

XIII. APPENDICIES

APPENDIX A.

Chancellor's Charge Memo



To: Campus Sustainability Team Members:

Steven Arndt (Co-Captain, Facilities Management)
David Barnhill (Environmental Studies)
Michael Burayidi (Geography & Urban Planning)
James DeDecker (student)
Cathy Deringer (Grounds Crew, Facilities Management)
Jessi Dresen (student)
Steve Dunn (Business Administration)
Jim Feldman (Environmental Studies)
Tom Fojtik (Residence Life)
Marcy Hauer (Chemistry Stockroom)
Chuck Hermes (Facilities Management)
Jim Johnson (Purchasing)
Tamara Jones (student)
Jacob Jungers (student)
Mike Lizotte (Co-Captain, Biology and Microbiology)
Colleen McDermott (Biology & Microbiology)
Greg Olson (student)
Dan Potratz (student)
Andy Robson (L & S Dean's Office)
Dani Stolley (Foundation)
Marty Strand (University Dining)
Mark Streufert (Facilities Management)
Michelle Wentz (Residence Life)

From: Richard H. Wells, Chancellor, and Lane Earns, Provost

Re: Campus Sustainability Team Charge, Goals, Roles and Responsibilities

Date: October 2, 2006

Over the last year, different groups of faculty, staff, students and individuals have asked that we have a more coordinated effort across campus on sustainability. A small group composed of David Barnhill, Steven Dunn, Dani Stolley, Steve Arndt, Jim Feldman, Nancy Hintz, Mike Lizotte, Andy Robson and Tom Sonleitner worked with Provost Lane Earns and me to develop the Campus Sustainability Team Charge, Goals, Roles and Responsibilities for the team. We greatly appreciate the work they have done in preparing the following document.

It is our pleasure to provide confirmation of your assignment to the Campus Sustainability Team. It is important to note that this is not a committee or task force. Rather, it is a group of people selected because of their expertise and commitment to work together toward sustainability goals as they hold themselves mutually accountable. All team members will be expected to serve for a minimum of two years. Given that several members of the team have job descriptions directly related to the team's goals, they would remain on the team as long as they work at UW Oshkosh. Student intern(s) will be assigned to the team. The Campus Sustainability Team will have an external advisory group with which it will consult. It will devise a plan to ensure a sense of ownership and participation in the planning processes among relevant staff, student and faculty members.

Rationale for a Campus Sustainability Team

- ❖ **The current situation.** Experts in various disciplines and arenas have shown that human impacts on the environment are creating situations that lower the capacity of Earth to support humanity and other life forms, and that in certain key arenas the situation is likely to deteriorate.
- ❖ **Current trends in human consumption and the use of resources are not sustainable.** Unsustainable societies are creating situations that promote wars, make it difficult to achieve social and economic justice, and increase challenges and risks for future generations seeking a high quality of life.
- ❖ **The environment and society.** Ecological integrity is interrelated with various aspects of human welfare. This welfare depends on a healthy, sustainable environment, and deterioration in social conditions leads to environmental degradation.
- ❖ **The responsibility of universities.** The university is a member of the social and ecological community, and shares a responsibility to be a positive force in preserving and enhancing environmental and social well-being. More importantly, it has a unique role as an institution that develops expertise in the science, technology, and policies of sustainability as well as in the philosophical basis for sustainability. In addition, it is the principal site for teaching future leaders who will play pivotal roles in creating a sustainable society. All academic disciplines are relevant to sustainability, having distinctive resources for cultivating sustainability. As Georgia Tech University has said: “sustainability is everyone’s responsibility, and . . . each discipline, inter-discipline, and profession has a particular contribution to make” (Clough et al, “Sustainability and the University”). Various international bodies have signed declarations affirming this responsibility of universities, including the United Nations, which has declared that 2005-2014 is the Decade of Education for Sustainable Development.
- ❖ **The responsibilities of the University of Wisconsin Oshkosh.**

- As one of the largest institutions in the city and state, the unsustainable practices of UW Oshkosh have major implications for creating environmental impacts and resource depletion. Because of its small land area, the campus imports nearly all its energy and materials, and exports practically all its wastes. With many faculty, staff, and students commuting to campus, the university's environmental impact is indirectly multiplied by the need for transportation and off-campus housing. To lessen its impact on surrounding communities and ecosystems, the university has a responsibility to reduce direct and indirect consumption of resources and production of wastes. Sustainability can also be approached by using resources from renewable sources, and limiting wastes to re-usable or recyclable forms. The financial responsibilities of the institution to the state and to paying students also support the reduction of wasteful practices.
- The university has professed institutional values that support the attainment of a sustainable campus. The UW Oshkosh **Vision** includes the goal of being “a national model as a responsive, progressive and scholarly public service community known for its accomplished record of engaging people and ideas for common good.” One of our sets of **Core Values** is “Social Awareness and Responsiveness. We believe that educators and students should explore and engage the challenges that confront regional, national and global communities, using their intellectual and creative capabilities to understand, investigate and solve problems. Social awareness will allow us to respond to domestic and international needs for equitable and sustainable societies.” By endorsing the **Earth Charter**, UW Oshkosh has committed itself to the principles of ecological integrity, social and economic justice, and democracy, nonviolence, and peace. The Charter states that “we must decide to live with a sense of universal responsibility, identifying ourselves with the whole Earth community as well as our local communities.”
- ❖ **Other colleges and universities.** Few other colleges and universities have established comprehensive sustainability programs. Such an approach to campus planning, particularly if progress is measured and substantial, would place UW Oshkosh in the vanguard of institutions demonstrating that sustainable operations are achievable, that sustainability education impacts college graduates, and that universities can lead surrounding communities to a sustainable future.

Sustainability in Higher Education: Definition and Conceptual Framework

Although there are various definitions of sustainability, the basic meaning is living in a way that ensures that future generations enjoy the benefits of a healthy environment and social well-being. Sustainability is not limited to environmental concerns but rather integrates three dimensions: ecological integrity, social justice, and economic well-being. It is also not limited to merely preserving resources. It also includes positive steps toward ecological, social, and economic health.

In higher education, the notion of sustainability has special meanings. The University Leaders for a Sustainable Future (ULSF) has stated that: "'Sustainability' implies that the critical activities of a higher education institution are (at a minimum) ecologically sound, socially just, and economically viable, and that they will continue to be so for future generations. A truly sustainable college or university would emphasize these concepts in its curriculum and research, preparing students to contribute as working citizens to an environmentally sound and socially just society. The institution would function as a sustainable community, embodying responsible consumption of food and energy, treating its diverse members with respect, and supporting these values in the surrounding community."

As this definition suggests, there are various aspects in sustainability in higher education. Four dimensions are often highlighted: teaching, research, operations, and outreach, with the notion of sustainability having different nuances in each. The teaching dimension is frequently referred to as "education for sustainability." According to UNESCO, education for sustainability is a "dynamic concept that encompasses a new vision of education that seeks to empower people of all ages to assume responsibility for creating a sustainable future."

The Presidents Council on Sustainable Development has added that "Education for sustainability is a lifelong learning process that leads to an informed and involved citizenry having the creative problem-solving skills, scientific and social literacy, and commitment to engage in responsible individual and cooperative actions. These actions will help ensure an environmentally sound and economically prosperous future." Education for sustainability, then, seeks to empower students with a deep sense of environmental and social citizenship and with the knowledge and skills needed to work effectively for sustainability.

Sustainability in research involves gaining expertise and communicating new ideas that enable society to create a sustainable future. Sustainability in operations involves minimizing our ecological footprint and ensuring an economically and socially just community on campus. Sustainability in outreach includes sharing that knowledge with the broader community, as well as obtaining financial resources necessary to do all of these goals.

UW Oshkosh already is considered a national model in terms of several aspects of sustainability. In order to build towards a truly sustainable institution, we need a comprehensive plan that gives direction for specific actions in education, research, operations, and outreach.

The Charge for the Team

The team is charged with devising an integrated Campus Sustainability Plan (CSP), which would serve as a component of several key operational plans. The CSP will:

- ❖ Indicate how the CSP is an outgrowth of UW Oshkosh's Governing Ideas, an endorsement of Earth Charter, and a recognition of the university's responsibility to work toward a sustainable future.
- ❖ Help ensure that our campus sustainability is comprehensive, including operations, teaching, research, and outreach.
- ❖ Make substantive recommendations for achieving sustainable operations and sustainability education based on environmental audits and needs assessments.
- ❖ Increase the sense of environmental and social citizenship of UW Oshkosh as a whole and as one goal of our students' education.
- ❖ Cultivate awareness and appreciation on campus of sustainability, its relevance throughout the university, our responsibility to promote it.
- ❖ The Team will report to the Provost and Vice Chancellor submitting annual reports in May of the Team's progress in planning and moving forward recommended programs to improve campus sustainability as well as the university's progress in campus sustainability. The Provost will distribute the report for consideration by governance groups, vice chancellors and deans.

Team Goals

In accomplishing the team charge, the Team will pursue the following goals:

- ❖ Maximize campus ownership of the planning process and the resulting plan;
- ❖ Involve internal and external University constituents in the on-going operational planning and refinement process;
- ❖ Analyze the current level and significance of sustainability in operations, teaching, research, and outreach;
- ❖ Analyze the resources being used for campus sustainability and estimate additional resources needed;
- ❖ Clarify the notion of campus sustainability, learning from how other campuses and organizations conceptualize sustainability and put sustainability into practice; and
- ❖ Establish criteria for UW Oshkosh to be a model institution dedicated to sustainability.

The Campus Sustainability Plan (CSP)

The CSP will provide information and analysis concerning the current status of the four dimensions of sustainability on campus and will describe and prioritize options for making progress towards sustainability goals. These options will be formulated as strategies and action steps that can be measured and assessed. Those aspects of the plan that require approval by specific areas of the university (e.g., curriculum) will be submitted to those areas via the Provost (e.g., faculty governance) for consideration and approval.

To evaluate the overall success of the campus-wide effort, we need to analyze at the beginning and at later stages:

- ❖ Resources and energy used, and wastes produced, disposed, recycled and re-used on campus and for university-dependent activities (such as transportation and off-campus housing). We can measure these parameters by continuing and expanding the Campus Environmental Audit.
- ❖ The awareness among students, faculty, staff, and the wider community of sustainability in general and of UW Oshkosh sustainability efforts and achievements. We can measure this by polling these groups to learn: “Has the awareness of sustainability increased due to UW Oshkosh efforts?”
- ❖ The breadth and integration of sustainability efforts on campus. We can measure this by asking: “Have we involved all relevant sectors of university and improved the integration of their efforts?”
- ❖ The degree of involvement of external stakeholders. We can measure this by asking: “Is the breadth and involvement of external stakeholders adequate for the planning and implementation of the CSP?”
- ❖ The resources we have for implementing the plan. We can measure this by asking: “Are the amount and types of resources adequate for the planning and implementation of the CSP?”

Goals of Sustainability Plan

1. be easy to measure, so as to hold UW Oshkosh accountable for progress,
2. avoid confusion with broad strategies and action plans,
3. align with, or minimize conflicts with, other university strategic and operational plans,
4. share responsibility and benefits with the whole University,

5. be engaging and strategic,
6. demonstrate a grounding in baseline data and needs assessments, and
7. apply both internally and externally to university-related activities.

The Promise to Support the Team

We are asking team members to take on very challenging tasks and to provide leadership in the development and execution of a Campus Sustainability Plan. However, assistance exists in the following forms:

1. Existing well-developed and ever-improving university strategic and operational plans, processes, actions and successes;
2. The involvement and support of the university community and its internal and external leaders;
3. Valuable information obtained through the campus-wide environmental audit, updated annually.
4. Membership in institutions supporting campus sustainability (such as Campus Ecology and the Association for the Advancement of Sustainability in Higher Education);
5. On-campus consultant visitations, as needed;
6. Support for team members and others for professional development programs in the area of campus sustainability, including attendance at conferences;
7. Course release or equivalent time release from current duties for the Chair of the CST.

TIMELINE to be used the Campus Sustainability Team:

Task	Date
Select and Charge Team	September 27, 2006
Lay the foundation: draft preliminary plan outline	October 5, 2006
Launch Sustainability Team; name CSP writing committee	October 12, 2006
Review CSPs from other institutions	November 2, 2006
Meet with/get feedback from UW Oshkosh and external stakeholders	December 7, 2006
Complete research on possible UW Oshkosh CSP strategies	February 9, 2007
Complete initial draft CSP and distribute to external advising committees	March 9, 2007
Present draft plan (revised) to campus community	April, 2007

Complete CSP and submit to Provost	July, 2007
Provost distributes CSP to governance groups, vice chancellors, and deans for review and feedback	August, 2007
Provost submits plans, feedback summary and recommended 1 and 5 year implementation priorities to Chancellor	October 2007
CSP annual report summaries included in University's Strategic Plan and Annual Report	Ongoing

APPENDIX B

Campus Sustainability Team Survey

Online Survey Results

The 113 recommendations were broken into 6 surveys, which were completed by 13 to 17 members of the CST. The format was that each recommendation was followed by two questions, with 5 possible rank choices each. The rankings were compiled into the following high and low categories:

BROAD: “All” + “Nearly All”

Narrow: “Some” + “Few”

DEEP: “Paradigm-shift (started or confirmed) in attitude or practice”
+ “Will gain new perspective of change behavior”

Shallow: “Will merely notice a difference, or only weakly influenced to act”
+ “Will not notice or act”

There were 35 recommendations that did not show a majority (= or >50% of surveys) in any of these categories. The central rankings (“Most” for breadth and “Will make an impression or consider action”) may have been popular, or the CST members were highly varied in their responses.

The other 78 recommendations had majorities in one or more of the 4 categories listed above. The table below suggests how these majority opinions might be expressed in the CST Report:

MAJORITY OF CST RANKINGS AS:	POSSIBLE CONSIDERATIONS:
BROAD plus DEEP	Very Strong emphasis in report.. (18 recommendations)
BROAD DEEP NARROW but DEEP	Emphasize in report. (37 recommendations)
BROAD but SHALLOW	<i>Emphasize if easy to accomplish?</i> (1 recommendation under “Buildings”)
NARROW NARROW plus SHALLOW SHALLOW	<i>Evaluate Critically; drop as final recommendations.</i> (22 recommendations)

The following tables show majority opinions of BROAD, narrow, DEEP, and/or shallow for each recommendation. The numbers are percent, and narrow and shallow are

presented as negative values. The recommendations are highlighted in bold if BROAD and/or DEEP, larger font if both, and in italics if deemed narrow or shallow.

STUDIES NEEDED (24 items)

BROAD	narrow	DEEP	shallow	RECOMMENDATION
				Assess the existing courses and curriculum for breadth and depth in addressing sustainability issues.
	-53		-35	<i>Assess the number of students taking one or more classes that address sustainability</i>
	-80		-43	<i>Develop a Geographical Information System (GIS) database for campus property</i>
				Initiate studies of alternative electricity generation technologies (photovoltaic, wind, biomass) to estimate when they will become feasible investments
				Initiate studies of alternative heating and cooling technologies (biomass-burning boilers, ground source heat pumps) at existing facilities that are not connected to the central heating/cooling system (Foundation Center, Cub Foods, Old Credit Union, Ceramic Lab, Aquatic Research Lab, and Titan Stadium)
53		41		Initiate studies of more efficient lighting options (e.g. LED) to estimate when retrofitting will be feasible
				Initiate studies of “green roof” technology (e.g. thin beds of prairie plants -- to cool buildings and mitigate storm water runoff) to determine feasibility for existing buildings new construction
53		18		Initiate studies of porous pavements (allow stormwater to soak into the ground for filtration instead of running into streams and lakes) for products suitable for campus needs on walkways and parking lots.
53		71		Initiate studies of commuting students and staff to understand their needs, preferences, commuting costs, transportation options, parking habits, vehicle size, and parking cost sensitivity (e.g. relative to fuel and other costs)
				Review bus transit to understand commuter needs and desires for hours of service, routes, seasonality, intermodal links (to airports, intercity bus/rail, bike trails), considering whether the University can augment or replace city bus services (e.g. shuttle bus/van, chartered buses for holidays and move-in/out, etc.)

47		71		Develop a “green guide to purchasing” to provide lists of the top recommended products (e.g. Energy Star rated office, laundry, vending, and kitchen equipment) that are updated regularly
				Evaluate existing food service operations for energy and water use (e.g. by the Food Service Technology Center of California)
				Study the feasibility of composting the amount and types of food waste produced
	-65		-35	<i>Study options to sell or donate valued food wastes (coffee grounds, oils, etc.).</i>
	-50		-12	<i>Determine how campus gardens might supply food (types, amounts, cost effectiveness) and recycle food wastes</i>
	-53		-41	<i>Study the feasibility of installing a bio-digester to process food wastes producing methane that can be burned for heat and/or electricity generation</i>
56		69		Study campus solid waste production and recyclable, re-usable and compostable content to develop a plan to decrease solid waste production by addressing which materials to target, how and where to collect (e.g. more receptacles; outdoor recycling stations), education (e-mails, posters, and fliers) and events (campus wide rummage sale; residence hall move-out day collections/donations; recycling Olympics)
	-59		-30	<i>Determine appropriate giveaway and other trade show type items suitable for promoting sustainability, considering image, material use, waste, utility, and desirability</i>
				Review materials currently used to promote UW Oshkosh and its programs for potential to add sustainability information, messages, appeals, images, etc.
	-88		-25	<i>Determine which branches and affiliates of UWO that engage in outreach can best contribute to outreach about campus sustainability (e.g. Continuing Education, Center for Community Partnerships, Alumni Relations, UWO Foundation, Science Outreach, etc.)</i>
				Determine the feasibility of mandating the purchase of environmentally-friendly cleaning products, considering cost, effectiveness and hygiene standards
				Study options for food service purchasing based on sustainable farming and fishing practices.

				Study the effectiveness of environmentally-friendly herbicides under campus conditions, with a goal of eliminating the use of chemical herbicides such as Roundup
66		50		Assess the possibility of burning alternative fuels at the campus heating plant.

PLANS AND POLICIES (31 items)

BROAD	narrow	DEEP	shallow	RECOMMENDATION
86		66		Incorporate sustainable operations training into faculty/staff/student orientations, annual/periodic reviews, reminders, and retraining
38		50		Add a regular section on sustainability to the UWO Annual Report
	-56		-6	<i>Discuss and set policies and procedures for determining when and how UW Oshkosh engages in sustainability-related campaigns, signs petitions, joins groups, etc. (e.g. Cool Cities Campaign, Campus Climate Challenge, etc.)</i>
37		56		During low usage periods (summer, interim, weekend), consolidate classroom usage to the most energy efficient building(s) that meet course requirements
56		44		Establish campus standards for sidewalk and path widths that accommodate students and bicycles (many campus sidewalks, and all city sidewalks, are too narrow) for use in all new construction and renovation
63		75		Develop a Campus Transportation Plan that encourages more efficient transportation options (pedestrian, bus, bike, mopeds/scooters/ motorcycles, car/vanpools, etc.) and discourages wasteful single-occupant car/truck commuting
56		69		Establish incentives for students and staff to refrain from bringing cars/trucks to campus (e.g. preferred housing; bike storage; waive fees; downtown promotions, frequent flyer miles, cash, etc.)
38		63		Revise parking fee price structure to reflect market value (land use, competition), provide incentives to carpool, and generate revenue that covers construction, upkeep, improvements, and related costs (e.g. snowplowing, stormwater management, law enforcement, landscaping, electricity, parking office staff, etc.)

38		69		Encourage commuters to use more efficient vehicles by designating parking spaces for compact cars, bikes, and motorbikes at preferred locations (central lots, near building entrances, first floor of parking structures, etc.)
25		69		Establish campus vehicle and fuel storage guidelines that emphasize environmental responsibility in future purchases; current options favor E-85 compliant high MPG vehicles (hybrid vehicles could be more or equally responsible, but current state restrictions against purchasing non-American brands severely limits the range of vehicles available)
50		74		Develop a sustainability-based campus purchasing policy, including a long-term vision and definitions regarding green purchasing (e.g. a “beginner’s guide to green purchasing”)
44		56		Environmentally Responsible Purchasing Standards (ERPS) should be developed for major areas of purchasing (e.g. standards for energy efficiency, water use, pollution output, recycled content; disposal costs, health risks, etc.)
20	-53	56	-19	Set campus policy and process for seeking and funding LEED certification for building construction and refurbishment
50		69		Develop campus policies and processes for reviewing and implementing energy efficiency projects/retrofits as new products/technologies emerge
55		75		Mandate that all new construction be built in an aggressively energy-efficient manner, which today would mean 50 kBtu/sf (ca. 50% of typical construction
				Specify “green”, but fire-retardant, carpet and upholstery products in construction and refurbishment
6	-69	56	-19	Develop a plan to increase utilization of hazardous materials (e.g. used in scientific, artistic or other endeavors) for course-related activities rather than storage or disposal
40		63		Develop campus policies and processes for reviewing and implementing green cleaning products as they become available
38		56		Require that contracted food service, custodial, or laundry services use green supplies
94		75		The campus will purchase or produce 100% of its electricity needs through renewable sources by 2012

87		81		Reduce overall energy consumption by 20% (from fiscal year (FY) 2005 levels) by FY2010
19	-56	50	-12	Plan and plant landscaping so that water for irrigation may be acquired from storm water basins or ponds
56		69		Double recycling to 20% of solid waste by 2010
31		56		Maximize the number of students taking one or more classes that address sustainability -- incrementally through increased course offerings, degree requirements, marketing, etc.
69		75		Maximize the number of students taking one or more classes that address sustainability -- through a General Education requirement for sustainability or environmental awareness
44		63		Provide students with more courses clearly focused on sustainability, in general and from relevant disciplinary perspectives (could be new courses or modifications to existing courses).
13	-87	69	-12	Develop graduate programs in sustainability (could be interdisciplinary; dept. or college; certificate or degree)
25	-56	81	-6	Increase the opportunities for our students to have outside-the-classroom, skill- and resume-building experiences with local businesses, non-profits, community organizations, etc. through internships, volunteering, service learning, and faculty-supervised research projects
75		40		Seek to extend the winter recess period one additional week to reduce the campus heating requirement and conserve energy
50		31		Adopt a campus wide sustainability mission statement
	-50		-25	<i>All future purchases of campus vehicles shall have features that lower environmental impacts (e.g. appropriate size, fuel efficiency, biofueled, electric, fuel-celled, hybrid, etc.)</i>

AWARENESS-RAISING (20 items):

BROAD	narrow	DEEP	shallow	RECOMMENDATION
				Raise student awareness and participation in UWO green campus initiatives through programming in the residence halls (e.g. activities, competitions, move-in/move-out waste reduction campaigns, etc.)
				Raise student awareness and participation in UWO green campus initiatives through peer educators
	-61		-7	<i>Develop a more centralized way of finding and publicizing volunteer opportunities in sustainability projects and organizations (on-campus and off)</i>
13	-53	53	-13	Raise UW Oshkosh profile as a leader in sustainability with consistent representation at local, regional and national meetings and conferences related to sustainability
				Develop posters about sustainability practices, initiatives, goals, projects, etc. for placement in campus work, play, and residence buildings and use at off-campus events
				Develop format and branding for sustainability promotional materials (brochures, leaflets, handbills, table-tents, banners, stencils, websites, etc.) and initiate use for general awareness and specific events
				Create presentation materials (booth display, posters, Powerpoint files) summarizing campus sustainability efforts, and train staff who will represent the university
				Publish and promote an Annual Energy Report linked to a campus-wide discussion of conservation, consumption trends, investment choices, future plans, and the importance of staff/student cooperation and innovation
				Educate students and staff about the full costs of bringing a vehicle to campus (purchase price, fuel, repairs, insurance, registration, tax, campus land use, pollution, etc.) to provide perspective on parking fee rates
73		73		Provide utilities (water, electricity, heat) usage feedback and education to campus users – with awareness, people can make better decisions about their use
				Publicize, encourage, and educate students and staff to report water waste on campus
	-74		-33	<i>Conduct storm water public education and outreach program</i>
7	-73	60	-13	Develop awards and rewards for best sustainability research

	-73		-20	<i>Increase the awareness and teaching use of off-campus university properties (Allen Marsh, High Trestle Woods, assorted park lots north/west of campus and at the stadium)</i>
				Continue current practice of major, week-long campus events each semester to promote sustainability on campus (Earth Charter Community Summit; Earth Week)
	-43		-50	<i>Develop a campus-wide sustainability calendar to promote and organize event schedules</i>
	-78		-42	<i>Increase dissemination of research findings through public meetings (each semester, if possible)</i>
				Use major campus events (athletic competitions, concerts and graduation ceremonies) as opportunities to demonstrate aggressive waste reduction and recycling
				Create a university website on sustainability activities, highlighting the campus but considering use by the broader community
	-71		-29	<i>Develop and maintain a sustainability research clearinghouse website, including communication tools and databases for expertise (on campus; collaborators), project ideas and problem-posing (campus and community), ongoing/past research, and funding sources.</i>

STAFFING (8 items):

BROAD	narrow	DEEP	shallow	RECOMMENDATION
59		79		Formalize and institutionalize the university's commitment to sustainability by designating appropriate sustainability responsibilities at all levels of Administration
44		56		Establish administration position and office in charge of Transportation Services (superceding parking administration) to allow the university to plan and encourage sustainable transportation
56		63		Formalize and institutionalize the university's commitment to sustainability by designating a sustainability coordinator/officer (eg. to assist with research project development and funding; coordinate outreach efforts; etc.)
20	-60	53	-13	Add faculty expertise in relevant engineering fields (could be associated with other UW campuses or colleges)
38		69		Train and designate student sustainability leaders in all UWO-associated student residences (each dorm, fraternities/sororities, future riverfront living/learning community off-campus; student commuter group; etc.)
13	-63	81	-0	Expand current student internships for Green Events Coordinator and Environmental Audit to support campus sustainability in other areas (outreach materials, toxic waste management, operations analysis, transportation, garden management, upkeep of off-campus UWO preserves, etc.)
50		69		Support development, implementation, and constant updating of sustainable purchasing plans and product recommendations through staffing and/or a service committee
67		73		Establish a permanent sustainability committee and subcommittees.

BUILDINGS AND GROUNDS (22 items)

BROAD	narrow	DEEP	shallow	RECOMMENDATION
100		57		Permanently reduce light levels in hallways/corridors of all buildings by 20%.
				Install pre-rinse, low-flow water faucets at Blackhawk Commons
67		47		Winter maintenance of pavement should refrain from using ice melting chemicals (e.g. salt) whenever sand can produce safe conditions
13	-60	67	-7	Develop Garden/Farm/Greenhouse sites, on and off-campus for landscape plant propagation, food production, composting, vermiculture, alternative energy projects, etc.; purchase/lease of campus land may be necessary for activities not compatible with the small, crowded main campus
				Create more natural-looking prairie areas for landscaping (but with greater emphasis on aesthetically-pleasing flowers than currently found at the science-oriented prairie site near Halsey Science Building)
36		54		Replace traditional grass with a newer variety that is drought resistant and requires little mowing (“no maintenance” lawn), thereby reducing water and energy use
				Use more perennial plants (multi-year) in place of annual plants that require more labor, water, energy, soil disturbance, and pest control
22		62		Install rain gardens, where appropriate, to provide more natural-looking stormwater drainage features
				Favor native species in campus landscaping, and remove invasive non-native species
	-57		-43	<i>Install drip irrigation in all flower beds to conserve water</i>
				Develop and install signs (black & yellow UWO style) designating sustainability-related places, structures, etc. (e.g. alternative fuel storage; environmental parks; raingardens; off-campus preserves, etc.)
				Develop/install kiosks and other illuminated information sources on structures and walkways describing either green technology, or sustainable ideology, particularly along routes frequented by the public (e.g. riverfront trail; sports complexes, student union, etc.)
14	-57	57	-14	Establish a physical location for sustainability staff and their activities, including outreach (e.g. a Center for Sustainability)

53	-39	15	-62	<i>Convert all pneumatic control systems to Direct Digital Control for mechanical control systems for many buildings to open and close valves</i>
				Install a thermal ice storage facility to lower the cost (not consumption) of electricity for air conditioning (by creating and storing ice overnight when the demand and cost for electricity is lowest) -- ice is then melted during the daytime to cool buildings
93		64		Install next-generation bathroom fixtures (extreme low flow/ dual flush toilets, waterless or low-flow urinals) throughout the campus
				Reduce irrigation needs through landscape design, composted mulch, and other practices designed to conserve water (and the energy needed to pump water)
	-62		-46	<i>Install Biofilters (plant beds) at all existing storm drains to filter storm water</i>
	-69		-30	<i>Disconnect roof drains from storm water system and divert to underground cisterns (for later use in irrigation), ponds, raingardens and biofilters</i>
14		57		Bike lanes should be created on campus and on adjoining city streets following national guidelines (current lanes are too narrow)
14	-57	50	-7	Provide adequate bicycle parking for commuters and bike storage for residents at appropriate locations throughout the campus
43		50		Generate a significant portion of hot water on campus using solar water heaters.

OTHER PRACTICES (7 items)

BROAD	narrow	DEEP	shallow	RECOMMENDATION
	-62		-31	<i>Provide electric-powered Mule vehicles to replace current gas-fueled models for on-campus transport</i>
	-69		-31	<i>Provide pedal vehicles (bicycle, tricycle) for use by facilities workers and other service personnel who routinely travel from building to building with small loads</i>
46		62		Replace non-recyclable and non-renewable food service items (e.g. petroleum-based plastics, aluminum foil) with renewable, plant-based, compostable products (plant-based plastics, paper)
	-62		-23	<i>Eliminate the use of solvent-based paints and finishes and move to water-based finishes</i>
8		54		Provide resident students with options to purchase green laundry supplies
54		46		Engage Oshkosh Student Association in discussions about the use of segregated fees for supporting campus sustainability efforts
62		77		Establish a permanent fund (or funds) for sustainability-related activities, operations, and research

APPENDIX C

Organization Details

ORGANIZATION

A. Campus Sustainability Council

The purpose, function, and composition of the Campus Sustainability Council might include:

- The council shall report to both the Vice Chancellor for Academics and the Vice Chancellor for Administrative Services.
- The charge of the council is to advise and make recommendations to the senior administration on sustainability initiatives and to help prioritize and monitor sustainability plan goals.
- The council shall also oversee, provide direction to, and evaluate the efforts of the Campus Sustainability Director.
- The Vice Chancellors should appoint members of the faculty, staff, students and administration to the council, based upon a demonstrated interest and commitment to sustainability. Council members should serve for a term of two years, with some members serving more than one term.
- Advise the Vice Chancellors on the soundness of the annual plan and budget drawn up by the Campus Sustainability Director.
- Provides guidance in the creation and fostering of alliances, in recommending membership in environmental organizations, and in developing ties with businesses and other outside entities.
- Recommends campus wide procedures and policies related to sustainability.
- Recommends establishment of related subcommittees.
- The Campus Sustainability Director would serve as an ex officio member of the council.
- Co-chaired by a representative from the teaching staff (faculty or academic staff) and from non-academic staff. Both would receive compensation or revised duties for these additional responsibilities. Co-chairs would plan and facilitate meetings, and organize and coordinate tasks.

B. Campus Sustainability Director

The role of the Campus Sustainability Director is as contained in the following set of bullet points:

- Ensures effective coordination and communication between individuals and units involved in sustainability.
- Collects and manages data vital to continual implementation and assessment of the Campus Sustainability Plan.
- Assists and supports efforts of student environmental groups.
- Updates and manages the environmental audit report.
- Facilitates collaboration with other universities, environmental groups, and outside organizations.
- Applies for and manages grants and contracts associated with campus sustainability and resource conservation.
- Oversees internships in sustainability on and off campus.
- Advises students and faculty concerning sustainability
- Supports, coordinates and participates in research activities associated with sustainability.

- Prepares annual report to the Chancellor regarding status of plan implementation.
- Manages campus sustainability website and links to other related sites.
- Coordinates campus outreach efforts. Publicizes campus accomplishments, coordinates campus events.
- Shall attend all Campus Sustainability Council meetings, but is not a voting member of the council.

C. Unit Level Sustainability Coordinator(s)

- There will be Unit Level Sustainability Coordinators from each functional area of the campus.
- Coordinators are trained in campus sustainability initiatives and policies, and act as a local resource and sounding board for sustainability related matters.
- Coordinators will be existing employees and assignment will be a collateral duty, or an addition to current job responsibilities.
- Coordinators will periodically receive information pertaining to various sustainability initiatives and will be expected to share that information with their respective units.

D. Administration Responsibilities

The responsibilities of Administrators to support campus sustainability should be considered in the following ways:

- specific sustainability items in job descriptions for administrative positions
- assessment of sustainability objectives in annual planning for administrative units
- considerations of sustainability goals and implementation plans in annual budget discussions.
- Aligning office management practices with sustainability initiatives.

E. Sustainability Fund

A sustainability fund or funds could be created to address:

- Donations to be collected by the UW Oshkosh Foundation
- A specific capital campaign, or strengthening the sustainability dimensions of other capital campaigns (e.g. New Academic Building)
- A rotating fund that can capture cost savings and revenues for later investment in new initiatives.
- Targeted faculty chairs, scholarships, internships, and student research funds to reward and encourage sustainability-related activity on the campus.

APPENDIX D

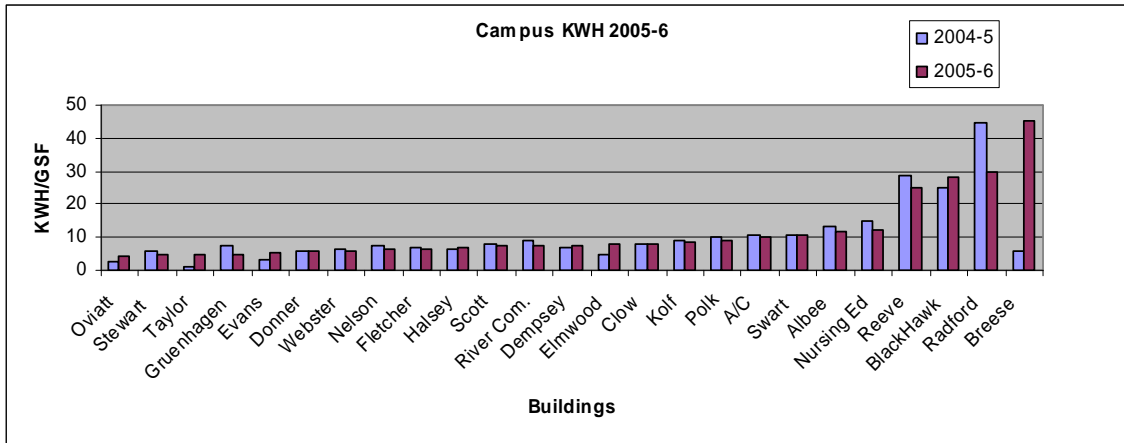
Wisconsin Energy Initiative

Wisconsin Energy Initiative:

Wisconsin Energy Initiative (WEI) – UW Oshkosh participated in a state wide energy efficiency program called the Wisconsin Energy Initiative (WEI). The program teamed up state agencies with energy companies and involved the performance of a series of energy efficiency retrofits to existing facilities. The work was performed utilizing a process known as performance contracting, whereby all work was performed and paid for up front by the contractor, and involves annual payments back to the contractor based on verified energy savings. Listed below is a summary of the projects that were performed:

Wisconsin Energy Initiative (WEI)	
a) Phase I (1992)	
	<ul style="list-style-type: none">- Campus Energy Audit- Campus wide lighting retrofits (replaced T-12 florescent lighting with magnetic ballasts to T-8 florescent fixtures with electronic ballasts)
b) Phase II (2000)	
	<ul style="list-style-type: none">- Water Conservation (replaced 1009 toilets with low flow models)- DDC Conversion of Air Handling Units (replaced pneumatic controls)- Lighting Upgrades (occupancy sensors, outdoor lighting controls)- Steam trap repairs- Control Modifications (metaysys control for converters and pumps).
c) Phase III (2006)	
	<ul style="list-style-type: none">- Lighting Upgrades (High efficiency lighting in Kolf and Albee Halls)- Lighting controls (daylighting control in Reeve Union)- Condensor water reset control upgrade- Metaysys control upgrade from Arcnet to Ethernet- Hot water heating system schedule (reset during warm weather)- Steam trap repair/replacement- Water cooled refrigeration retrofit of Blackhawk Commons- Water to air cooled condensing unit retrofit at Scott and Gruenhagen Halls- Campus DDC electrical and steam condensate meter installation- Vending Machine Control

Of particular note was the installation of direct digital control (DDC) based electrical and steam condensate meters throughout the campus in 2006. The performance of this project has created the capability to perform a detailed analysis of energy and steam consumption for individual campus facilities. The energy consumption data developed as a result of this analysis has helped to identify buildings that should be the highest priority for future energy upgrades. Shown below is a graph of the efficiency (annual electricity consumption per square foot of space) of all major campus buildings that was derived from this data.



APPENDIX E

Electrical Section Details and Justification

Immediate Consideration (0-1 years):

- *Review, verify and update campus audit data. Identify the campus facilities with the highest electrical energy consumption per square foot.*
Justification: *Future energy saving retrofits should be prioritized to the buildings consuming the most power.*
- *Provide facility electrical usage feedback and education to campus users.*
Justification: *Feedback concerning electrical consumption can have a positive behavioral effect on building occupants.*
- *Phase in the replacement of old, energy in-efficient equipment with Energy Star rated items. Require all new purchases of certain high energy consuming devices (i.e. refrigerators) to be Energy Star Rated.*
Justification: *Newer equipment is much more energy efficient.*
- *Establish guidelines for the connected (plug) load in all campus facilities.*
Justification: *It may be surprising to discover that items plugged into facility electrical outlets can collectively consume large quantities of power. A disturbing trend of increasing electrical consumption in the Residence Halls can be directly attributed to an increase in the connected load installed by UW Oshkosh (e.g. large refrigerators in each room) plus the demands of incoming students (e.g. battery chargers). Shown below is an example of that increase at Evans Hall. The university should develop guidelines for equipment installed by UW Oshkosh and for acceptable use of electricity, to conform with the campus goals to reduce overall consumption to true needs.*

Evans Hall KWH			
Month	2004-5	2005-6	2006-7
July	14,700	9,163	10,214
August	27,620	9,163	9,402
September	13,360	14,460	24,525
October	27,300	31,240	31,529
November	10,340	38,020	28,671
December	8,423	22,220	25,603
January	8,449	36,100	22,443
February	12,320	29,860	28,699
March	9,922	12,820	26,088
April	7,896	41,560	27,981
May	8,805	12,000	23,620
June	9,504	10,252	11,519
Total			
KWH	158,639	266,858	270,294
GSF	49,548	49,548	49,548
KWH/GSF	3.20	5.39	5.46

- Turn off unnecessary lights during non teaching periods.
Justification: During periods when classes are not in session, such as Sundays, late December and early August, efforts should be taken to minimize consumption of electrical power for lighting. For instance, lighting levels can be reduced in hallways, corridors and stairwells to minimum levels needed for safety.
- During low usage periods (summer, interim, weekend) consolidate classroom usage to the most energy efficient buildings that meet course requirements.
Justification: During periods when classes are not in session, such as Sundays, late December and early August, efforts should be taken to minimize consumption of electrical power for lighting. For instance, lighting levels can be reduced in hallways, corridors and stairwells to minimum levels needed for safety.
- Permanently reduce light levels in hallways/corridors of all academic buildings by 20%
Justification: Most academic building hallways are significantly over-lit. Reduction of light levels by 20% will save energy without impacting health, safety or function. . Specific lighting standards based on safety should be determined to explore full potential savings.

Future Consideration (2-5 years)

- Convert pneumatic control systems to direct digital control (DDC).
Justification: Most of the campus building environmental control systems rely on 1950's era pneumatic technology to control the movement of valves. This technology utilizes compressed air to provide the energy to operate valves and other devices. An electrical compressor runs occasionally to restore air pressure. Unfortunately, pneumatic systems are prone to leakage, and then compressors run wastefully in an effort to restore pressure. Direct Digital Control (DDC) technology is much more energy efficient, and provides greater control and feedback to energy management systems. This project was submitted as part of the 2007-09 All Agency Request.
- Convert or replace energy inefficient facility HVAC systems
Justification: Several older campus facilities have antiquated heating/ventilation and air conditioning systems. For instance, Swart Hall, a large academic building constructed in 1921, has one heating and cooling zone for the entire building. In order to provide heat to one office or classroom, the entire building must be heated. Newer facilities have multiple zones, with variable air volume systems and variable speed motors to allow for more energy efficient heating and cooling. Note: Projects have been submitted to replace the HVAC systems in Swart Hall and Clow Classroom Facility as part of the 2007-09 All Agency Request.
- Initiate studies of more efficient lighting options (e.g. LED) to estimate when retrofitting will be feasible.
Justification: Light emitting diodes (LED) lamps consume less than a quarter of the electricity that fluorescent lighting does, and the lamps last about ten times longer. There are several commercial applications of this technology readily. UW Oshkosh is currently in the process of replacing all fluorescent facility exit signs with LED exit signs. UW Oshkosh is also currently testing a prototype LED exterior wall pack type fixture. Rapid advances in LED technology will lead to other commercial applications in the foreseeable future, and UW Oshkosh should implement this technology when and where feasible.

- *Conduct feasibility study to determine the viability of installing a Thermal Ice Storage Facility.*

Justification: *Thermal ice storage is a technology that reduces electrical costs by shifting space cooling activities to off-peak times when the cost of electricity is cheaper. Water is chilled or ice is made during the night to either replace or augment building cooling equipment during the day. Thermal ice storage, by itself, is not an energy savings technology; it is a cost savings technology. By shifting chilling activities to off peak times, when demand and energy rates are reduced, significant dollar savings can be realized. However, UW Oshkosh should explore whether cost savings from this technology is a good use of taxpayer resources can be used to make investments in true energy conserving retrofits.*

- *Install green roofing to reduce summer heat loading during renovations of existing buildings and as part of new construction.*

Justification: *Green roofing offers the potential to reduce summer heat load and reduce storm water runoff.*

Appendix F

Campus Heating Details and Justification

Immediate Consideration (0-1 years)

- *Review, verify and update campus audit data. Identify the campus facilities with the highest thermal energy consumption per square foot.*
Justification: *Future thermal saving retrofits should be prioritized to the buildings consuming the most power.*
- *Provide facility thermal energy usage feedback and education to campus users.*
Justification: *Feedback concerning heat/thermal consumption can have a positive behavioral effect on building occupants.*
- *During low useage periods (summer, interim, weekend) consolidate classroom useage to the most energy efficient buildings that meet course requirements.*
Justification: *Efficient scheduling of academic facilities can have a significant impact upon the overall consumption of electricity and other utilities, including heat. Efficiencies can be achieved during low useage periods, such as for evening classes, weekend classes or summer school, by clustering all classes in the fewest number of buildings. A scheduling policy should be developed that considers such clustering as one important element in classroom selection. (Note: This is a duplicate of the recommendation in the electrical section, but it is equally relevant to conservation and efficiency within the heating plant).*

Future Consideration (2-5 years)

- *Install solar hot water heaters at appropriate locations throughout the campus. Suggestions include Albee Hall and the Residence Halls.*
Justification: *Solar Hot Water heaters are a clean, renewable, environmentally friendly option for augmenting the supply of hot water used for domestic needs (showers, heating pool water, sinks etc...).*

A study was done in 2006 regarding the installation of three roof mounted flat plate solar hot water collectors on the roof of Albee Hall. The designed system would have displaced approximately 3,257 therms of natural gas per year. The capital cost was then estimated at \$44,800 with an eight year payback period. Over the 20 year service life of the solar collector, the expected savings in averted natural gas costs was estimated at \$136,289 in 2006 dollars. The solar hot water system would have averted the following pollutants on an annual basis:

<i>CO2</i>	<i>29,270 lbs</i>
<i>VOC's</i>	<i>1 lb</i>
<i>Nitrogen Oxide</i>	<i>38lbs</i>
<i>Carbon Monoxide</i>	<i>6lbs</i>

Besides Albee Hall, other suitable locations for solar hot water heaters include Blackhawk Commons, and the Residence Halls. If solar hot water heaters are deployed to the maximum extent possible throughout the campus, the demand for fossil fuel-based steam generation could be reduced by several percent.

- *Install alternative heating and cooling systems at facilities not connected to the central*

system.

Justification: Foundation Center, Cub Foods, Credit Union, Ceramics Lab, Aquatic Research Lab, Titan Stadium) Two possible sources include:

(1) BioMass Boilers: Biomass, in the energy production industry, refers to living and recently dead biological material which can be used as fuel. Most commonly, biomass refers to plant matter grown for use as biofuel, but it also includes plant or animal matter used for production of chemicals or heat. A biomass boiler produces heat through the burning of biomass fuel such as wood pellets or corn kernels.

(2) Ground Source Heat Pumps: A geothermal exchange heat pump, also known as a ground source heat pump or GSHP, is a heat pump that uses the Earth as either a heat source, when operating in the heat mode, or a heat sink when operating in the cooling mode. All geothermal heat pumps are characterized by an external loop containing water or a water/antifreeze mixture (propylene glycol, denatured alcohol, or methanol), and a much smaller internal loop containing refrigerant. Both loops pass through a heat exchanger. Air source heat pumps use the same principle but extract the heat from the air, rather than the ground. As such their installation is much simpler and cheaper.

The six facilities not connected to the central campus utility system provide an opportunity to test out the viability of alternative, environmentally friendly heating and cooling systems. This inventory of buildings is currently provided with separate natural gas and electric services. A conversion to either of the above mentioned heating sources will likely reduce the annual heating and cooling costs associated with the operations of these facilities.

- Assess the possibility of burning alternative biomass fuels at the campus heating plant.
Justification: In recent years, several campuses have experimented with burning alternative fuels in campus heating plant boilers. Such fuels as switch grass, oat husks, and tree waste have been successfully utilized in other parts of the country. Biofuels are an improvement over coal or natural gas as they can come close to being carbon neutral (depending on any fossil fuel use in transport or production of biofuels) because the amount of carbon added to the atmosphere is later consumed in the process of growing the next agricultural crop for fuel. Important considerations when assessing the viability of burning a bio-mass based fuel is the availability and dependability of a locally grown fuel supply (long-distance transport using fossil fuels would defeat the purpose) and increased storage needs (Biofuels contain less energy per volume than fossil fuels, and so a much larger volume of fuel is required to provide the equivalent heat load). In Oshkosh, agricultural products or wastes are the most likely local biomass feedstocks that could be feasible for biofuel use.

APPENDIX G

Sustainable Energy Details and Justification

- *Install integrated photovoltaic panels (solar panels) where feasible*

Justification: *The campus should pursue the installation of photovoltaic panels to existing and new buildings when and where feasible. Photovoltaic (PV) technology converts light energy into direct current (DC) electricity, while having little or no emissions to the environment. Currently, the technology is relatively expensive as compared to other traditional method of generating electricity. However, costs are dropping rapidly, and are expected to drop very quickly in the next few years as new production facilities begin to meet purchase orders that currently exceed production capacity. The costs of fossil fuel electricity generation continues to rise, and recent analyses predict that photovoltaic could become the less expensive option by ca. 2012 in the upper Midwest.*

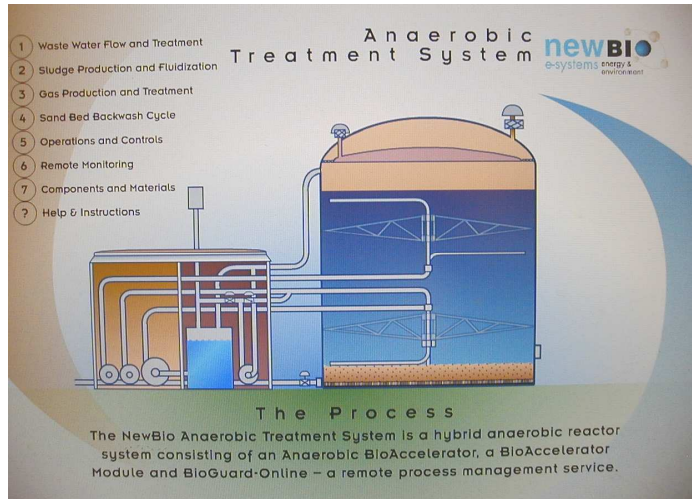
An additional benefit of photovoltaic technology is the capacity to reduce peak electrical demand, and thereby reduce annual electrical costs. Photovoltaic panels are most effective on sunny summer days when electricity demand is high, so even a limited installation can have a positive impact on reducing, or shaving the campus peak electrical demand. The annual peak electrical demand has a significant impact upon the electrical rate the utility company uses to charge the university for power. The degree to which photovoltaic panels can reduce this peak demand can create major cost savings for the university, which should be factored into any cost comparisons amongst new technologies and the status quo.

- *Study the feasibility of installing a biofuel production facility to provide on-campus electricity generation*

Justification: *Biomass technology offers another sustainable path to the on-site generation of electrical power. Biomass-based electricity production involves converting selected food wastes into methane gas, which can then be burned to operate an electrical generator. The campus is currently in negotiations with a firm that is capable of providing the necessary equipment and is willing to manage the process. If feasible, a test facility will be placed into operation later this year. A full scale facility could be in operation as early as next year.*

- *Study the feasibility of installing biodiesel generators*

Justification: *Biodiesel is a renewable fuel with lower impact on the environment than petroleum-based diesel. Biodiesel generators configured to operate on commercially available biodiesel could be used to generate electricity on campus. As an example of scale, the total university electricity demand (ca. 3-4 MW) could be met by the larger diesel-electric generator sets on the market today (up to 5 MW). Problems with biodiesel supplies (quantity and quality) will probably preclude generating all UW Oshkosh electricity by this technology in the next 5-10 years. On smaller scales, or as a first use on campus, biodiesel generators could be used for electrical peak load shaving has the potential of significantly lower the cost to purchase electrical power. The campus should consider the purchase of diesel electrical generators and strategically operate them in August and September as necessary to reduce the total peak electrical demand. Diesel generators can also be used as co-generators (providing heat along with electricity) if there are periods when cold-weather peak demand can be reduced. The design team involved in the New Academic Building is considering the incorporation of such a generator as part of that project.*



- *Install pressure reducing steam turbines for electricity generation.*
Justification: *The campus is served by a central heating plant that distributes steam to all buildings for heating in the winter months. The steam is generated at 100 pounds per square inch (psi) and is reduced at each building to 5 psi, which is the optimal pressure for heating purposes. The steam flows through a pressure reducing valve at each building to make the conversion from 100 psi to 5 psi. Steam reducing valves should be replaced with mini steam turbine electrical generators. While the potential electrical production capacity is relatively small, it would re-capture some of the energy used to create the steam pressure.*
- *Install wind turbines.*
Justification: *Small wind turbines, capable of generating 100-300 kW are available commercially. One or more small turbines would augment campus power requirements and provide a hands-on educational opportunity for students. Larger wind turbines might be feasible at less developed campus properties such as the UW Oshkosh stadium complex, or an off campus farm recommended elsewhere in this plan.*

APPENDIX H

Extra Curricular Awareness Raising Across Campus

Immediate Consideration (0-1 year)

- a. Develop sustainability programs in the residence halls to reduce solid waste generated during move in and move out days. Other campuses have successfully reduced waste and increased recycling by stationing student volunteers, recycling centers, and easily-accessed resources at the residence halls during the concentrated periods in which students move into and out of the halls. This would provide an opportunity to get students thinking about sustainability from the day that they arrive on campus. Partnerships could be formed with local second-hand stores and electronics recycling facilities, if they exist.*
- b. Require each residence hall Community Advisors to coordinate one sustainability program each year, providing them with models, contacts, and special funds for these events.*
- c. Develop a Student Sustainability Leaders Program in which students serve in paid positions as student sustainability educators. Some campuses have success programs where students educate other students on the importance of sustainability and the campus's commitment to it. A group of students would apply for a (typically paid) position as a student educator; those students would receive training on awareness raising activities, ongoing campus initiatives, and so on. The sustainability educators would then conduct programs in residence halls and classrooms to raise awareness of sustainability. An alternative model would be to designate student sustainability leaders in all UWO-associated student residences (each residence hall, fraternity, sorority), who would be given the means to conduct programs.*
- d. Inaugurate competitions focused on sustainability amongst campus groups (e.g. dorms, clubs, departments, etc.) and with other institutions. Following models employed at other campuses, in 2006 five students put together ECO Games residence hall competitions focused on sustainability. Students and floors earned points for recycling, for attending campus events, and for floor-programs focused on sustainability. The students and the floors that earned the most points received prizes. Prizes were donated by a variety of sources: The College of Letters & Science, The Environmental Studies Program, the University Book Store, and United Students in Residence Halls. This program could be institutionalized and expanded. Another version of this would be to participate in Recyclemania, a nationwide residence-hall recycling competition.*
- e. Provide training for all faculty and staff on the importance of sustainability and the campus's policies and programs. This could occur at the college level or the department level for faculty, academic staff, and program assistants, or through workplace training.*

Appendix I

Top Priorities

TOP PRIORITIES

The Campus Sustainability Plan is comprehensive and ambitious, and includes many recommendations for initial consideration, within three years, and future consideration. While all of the recommendations would help make UW Oshkosh more sustainable, some are critical, especially as we begin the process of implementation. Below is a list and brief discussion of those crucial tasks.

Create Organizational Infrastructure to Support Sustainability

To be effective in making sustainability a more significant part of the campus, we need to formalize and institutionalize the university's commitment to sustainability by creating structures and positions that assist in the development, coordination, and oversight of the sustainability initiative. This must include the creation of a Campus Sustainability Council, with representation from across campus, and a permanent, full-time position with the title of Campus Sustainability Director. The Campus Sustainability Team considers these recommendations to be crucial to launching a coordinated effort to carry out the rest of the plan.

Energy Independence Study and Implementation

UW Oshkosh is one of four campuses currently involved in an engineering analysis to develop a plan to phase out all dependence upon fossil fuels for heating and electricity. Participation in this effort has placed UW Oshkosh at the forefront of higher education sustainability efforts in the Midwest. Successful implementation of the plan's recommendations could provide leadership and direction to others wishing to pursue energy independence.

Encourage the Teaching of Sustainability

As a teaching institution, we need to make sustainability an important part of our curriculum. UW Oshkosh should offer faculty colleges that assist faculty from a wide range of disciplines in integrating sustainability into their courses. The first such faculty college will be offered in May 2008, but it is important that this kind of opportunity be repeated and institutionalized in order to keep increasing the number of courses related to sustainability and maximize the exposure of students to this issue.

Initiate Residence Hall Programs on Sustainability

Much of the important learning on campus occurs in the residence halls, and a significant part of our ecological footprint is found there. The Director and Campus Sustainability Council should work with Residence Life staff to encourage programming in the residence halls that both encourages students to incorporate sustainability in their daily lives, and also raises the profile of sustainability on campus. This might include

- Programs to reduce solid waste during move in and move out days
- Requiring residence hall Community Advisors to coordinate at least one sustainability program each year
- Including sustainability in First Year Experience and orientation programs

Revive the Campus Environmental Audit

One of the most effective tools in monitoring and assessing our commitment to sustainability is an ongoing audit of campus water, energy, and resource use. We are fortunate that we have a

template for the audit in place, in the form of the audit completed in 2003. This needs to be revived, updated, and expanded. The audit will serve as a primary vehicle for assessment of operations, it will increase our ability to minimize our ecological footprint, and it will provide extensive educational opportunities in the form of student internships.

Initiate Planning Procedures in Key Operational Areas

The Campus Sustainability Council and Director should begin drafting plans in key operational areas. The Team has identified the three most important areas as transportation, purchasing, and recycling. These areas were chosen because they affect nearly everyone in the campus community. Developing campus plans in these three areas will require significant time and resources, and input from across campus. The first steps toward drafting these plans should be implemented immediately, under the coordination of the Campus Sustainability Council.

Develop Websites

Websites are an effective way of publishing information about sustainability to the campus community and beyond. The Director and the Campus Sustainability Council should create websites that

- provide information about the research and teaching of sustainability
- provide resource use feedback to the campus community
- publish UW Oshkosh sustainability initiatives and achievements
- provide a schedule of sustainability events

Community gardens and composting

Community gardens provide learning opportunities for students, research opportunities for faculty, student internships, and an important connection between the campus and the wider Oshkosh community, not to mention healthy food. The Director and the Campus Sustainability Council should work with students and Oshkosh community members to plan a community gardens and composting program and begin construction of the site as soon as possible.

Dining contract

The dining services contract is a critical area for developing greater sustainability on campus, both in terms of the ecological footprint of the campus and engaging students in sustainable practices. Incorporating organic, locally produced, humanely processed, and fair trade food into the contract would be a major step forward for the university in terms of our impact on the planet and modeling our commitment to sustainability.

Fair Trade University

Fair Trade is an internationally recognized way to ensure that food, crafts, and other items are produced in a way that provides a just and dependable living for growers and workers using environmentally sustainable practices. By declaring itself a Fair Trade University, UW Oshkosh would be signaling its commitment to these goals, would more effectively promote awareness of this important movement on campus, and would encourage other campuses to follow our lead.

Leed Standards

The adoption of LEED design and construction standards is another important way to

demonstrate the universities commitment to sustainability. Our new facilities will educate future generations as to the importance and practical aspects of sustainable engineering and architectural design.

Assessment

In order to provide the information needed for decision-making, program and organization evaluations, prioritization, education, outreach, and accountability, several assessment tools must be implemented. They include a revitalization of the campus audit, annual progress reports, participation in the ASHRAE STARS program and the Chancellor's Climate Commitment