

Sustainability at UW-Madison

From John Muir to Aldo Leopold to Gaylord Nelson, the University of Wisconsin-Madison has a history and culture rooted in conservation and stewardship. Our commitment to sustainability is reflected across the campus – in our educational offerings, research projects, facility operations, and outreach to the state.

Several campus units focus specifically on developing and running programs designed to help the university conserve and preserve its natural resources. These include Facilities Planning and Management, University Housing, and the Office of Sustainability, created in 2012 to align academics and research to advance campus sustainability goals.

Education

Education related to sustainability is woven into many academic disciplines at UW-Madison, and opportunities on campus for hands-on learning through internships and student research projects are growing every year. Perhaps our most important long-term contribution to sustainability is educating students.

- At least 285 undergraduate courses and 112 more for graduate students incorporate learning on sustainability, according to a 2013-2014 preliminary analysis by the Office of Sustainability. A formal analysis is currently underway.
- For undergraduates, UW-Madison offers 31 bachelor's degrees, 44 majors, and 6 undergraduate certificates in topics related to the environment and sustainability. The university also offers 33 environment-and-sustainability-related Master's degree programs.
- At the Ph.D. level, students focused on sustainability are dispersed across disciplines. The Nelson Institute Environment and Resources Ph.D. program graduates 8-9 students per year, and enrolls about 62 students each year.
- In 2013-2014, a preliminary Office of Sustainability analysis determined that about 35 percent of bachelor's and master's graduates earned a degree from a UW-Madison program related to sustainability. Graduates go on to a wide array of careers. They are teachers, policy analysts, corporate sustainability directors, scientists, engineers and more.

Research

As a large research institution with more than \$1 billion in annual research expenditures, UW-Madison manages a vast portfolio of projects related to sustainability and environmental studies.

There are more than 250 of these research projects currently underway, supported with an estimated \$360,000,000 in externally generated funding. A few examples:

- The Johnson Controls Research Partnership, created at the Wisconsin Energy Institute in 2016, focuses on building car batteries that will last longer, improve fuel efficiency and reduce carbon dioxide emissions. The project is co-directed by UW-Madison and UW-Milwaukee.

100,000 – number of square feet of green roofing on campus buildings that is helping to manage stormwater runoff, reduce cooling and heating needs, and create habitat for pollinators.

- The Great Lakes Bioenergy Research Center is working on alternative fuels for transportation and petroleum-based products from bioenergy crops such as switchgrass, poplar trees, and sorghum.
- The UW-Madison Center for Sustainability and the Global Environment in the Nelson Institute brings together collaborators from disciplines across campus and from universities in the U.S. and Canada to examine the relationship between human actions and the earth's complex environment systems, and develop adaptive strategies to sustainably manage natural resources and preserve human health.



Facilities Initiatives

Sustainability and resource stewardship are the organizing principles of UW-Madison's campus master plan, *Extending Our History and Embracing our Future*. Here are a few of the ways UW-Madison is working to create a more sustainable campus:

- Renovating and constructing sustainable buildings, including many designed for LEED certification. The campus has invested \$63 million in energy conservation projects over the last decade, reducing its energy footprint by 27 percent per square foot. Many campus buildings now have solar or geothermal systems, green roofing and/or designs that take advantage of natural light.
- Purchasing renewable energy credits from Madison Gas & Electric. These now account for 15 percent of each year's electricity use. MG&E has committed to providing 30 percent of its electricity from renewable sources by 2030, so if the university continues to buy credits for 15 percent of its electricity consumption, its total renewable use will be above 40 percent by 2030.
- Managing multiple projects across campus to reduce waste and promote donation and recycling, steadily increasing our recycling rates over the last 20 years.

33,000 – number of pounds of unwanted carpet left behind during spring move-out that is now being donated or recycled into new carpet, roofing shingles and composite lumber for benches.



Outreach

The Wisconsin Idea – our commitment to sharing discoveries and innovations beyond the borders of the campus – drives important outreach efforts around sustainability and the environment. For example:

- The Wisconsin Energy Institute, in partnership with the Great Lakes Bioenergy Research Center, provides educational materials and professional development opportunities around clean energy to K-12 teachers.
- The Sustainable Dairy Project, led by UW-Madison with collaborators at Penn State and Cornell, is identifying ways farmers and dairies can adapt to climate change by tailoring management of their herds and production systems.
- Scientists at the Center for Limnology are actively monitoring Wisconsin's waterways for invasive species like zebra mussels and rusty crayfish and working with state agencies to prevent their spread and mitigate their harmful impacts.

\$96,000 – dollars saved by re-upholstering items from two campus dens as part of a campus program to repair and reuse furniture that was once landfilled.

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