

***Advancing Our
Sustainability Efforts:
University Sustainability Goals
and Outcomes Committee***

***October 8, 2009
Board of Regents, Facilities Committee***



UNIVERSITY OF MINNESOTA

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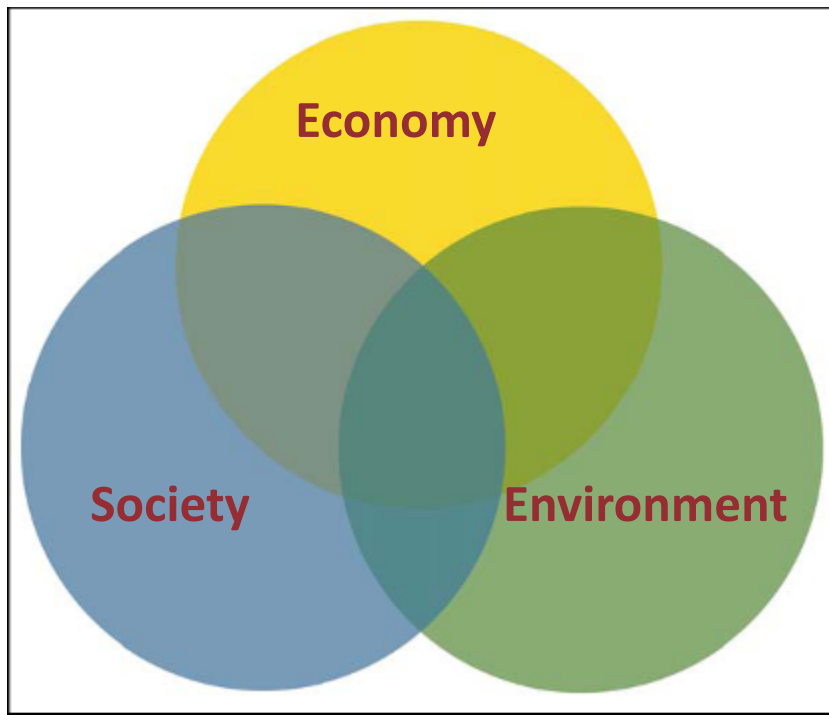
Agenda

- I. Sustainability Overview
- II. University Sustainability Goals and Outcomes Committee Report
- III. Reports from Coordinate Campuses



University Sustainability Definition

Board of Regents Policy on
Sustainability and Energy Efficiency (adopted July 2004)



Sustainability is
a continuous effort integrating
environmental, social and economic
goals through design, planning
and operational organization
to meet current needs
without compromising the ability of
future generations
to meet their own needs.

President's Charge University Sustainability Goals and Outcomes Committee

- Recommend systemwide goals
- Develop performance measures and mechanisms to report progress
- Support efforts of each campus to ensure implementation of Regents Policy



University Sustainability Goals and Outcomes Committee Membership

- **Kathleen O'Brien**, Vice President, University Services, *co-chair*
- **Deborah Swackhamer**, Prof, Env. Health Sciences, Co-Director, Water Resources Center, *co-chair*
- **Jay Bell**, Prof, Soil, Water and Climate Associate Dean, College of Food, Agricultural & Natural Resources Sciences
- **David DeMuth**, Associate Prof, Math, Science and Technology, UMC
- **Kris Johnson**, PhD candidate
- **Anne Kapuscinski**, former Prof, Dept of Fisheries, Wildlife and Conservation Biology and Director, *ISEES*
- **Holly Lahd**, Undergrad student; EcoWatch
- **Scott Lanyon**, Prof and Head, Dept. of Ecology, Evolution, and Behavior
- **Julian Marshall**, Assist. Prof, Civil Engineering
- **Lance Neckar**, Interim Dir, Metro Design Center and Prof, Landscape Architecture
- **Steve Polasky**, Professor, Dept of Applied Economics
- **Elizabeth Wilson**, Asst Prof, Humphrey Institute of Public Affairs
- **Leslie Bowman**, Director, University Dining Services, Contract Admin
- **Jim Dudley**, Director of Central Services, Facilities Management
- **John King**, Director, Facilities Management, UMD
- **Mindy Granley**, Sustainability Coordinator, UMD
- **Jerome Malmquist**, Dir of Energy Management, FM
- **Beth Mercer-Taylor**, Sustainability Education Coordinator
- **Andrew Phelan**, Assistant Director, EHS
- **Lowell Rasmussen**, AVC, Plant Services and Master Planning, UMM
- **Amy Short**, Sustainability Coordinator, U Services, Staff to Committee
- **Brian Swanson**, Budget Officer, Budget and Finance





Additional Work teams aligned with Regents Policy Guiding Principles:

- Leadership & Modeling
- Operational Improvements
- Energy Efficiency
- Education and Outreach
- Research





University of Minnesota
Systemwide Sustainability

Goals • Outcomes • Measures • Process



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September 2009

Systemwide Sustainability Report

- Based on Regents Guiding Principles
- Establishes Goals and Outcomes
- Identifies draft measures



Leadership Guiding Principle

Through excellence in environmental education, research, outreach, and stewardship, the University shall strive to be a world leader by promoting and demonstrating sustainability and energy efficiency and by producing leaders and informed citizens.



Modeling Guiding Principle

The University shall strive to be a model in the application of sustainability principles to guide campus operations by:

- (a) meeting and aspiring to exceed all applicable regulatory requirements;*
- (b) preventing pollution at its source;*
- (c) reducing emissions to the environment; and*
- (d) encouraging the use of a life-cycle cost framework.*



Operational Improvement Guiding Principle

The University shall undertake a continuous improvement process that seeks to meet the operational performance targets, goals, and objectives designed to achieve sustainability.



Energy Efficiency Guiding Principle



The University shall undertake a process to increase energy efficiency, reduce dependence on non-renewable energy, and encourage the development of energy alternatives through research and innovation.



Research Guiding Principle

The University shall

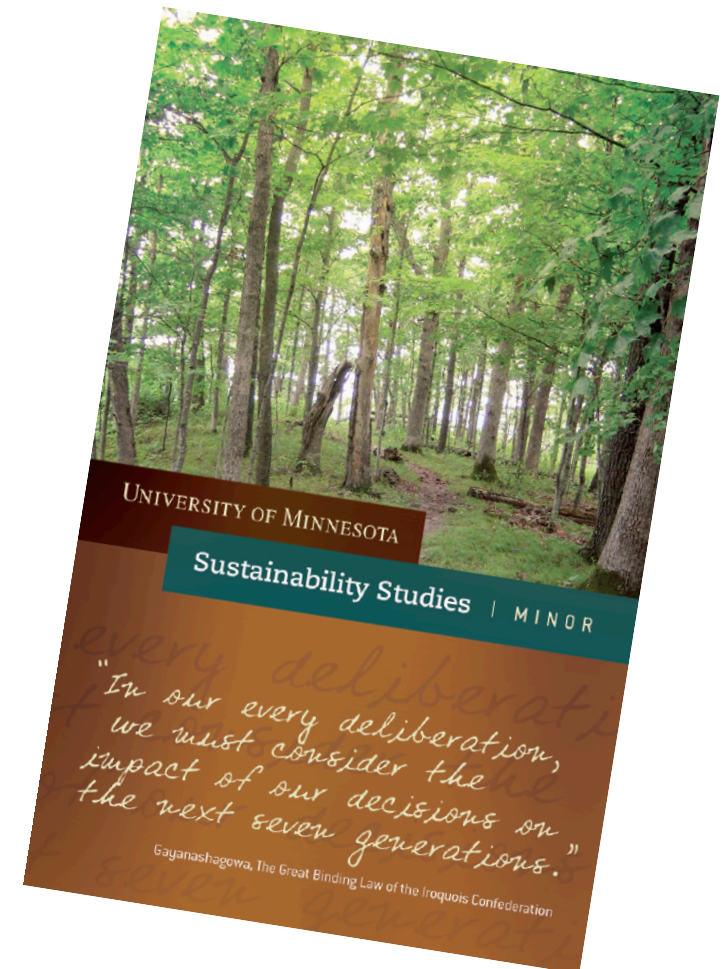
- (a) promote innovative, high visibility research projects focused on sustainability and energy efficiency to inform campus operations as a whole as well as the broader community; and*
- (b) promote collaborative projects that include faculty research undertaken in partnership with students, operations staff, public entities, community organizations, and industry.*



Education and Outreach

Guiding Principle

The University shall promote educational and outreach activities that are linked to operational improvements and innovation principles.





SUSTAINABILITY AND U }

A green campus:
high energy, low consumption.

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UMD  Sustainability

maroon

gold

& green

M
CROOKSTON

ADDING
UP TO
ZERO

It all
+ adds up.





UMC Sustainability

Hopes and actions

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An early proposal – “A Center for Sustainable Development”

- **“to provide an umbrella connection for various campus programs which intersect with economics, environment, and social factors. -----”**

..From 04 Compact

Beginnings - a Sustainable Development Conference in October 2005

Stephen Polasky



Fred Kirschenmann, Iowa State



Ann Hill Duin and Chuck Muscoplat



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The first campus energy audit in 2005 by Fabien Pommier, a French graduate student

“to harness the talents and energies of faculty and students to redesign their own campuses so that one day they are climatically neutral, discharge no waste, enhance biological diversity, and support the emergence of locally sustainable economies. This means converting the university from just a place where education happens to one that educates ecologically.”

UMC as a living laboratory



David Orr, Oberlin College

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Trapping carbon and saving energy by no-mow areas in the student-developed Nature Nook

Hands-on campus orientation







**Adding prairie
biodiversity in the
Nature Nook Prairie**



**UMC's first Rain Garden
in the Nature Nook**



**Chancellor Casey appoints UMC
Sustainability Committee in 2008 (co-chaired
by Professor Martin Lundell and student
Chris Waltz with 5 working groups**

- **Physical operations**
- **Local foods**
- **Communication and outreach**
- **Curriculum**
- **Recycling**



Perspective of the student, faculty, and staff committee

- **“meeting the needs of the present without compromising the ability of future generations to meet their own needs.”**
 - (United Nations Brundtland Commission, 1987)
- **“Thinking long-term, living as though we are here to stay.”**
 - (Center for Sustainable Community Development, Federation of Canadian Municipalities)




Mission Statement of Crookston Students for Sustainable Development (CSSD)

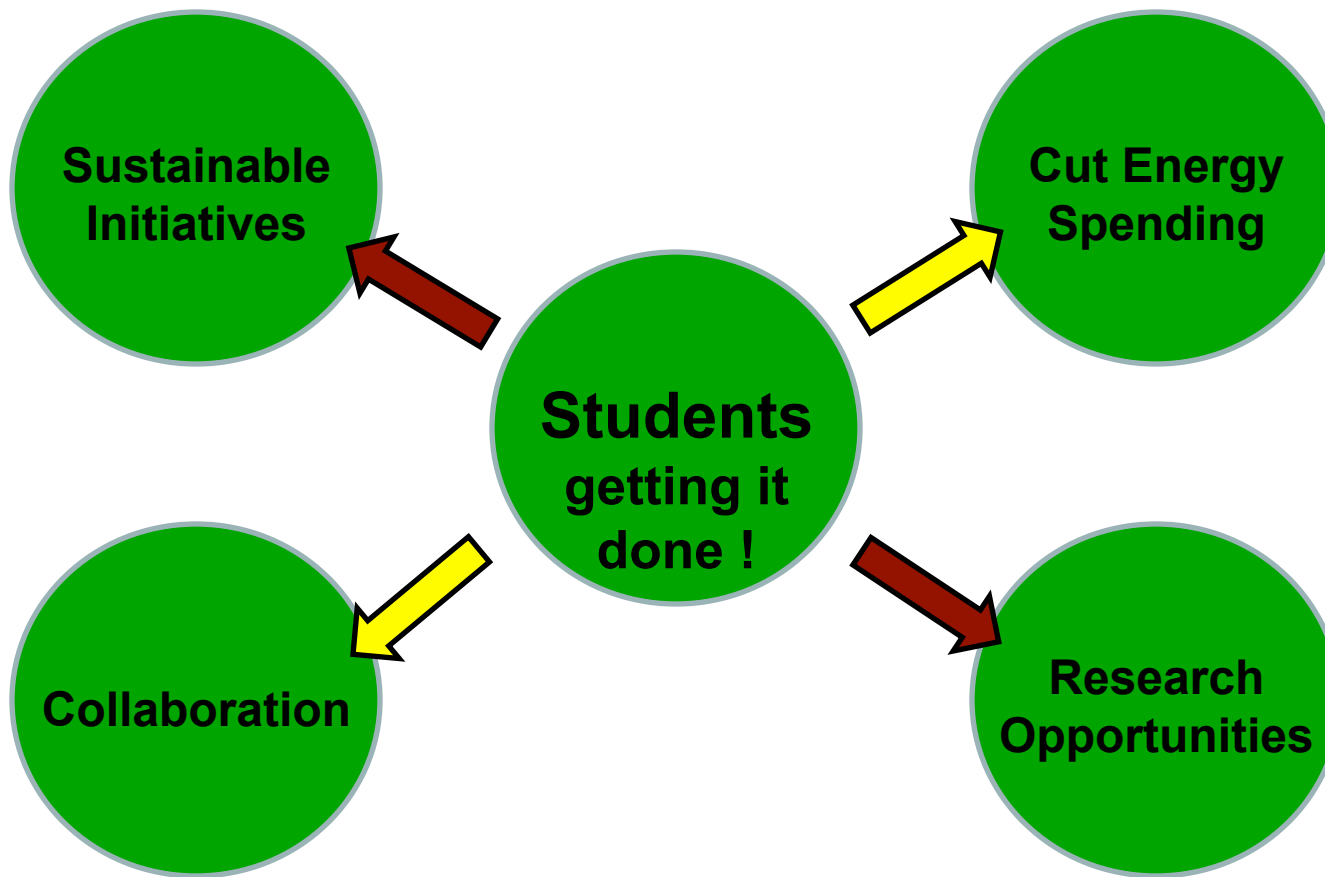
“The Crookston Students for Sustainable Development Committee Commissioned by the Crookston Student Association will serve as the student group for exploration, research, and collaborative conception of a number of sustainability initiatives for our campus and community.”



How the students view their role

- 
- We pay to come here.
 - We make our experience
 - We are a valuable resource
 - We have a say in sustainability (CSSD)

Campus Goals





Staged all-campus forum in April 2009 to embrace sustainability implementation

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Chris Waltz and Erick Elgin building support for a LEED residence hall



The evolution of Evergreen Hall

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Dedicating Evergreen Hall and launching the Otter Tail Energy Challenge Grant. Hooray!





Student sustainability assistant, Lisa Gentele, and CSA President, Tom Haarstick leading discussion on Otter Tail Power Energy Challenge Grant implementation

UMC designated a GreenCorps host site in September 2009



**Chris Waltz, an
Energy
Conservation
Specialist
appointed for 11
months.**



Chancellor Casey establishes a Center for Sustainability in 2009

- To provide more visibility and coordination for Crookston campus sustainability efforts.
- Provide an on-going entity to coordinate with all-University sustainability efforts.
- Provide an entity to seek and promote outside funding for campus and regional sustainability efforts



Our Charge is to identify:

- energy conservation practices on campus
- strategies to reduce/reuse/recycle (RRR)
- strategies to decrease the campus carbon footprint
- opportunities to increase the use of local foods and reduce food waste
- ways to integrate sustainability into the curriculum across campus



Our Goals

1. Established a campus structure to implement provisions of the ACUPCC.
2. Have a plan in place to develop a climate neutrality action plan by January 2010.
3. Mobilizing student, staff, and faculty to all get in the sustainability game.

“What you do to the earth you also do
to your children” Red Lake Nation



Brianna Kelly photo by Brian Kelly

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Sustainability at UMD

University of Minnesota Board of Regents
October 8, 2009

John King
Anne Rittgers
Mindy Granley

- A strong operational focus, with links to education, outreach, research, and service.



Transportation

Transportation

Land + Water

Energy

Waste +
Recycling

Teaching +
Research

Commitment



Chelsea Voltin,
3 millionth U-Pass rider



Duluth Transit Authority (DTA)
named MN Transit System of the
Year by the MN Public Transit
Association



Land + Water

Transportation

Land + Water

Energy

Waste +
Recycling

Teaching +
Research

Commitment



- Stormwater management and outreach

lake superior
duluth streams.org





Energy

Transportation

Land + Water

Energy

Waste +
Recycling

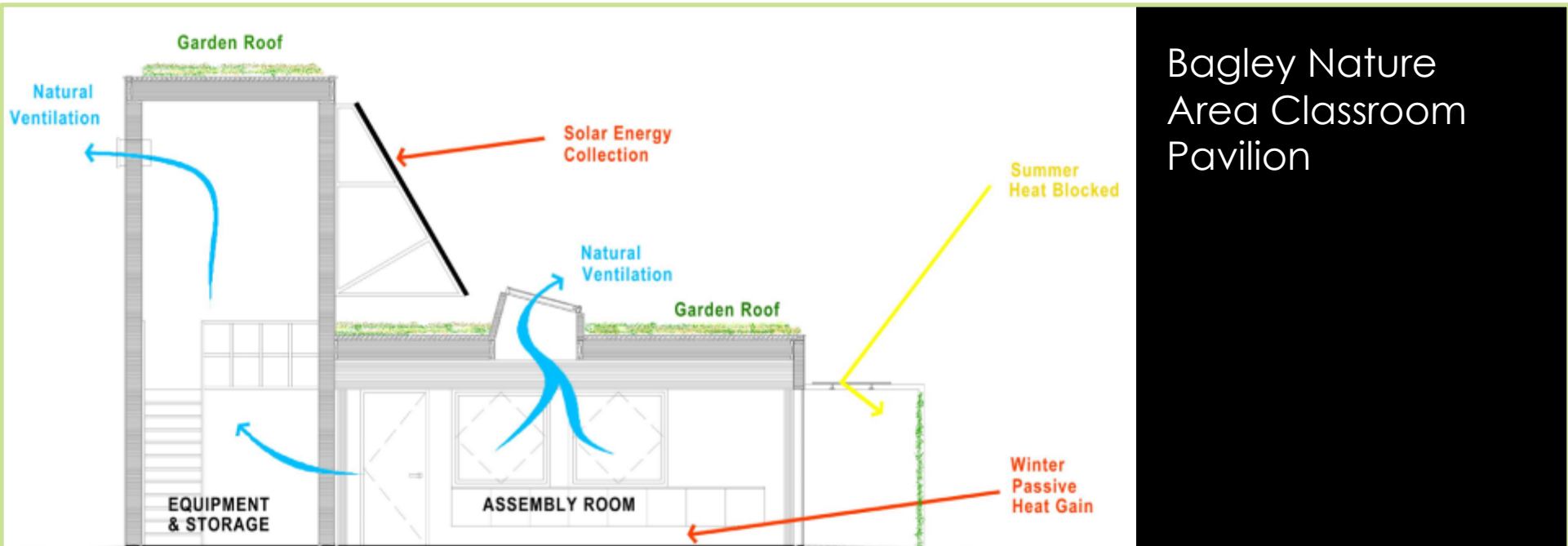
Teaching +
Research

Commitment

- Build new buildings efficiently
- Reinvest in older buildings
- Optimized building performance
- Student interests

Labovitz School of
Business and Economics





Bagley Nature Area Classroom Pavilion

Civil Engineering Building





Waste + Recycling

Transportation

Land + Water

Energy

Waste +
Recycling

Teaching +
Research

Commitment

- Big Belly Solar trash compactors
- Composting
- Green Cleaning





Teaching + Research

Transportation

Land + Water

Energy

Waste +
Recycling

Teaching +
Research

Service

- Teaching:
 - Anthropology class
 - Waste management, commuting, LEED satisfaction, bottled water
 - Campus greenway
 - Three Sisters planting





Teaching + Research

Transportation

Land + Water

Energy

Waste +
Recycling

Teaching +
Research

Service

Engineering students monitor
output from the Malosky Solar
Array



Thermodynamics classes
use heating plant as a real
life "consulting project"



Research

Transportation

Land + Water

Energy

Waste +
Recycling

Teaching +
Research

Service

- Natural Resources Research Institute
Mission: Fostering economic development of Minnesota's natural resources in an environmentally sound manner to promote private sector employment.
- Center for Sustainable Development
North Shore wind energy potential
Viability of regional community agriculture?

Future research?





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Sustainability Update from University of Minnesota, Morris

Regents Meeting
October, 2009

Campus Sustainability Structure

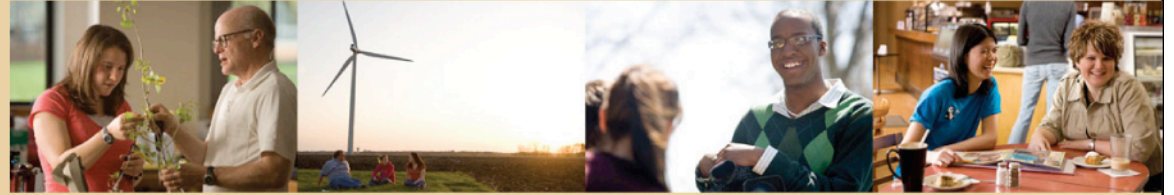
- Campus Administration - leadership for various sustainability initiatives
- Morris's Shared Governance Structure-
Campus Resource and Planning
Committee (CRPC)
 - CRPC Sustainability Subcommittee
- Morris students, staff (sustainability coordinator) and faculty are involved in strategic planning and initiatives.

Curriculum and Co-curriculum

- Successful launch of Environmental Studies and Environmental Science programs
- Launched a new renewable energy biomass gasification curriculum
- Sustainability floor and outreach in residence halls
- Ongoing healthy eating initiatives

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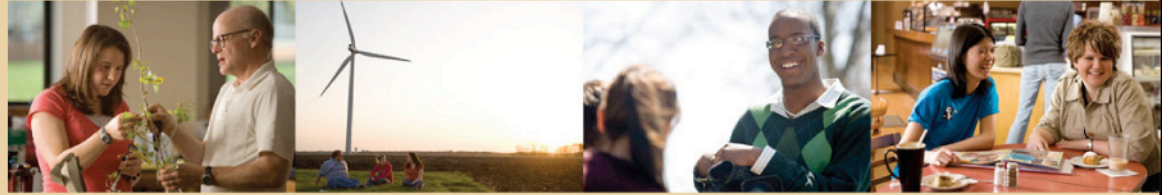
By David Joles, Star Tribune

Outreach and Engagement

- Continue to deliver unique content requested in our region to diverse audiences
- Active tour schedule at Morris interested in renewable energy assets
- Leveraging our regional resources through UMACS
- Launch of Minnesota GreenCorps

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education.



Operations

- Strategic and master plan incorporate sustainable principles
- LEED construction at Gateway building
- Ongoing wind development
- Ongoing biomass development
- Active recycling program
- New dining innovations

Research

- Wide variety of sustainability-themed research continues at Morris:
- in wind power ownership economics
- in bacterial resistance versus farming methods
- in chemical approaches to forming ammonia





University of Minnesota – Rochester Campus

Sustainability and a New Campus

UNIVERSITY OF MINNESOTA GUIDING PRINCIPLES

Building Community

1. Cultivate a genuine sense of community
2. Strengthen connections to adjacent communities

Creating a Model Campus

3. Create a cohesive, memorable system of public spaces
4. Provide a compatible and distinctive built environment
5. Steward historic buildings and landscapes
6. Foster a safe, secure and accessible campus environment

Integrating Local and Regional Systems

7. Preserve and enhance natural systems and features
8. Integrate trans. emphasizing pedestrians, bicycles and transit
9. Optimize campus land and facilities use and apply best practices

Using Resources Wisely

10. Make the campus environmentally and operationally sustainable
11. Utilize the campus to advance the university's mission



MASTER PLAN FINDINGS: Guidelines for Site Selection

- **Should accommodate core programs and provide ample open space**
- **Should be within walking distance, or six standard city blocks of Mayo Clinic campus**
- **Should have easy connections to transit, bike travel, and well-trafficked pedestrian routes**
- **Real estate assembly should capitalize on opportunities to partner within the community**
- **Real estate assembly should capitalize on existing City attributes**
- **Real estate should support municipal plans for investment**
- **Real estate assembly should not displace provision of goods and services that contribute significantly to the city's functions**

Thank you!



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ADDING
UP TO
ZERO

It all
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