

Contact: Patrice Sayre

CAMPUS SUSTAINABILITY ANNUAL REPORT

Action Requested: Receive the annual report on the Campus Sustainability Plan.

Executive Summary: Iowa's public universities are committed to a sustainable future through academics and research, operations, and economic development. Respect for the impact on the environment is part of decision-making at all levels. Regent institutions 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.

Each Regent university achieved a Gold rating in the Association for the Advancement of Sustainability in Higher Education (AASHE) Sustainability Tracking, Assessment and Rating System (STARS) program. STARS encourages a comprehensive approach and vision to making college and university campuses living, learning laboratories for sustainable resource-efficient institutions.

In this year's report, the Campus Sustainability Coordinators at the universities have highlighted selected accomplishments in the area of sustainability:

Elizabeth Christiansen – SUI, Director, Office of Sustainability - <http://sustainability.uiowa.edu/>

Merry Rankin – ISU, Director, Office of Sustainability - <http://www.livegreen.iastate.edu/>

Eric O'Brien – UNI, Director, Office of Sustainability - <http://www.uni.edu/sustainability>

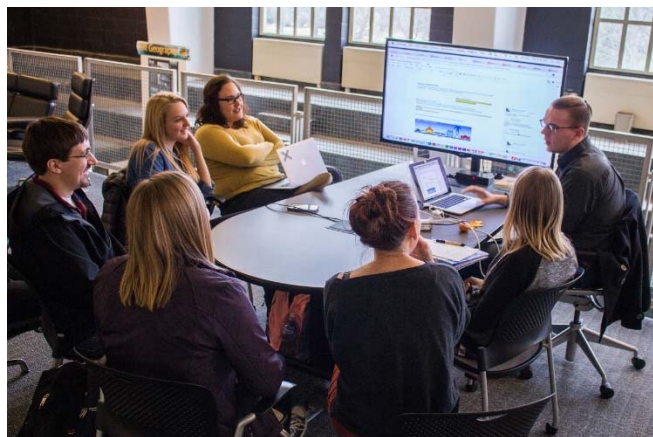
EDUCATION AND RESEARCH

A primary function of colleges and universities is to educate students. By training and educating future leaders, scholars, workers, and professionals, higher education institutions are uniquely positioned to prepare students to understand and address sustainability challenges. This STARS category recognizes institutions that have formal education programs and courses, as well as sustainability learning experiences outside the formal curriculum.

University of Northern Iowa

ImagineIOWA: an interdisciplinary, immersive venture into the digital humanities

UNI's Interactive Digital Studies (IDS) major is a far-reaching interdisciplinary effort connecting faculty and students from eight departments: Communication Studies, Computer Science, Modern Languages, Graphic Technologies, Music, Instructional Technology and History. The innovative program capitalizes on a growing trend in digital research and theory that makes central the critical inquiry of the liberal arts in understanding technology's contemporary existence and impact. This interdisciplinary, liberal arts-based philosophy embodies the ideas, methods and reflective practices of the digital humanities.



At the core of this program is the IDS Practicum, where the "ImagineIOWA" project was born. Students must participate in this class, designed as a "finishing" course that pushes students beyond what they could ever accomplish on their own. This year, the IDS program began a five-year relationship with the Center for Energy and Environmental Education (CEEE), allowing students to focus on a large interactive project for a specific client. This spring the focus of this work was on Iowa and climate change.

The goals of the ImagineIOWA Practicum were threefold: 1) highlight the excellent research that comes from the University of Northern Iowa; 2) offer students a valuable, collaborative, intense "real world" interactive digital development experience that has meaningful content linked to critical inquiry and the liberal arts; and 3) build a public project for the public good that shows to the world UNI's capabilities. The ImagineIOWA project is available at www.uni.edu/imagineiowa and will be a showcase project for CEEE, IDS, UNI, and all participating students for years to come.



This class project has implications far beyond the website launch. In addition to gaining experience in teamwork and building, designing and launching a full website, students will carry on their newfound knowledge to make lifestyle changes to become more eco-friendly; changes that spill over to family and friends. Students took it upon themselves to go a step further by researching and coming up with changes they could personally make, in addition to changes across the city, county, state, nation and world.

Iowa State University

ISU Pappajohn Center for Entrepreneurship

Since 1996, the [ISU Pappajohn Center for Entrepreneurship](#) has provided a comprehensive and multi-faceted entrepreneurial experience and learning program for thousands of Iowa State University students. Through its mission of “providing students and others with multiple integrated gateways through which they can experience and develop entrepreneurial thinking and innovation”, the Pappajohn Center has helped fuel businesses and strengthen economic sustainability for Iowa communities.

Among the most significant is the university-wide, interdisciplinary [Entrepreneurial Minor](#), complementary to any undergraduate major offered at Iowa State University within all seven colleges. Competencies of focus within the minor include: creative problem solving, innovation, mitigating risk, resource leveraging and implementation of change. In addition, students can pursue entrepreneurship courses at the graduate level, and the College of Business will launch a PhD program in Entrepreneurship fall 2016.

To provide distinct entrepreneurial experiences within academic disciplines, colleges also offer a diversity of unique opportunities including, but not limited to: the [Agricultural Entrepreneurship Initiative](#), the [CyBIZ Student Consulting Lab](#), an Entrepreneurship Component for Professions Courses: Architecture, Graphic Design, Community & Regional Planning, and Art & Design, a [Virtual Reality Applications Center](#), [collaboration projects with the Main Street Iowa Program](#), the Music Entrepreneurship Initiative and the Young Veterinary Entrepreneur Series.



There are a number of non-academic-based experiential components also facilitated and supported by the Pappajohn Center which include: a speaker series, student clubs, various competitions, a summer bootcamp at Okoboji’s Lakeside Lab, start-up internship opportunities and an [Entrepreneurship Learning Community](#). During the past year, a new and uniquely immersive program was added to the center’s diverse portfolio of engagement and empowerment experiences, [CYstarters](#). This 10-week program gives students the chance to build businesses from the ground up through challenges and involvement ranging from presenting business pitches to investors to attending educational panels hosted by established entrepreneurs. CYstarters supports teams that offer solutions for the problems affecting



today’s world; one such team is [KinoSol](#) seeking to combat world hunger through a uniquely designed solar dehydrator.

Creating, sharing, and applying knowledge to make Iowa and the world a better place, fully and effectively preparing students to make a difference in the world, improving the quality of life and addressing the challenges of the 21st century, the ISU Pappajohn Center for Entrepreneurship offers an invaluable sustainability connection and commitment for our world’s future leaders.

University of Iowa

Honey Creek Resort State Park Field Project – a unique partnership for Iowa

Honey Creek Resort State Park (HCRSP), located at Lake Rathbun in south-central Iowa, has a recognized culture of sustainability. Sustainable and green practices have been incorporated into the resort's five operational units: engineering, food/beverage, housekeeping, outdoor/nature and grounds, which include an 18-hole golf course. The management team has established a set of metrics by which they prioritize and manage sustainability efforts.



In 2015, the HCRSP team approached the SUI Office of Sustainability to build a working relationship in order to learn how Honey Creek's sustainability measures compare against their competitors in the hospitality/resort industry, and how to leverage their success for additional market growth.

Nine students from Tippie College of Business were chosen to work on the project. The selections were based on the students' course completion, academic achievement, extracurricular activities and previously-held internships or work experience.



After meeting with the HCRSP management team, the students conducted intense market research and developed a multi-channel marketing strategy to generate qualified leads for the Honey Creek sales staff, resulting in 1) a higher occupancy rate during the shoulder periods (time interval that falls between the peak and low seasons of a seasonal sales cycle and weekdays) and 2) lower sales expense. The research-based marketing strategy emphasized expanding the potential for corporate customers and the value a HCRSP

meeting or conference can offer to a company or organization.

CAMPUS OPERATIONS

This STARS category encompasses everything that goes into the daily operation of a campus. It includes quantitative data reporting in the areas of Building Operations, Climate, Dining Services, Energy, Grounds, Purchasing, Transportation, Waste and Water Usage. This overarching category notes that institutions can design, build, and maintain a campus in ways that provide a safe and healthy environment for the campus community. It recognizes the outstanding efforts to maintain a more sustainable campus environment.

University of Iowa

Field Day, Miscanthus Harvesting, New Air Quality Permit, Governor's Environmental Excellence Award

The University of Iowa is pursuing a renewable energy supply strategy that optimizes long-term supply and fuel price stability, while preserving an ability to test and take advantage of other potential fuels in order to achieve the goal of 40% renewable energy consumption on the campus by 2020. SUI is currently incorporating wood chips, oat hulls and *Miscanthus giganteus* (a perennial grass), into its fuel mix to decrease its use of coal.

In September 2015, SUI hosted a field day for growers interested in producing *Miscanthus* for energy generation in the university's Main Power Plant. From that day and subsequent interactions, new growers were signed up for an additional 160 acres of *Miscanthus* production. Those new acres were planted in April, 2016.



Harvest of previously established plots took place in February, 2016, with a yield of over 100 tons of dry plant material. The material was chopped in the field and then hauled to a fuel yard in Muscatine for mixing with coal. The mixture is delivered to the Main Power Plant as needed.

In addition, The University of Iowa Dedicated Energy Crop Project received the 2015 **Iowa Governor's Environmental Excellence Award – Special Recognition in Energy**. SUI is also consistently recognized by the United States Environmental Protection Agency as one of the top 30 on-site green power generators.

Finally, the University of Iowa and the Iowa Department of Natural Resources have reached a landmark agreement that will help advance SUI's renewable energy goals while continuing to protect Iowa's air quality. The innovative air quality permit allows for the expanded use and testing of locally-available, environmentally-friendly fuels at the main Power Plant helping to accelerate the University's transition off coal. Unique in Iowa, the permit is the result of several years of collaboration between SUI and the DNR.

The Plantwide Applicability Limit (PAL) permit provides SUI with greater flexibility in managing utility operations to serve campus growth, streamlined the permitting process, improves efficiency and reduces costs. The PAL caps SUI air pollutant emissions through 2026 using the baseline limit established in 2002-2003.

University of Northern Iowa

New partnerships make major impacts on waste diversion

The University of Northern Iowa has long been involved in a variety of waste diversion efforts on a campus-wide scale. From the early recycling efforts focusing on cardboard and office paper to the partnerships with the city of Cedar Falls, UNI strives to efficiently utilize our resources and operate in an environmentally responsible manner.

Numerous waste composition surveys have been conducted on the UNI campus over the last five years designed to better understand if it would be financially feasible to increase campus-wide recycling efforts. A coordinated waste survey focusing on academic buildings in 2012 indicated that the waste streams from individual buildings was composed of 50-70% recyclable material that was being sent to the landfill. As a result of these findings, UNI implemented a mixed recycling pilot program in two buildings in 2014.



Based on the positive reviews from the mixed recycling pilot project, UNI partnered with Cedar Valley Recycling to accept mixed recycling products from across campus in the fall of 2015. Through this effort, there is now uniform color schemes and messaging for recycling across campus. Containers in public areas of buildings are all now dual stream units with a black side labeled "Landfill" and a blue side labeled "Mixed Recycling." All containers also have uniform signage to maintain a consistent message from building to building across campus.

With nearly a full year of campus-wide recycling efforts complete, results have been very promising. When comparing the first nine months of FY 2016 with the same time period the year before, a 17% increase in total recycling weight is noted. This is significant, considering that the cost of recycling for UNI is more than \$30 less per ton than disposal of waste at the landfill.

Another avenue to reduce the amount of landfilled waste involves a partnership between the UNI Physical Plant and Dining Services. This effort composts all food waste out of the Piazza dining center, as well as the Fresh Beginnings commissary. This effort is coordinated to reduce the volume of waste from campus through one of the largest individual waste generators. To date this effort is diverting up to 10,000 lbs. of food waste

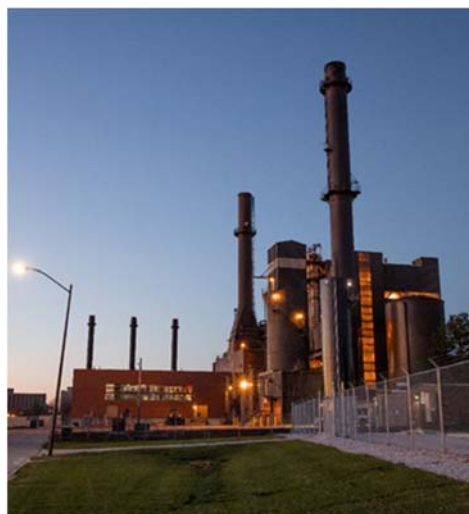


each week from landfill. Through this partnership, an outside vendor makes weekly trips to campus to collect the food waste and compost it off campus. At the current rate of food waste diversion, this composting project is helping to reduce UNI's greenhouse gas emissions by preventing approximately 106 metric tons of carbon dioxide equivalents from going into the atmosphere each semester.

Iowa State University

Efficiencies and Diversification in Utility Services

In late 2010, the three Regents Universities jointly selected a consultant to study power plant operations at each campus and develop alternatives to comply with new regulations, while still providing an efficient and reliable energy source for each campus. Utility staff within Facilities Planning and Management at Iowa State University convened a multi-stakeholder committee made up of campus utility customers, university administrators and faculty members to evaluate needs, concerns and opportunities to meet the goals of the study. The yearlong process included open forums and discussions with student government to gather further input.



The study recommendation was to replace the older coal boilers with new natural gas fired boilers and to retrofit the two newer fluidized bed coal boilers with additional pollution control equipment. The university approved the recommendation, which offered the following outcomes: 1) ensuring compliance with the new EPA regulations, 2) continuing ISU's commitment to increased efficiency, 3) reducing the university's carbon footprint, 4) providing fuel flexibility to help control energy costs for the campus, and 5) maintaining the ability to burn blends of alternative fuels.



Construction began in the summer of 2013 and was completed in the spring of 2016. As a result, coal consumption will be reduced from 135,000 tons per year to less than 75,000 tons per year, a nearly 45% reduction. Emissions of regulated pollutants will drop significantly; sulfur dioxide by nearly 85%, nitrogen oxides by over 60%, and particulates by over 75%. Carbon dioxide emissions from the power plant will be reduced by over 15%. The production and disposal of boiler ash will be reduced by nearly 30%, or approximately 8,000 tons per year.

In addition to increased efficiencies of utility operations, ISU also further diversified its energy portfolio this past year. During fall of 2016, Iowa State University partnered with CB Solar to install two 10 kilowatt solar panels on the ISU campus. CB Solar donated the solar panels to the university and is also donating the power produced by the solar panels for a 10-year period. The two solar panels join the 100 kilowatt campus wind turbine that was installed in late 2012.

PLANNING, ADMINISTRATION AND ENGAGEMENT

This STARS category encompasses a wide variety of planning, engagement and outreach areas. It includes quantitative and qualitative data reporting in the areas of Coordination and Planning, Diversity and Affordability, Human Resources, Investment and Public Engagement. This overarching category notes that institutions of higher learning can make significant contributions to sustainability throughout society by sharing their experiences and expertise with others. Sharing best practices and lessons learned can help other institutions, communities, and individuals realize efficiencies that they otherwise may not have considered.

Iowa State University

Iowa Monarch Conservation Consortium

Iowa State University is providing leadership in an ongoing, collaborative conservation effort to help ensure monarch butterfly populations in Iowa and the Midwest continue to grow and recover from past declines.

The [Iowa Monarch Conservation Consortium](#) was [established in 2015](#) through the efforts of Iowa State's College of Agriculture and Life Sciences, the Iowa Department of Agriculture and Land Stewardship and the Iowa Department of Natural Resources. Its mission is to enhance monarch reproduction and survival in Iowa through



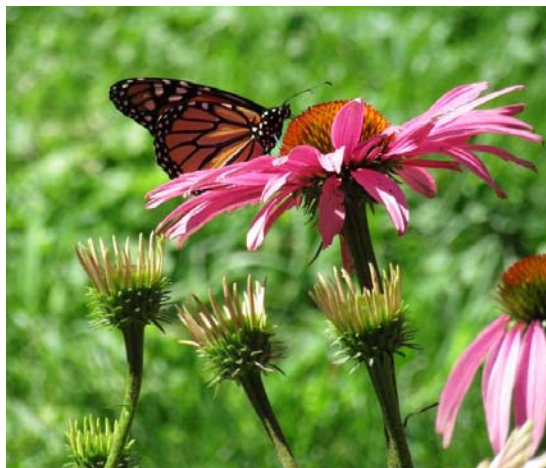
collaborative and coordinated efforts of farmers, private citizens and their organizations.



The consortium's 25 members include agricultural organizations, conservation organizations, agriculture technology providers, energy industry, universities and state and federal agencies. It also partners with national conservation groups such as Monarch Watch, Pheasants Forever and Sand County Foundation.

With Iowa State's expertise, the partners are developing a science-based, farmer-led approach that fosters habitat improvements in rural landscapes that do not conflict with agricultural production, are sufficient in scale to support improved monarch breeding success and complement existing conservation programs.

This year, Iowa State researchers continue to work with farmers and livestock producers to incorporate monarch habitat into a variety of Iowa landscapes through the support of consortium members and grants provided by USDA, the Iowa Soybean Association and the Iowa Pork Producers Association. They are refining methods for establishing and maintaining habitat, determining the benefits of different habitat patch sizes and continuing their evaluation of milkweed species and companion plants.



ISU researchers also continue to monitor monarch caterpillars' preferences for milkweed species in their growth and development and adult monarchs' preferences for egg laying. Extension and outreach efforts include field days at the statewide ISU Research and Demonstration Farms and an interactive exhibit planned for the 2016 Farm Progress Show in August, which attracts more than 150,000 visitors.

University of Northern Iowa

Taking the "waste" out of food waste

For nearly three decades, the Iowa Waste Reduction Center (IWRC) has worked with businesses to protect Iowa's environment through technical assistance, waste reduction and pollution prevention. Over time, these efforts have evolved and expanded from the Center's roots of free, non-regulatory environmental technical assistance to Iowa's small businesses. One of the newer programs of focus at the IWRC is their work on food waste.

Across Iowa, food waste is the most prevalently landfilled material. From 1998-2011, Iowa landfills have seen an increase of 62% in food waste disposal. The problems with food waste are multifaceted and the IWRC is taking a comprehensive approach to address this issue. IWRC conducted a yearlong project, funded by the Iowa Department of Natural Resources (DNR), to develop resources, host workshops, and determine why so much food was being wasted and what needed to be done.

Over the last year, through a contract with the Iowa DNR, the IWRC took its research to an entirely new level by creating the Industrial Commercial and Institutional Food Waste Generator Study. The results have been imported into a geographic information system (GIS) allowing users to manipulate and analyze the data using a geographical perspective.

As the Food Waste Generator study was going on, the IWRC's efforts related to compost have drastically increased due to funding from the United States Department of Agriculture. Through a yearlong project, the IWRC focused on providing technical assistance and on-site training, while also developing resources for the general public and landfills in relation to compost.



IWRC also expanded its knowledge base of compost. One staff member received a compost certification from the U.S. Composting Council. This increase in technical knowledge allowed the IWRC to host its first food waste compost training on the University of Northern Iowa campus.

In late 2015, the IWRC convened a group to tackle the issue of food waste at a statewide level by collaboratively developing comprehensive strategies and recommendations to reduce food waste and divert it from Iowa landfills. Advocates from many industries and focuses have come together as the Iowa Food Waste Stakeholder Coalition. This coalition is dedicated to advancing

Iowa's efforts in reducing food waste generation and utilizing excess food as a valuable resource through education, program implementation, policy and advocacy.

As we look to the future, the IWRC has positioned itself as a leader in reducing food waste. The organization is dedicated to find ways to divert waste from the landfill and keep food as the resource it is, not a waste.

University of Iowa

Iowa Initiative for Sustainable Communities

The Iowa Initiative for Sustainable Communities (IISC) is a campus-wide engaged learning program at the University of Iowa that partners with communities and groups across Iowa to develop projects that university students and faculty can complete through their academic and research activities. Each year, *over 36,000 hours* of work are invested in Iowa communities through the IISC.

This past year, the IISC completed 10 projects in Decorah/Winneshiek County, Iowa City, and the Siouxland area (Sioux City area). Projects ranged from marketing economic development in Winneshiek County to creating a public history project in Iowa City to conducting walkability assessments in the Siouxland area.



Decorah/Winneshiek County

- [The MetroNet Plan](#)
[Trails Economic Impact and Master Plan](#)

Iowa City

- [Housing and Equity](#)
[Ecosystem Services](#)
[LED Streetlight Conversion](#)

Sioux City

- [Greenspace Plan](#)
[Salix Comprehensive Plan](#)
[Bike and Pedestrian Marketing](#)
[Farmers' Marketing Mapping](#)
[Radon Mapping](#)
[Safe Routes to School](#)

