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CAMPUS SUSTAINABILITY – PART II
A BOARD OF REGENTS INITIATIVE

Action Requested: Receive for approval the Sustainability Plan.

Executive Summary: At the June 12, 2008 meeting of the Board of Regents, President David Miles outlined priorities for the next fiscal year – including a plan for sustainability. He stated that this initiative follows on and extends the very exciting work already underway on Regent campuses and he asked the Regent institutions to develop a plan during the next year to provide an integrated and collaborative effort towards greater sustainability. President Miles directed that the plan make the Regent institutions leaders in the nation on:

- Operational practices
- Education
- Research
- Economic development

Sustainability has been defined as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (United Nations Brundtland Commission, 1987). As stated by the Association for the Advancement of Sustainability in Higher Education (AASHE), there is no commonly accepted and fully understood definition of sustainability or “campus sustainability,” let alone agreement on what indicators to use in measuring it. Regent institutions intend to apply campus sustainability broadly – in the general operations of each institution, in the curriculum and experiences of students and employees, in effectively partnering with industry and government, and in technology transfer.

The Regent institutions, with their more than 4,000 on-campus and 1,000 off-campus acres (excluding farm acreage), approximately 35 million gross square feet of space, more than 70,000 students, over 45,000 employees, and hundreds of thousands of visitors to the campus annually (including more than 700,000 clinic visits to UIHC), have a significant environmental impact. Conducting significant research with distinguished faculty, Iowa’s public universities are positioned within the state and nationally to lead in the greening of buildings, purchasing and transportation. Regent institutions have an educational responsibility to students to expand discussion about sustainability, create student awareness and provide programming incorporating the principles of sustainability.

Iowa’s public universities and special schools have an opportunity to serve as both models for sustainability practices and laboratories for students and faculty to test new ideas and approaches.

This is the second of a two-part presentation to the Board that will cover interinstitutional visions and goals.

Regent Institutions Sustainability Plan

The Plan is to provide a vision for long term comprehensive sustainability. The premise of the plan rests on:

- ◆ **Leadership** -Sustainability has been underway on the Regent campuses for a number of years and has become more visible with the appointment on each university campus of a presidential-level council to develop best practices in sustainability, and the creation of an Energy and/or Sustainability Coordinator/Director position. This Sustainability Plan builds on those stewardship initiatives.
- ◆ **Flexibility** - the Sustainability Plan is meant to be a framework for each Regent institution to use in developing a campus plan that recognizes the uniqueness of each. This Plan will be refined as needed for Regent institutions to stay leaders in education, research, and action.
- ◆ **Measurement** - the Sustainability Plan is intended to further the development of a campus assessment and benchmarking framework. Its purpose is to continue the work underway on all Regent campuses. Regent institutions will monitor AASHE sustainability rating systems; the Governor's Office of Energy Independence and the Iowa Climate Change Advisory Council; as well as other sustainability standards. An annual update/progress report will be presented to the Board of Regents.

The proposed Sustainability Plan is a dynamic document intended to provide an overarching vision. The development and utilization of emerging technology will be incorporated as it balances with economic, social and environmental goals. The Plan does not attempt to encompass every aspect of sustainability, but selects specific goals in areas in which the Regent institutions can achieve real and measurable progress. It is also recognized that as programs grow or develop absolute consumption could increase while meeting efficiency and improved per unit measures. Each institution will develop methodologies for implementing, measuring and educating to that vision.

Eight functional areas have been identified:

- Planning and Development
- Purchasing
- Energy and Climate
- Materials and Recycling
- Transportation
- Water and Landscape
- Sustainability in the Curriculum
- Sustainability in Research and Outreach

A summary of the vision and goals for each functional area follows.

Planning and Development

Vision: Each institution will demonstrate a commitment to sustainability in its campus master plan, incorporating environmental stewardship.

Goals:

1. **LEED Certification:** All major projects¹ (new buildings and major capital renovations) initiated after April 1, 2009 shall meet or exceed the U.S. Green Building Council's guidelines for silver level LEED certification.
2. **Design Professional Services Selection:** For all major capital projects¹ initiated after April 1, 2009, preference shall be given to design professionals with LEED certification experience.
3. **ASHRAE Energy Standards:** All new building and major capital renovation projects that alter mechanical and electrical systems shall exceed the current American Society of Heating, Refrigerating & Air Conditioning Engineers (ASHRAE) 90.1 requirements, which provides minimum requirements for energy efficient design of buildings.
4. **Energy Efficient Lighting and Lighting Systems:** The design of new lighting and lighting control systems shall comply with the latest version of the American Society of Heating, Refrigerating & Air Conditioning Engineers/Illumination Engineering Society of North America (ASHRAE/IESNA) 90.1, Energy-Efficient Design of New Buildings Except Low-Rise Residential. The Lighting quality and light uniformity shall comply with Illuminating Engineering Society of North America (IESNA) Standard, Current Edition.
5. **Electronic Business Solutions:** All campuses shall encourage electronic business solutions to reduce the demand for paper and travel, such as electronic systems and teleconferencing.

¹ Major project is defined as a facility over 20,000 gross square feet. A major capital renovation is defined as a construction budget that will cost more than 50% of the facility's replacement value. LEED Silver refers to a certificate program by US Green Building Council's Leadership in Energy and Environmental Design (LEED) Green Building Rating System™.

Purchasing

Vision: Each institution shall adopt a campus-wide environmentally preferable purchasing plan that is consistent with best practices in higher education. These policies will increase the purchase of products with a reduced environmental impact, while balancing the purchase decision with fiscal responsibilities.

Goals:

1. **Energy Efficiency:** Institutions shall specify U.S. EPA Energy Star² equivalent or better ratings on applicable energy consuming products when available and practicable. When Energy Star labels are not available, all purchasing units shall choose products that are energy efficient.
2. **Source Reduction**
 - Institutions shall purchase products with a minimum of 30% Post Consumer Waste (PCW) recycled content for paper products, or, at the minimum, EPA standard for other products, or bio-based materials, when available and practicable.
 - Institutions shall encourage vendor packaging that is reusable, contains a minimum of hazardous and non-recyclable materials, and meets or exceeds the recycled material content levels in the U.S. EPA Comprehensive Procurement Guidelines for Paperboard and Packaging.
 - Reduce the use of disposable products. Specify and purchase products that are reusable or refillable wherever feasible and practical
 - By July 1, 2012, the Regent institutions' combined purchases with recycled content will increase by 10% over the base year of FY 2010.
3. **Buy Local:** Institutions shall encourage purchase of locally grown and produced products, defined as within Iowa or a 500 mile radius of the institution, to minimize the environmental costs associated with shipping.
4. **Green Goods and Services:** Institutions shall encourage the use of green-certified products and services such as, but not limited to, Green Seal, Egologo, EPEAT (Electronic Product Environmental Assessment Tool), FSC, etc.

² Energy Star is a voluntary labeling program of the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Energy that identifies energy efficient products. Qualified products exceed minimum federal standards for energy consumption by a certain amount, or where no federal standards exist, have certain energy saving features.

5. E-procurement:

- Institutions shall strive to achieve paperless processes by reducing the use of paper, toner, storage files and space
- By January 1, 2010, institutions shall require all bidders for goods and services (excluding construction) to:
 - submit bids/proposals electronically or, at a minimum, on recycled paper, double-sided and without extra materials not requested
 - reduce packaging or minimize the negative impact of packaging
 - consider the environmental and social impact costs over the lifetime of a product or services in evaluation criteria.

Energy and Climate

Vision: Institutions shall commit to pursuing climate neutral³ operations through energy efficiency, conservation, on-site generation and strategic procurement of clean and renewable energy.

Goals:

1. **Metering:** By July 1, 2013, 90 percent of the utilities (steam, condensate, electricity, potable water and chilled water) systems shall be metered at the point of consumption to measure effectively use and waste in the system.
2. **Energy Portfolio:**
 - By July 1, 2013, the combined energy portfolio of the Regent institutions shall include at least 10% from renewable sources.
 - By 2025, the Regent institutions shall meet the Culver/Judge Energy Legislation Initiative for a renewable standard of 25% (http://www.governor.iowa.gov/news/2008/01/15_1.php)
 - The Regent institutions shall establish individual goals to enable the collective success toward the use of renewable energy. As part of this, the institutions will also develop and act on individual plans for energy reduction, energy efficiency and energy conservation goals.
 - The Regent institutions shall achieve reductions in Greenhouse Gas (GHG) emissions consistent with the strategies developed by the Iowa Climate Change Advisory Council created under Iowa Code § 455B.851 in 2007⁴.

³ Climate neutral is defined as net zero impact on Earth's climate achieved by minimizing GHG emissions as much as possible, using carbon offsets or other mitigating measures.

⁴ *January 2, 2009*, The Iowa Climate Change Advisory Council came to consensus on two greenhouse gas reduction scenarios and 56 policy options in their 469-page final report to the Governor and General Assembly: 1) 50% cutback from 2005 emissions by 2050, with interim goals of 1% by 2012 and 11% by 2020; and 2) 90% cutback from 2005 emissions by 2050, with interim goals of 3% by 2012 and 22% by 2020.

Materials and Recycling

Vision: Regent institutions shall reduce the volume of materials and resources consumed, and reuse or recycle resources and materials whenever possible, with the long-term objective of contributing to the development of a waste-free society.

Goals:

1. **Recycling:** Encourage and promote programs that reuse, repurpose or recycle surplus items such as lamps/light bulbs, toxic waste, batteries, paper, bottles, and other products where feasible and practicable.
2. **Conserving:** Select the duplex setting as the default for printers and copiers, and use recycled toner whenever possible.
3. **Materials:**
 - o Recycle electronic waste in a responsible manner.
 - o Encourage institutions to continue to identify strategies and programs to mitigate waste.

Transportation

Vision: Regent institutions shall develop transportation strategies that increase fuel efficiency and reduce fuel use, air pollution and carbon dioxide emissions while providing opportunities for alternative transportation including bicycle and pedestrian infrastructure.

Goals:

1. **Emissions:** Regent institutions shall reduce the emissions related to the campus fleet through:
 - o Increasing E85 and biodiesel alternate fuels while increasing the percentage of Flex Fuel, hybrid and electric vehicles in each fleet.
 - o Increasing the number of passenger miles traveled (number of passengers times the miles traveled) in university fleet vehicles, relative to total fleet mileage.
 - o Reducing the number of vehicles used for transportation of employees and guests to/from airports.
 - o Initiating discussions with Risk Management personnel to resolve Worker's Compensation issues to allow Regents' fleet vehicles to transport other state, county, municipal, and governmental staff and officials on coordinated travel.
 - o Increasing efforts to reduce vehicle idling.
2. **Alternative Transportation:** Regent institutions shall strive to reduce the number of single occupant vehicles coming to campus through:
 - o Creating new or expanding programs or partnerships with municipalities and local bus, van pool and ride share systems to provide alternatives to commuting alone

- Increasing parking system controls or incentives to encourage alternatives and achieve reductions in the number of single passenger commuter vehicles.
- Expanding the use of teleconferences, video conferencing, and interactive webinars with geographically distant individuals
- Coordinating travel of employees attending the same event.
- Encouraging walking and biking by enhancing safe walking paths, bike lanes, and other bicycle programs such as bike storage.
- Exploring work alternatives and alternative scheduling that meets the needs of the institution.

Water and Landscape

Vision: Regent institutions shall pursue water saving and efficiency measures, including collection technologies and re-use mechanisms.

Goals:

1. **Irrigation Water Consumption:** Regents institutions will adopt best management practices for minimizing irrigation and for the use of graywater for this purpose.
2. **Organic Campus:** Regents institutions will use Organic Materials Review Institute (OMRI) listed pesticides and fertilizers on campus.
3. **Stormwater Management:** Regents institutions will adopt best management practices for stormwater on campus.

Sustainability in the Curriculum

Public Universities

Vision: Regent institutions will pursue a sustainable future through the curriculum by:

- Providing educational opportunities for students to facilitate their acquisition of the knowledge, skills, and collaborative work ethic necessary to engage effectively in public discourse and policy debate and in other hands-on problem-solving in matters relating to environmental, social, and economic sustainability;
- Providing educational programs that prepare students for sustainability-related careers (e.g. in wind power and other green industries, biobased energy and other biobased products, governmental organizations, international economic or policy organizations, non-governmental organizations, farmers, researchers, engineers, writers, or teachers);
- Providing opportunities for students to participate in sustainability-related research, the “greening” of campus infrastructure, civic engagement, and internships;
- Exposing students to ideas and issues related to a sustainable, balanced, and ethical future for the planet and its inhabitants, including (1) the dynamics of biological population growth and decline in the natural world, predator-prey

- models, overexploitation of natural resources, and energy balances; (2) how human behavior affects the natural world and the ability of earth to sustain life; and (3) the stochastic interplay of human and natural factors in determining the long-run population growth path for human and non-human species; and
- Helping students understand how to make informed rational decisions as consumers, workers, resource owners, and citizens electing government officials by taking into account the effects of human actions on human welfare in this and future generations.
 - Helping students think in terms of economic, social, political, and environmental sustainability, as well as environmental health.

Goals:

1. Increase efforts to recruit high school students, as well as professional and graduate students, who are seeking an education in sustainability at an institution that practices sustainability.
2. Increase the sustainability experiences for freshmen through first-year seminars, core general education requirements, or living/learning communities.
3. Make sustainability a part of all orientation programs on campus.
4. Form curriculum workshops to engage and assist faculty and teaching assistants in integrating sustainability into general education and, as appropriate, undergraduate and graduate programs.
5. Continue to participate in national efforts to understand and promote sustainability education, such as the National Teach-in Day for Climate Change and Sustainability, the workshop on sustainability education sponsored by the Association for Advancement of Sustainability in Higher Education, and the Consortium on the place of sustainability in Global Learning Leadership sponsored by the Association of American Colleges and Universities.
6. Increase the curricular offerings in sustainability to undergraduates through majors, minors, certificates, internships, service learning, and living/learning communities.
7. Continue to support incorporating sustainability in the curriculum and in faculty research.
8. Encourage departments to offer interdisciplinary courses related to sustainability.
9. Offer courses that address specific issues related to sustainability, including encouraging students to be knowledgeable and responsible citizens and preparing students to pursue sustainable practices in their professions. Topics that can be addressed are environmental restoration and preservation, LEED construction practices, efficient operation and control of mechanical and power systems, alternative power sources, and sustainability incorporated in the design of human environments.
10. Sponsor Town Hall meetings on campus to discuss curricular efforts related to sustainability.
11. Create sustainability enhancements for graduate and professional degree students through certificates, internships, or research partnered with green industry, government agencies, or non-government organizations.

12. Increase opportunities for sustainability education through stand-alone certificates for returning students, certificates through distance education, or cooperative agreements with community colleges.

Special Schools

Vision: Each student will know and practice principles of sustainability at home, at work, and in the community. ISD and IBSSS will provide high quality educational experiences that integrate the principles of sustainability and ecoliteracy into all curricular areas, as well as extracurricular and dormitory experiences.

Goals:

- Students will define vital characteristics of “energy efficiency” for the home and the community and will identify at least four specific ways to practice energy efficiency in the home. This includes strategies for reducing electrical usage at home and traveling to work (e.g., replacing incandescent bulbs with energy efficient bulbs, turning off and unplugging appliances not in use, turning off lights in rooms that are not in use, programming a thermostat to save energy in winter and summer).
- Students will define vital characteristics of “water conservation” for the home and the community and will identify four ways to practice water conservation in the home. This includes strategies to use less water for daily tasks (e.g., washing dishes or clothing with full loads, using a water-conserving shower faucet, regularly checking all plumbing for leaks and repairing leaks, using a water-saving sprinkler on a lawn after dark rather than during daylight hours).
- Student will define vital characteristics of home and community recycling programs and identify processes and strategies to conserve natural resources through recycling and less use of plastic in daily life (e.g., using recycled paper napkins rather than new paper, using cloth napkins rather than paper, refilling water bottles at home rather than buying bottled water and discarding the bottle when finished, effectively separating materials for recycling on a daily basis, purchasing milk in glass bottles that can be re-used by the merchant).

Sustainability in Economic Development/Research/Outreach:

Vision: To pursue a sustainable future through economic research development and outreach by:

- Becoming a world leader in research related to the strengths of the three public universities.
- Helping Iowa businesses understand challenges and opportunities of a carbon-limited world.
- Developing and improving alternative energy sources.
- Serving as models and consultants to local, state, regional, national, and international industries, governments, and communities in issues related to sustainability.
- Developing public policy and practices for sustainable agriculture, community education for a sustainable lifestyle, sustainable tourism, solutions to problems of solid waste, reduction of pollution in metal casting, bioremediation of

hydrocarbon contaminated soils, understanding ground water and surface water contamination, use of embedded sensors and software for systems control, use of geographic information systems to assess water quality and ecological damage, environmental threats to public health, and multimedia to communicate findings of sustainability research to the public.

Goals:

1. Expand external funding of sustainability research.
2. Continue to work with other educational leaders at all levels and leaders in the private sector to develop a statewide science and technology plan to reposition Iowa for workforce development and to capitalize on the unique strengths of each of the three public universities.
3. Sponsor seminars for industries in wind energy, biofuels, solar and other renewable energies, biobased energy, and other biobased products.
4. Work with students and businesses to exploit opportunities made available by the promotion of sustainability.
5. Conduct an ongoing series of high profile workshops on sustainability, available to the public, including major international conferences on renewable energy and water resources.
6. Exploit the creative resources of the Internet to share the vision, knowledge, and practices and to invite engagement in these challenging issues of the 21st century.
7. Assist in the implementation of sustainable practices by firms and government agencies, including the identification of cost-effective environmentally-friendly processes that are economically sustainable to generate a normal rate of profit.
8. Develop new methods of analysis for evaluating the sustainability of alternative natural and built environments within different economic systems.
9. Develop and transfer new technologies that conserve energy, matter, and, in particular, water, air, minerals, and other natural resources.
10. Sustain and create industries that drive the world's economic engines to improve the quality of life.
11. Continue to develop and grow programs that are directed at sustainability for the nation and the developing world.
12. Provide public education to increase energy and resource conservation and the recycling and reuse of material.
13. Develop public education to reduce soil erosion and overuse of chemicals and fertilizers in agriculture, and to increase energy efficiency on farms.