Another Way"
 - d. an environmentally friendly shopping guide
 - e. and green computing tips
4. Dartmouth College has created/promoted¹³
 - a. a "Model Residence Hall Room"
 - b. Energy Star's Back-To-School Shopping List
 - c. and an "Environmentally Friendly Office"

D. Transportation (Public Transportation, Car Pooling, Community Cars, Green Campus/Fleet Vehicles) - Faculty, staff, and students can save money, energy, and reduce pollution while fostering friendship and a communal lifestyle.

1. University of MN Morris has purchased a fleet of hybrid vehicles.¹⁴
2. UCLA has saved over 1.7 million vehicle trips annually by reducing the percentage of faculty and staff who drive to campus alone from 69% to 55% since 1990 through promoting ride-sharing, car-sharing, and public transit programs; increasing on-campus living space; and creating a "Bicycle Master Plan" which increased ridership by 50%.¹⁵
3. Michigan State University created "The Bike Project" which leased over 375 bikes to the campus community last year by repairing discarded bikes and offering weekly bike repair clinics.¹⁶
4. Oberlin College worked with CityWheels to create a car-sharing program for Oberlin.⁴

E. University Plant Life (Rain Gardens, Green Roofs, University Forests, Greenhouses, University Farms/Gardens)- University plant life teaches students to care for and about nature (fostering biophilia), provides a supply of resources to use and sell, improves air quality, and enhances aesthetic beauty on campus.

1. UWSP, Berea College, and others have multiple rain gardens on campus which use native plants requiring less water and energy to filter stormwater runoff and air pollutants.
2. The “Student Organic Farm” at MSU is launching a one year “organic farming certificate program.”¹⁶
3. The “Dartmouth Organic Farm” at Dartmouth college is located about three miles from campus, has 2 acres of production including 25 different flowers, herbs, and vegetables, all certified organic.¹⁷
4. The Warren Wilson College Garden produces 2,000 pounds of main crops and 500 pounds of lesser crops for the college cafeteria.¹⁸

F. Green/Fair Trade Supply Chain

1. BSU is working with the Barnes and Noble bookstore on campus to restructure the sources of purchased materials toward recycled content products.⁵
2. Oberlin transitioned to using 100% eco-friendly cleaning products.⁴
3. As of August 1st, all cafes at MSU will serve only fair trade coffee, tea, sugar, and chocolate.¹⁶
4. It is a UMM policy that their provider gives preference to local food when it meets menu requirements and price expectations.¹⁴
5. Oberlin College dining halls (as of 2006) purchases about 35% of its food from within 150 miles of campus through a “Buy Local” program.¹⁹

G. Renewable Energy (Renewable Energy Purchasing, Photovoltaics, Wind Turbines, Hydroelectricity, Gasification)

1. Stevens Point passed a referendum for students to pay extra to purchase 10% renewable energy, and with further contributions from the administration and Resident Hall Association have become the lead purchaser of renewable energy in the UW System with 16.4%.⁸
2. UWSP also has photovoltaic windows in the Noel Fine Arts Center.⁸
3. University of Minnesota Morris began using an on-site 1.65 MW wind turbine in March 2005 which meets over 50% of campus electricity needs, and UMM plans to add 2 additional wind turbines near campus to bring that to 100%.¹⁴
4. UMM is building a gasification plant which will use corn stover and agricultural residue to meet 80% of campus heating and cooling needs.¹⁴
5. Oberlin College has Ohio’s largest solar array with a rated production of 159 kilowatts.⁴

H. LEED Building Certification

1. Northwestern University has committed to LEED certification for all new buildings and major renovations.⁷
2. Oberlin adopted a policy in June 2006 for “all new construction and major renovations on campus” to be LEED silver certified.²⁰

I. Green Living Communities/Houses – These serve as a model for innovation in living green, and teach those who live there first hand as well as the larger campus and municipal community the benefits of living in a more ecologically sustainable fashion.

1. Ithaca College collaboration with EcoVillage at Ithaca – Ithaca College offers weekends or a week experience at EcoVillage at Ithaca, an internationally recognized example of sustainable community development.²¹

2. The Berea College EcoVillage includes 50 apartments, a Child Development Laboratory, a Commons House, and a Sustainability and Environmental Studies demonstration house. It serves students and visitors as an example of “learning by doing.”²²

3. The Oberlin College “Student Experiment in Ecological Design” (SEED) House accommodates eight students and is designed to “spread the advantages of sustainable living into the local community.”²⁰

III. How?

A. **Organizations** - Network and use resources; don't reinvent the wheel.

1. Association for the Advancement of Sustainability in Higher Education
 - a. annual dues are only \$1,000²³
 - b. 700 people attended the AASHE conference this year, 200 attended last year, and 2000 are expected next year.
2. Association of University Leaders for a Sustainable Future
3. United States Partnership for a Decade of Education for Sustainable Development – UN Higher Education Dept
4. Graduation Pledge Alliance
5. National Wildlife Federation Campus Ecology
6. Focus the Nation
7. International Institute for Sustainable Development

B. **Commitments**

1. American College and University Presidents' Climate Commitment
 - a. At the time the SSA passed resolution 37.21.01 to urge Chancellor Sorenson to create a committee for sustainable efforts and sign the ACUPCC on May 1st, 2007, there were just under 200 signatories. Two months later on July 2nd, 2007 there are 315.
 - b. Signatories include UW Green Bay, UW Oshkosh, UW River Falls, UW Steven's Point, UW Superior, UW Whitewater, Arizona State University, California State Polytechnic, and Southern Polytechnic State University.
2. Talloires Declaration
3. Graduation Pledge Alliance
 - a. This is a simple pledge that graduating students may choose to take. The full pledge reads: "I _____ pledge to explore and take into account the social and environmental consequences of any job I consider and will try to improve these aspects of any organizations for which I work."²⁴

C. **Establishment of Institutions for Sustainable Development** – See resource number 25 for a list of college and university sustainability coordinators, directors, and offices and their contact information and websites.

1. Sustainability Advisory/Research Committee (or equivalent)
 - a. all 375+ signatories of the ACUPCC
2. Sustainability Coordinator (or equivalent)
 - a. Keene State College – Coordinator of Campus Sustainability and Recycling Programs
 - b. University of Minnesota – Sustainable Campus Initiative Coordinator
 - c. UW Madison – Environmental Management Coordinator
 - d. University of Iowa – Environmental Compliance Manager

3. Sustainability Director (or equivalent)
 - a. Harvard – Director, Green Campus Initiative
 - b. Yale University – Sustainability Director
 - c. UW Stevens Point – Director, Global Environmental Management Education Center
 - d. MA Institute of Technology - Deputy Director, Sustainability Program
4. Offices of Sustainability (or equivalent)
 - a. Oberlin College – Office of Environmental Sustainability
 - b. Boston University – Office of Environmental Health and Safety
 - c. Michigan State University, Office of Campus Sustainability
 - d. Ball State University – Center for Energy, Resources and Education Services

D. Financial Support

1. Student Segregated Fees
 - a. some of us in the University Student Senate of SSA are developing a plan to create a Segregated University Fee to put student dollars toward sustainable development.
 - b. Steven’s Point passed a referendum to purchase 15% renewable energy. UWSP also created a “Sustainability Reserve” SUG fee to fund sustainability initiatives on campus property.²⁶
2. Revolving Loan Funds
 - a. This is a fund in which money is borrowed for sustainable development projects, and paid back in full using money the university saves due to the project.
 - b. Students at Macalester University created a “Revolving Loan Fund Guide” which the AASHE publishes as a resource.
 - c. Harvard created a fund with an initial \$3 million and saved almost \$900K a year (an average return on investment of over 30%). The fund was doubled twice as a result and President Summers said, “The best investment in the University is not the endowment but the Green Loan Fund.”²⁷
3. Money saved from investment
4. Alumni
5. Government incentives and grants
6. Administrative allocations
7. Class gifts
8. Endowments
9. Service fees
10. Parking fees
11. Performance contracting
12. Foundations

IV. Specific Recommendations

A. **Make Sustainability a Commitment and Priority**

1. Incorporate Sustainability as a priority and goal in Strategic Planning and other campus plans.
2. Sign the Presidents Climate Commitment and/or the Talloires Declaration and allow students the option of the Graduation Pledge.

B. **Create a Sustainable Development Advisory Committee**

1. This is part of the President's Climate Commitment and a crucial step toward getting things moving on campus.
2. An office of sustainability would bring us to the forefront of the sustainability movement in higher education.
3. Jeff Russell Leadership Group recommendation

C. **Join Organizations such as AASHE**

1. Gain access to resources in order to educate ourselves and others about sustainable development.
2. Learn what other schools are doing and what is working well.

D. **Hire a Sustainability Director**

1. A director position is more effective than a coordinator.
2. This position often reports directly to the chancellor or to two vice chancellors.
3. Many universities have created a full time position to head sustainable development efforts (refer to reference #25 for a list and links).
4. Jeff Russell Leadership Group recommendation

E. **Implement a Revolving Loan Fund for Sustainable Development**

1. AASHE has published an excellent revolving loan fund guide for member campuses.

F. **Unify and Market all Sustainability efforts at Stout**

1. Create a group which unifies all organizations working toward sustainability.
2. Create a website to publish our commitment, our goals, and our progress toward sustainability.
3. Publish reports outlining plans and actions of sustainable development.

Resources:

1. <http://www.un.org/documents/ga/res/42/ares42-187.htm>
2. <http://www.oberlin.edu/stupub/ocreview/archives/2001.03.02/news/newsBriefs.htm>
3. <http://www.ortns.org/framework.htm>
4. <http://www.worldwatch.org/node/4651>
5. <http://www.aashe.org/resources/profiles/ballstate2006.php>
6. <http://www.aashe.org/resources/profiles/ithaca2006.php>
7. <http://www.aashe.org/resources/profiles/northwestern2006.php>
8. <http://www.uwsp.edu/news/pr/chNatureWise5-07.htm>
9. http://www.oberlin.edu/alummag/oamcurrent/oam_summer2002/feat_enviro.htm
10. <http://www.uwrf.edu/sustain/>
11. <http://www.uwsp.edu/news/uwspcatalog/general.htm>
12. <http://www.bowdoin.edu/sustainablebowdoin/>
13. <http://www.dartmouth.edu/~rwg/>
14. <http://www.aashe.org/resources/profiles/ummorris2006.php>
15. <http://www.worldwatch.org/node/4686>
16. <http://www.aashe.org/resources/profiles/michiganstate2006.php>
17. <http://www.dartmouth.edu/~rwg/groups.html>
18. <http://www.worldwatch.org/node/5065>
19. <http://www.oberlin.edu/sustainability/portfolio/food.html>
20. http://www.oberlin.edu/sustainability/portfolio/buildings_and_grounds.html
21. http://www.ithaca.edu/biology/icpse/ecovillage_2007.pdf
22. <http://www.berea.edu/sens/ecovillage/>

23. <http://www.aashe.org/membership/application.pdf>
24. <http://www.graduationpledge.org/>
25. http://www.ulsf.org/resources_sust_coordinators.htm
26. <http://www.uwsp.edu/stuorg/sga/Budget%20office%20page/Reserve%20Requests/Sustainability%20Reserve%20Request.doc>
27. *Creating a Campus Sustainability Revolving Loan Fund: A Guide for Students.*
28. <http://www.uwsp.edu/centers/construction/sustainability.asp>