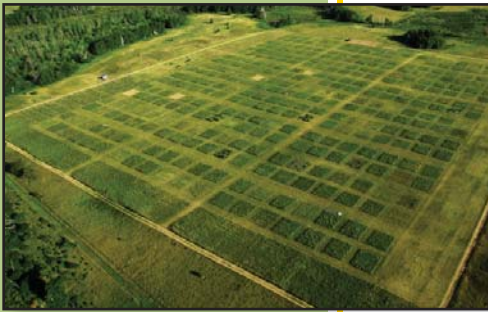




# University of Minnesota Systemwide Sustainability

Goals • Outcomes • Measures • Process





UNIVERSITY OF MINNESOTA

**Driven to Discover<sup>SM</sup>**

**University of Minnesota**  
**Systemwide Sustainability**

Goals • Outcomes • Measures • Process

September 2009



The University of Minnesota, founded in the belief that all people are enriched by understanding, is dedicated to the advancement of learning and the search for truth; to the sharing of this knowledge through education for a diverse community; and to the application of this knowledge to benefit the people of the state, the nation, and the world. The University's threefold mission of research and discovery, teaching and learning, and outreach and public service is carried out on multiple campuses and throughout the state.

# University of Minnesota Systemwide Sustainability

Goals, Outcomes, Measures, Process

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# University of Minnesota Board of Regents Policy on Sustainability and Energy Efficiency

Adopted July 9, 2004

## Commitment:

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. Sustainability requires the collective actions of the University of Minnesota community and shall be guided by the balanced use of all resources, within budgetary constraints. The University is committed to incorporating sustainability into its teaching, research, and outreach and the operations that support them.

## Guiding Principles:

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

## Implementation:

- Goals
- Policies
- Procedures
- Objectives
- Targets
- Indicators
- Measures of Success
- Progress Reports

Board of Regents Policy on Sustainability and Energy Efficiency is found in Appendix A

# Sustainability Goals and Outcomes Committee Charge

Summary of Charge from President Robert H. Bruininks  
April 2, 2008

## Facilitate implementation of the Board of Regents policy by

- Recommending University-wide sustainability goals aligning to the policy guiding principles: leadership, modeling, operational improvements, energy efficiency, research, and education and outreach
- Drafting performance measures and appropriate mechanisms for measuring and reporting progress both in operational units and across the University as a whole
- Supporting each campus's development of campus-wide, ongoing sustainability committees to ensure implementation of the Regents policy.





# University of Minnesota Sustainability Goals and Outcomes Committee

The University of Minnesota Sustainability Goals and Outcomes Committee was established by University of Minnesota President Robert Bruininks in spring 2008 to guide implementation of the Board of Regents policy by recommending goals and performance measures and supporting development of sustainability committees on each campus. The committee included students, faculty, and staff from four University campuses. Work teams formed in fall 2008 aligned with the policy's guiding principles. The structure and composition of the committee and work teams is shown in Appendix B. Over six months, the work teams developed data-driven goals and desired outcomes and measures for each guiding principle. Appendix B. Work team members are also noted in the Acknowledgments.

## Co-Chairs

***Kathleen O'Brien***, Vice President, University Services

***Deborah Swackhamer***, Charles M. Denny Chair of Science, Technology, and Public Policy, Humphrey Institute of Public Affairs; Professor, Division of Environmental Health Sciences, School of Public Health; Co-director, Water Resources Center, UMTC

## Committee Members

***Jay Bell***, Professor, Department of Soil, Water, and Climate and Associate Dean, Academic Programs and Faculty Affairs, College of Food, Agricultural and Natural Resource Sciences, UMTC

***Leslie Bowman***, Executive Director, University Dining Services, Contract Administration, UMTC

***David DeMuth***, Associate Professor, Department of Math, Science and Technology, UMC

***Jim Dudley***, Director of Central Services, Facilities Management, UMTC

***Kris Johnson***, Ph.D. Graduate Student, Conservation Biology Program, UMTC

**Anne Kapuscinski**, Professor, Department of Fisheries, Wildlife and Conservation Biology and Director, Institute for Social, Economic, and Ecological Sustainability, UMTC\*

**John King**, Director, Facilities Management, UMD

**Holly Lahd**, Undergraduate Student, Department of Applied Economics, UMTC

**Scott Lanyon**, Professor and Head, Department of Ecology, Evolution, and Behavior, UMTC

**Allen Levine**, Dean and Professor, College of Food, Agricultural and Natural Resource Sciences, UMTC

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**Julian Marshall**, Assistant Professor, Department of Civil Engineering, UMTC

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*The test of the University's mettle—and our merit as a top three public research university—will lie in how boldly we take up the challenge in this committee report and how thoroughly we implement its recommendations.*

## Preface

To reach our goal of becoming a top three public research university, the University of Minnesota must act in ways that bring transformational change and achieve transcendent results in response to vitally important problems. When we have done what few other universities have accomplished, and overcome obstacles that few others have scaled, we will have reached our goal. Top three universities don't aspire to their ranking. We do everything we can to make a difference in the world, and the rankings follow.

The work of the students, faculty, and staff in the University Sustainability Goals and Outcomes Committee exemplifies that idea. The committee's work teams have laid out a series of inspirational goals, achievable recommendations, and measurable outcomes that will transform the University of Minnesota and transcend anything done by our peers. The test of the University's mettle—and our merit as a top three public—will lie in how boldly we take up the challenge in this committee report and how thoroughly we implement its recommendations.

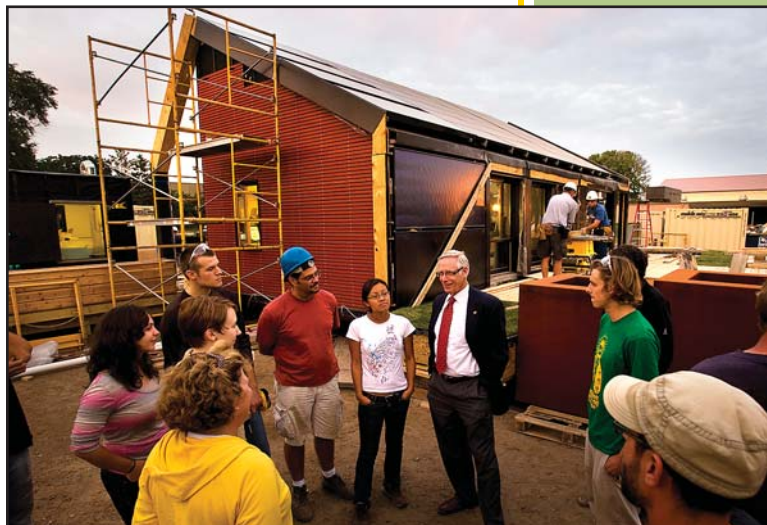
The current financial crisis might make this challenge seem too daunting, but not when we consider the core of the committee's recommendations. Achieving a truly sustainable University of Minnesota will require not a lot of additional investment as much as a fundamental change in campus culture. That change will need to extend from the individual behavior of students, faculty, and staff for whom resource use remains largely an externality hidden from view and someone else's responsibility, to the collective action of the institution, in which decisions often get made without factoring in their environmental effects.

The report outlines several ways of achieving this cultural change within the University of Minnesota. The change begins with the engagement of everyone at the University, at every level—students, faculty, and staff—in almost everything we do on a daily basis, with the right incentives in place to move sustainable behavior from being an exception to the norm. This change in culture will also require the support of the institution's leadership not only in emphasizing the importance of sustainability, but also in attending to the environmental, economic, and social implications of every major decision. Finally, the change will demand our

attending to what, when, and how successes get communicated, using pervasive—and paperless—forms of new media as much as possible.

Behind all of the recommendations in this report lies a shift away from thinking of sustainability as an unavoidable cost to seeing it as an unsurpassable investment in the future of the University. Every dollar spent on improving our collective environmental footprint leverages far more in return by strengthening the resiliency and resolve of this community to do what no other university our size has done. And every step taken to enhance the campus ecosystem moves us several steps further toward a more robust academic ecology. In that sense, this report of the University Sustainability Goals and Outcomes Committee represents not only the conclusions of a sizable group of committed colleagues, but also the commencement of our truly becoming a top three public research university.

Thomas Fisher  
Dean, College of Design



### Going to the Mall

President Robert Bruininks joins students from a wide variety of majors at the University of Minnesota who have collaborated to build a house powered entirely by the sun. The effort of some 150 University students is part of the 2009 international Solar Decathlon competition in Washington, D.C.



# Executive Summary

In July 2004, the University of Minnesota Board of Regents adopted its *Policy on Sustainability and Energy Efficiency*. The policy defines sustainability as “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.” It commits the University of Minnesota to incorporate sustainability into teaching, research, outreach, and operations under the direction of six guiding principles:

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

Soon after this sustainability and energy policy was adopted, the University of Minnesota began a strategic planning process. The resulting plan, *Transforming the U*, called for transformative change, better use of resources, exceptional innovation, and a commitment to “measure what we value and then act accordingly.” Through this process, the University of Minnesota established the goal of becoming one of the top three public research universities in the world.

In the context of the Board of Regents *Policy on Sustainability and Energy Efficiency* and *Transforming the U*, in April 2008 University of Minnesota President Robert H. Bruininks established a 10-member University of Minnesota Sustainability Goals and Outcomes Committee. Composed of faculty, staff, and students, the committee was charged with 1) facilitating implementation of the Board of Regents policy by recommending goals and performance measures for each guiding principle, and 2) supporting development of sustainability committees on each campus. This report is a summary of the committee’s activities and recommendations.

To carry out its charge, the University of Minnesota Sustainability Goals and Outcomes Committee created five work teams focused around the six guiding principles (leadership and modeling were considered together). Over the next six months, the

work teams gathered background information about existing sustainability-related activities at the University, researched best practices from other higher education institutions, familiarized themselves with metrics recommended by the Association for the Advancement of Sustainability in Higher Education (AASHE), and brought their personal and professional knowledge and expertise to bear on the question at hand. In the end, the work groups produced 27 sustainability goals and 74 desired outcomes and measures, along with extensive contextual information and recommendations for next steps.

The committee as a whole reviewed the work team reports and consolidated ideas contained in the reports by bringing together similar goals and objectives to increase robustness and reduce redundancy. The committee chairs and sustainability coordinator further synthesized the work by incorporating comments from campus consultations held in April 2009 and other meetings within the University community during the year. The goals and desired outcomes and measures reported in this report thus reflect the collective work of the committee refined by input from the University community.

Through this process, a few key goals seemed to rise above and represent the overall spirit and intent of the work teams (highlighted on the next page).

These high-level goals and related themes note actions essential to successfully incorporating stewardship for the future into current endeavors as the University of Minnesota carries out its threefold mission of research and discovery, teaching and learning, and outreach and public service on multiple campuses and beyond.

Just as sustainability must be integrated into the University's three-part mission, sustainability must be integrated into the operations that support this mission. We must create a systemwide culture and an enduring ethic of sustainability when developing our policies and procedures and when making day-to-day decisions about our operations. These are important and sound operational practices to ensure environmentally effective development, building management, and transportation decisions; environmentally wise purchasing; and the management of resources for their highest end use and not as waste.



# High-Level Goals

The following high-level goals are distilled from the 27 work team goals and reflect key themes that repeatedly surfaced in the work teams' reports.

## 1. Leadership

As a large public research land-grant university, the University of Minnesota will strive to be a leader in sustainability and energy efficiency.

## 2. Living Laboratory

The University of Minnesota will serve as a living laboratory as we integrate sustainability across operations, education, research, and outreach.

## 3. Engagement

The pursuit of sustainability will actively engage all dimensions of the University, and the University will promote activism and engagement related to sustainability.

## 4. Communication

Transparent and abundant communication will help build awareness of the what, why, and how of sustainability throughout the University of Minnesota community. The University will encourage communication, marketing, and transparency to build awareness and participation.

## 5. Policies

Uniform policies will help departments and programs adopt best practices for sustainability. The University will establish policies that make best practices (energy, purchasing, etc.) the most desirable choice for all departments.

## 6. Culture Change

The University of Minnesota community will undergo a fundamental culture change as sustainability is integrated through our programs and practices. The University will nurture a culture that views sustainability as an integral component of all we do.

## 7. Community Impact

The University of Minnesota's pursuit of sustainability will enhance awareness and adoption of sustainable practices in the broader community. The University will create mechanisms for measuring impacts on campus and beyond. (How does our work change the world?)

## 8. Integration

The University of Minnesota will integrate sustainability into operational and financial decisions, teaching, research, and outreach.

The important relationship between energy management and our success in advancing sustainability was recognized in the Board of Regents policy through a separate guiding principle on energy efficiency. With respect to operations, we have incorporated, and are committed to continue to incorporate, well-managed and innovative energy programs into our efforts. The University of Minnesota is already widely recognized for innovative renewable energy research and for bringing that knowledge to bear through University of Minnesota Extension and globally through other outreach programs.

### **Where did we start? Where do we want to go? Where are we now?**

Progress toward any goal benefits from the ability to periodically assess position and make midcourse corrections as needed to keep on track. Progress reports as we work to achieve the goals delineated here will ensure transparency and allow us to identify what's working well and, alternatively, what might benefit from a new approach. A sustainability information system will help us compile and analyze data to guide next steps and direct resources to best uses. Institutional structures are also recommended for implementing the plan and reporting. Because of the unique opportunities and constraints present on each campus, campus chancellors will establish campus committees to determine which goals and outcomes are most appropriate for their campus's circumstances, to set corresponding objectives and targets, and to provide reports of progress. A University Sustainability Steering Committee with representation from all campuses will be charged by President Bruininks to oversee implementation at the system level. Cross-campus work groups will be formed when needed to address topics that impact all campuses, to share best practices, to help leverage resources efficiently, and to determine where enterprise solutions are necessary.

The recommendation is also made for the campus committees to report annually on their progress to the systemwide steering committee. The steering committee will integrate inputs and prepare a synthesis report for the Board of Regents in the fall of each year. Appropriate infrastructure and measures will be developed to facilitate the reporting process. This process must reflect the flexibility of this living process. Goals and objectives will be revisited in 5 to 10 years and will be updated based on progress, lessons learned, mandates, and aspirations.

## ***Living Laboratory***

*A common theme among University Sustainability Goals and Outcomes Committee members was that the University of Minnesota should serve as a "living laboratory" for sustainability. As a living laboratory, the University provides opportunities to develop, test, and share with others novel approaches as sustainability is integrated into teaching, research, outreach, and practice.*

# Goals

## Leadership and Modeling

- Goal 1: Be a national leader and pioneering model for sustainability and energy efficient operations among large public research land-grant institutions
- Goal 2: Actively advance the transition to a sustainable world economy through research, teaching, outreach, and operations
- Goal 3: Inspire and influence the community, nation, and world through innovative sustainable research and practices
- Goal 4: Make significant continuous achievements toward sustainability goals and commitments
- Goal 5: Embrace an organizational culture and individual decisions that support an inclusive, engaged, active, and sustainable healthy community
- Goal 6: Meet all regulatory requirements and support the development of future regulations and policies through technical review, academic study, and practical experience

## Operational Improvements

- Goal 1: Plan, program, design, construct, and operate University of Minnesota facilities throughout their life cycle to provide restorative impacts to the natural environment and a healthy indoor environment for the University community
- Goal 2: Integrate environmental, economic, and social priorities into purchasing and contract decisions
- Goal 3: Use lower impact transportation alternatives that increase fuel efficiency, provide more sustainable fuel options, and help reduce the miles traveled on campus, to campus, and as part of the University of Minnesota enterprise
- Goal 4: Manage resources for their highest end use by reducing consumption, minimizing waste, and strongly supporting the reuse and highest value recycling of unwanted materials

## Energy Efficiency

- Goal 1: Reduce energy use
- Goal 2: Engage the University of Minnesota community in energy conservation
- Goal 3: Pursue climate neutrality and energy efficient operations across the University of Minnesota
- Goal 4: Adopt energy-related financial policies which enable the University of Minnesota to be socially, environmentally, and fiscally informed
- Goal 5: Contribute to the development of progressive state and federal energy policies

## Research

- Goal 1: To advance sustainability, nurture cross-disciplinary collaboration and sharing of ideas and perspectives within and beyond the University
- Goal 2: To advance sustainability, promote civically engaged, socially informed, and community responsive research and scholarship
- Goal 3: To advance sustainability, instill sustainability principles in the research culture of the University of Minnesota; all levels of University leadership should embrace sustainability as a core pillar of the University's mission
- Goal 4: To advance sustainability, eliminate institutional barriers and disincentives to interdisciplinary and collaborative sustainability research
- Goal 5: To advance sustainability, transform the University of Minnesota into a living laboratory for sustainability

## Education and Outreach

- Goal 1: Capture the land-grant mission: Sustainability is part of the educational or campus experience of each and every University of Minnesota student
- Goal 2: Integrate service learning into the undergraduate and graduate experience, linking students, faculty, University of Minnesota Extension, and community partners
- Goal 3: Create and implement curricula and educational programs that address the interface of environment, society, and economy
- Goal 4: Develop outreach programs for sustainability education of working professionals in the public and private sector

## Communication

- Goal 1: Create opportunity for dialogue to discuss global and local sustainability challenges, opportunities available, and the work of the University to advance sustainability
- Goal 2: Develop and implement marketing/promotion efforts to engage those who may not be aware of sustainability-focused education, outreach, and research opportunities
- Goal 3: Develop and maintain a transparent data management information system to enable decisions utilizing environmental, economic, and social factors

# Introduction

As one of the nation's largest land-grant universities, the University of Minnesota has the potential for many and diverse impacts on our environment, society, and economy. In a world with growing population, limited resources, and increasing awareness of the implications of our actions, the need to be deliberate about minimizing our negative impacts and cultivating positive ones is more compelling than ever.

This report focuses on a strategic effort to do just that.

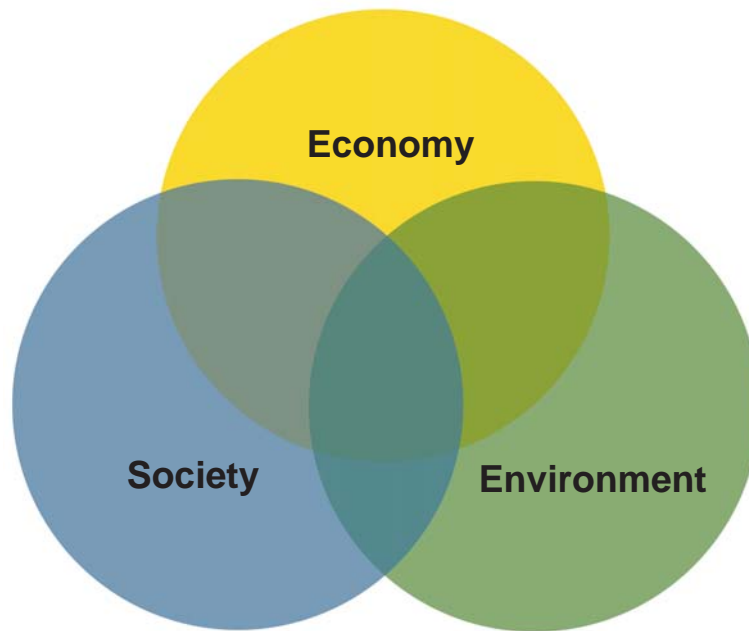
Making decisions that take future generations into account is not a new concept. In the 1980s, convened by the United Nations, the World Commission on Environment and Development (more commonly known as the Brundtland Commission) called for a global commitment to “development that meets the needs of the present without compromising the ability of future generations to meet their own needs.” Since then, the concept of sustainable development has gradually spread around the world, influencing activities from the construction of sports stadiums in Australia to the management of fisheries off the coast of Newfoundland, and pretty much everything in between. Wherever it arises, the pursuit of sustainability carries with it a call to make the well-being of the social, economic, and biophysical systems of our planet paramount as we pursue more resilient and desirable conditions.

Perhaps nowhere has the summons to sustainability been more compelling than on college and university campuses. Directly impacting millions of individuals each year, indirectly touching the lives of many more, institutions of higher education are recognized internationally as thought leaders and change agents, providing not only research and education to advance knowledge and practice, but also life-altering influences on individuals just moving into adulthood.

Momentum-building measures such as the framing of the international Talloires and Lüneburg declarations, development of the American College & University Presidents' Climate Commitment (ACUPCC), and establishment of the Association for the Advancement of Sustainability in Higher Education (AASHE) have underscored the essential role educational institutions can play in shaping a thriving future. Around the world, hundreds of colleges and universities are working to advance sustainability

*Perhaps nowhere has the summons to sustainability been more compelling than on college and university campuses.*

in teaching, research, outreach, and operations. However, few academic institutions as large and diverse as the University of Minnesota are attempting to weave sustainability goals across all campuses and integrate them through all four dimensions of teaching, research, outreach, and operations.



## What is Sustainability?

The modern definition of sustainability is derived from the definition of sustainable development set forth in the 1987 report of the United Nations' World Commission on Environment and Development titled *Our Common Future*—also known as the Brundtland Report:

*Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs. It contains within it two key concepts: the concept of "needs," in particular the essential needs of the world's poor, to which overriding priority should be given; and the idea of limitations imposed by the state of technology and social organization on the environment's ability to meet present and future needs.*

Since then, the concept has evolved to take on the shape of three interlinked spheres of environment, society, and economy (sometimes referred to as "triple bottom line" or "people, planet, and profit") when making decisions for the common good. In its *Policy on Sustainability and Energy Efficiency*, which set the stage for this report, the University of Minnesota Board of Regents defined sustainability as follows:

*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.*

As a land-grant university, the University of Minnesota is grounded in the principle of valuing the natural, economic, and social systems that sustain us. Through our 158-year history, we have sought to strike the balance that keeps all three thriving.

Much of this work has focused on environmental stewardship in teaching, research, and student activities. In establishing a field station at Lake Itasca in 1909, the University set the stage for research and educational programs focused on benefiting from natural resources while protecting the ability of future generations to do the same. In the 1930s that same field station inspired University of Minnesota undergraduate Raymond Lindeman, whose later studies at the University's internationally renowned Cedar Creek Ecosystem Science Reserve help shaped the field of modern ecology. The Duluth campus is a model for stormwater management and that operational practice has its roots intertwined with the longstanding Sea Grant program, which was proposed as a concept in 1963 by Athelstan Spilhaus, then dean of the Institute of Technology at the University of Minnesota. On the first Earth Day 40 years ago, Twin Cities campus students planned to mark the event by presenting a Declaration of Interdependence and an Environmental Bill of Rights, and hold a mock award ceremony outside Northrop auditorium for local polluters.

Integration of sustainability into campus operations has been, and continues to be, a multifaceted effort. Recycling programs were developed in 1984. A systemwide waste abatement policy adopted in 1992 helped lay the groundwork for an operations culture that values and seeks sustainability. Today we are working to create a systemwide culture of sustainability when developing our operational policies and procedures and when making day-to-day decisions about our operations. We also seek to manifest an ethic of sustainability in environmentally effective development, building management, and transportation decisions; environmentally wise purchasing; and the management of resources for their highest end use and not as waste.

Outreach efforts have long been strong as well. In the 1930s, University of Minnesota Extension 4-H programs began holding conservation camps to train future leaders. Since the 1980s Extension has played a pivotal role in assisting counties as they develop, implement, and enhance waste management and recycling plans, creating easily accessible opportunities for citizens around the state to reduce their ecological footprint. And the Regional Sustainable Development Partnerships, formed 1998, foster resilient communities and strengthen citizen ties to University resources.

Numerous efforts on individual campuses, such as the launching of a major sustainability initiative on the Morris campus in 2000 culminating in the signing of the ACUPCC, and restoration of the Sarita Wetland on the Twin Cities St. Paul campus, have helped build momentum and positioned the University of Minnesota as a leader in grass-roots campus sustainability efforts.

In 2002, a group of interdisciplinary faculty, the Commission on Environmental Science and Policy, brought sustainability to the forefront as an organizing principle when it called on the University of Minnesota, as a major landowner and building operator as well as a land-grant institution, to recognize that environmental science and policy are potentially the largest single unifying subjects across a broad spectrum of administrative units and faculty. The commission report recommended leveraging the broad spectrum of University resources in pursuit of solutions to the complex interdisciplinary environmental problems facing our world. At all campuses, growing interest by students, faculty, and staff in ensuring their University had a positive impact on the environment created a need for better definition and communication about University research strengths and operations. Responding to this thought and action, then-Executive Vice President and Provost Robert Bruininks asked Vice President Kathleen O'Brien and then-Vice Provost Al Sullivan to lead a group of students, staff, and faculty in drafting a policy that would define the path to a sustainable future for the University.

In 2004, in follow-up to and affirmation of this group's work, the University of Minnesota Board of Regents adopted its Sustainability and Energy Efficiency policy.



Soon after this sustainability and energy policy was adopted, the University of Minnesota began a strategic planning process. The resulting plan, *Transforming the U*, called for transformative change, better use of resources, exceptional innovation, and a commitment to “measure what we value and then act accordingly.” Through this process, the University of Minnesota established the goal of becoming one of the top three

# Board of Regents Policy on Sustainability and Energy Efficiency: Guiding Principles

The Board of Regents policy affirmed that the University of Minnesota is committed to incorporating sustainability into teaching, research, outreach, and operations in the context of the six guiding principles of the policy:

## 1. Leadership

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.

## 2. Modeling

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.

## 3. Operational Improvements

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

## 4. Energy Efficiency

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.

## 5. Research

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 operations staff, students, public entities, community organizations, and industry.

## 6. Education and Outreach

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

public research universities in the world. The process also emphasized the importance of interdisciplinary education and inquiry—an approach that is the foundation of sustainability. Informed by the work of the Commission on Environmental Science and Policy, and recognizing the strength and value of the University’s environmental

*This report calls for the University of Minnesota, in the context of our commitment to become one of the top three public research universities, to weave sustainability through all we are and all we do.*

leadership, the strategic planning process led to the formation of the Institute on the Environment to drive interdisciplinary solutions to complex environmental problems. Integration of sustainability concepts into campus master plans has been completed or is underway.

In the context of the Board of Regents *Policy on Sustainability and Energy Efficiency* and *Transforming the U* and signing the American College & University Presidents' Climate Commitment for the University system, in January 2008 University of Minnesota President Robert Bruininks named Vice President Kathleen O'Brien to lead sustainability efforts and implementation of the policy across the University. In April, he established the University of Minnesota Sustainability Goals and Outcomes Committee to guide implementation of the Board of Regents policy by recommending goals and performance measures and supporting development of sustainability committees on each campus. Co-chaired by O'Brien and Deborah Swackhamer, professor of environmental health sciences, co-director of the Water Resources Center, and Charles M. Denny, Jr., chair for science, technology, and public policy at the Humphrey Institute of Public Affairs, the committee included students, faculty, and staff from four University of Minnesota campuses. Work teams formed in fall 2008 aligned with the policy's guiding principles (Appendix B). Over the next six months, the work teams and committee, guided by input from the broader University community, developed data-driven goals and desired outcomes and measures for each guiding principle.

This document is the committee's report and recommendations.

First and foremost, the committee and this report recognize and celebrate the sustainability-promoting activities that have already taken place on every University of Minnesota campus. These activities, originating with and advanced by students, faculty, and staff as well as administration, have earned the University the highest grade of the Big Ten institutions in the Sustainable Endowment Institute's 2008 report card as well as a "greenness" rating of 91 out of 100 in Princeton Review's *Best 368 Colleges*.

But this report also moves beyond celebrating existing successes. It proposes goals and outcomes to meet the Board of Regents policy, and adds specific strategies for implementation and for measuring success. The committee and work teams identify what challenges need to be addressed, and provide a vision of where we want to go, how we will get there, and how we will know (and tell others) how we're doing. Ulti-

mately, it calls for the University of Minnesota to weave sustainability through all we are and all we do as part of our transformation to become one of the top three public research universities. It invites students, faculty, and staff to work together across campuses and across disciplines to make the University of Minnesota a nationally renowned leader in ensuring that our actions to meet our needs today also protect and sustain the ability of future generations to meet their needs.

The University of Minnesota takes pride in being founded on and grounded in traditional Minnesota values of respect, hard work, education, equal opportunity, innovation, and leadership. Nowhere could these values be more profitably applied than in our commitment to pursue a vision in which sustainability is the organizing principle for all of our endeavors and a key yardstick against which we measure our success. There is much work to do as we move forward, driven by data and a sense of service to the broader community, to create change locally that we believe will ultimately have global significance. But we take pride in having the opportunity to lead the way. Our hope is that this commitment will serve as a lens to focus past successes, current efforts, and newly emerging initiatives into a strong beam of sustainability-promoting education, innovation, and action that will light the way to a brighter, more sustainable future, not only for the University of Minnesota but for peer institutions around the world.

## Emphasis: Energy

The Board of Regents acknowledged the important relationship between energy management and our success in advancing sustainability by including in its policy a separate guiding principle on energy efficiency. With respect to operations, we have incorporated, and are committed to continue to incorporate, well-managed and innovative energy programs into our efforts. Solutions for individual campuses depend upon their unique settings and size. What they all have in common is a commitment to take positive steps toward achieving climate neutrality through a setting-appropriate mix of reducing fossil fuel use through energy conservation and deployment of renewable energy sources. This helps us shrink our system's carbon footprint in a cost effective manner and reduce our dependence on non-renewable energy.

The University of Minnesota is already widely recognized for innovative renewable energy research and for bringing that knowledge to bear through University of Minnesota Extension and globally through other outreach programs. These efforts will increase in scope and impact as we strive to lead the way to a more sustainable energy future.



## Goals, Desired Outcomes, Measures

What specific goals should the University of Minnesota strive for in the pursuit of sustainability?

How will we know when we achieve them?

In response to these questions, five work teams, organized according to the Board of Regents policy's six guiding principles, developed 27 sustainability goals and 74 desired outcomes and measures. As the work team reports were reviewed together, a few high-level goals seemed to rise above to represent the overall spirit and intent of the work teams:

### 1. Leadership

As a large public research land-grant university, the University of Minnesota will strive to be a leader in sustainability and energy efficiency.

### 2. Living Laboratory

The University of Minnesota will serve as a living laboratory as we integrate sustainability across operations, education, research, and outreach.

### 3. Engagement

The pursuit of sustainability will actively engage all dimensions of the University of Minnesota, and the University will promote activism and engagement related to sustainability.

### 4. Communication

Transparent and abundant communication will help build awareness of the what, why, and how of sustainability throughout the University of Minnesota community. The University will encourage communication, marketing, and transparency to build awareness and participation.

### 5. Policies

Uniform policies will help departments and programs adopt best practices for sustainability. The University will establish policies that make best practices (energy, purchasing, etc.) the most desirable choice for all departments.

### 6. Culture Change

The University of Minnesota community will undergo a fundamental culture change as sustainability is integrated through our programs and practices. The University will nurture a culture that views sustainability as an integral component of all we do.

### 7. Community Impact

The University of Minnesota's pursuit of sustainability will enhance awareness and adoption of sustainable practices in the broader community. The University will create mechanisms for measuring impacts on campus and beyond. (How does our work change the world?)

### 8. Integration

The University of Minnesota will integrate sustainability into operational and financial decisions, teaching, research, and outreach.

These high-level goals and related themes woven into the work products of the teams note actions essential to our success as the University of Minnesota carries out its threefold mission of research and discovery, teaching and learning, and outreach and public service on multiple campuses and beyond. As a living laboratory, the University provides opportunities to develop, test, and disseminate novel approaches as sustainability is integrated.

The following sections summarize the goals and desired outcomes and measures proposed by each work group. Viewed in whole, the committee and work teams recognized the importance of taking an integrated and comprehensive approach to sustainability to ensure the vitality and longevity of our University, and underscored the importance for the University to play a key role in finding solutions to complex global issues. Some of the work teams' original objectives have been consolidated, bringing together similar goals and objectives to increase robustness and reduce redundancy.

Measures will continue to be developed, refined, and advanced as we make progress toward these goals and desired outcomes and measures, learn from our efforts, and adapt our activities to make the best progress possible at all times and under all circumstances in our quest to become a truly sustainable university.

## **Reach for the STARS**

*The Association for the Advancement of Sustainability in Higher Education's Sustainability Tracking, Assessment, & Rating System (STARS) is a standardized tool being used by campuses across North America to assess institutional sustainability as an important step toward enhancing it. University Sustainability Goals and Outcomes Committee work teams were encouraged to consult this inter-institutional framework in developing their own goals and objectives. In many cases, the teams referenced the alignment of goals and objectives developed here with specific STARS criteria.*



## Leadership and Modeling

### Board of Regents Policy Guiding Principle 1:

*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.*

### Board of Regents Policy Guiding Principle 2:

*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 emission to the environment; and (d) encouraging the use of a life-cycle cost framework.*

As a major land-grant university with socially responsible facilities management and world-class environment and natural resources education, research, and outreach programs, the University of Minnesota has the opportunity to be a leader and role model in the transition to a more sustainable society. Through example and through the network of relationships formed by our students, faculty, and staff, choices we make can set the pace for local, national, and global communities. For this to happen, however, we must first, in Gandhi's words, "be the change we wish to see"—a living laboratory and model in which sustainability is woven through all we are and all we do.

Our vision in the areas of leadership and modeling is that the University will lead the way in making sustainability an organizing principle for all human activity. Experiences here will make sustainability real and relevant to students, staff, and faculty. Our education, research, outreach, and operations will be recognized for innovation and for encouraging entrepreneurial endeavors in sustainability. Our campus community will understand how we measure sustainability, how the University is performing, the complex challenges we face, and the actions we take together to address them. Long-term life-cycle concepts will be integral to operational decisions. Students, staff, and faculty will be leaders and informed citizens who understand the impact of their choices and replicate sustainable practices learned at the University in our communities and families.

The following goals and objectives provide a framework for moving toward this vision of sustainability leadership and modeling, and for assessing our progress as we do.

## Leadership and Modeling Goal 1

Be a national leader and pioneering model for sustainability and energy efficient operations among large public research land-grant institutions

### Desired Outcomes and Measures

- a. The University graduates the largest number of green leaders
  - i. Students graduate with community experience related to sustainability
  - ii. Students are more aware of sustainability issues and behave in a more sustainable manner than before they came to the University
- b. The University undergoes external sustainability assessments, and peer review, recognition, and rankings show progress toward sustainability (for example, the University of Minnesota has achieved a top ranking in reports on green campuses)

Academic institutions around the world that model sustainable practices are seedbeds for a sustainable future. Because of their large size and broad mission, this effort is both exceptionally challenging and exceptionally compelling for land-grant universities.

Rooted in a track record of outstanding environment-related programs, impelled by existing sustainability efforts at all five campuses, and nurtured by a culture that values social responsibility and hard work, the University of Minnesota is superbly positioned to show the way to integrating sustainability into the fabric of land-grant university culture. Doing so will require transforming existing systems, integrating input across disciplines, and working with many and diverse external partners. Change may not always come quickly, but it will come steady and strong as we lead in a way that provides solid footing for those who follow.



### Green Groundbreaking

Crookston students Chris Waltz, Marshall Johnson, and Erick Elgin broke ground in more ways than one last fall when they sank a shovel at the site of a new student apartment complex at the University of Minnesota, Crookston. These students led the way for the University of Minnesota's first LEED®-certified residence facility, Evergreen Hall. Unique green building materials and energy efficiency create a more sustainable Homecoming for students in 2009.

## Leadership and Modeling Goal 2

Actively advance the transition to a sustainable world economy through research, teaching, outreach, and operations

### Desired Outcomes and Measures

- a. Financial, academic, and operational planning and decisions take a long-term life-cycle view and integrate environment, economy, social equity—also known as the “triple bottom line”
- b. More research and education focuses on a green economy
  - i. The University of Minnesota is aligned with the Minnesota Green Jobs Investment Initiative and the new federal energy economy and green jobs programs
- c. By including sustainability, celebrations and events model transformative activities

Sustainability spans three spheres: economy, environment, and society. Many institutions have made progress on one or more of these in one or more program areas. For meaningful results, the University of Minnesota must bring these spheres of sustainability together in an integrated, integral way that interconnects all campuses and endeavors, from socially responsible investing to extending results of environmental research to communities that can implement them on the ground.

## Great Green Games

How small is your carbon footprint? Current technology allows us to estimate carbon emissions produced by each unit across the University of Minnesota. Online software makes it possible for individuals to calculate their personal impact as well. Why not make reducing our carbon footprint fun by making it a friendly competition—one department, dorm, class, or ad hoc team against another? “Great Green Games” in which participants race for the smallest footprint and learn how they can reduce their impact on the environment will also help the University ratchet its carbon reduction goals at the same time.

## Leadership and Modeling Goal 3

Inspire and influence the community, nation, and world through innovative sustainable research and practices

### Desired Outcomes and Measures

- a. Institutional efforts support community, social ethic, and economic transitions toward a sustainable community
- b. The University of Minnesota demonstrates that sustainable practices work, save money, and improve the community
- c. The University of Minnesota measures innovation and provides recognition for leaders and achievements in sustainability

This goal aligns closely with the mission of the University of Minnesota's Institute on the Environment. As with the first two Leadership and Modeling goals, many of the elements are found in other institutions and on individual University of Minnesota campuses. The next step is to bring these together into a way of being that is embedded in our culture.



Cornucopia is a student-driven and -run certified organic farm located on the Twin Cities St. Paul campus. Fruits and vegetables grown there are sold at the campus farmers' market. The farm is used for internships and classes.

## Leadership and Modeling Goal 4

Make significant continuous achievements toward sustainability goals and commitments

### Desired Outcomes and Measures

- a. The University reviews sustainability goals, assesses progress annually, and reports on progress

The University of Minnesota has made solid progress toward sustainability goals and commitments. There is a close tie between achieving the University's social, economic, and environmental sustainability goals and its top-three-public-research-university strategy. Awareness of progress to date is also important if the University is to successfully compete for external funding and attract premier research and students. The challenge for a leading institution like the University of Minnesota is to bring these all together into a synergistic whole.

## Leadership and Modeling Goal 5

Embrace an organizational culture and individual decisions that support an inclusive, engaged, active, and sustainable healthy community

### Desired Outcomes and Measures

- a. Communication goals are met to ensure transparency about sustainable practices
- b. Incentive rewards support sustainable choices
- c. The University measures social shifts related to sustainability

There is evidence that the campus community is embracing change. On the University of Minnesota Twin Cities campus, the Sustainability Studies Minor, started in 2006, is available to all majors. It currently enrolls 268 students from 17 majors in the core classes and is growing. A number of student groups focus on sustainability and co-sponsor campus events. More than 3,500 individuals and 160 University of Minnesota units have pledged to conserve energy as part of the University's new "It All Adds Up" energy conservation campaign. This campaign is being rolled out initially on the Twin Cities campus and eventually will be available for all campuses.

Some departments have formed green teams; that structure could be institutionalized so they can share tools and best practices. Organizational culture changes are difficult and require key concepts to penetrate into budget decisions and permeate our process

for recognizing and rewarding individual and department performance related to these goals. As we work to weave sustainability through our campuses, it will be important to remember the broad scope of sustainability and link community, social justice, and economic initiatives to sustainability goals and efforts.

## Leadership and Modeling Goal 6

Meet all regulatory requirements and support the development of future regulations and policies through technical review, academic study, and practical experience

### Desired Outcomes and Measures

- a. University operations track and assess applicable regulatory requirements
- b. University forums provide regular exchange of ideas and knowledge between academic, operations, and community sustainability leaders in policy areas of interest

Operations at an institution as diverse as the University of Minnesota must meet numerous regulations and standards in areas such as environmental health and safety and energy use. These are tracked through University Health and Safety and in departments impacted. This goal affirms the University of Minnesota's commitment to operate in compliance with applicable regulations. This goal was part of a policy that preceded—and is now replaced by—the Board of Regents Sustainability and Energy Efficiency Policy.

The University of Minnesota is also involved in development of regulations and policies. For example, the University of Minnesota's Center for Sustainable Building Research provided input to the B3 Minnesota Sustainable Building Guidelines (B3-MSBG) and is guiding development and implementation of performance standards for Minnesota 2030, the amendment to B3 that requires new public buildings to move toward carbon neutrality by 2030. The Humphrey Institute of Public Affairs is a leader in shaping the future of public policy—from urban planning to energy, from clean water to social justice. Establishing a process for the exchange of ideas and knowledge among academic, operations, and community sustainability leaders will facilitate practical and creative input to developing policy and regulations founded in principles of sustainability.



# Operational Improvements

## Board of Regents Policy Guiding Principle 3:

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

An overarching goal for University of Minnesota sustainability initiatives is to create a systemwide culture of sustainability when developing our operational policies and procedures and when making day-to-day decisions about our operations. We seek to manifest an ethic of sustainability in environmentally effective development, building management, and transportation decisions; environmentally wise purchasing; and the management of resources for their highest end use and not as waste.

The University has long incorporated strong environmental management practices into its operations for social, economic, and environmental reasons. Going forward, the University will model an ethic of sustainability, demonstrate sustainability principles in all aspects of business and operations, and build an infrastructure that is embedded in all three spheres of a strong environment, strong society, and strong economy. In addition to meeting its purpose—“to make the University work”—areas of operation will serve as a classroom, a model, and a living laboratory for sustainability in education, outreach, and research.

## Operational Improvements Goal 1

Plan, program, design, construct, and operate University of Minnesota facilities throughout their life cycle to provide restorative impacts to the natural environment and a healthy indoor environment for the University community

### Desired Outcomes and Measures

Energy and lighting impacts

- a. Operating energy from buildings is reduced
- b. Greenhouse gas emissions from buildings are reduced
- c. Heat island impacts are reduced
- d. Night sky radiation is reduced

#### Water resource impacts

- e. Potable water use is reduced
- f. Wastewater is reduced
- g. Stormwater is managed to reduce runoff quantity, rate, and pollution

#### Building materials, design, and usage

- h. Life-cycle impacts of building materials are optimized
- i. Our indoor environments are healthy
- j. Total campus square footage is optimized
- k. Construction waste is recycled

#### Grounds and siting

- l. Pervious surface use is increased
- m. Flora and fauna biodiversity is maximized on building sites
- n. Soil conservation is maximized



#### **Rah! Rah! Rah!**

In September 2009, the new TCF Bank Stadium was awarded LEED® Silver Certification and became the first certified collegiate or professional football stadium. Features include an extensive stormwater system to filter rain water before it drains into the Mississippi River. Steel was 90 percent recycled and fabricated primarily in Minnesota. Almost all of the construction waste was recycled.

Strategic building planning and design, construction, and operation of indoor and outdoor environments are key to achieving long-term facilities sustainability. Minnesota Sustainable Building Guidelines already apply to University of Minnesota state-bonded buildings. These standards incorporate many of the Minnesota 2030 program elements listed here. To continue to succeed in meeting more stringent guidelines in this area requires a financial model and funding source that allow us to designate money up front for features that provide real savings over the lifetime of each building and system.

The University of Minnesota is fortunate to have a wealth of academic and operational expertise that provides the tools for minimizing adverse impacts on the natural environment and indoor environmental health. With institutional commitment and dedicated resources to make it happen, we can lead the way.

## Operational Improvements Goal 2

Integrate environmental, economic, and social priorities into purchasing and contract decisions

### Desired Outcomes and Measures

- a. An environmentally preferable purchasing (EPP) policy is developed and implemented with criteria that align with social and economic criteria currently used by University of Minnesota buyers
- b. Sustainability is part of the University of Minnesota vendor code of conduct

Identifying and tracking environmentally preferable purchasing (EPP) takes time up front, but pays back in the long run in all three spheres of sustainability. Purchasing Services has a sustainability policy that outlines preferred environmental and energy efficient attributes for products purchased. Achieving this goal requires campus- or institutional-level consensus or interaction to evaluate, prioritize, and target EPP products and services. It also requires coordination with existing vendor code of conduct initiatives and interaction with the University Senate Committee on Social Concerns.

## Operational Improvements Goal 3

Use lower impact transportation alternatives that increase fuel efficiency, provide more sustainable fuel options, and help reduce the miles traveled on campus, to campus, and as part of the University of Minnesota enterprise

## Desired Outcomes and Measures

- a. Alternative transportation is increasingly available and use of mass transit is increasingly encouraged
- b. Everyone on campus has a wide array of transportation options; safety and convenience for all modes of travel, including walking and bicycling, has increased
- c. Housing alternatives for students, faculty, and staff near campus have been encouraged
- d. Meeting and distance learning technologies are supported
- e. Proper maintenance of fleet and operations vehicles, purchase of fuel efficient or alternatively fueled vehicles, and access to technology to reduce unnecessary travel has increased campus fleet efficiency

Because of differences in needs and circumstances between rural and urban settings, campuses need leeway to set their own targets and strategies in the area of transportation. In any case, fleet vehicle maintenance and operation will be an important part of enhancing vehicle efficiency, as will replacement of retiring fleet vehicles with hybrid or other high miles-per-gallon vehicles.

## Operational Improvements Goal 4

Manage resources for their highest end use by reducing consumption, minimizing waste, and strongly supporting the reuse and highest value recycling of unwanted materials

### Desired Outcomes and Measures

- a. Informed purchasing and resource-use decisions reduce consumption of materials
  - i. Fewer goods and services are purchased by University operations
- b. Rethinking waste-producing processes reduces waste
- c. Reuse of existing resources by individuals and by institutional reuse programs is supported
- d. Recycling of a wide range of materials is supported

Waste management procedures are well established, with recycling rates of 20 to 47 percent depending on the campus; improvements will require rethinking and reorganizing how we define and handle waste. As campuses and waste-handling needs grow, we will need to change product use and supply chain management. Infrastructure and staff commitments are needed to support waste reduction and waste diversion targets and to cope with food operation impact.

Purchases of fewer goods will help reduce operational waste and inefficient work practices, and allow us to do more with the resources we do have in support of the University's critical research, teaching, and outreach missions.



## Fleet Feat

*In 2009, the University of Minnesota fleet was named one of the 100 best fleets in North America by Government Fleet magazine—for the fifth year in a row. Among the criteria for the award: good stewardship of human, capital, and natural resources. The University of Minnesota was one of only two universities to make the list.*

# Energy Efficiency

## Board of Regents Policy Guiding Principle 4:

*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.*

With fossil fuels a finite resource and global climate change raising the specter of major alterations in Earth's ability to support life as we know it, reducing the use of fossil fuels is integral to shaping a sustainable future.

Each University of Minnesota campus has its own unique combination of strengths and opportunities for enhancing the sustainability of our energy infrastructure. Our overarching goal is to be recognized as a national leader in the pursuit of sustainability, climate neutrality, and the energy efficient operations of our campuses. To achieve this, we will create a comprehensive energy plan for the University of Minnesota that takes into account the unique characteristics of each campus while maximizing efficiency of energy use and identifying a path to climate neutrality. Each campus may have different options based upon circumstances.

Actively engaging our campus communities in energy conservation and integration of energy efficiency into our operations are critical aspects of the system energy plan. Recognizing the importance of research investments, as a land-grant university, model, and mentor, we continue our commitment to conduct renewable energy research through the Initiative for Renewable Energy and the Environment and other research areas and contribute to the development of progressive energy policy.

In summary, we will reduce energy use, increase energy efficiency, increase renewable and low-carbon-footprint energy inputs, measure our carbon footprint, meet American College & University Presidents' Climate Commitment (ACUPCC) milestones, and meet Chicago Climate Exchange (CCX) requirements.

## **Climate Neutrality:**

*The state in which we have no net greenhouse gas emissions from specific sources, achieved by reducing greenhouse gas emissions as much as possible and then using offsets or other measures to mitigate the remaining emissions.*

—ACUPCC definition



### **Art from Energy**

When the winter wind blows cold over the Pomme de Terre River it brings warmth to the University of Minnesota Morris, thanks to the 1.65 MW turbine operated by the adjacent West Central Research and Outreach Center. Alumna Leiah Stevermer '09 celebrated the renewable-energy icon that represents a leadership commitment to climate neutrality with this original art for UMM's 2007 holiday card.

## Energy Efficiency Goal 1

Reduce energy use

### Desired Outcomes and Measures

- a. Energy use is 5 percent below FY2008 levels by the end of 2010
- b. Each campus has unique long-term energy goals and energy plan by 2010

These activities support the Board of Regents Sustainability and Energy Efficiency Policy and our commitment to achieve climate neutrality (and meet ACUPCC milestones). They also provide a real opportunity for immediate savings during current economic times.

## Energy Efficiency Goal 2

Engage the University of Minnesota community in energy conservation

### Desired Outcomes and Measures

- a. Low carbon instructional delivery programs are evaluated by measuring the credit hours per carbon input

Energy conservation is everybody's business. Communication is vital to ensure building energy use is measured and considered in everyday decisions. Kiosks inform occupants about ways to reduce energy consumption. Awareness-building displays with up-to-date performance data and kudos for successes provide motivation for behavior change. Transparency regarding carbon inputs to various educational delivery options helps users make informed choices that minimize their environmental impact.

## Campus, Energized

A 1.65 MW wind turbine provides power to most campus buildings at the University of Minnesota Morris. Campus sustainability leaders are now working on developing a biomass reactor in collaboration with the West Central Research and Outreach Center that can use farm crop byproducts to generate steam for heating and cooling. Two additional wind turbine projects are in the works, one near WCROC, and the other as a collaborative effort with the Mille Lacs Band of Ojibwe on the UMM campus. UMM has received wide recognition, including an American Council on Renewable Energy (ACORE) Campus Excellence Award, for its sustainability efforts.

## Energy Efficiency Goal 3

Pursue climate neutrality and energy efficient operations across the University of Minnesota

### Desired Outcomes and Measures

- a. University carbon reduction and renewable energy commitments and requirements are met
  - i. ACUPCC goals are met, including developing a comprehensive plan to achieve climate neutrality, inventorying greenhouse gas emissions, and establishing an action plan for becoming climate neutral with short-term and interim goals
  - ii. The CCX requirement to reduce CO<sub>2</sub> 6 percent below baseline by 2010 is met
  - iii. State and federal goals, including Minnesota's 25-percent-by-2025 renewable energy standard, are met
- b. By the end of 2010, a University-wide energy master plan has been created that identifies the most effective approach and strategy toward improving energy efficiency of campus buildings and infrastructure and reducing campus carbon footprint, including establishing an energy working committee to review current master plans and develop recommendations on how to migrate to a more comprehensive energy master plan
- c. Common auditable measures for energy consumption across all campuses and energy standards have been established, with all buildings metered by 2012, norms for each campus, and a data warehouse for all energy data

The University of Minnesota should commit to pursuing the desired outcomes and measures applicable to the individual campus. Success should be measured by external assessments, tracking against program milestones, and tracking our own performance for meeting institutional commitments. The feasibility of climate neutrality has not yet been fully evaluated for the University of Minnesota system and may rely on future technological and regulatory advances.



#### Showtime

Energy Showcase events give Energy Management staff the opportunity to explain energy efficiency recommissioning projects and get input from people who work in University of Minnesota Twin Cities buildings. The "It All Adds Up" campaign includes an energy conservation pledge for students, staff, and departments. Student volunteers from the Energy Efficiency Student Alliance measure energy use in offices to encourage people to think about their energy use and power down.

To meet ACUPCC goals, each campus has chosen to meet two interim tangible measures and has submitted a greenhouse gas inventory. These are documented on the ACUPCC reporting site. The University should include interim targets and consider public institution needs in addressing appropriate use of off-campus offsets.

With respect to the energy master plan, the University of Minnesota should incorporate a carbon-neutral goal and timelines into master plans; develop an energy balance matrix that establishes plans for incorporating onsite renewable or low-carbon fuel sources for each campus by 2012; ensure work aligns with the ACUPCC climate action plan; and work with Capital Planning and Project Management to establish energy standards that use a cost-of-energy matrix to drive investment strategies (different returns on investment based on different energy costs and efficiencies).

## Energy Efficiency Goal 4

Adopt energy-related financial policies which enable the University of Minnesota to be socially, environmentally, and fiscally informed

### Desired Outcomes and Measures

- a. The University of Minnesota measures CO<sub>2</sub> in cost-benefit analyses and assigns a value to CO<sub>2</sub> tied to an aggressive world CO<sub>2</sub> index
- b. The University has adopted minimum and recommended carbon reduction techniques to be incorporated in new and recommissioned building projects with ROI (return on investment) calculations up to 15 years

Historically, the price consumers pay for energy has not adequately factored in the environmental and social costs of producing, transporting, and using it, or the deferred cost of dealing with the long-term consequences of environmental impacts. By including CO<sub>2</sub> in cost-benefit analyses and energy efficiency in assessments of return on investment, we will strive to internalize these costs and optimize the outcomes for all three spheres of sustainability, rather than emphasizing raw economic considerations while not acknowledging or quantifying potential environmental and social consequences.

## Energy Efficiency Goal 5

Contribute to the development of progressive state and federal energy policies

### Desired Outcomes and Measures

- a. A legislative briefing group has been established to discuss pending or future energy-related legislative initiatives with University of Minnesota legislative relations staff
- b. The University of Minnesota will demonstrate how to utilize state resources such as Higher Education Asset Preservation and Replacement (HEAPR) funding to enhance energy efficiency, reduce carbon, and work toward sustainability goals

The University of Minnesota has a well-earned reputation as a recognized leader in energy-related research and a stellar force in bringing state-of-the-art science to bear on public policy decisions. By positioning ourselves as a leader in energy policy development at the state and federal level, we can bring these two areas of expertise to bear together on the goal of enhancing sustainability in higher education as well as in other sectors that are key players in our state's and nation's economies and valued contributors to our renowned quality of life.

## Sustainable State

As Minnesota works to become more sustainable, policy makers frequently turn to the University for advice. The 2008 *Statewide Conservation and Preservation Plan*, prepared under the leadership of Deb Swackhamer, professor in the Humphrey Institute and School of Public Health, distilled expert insights of more than 75 faculty into a set of comprehensive recommendations to sustain the state's natural resources. *Governance Options for Carbon Cap and Trade Revenue*, developed by Humphrey Institute faculty Steve Kelley and Elizabeth Wilson and colleagues in 2009, is helping the Minnesota Department of Commerce prepare for strategies in carbon market-based efforts to mitigate global warming.

*“Our commitment to excellence is already at work in our corridors. The problems of the 21st century require an interdisciplinary approach to solve—but the strength of that approach will be rooted in departments and disciplines of distinction.”*

*—President  
Robert H. Bruininks*

## Research

### Board of Regents Policy Guiding Principle 5:

*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 operations staff, students, public entities, community organizations, and industry.*

With its solid track record and exceptional faculty and student resources, the University of Minnesota has a golden opportunity to lead the way in addressing the complex sustainability challenges of the 21st century through research. Ensuring sufficient energy, healthy food, and clean water in the face of climate change, population growth, and increased consumption requires research that addresses environmental, economic, and social perspectives. In particular, sustainability research should seek to identify the critical interactions and feedbacks between human and natural systems, and to understand the ways in which these processes affect long-term sustainability. The University of Minnesota should increase its institutional capacity to conduct applied interdisciplinary sustainability research, and nurture an academic and individual culture that places a high value on research and action for sustainability.

Sustainability research is inherently interdisciplinary. The University of Minnesota has a unique capacity to conduct rigorous, interdisciplinary, civically engaged sustainability research for several reasons. First, we have broad and deep research expertise in numerous fields relevant to sustainability. Second, we are an international leader in interdisciplinary research, with over 300 centers, initiatives, and programs of interdisciplinary research that already generate a large body of publications on critical sustainability topics. Third, as a land-grant institution, the University can leverage a strong tradition of collaboration across the state to create living laboratories in which to pursue sustainability solutions.

### Research Goal 1

*To advance sustainability, nurture cross-disciplinary collaboration and sharing of ideas and perspectives within and beyond the University*

#### **Desired Outcomes and Measures**

a. Publication of peer-reviewed collaborative research publications addressing

interdisciplinary sustainability issues and involving researchers from multiple colleges, departments, and units has increased

- b. The University has hosted a premier interdisciplinary sustainability research symposium
- c. An online “knowledge map” of people and projects related to sustainability research has been inventoried and created
- d. Researchers partner with University Services and with sustainability education efforts to use campus facilities for case studies of sustainability issues

Sustainability research is inherently interdisciplinary and complex because sustainability challenges occur at the interface of human and ecological systems and involve trade-offs among environmental, economic, and social benefits. The University of Minnesota is an international leader in interdisciplinary research and continues to reduce barriers to interdisciplinary collaboration. Further efforts in this regard will likely enhance the quality and quantity of sustainability research.

## E x 3 = Synergy

Hundreds of business people, policy makers, scientists, and others come together each November at E3, the Midwest’s premier energy, economic, and environmental conference. Hosted by the University’s Initiative for Renewable Energy and the Environment, a signature program of the Institute on the Environment, the annual event provides a window into new technologies and markets, as well as abundant opportunities to build new collaborations among sectors and disciplines.

## Research Goal 2

To advance sustainability, promote civically engaged, socially informed, and community responsive research and scholarship

### Desired Outcomes and Measures

- a. The sustainability focus and efforts of research and outreach centers, University of Minnesota Extension offices, Regional Sustainable Development Partnerships, and other outreach and public engagement arms of the University of Minnesota have increased to gain input and participation from citizens
- b. Diverse cultures and socioeconomic groups within the Twin Cities and across Minnesota are increasingly engaged around sustainability issues
- c. Connections and partnerships between the Office of Public Engagement and Office of Research have increased

The University of Minnesota should renew and expand its land-grant mission with regard to sustainability and continue to conduct research that is informed by, embedded in, and applicable to the sustainability issues, concerns, and aspirations of the citizens of Minnesota.

### Research Goal 3

To advance sustainability, instill sustainability principles in the research culture of the University of Minnesota; all levels of University leadership should embrace sustainability as a core pillar of the University's mission

#### Desired Outcomes and Measures

- a. A long-term sustainability research committee is established and supported to enhance sustainability research
- b. An upper-level administration office for sustainability is established
- c. The number and profile of research projects, symposia, peer-reviewed publications, graduate theses, and external grants related to sustainability have increased

All levels of University of Minnesota leadership should embrace sustainability as a core pillar of the University's mission. Sustainability research should become a key component of the intellectual identity of the University of Minnesota through creation of a faculty committee and/or upper-level administrative office, and of the University's research "brand" through communications, marketing, and public relations materials.

### Research Goal 4

To advance sustainability, eliminate institutional barriers and disincentives to interdisciplinary and collaborative sustainability research

#### Desired Outcomes and Measures

- a. Sustainability is a significant criterion for hiring faculty in relevant departments, and sustainability research and teaching are recognized as positive criteria for performance evaluation in tenure review



## Piecing the Puzzle

As renewable energy technologies go mainstream, how will we put all of the puzzle pieces together to create an integrated, reliable source of heating, cooling, and electrical power? Researchers at the University of Minnesota Rochester and Rochester Public Utilities have been developing answers with a collaborative research project known as the Hybrid Energy Systems Study (HESS). To date the partnership has produced a patent as well as a systems study on combining fuel cells and geothermal heat pump technologies.

- b. Research standards for sustainability have been adopted, and research projects are evaluated according to their relevance to and impact on sustainability
- c. New programs train the next generation of sustainability researchers by facilitating and funding undergraduate and graduate research and discussion focused on sustainability

Traditional academic structures and organization can present barriers to cross-disciplinary research and collaboration. In cooperation with existing efforts to reduce barriers to interdisciplinary research, the University of Minnesota should encourage amendment or revision of collegiate and departmental incentives, structures, and funding to stimulate and reward innovative sustainability research.

## Research Goal 5

To advance sustainability, transform the University of Minnesota into a living laboratory for sustainability

### Desired Outcomes and Measures

- a. Publication of peer-reviewed collaborative research related to sustainability issues in urban, exurban, rural, terrestrial, and aquatic socio-ecological systems across Minnesota and around the world has increased
- b. The use of University property for sustainability research and education is coordinated through standing committees at all major campuses and centers

The University of Minnesota has an established research presence in multiple settings around the state and can capitalize on this diversity of geographic, socioeconomic, and ecological settings to address sustainability questions in a variety of living laboratories. The Twin Cities campus, coordinate campuses, research and outreach centers, University of Minnesota Extension offices, UMore Park, and other excellent research centers all provide unique opportunities to explore and address sustainability challenges within a spectrum of socio-ecological contexts and in partnership with a wide range of citizens and stakeholders.

## Creating a Sustainable Community

Sustainable development is front and center as the University moves forward on planning and development of UMore Park, a 5,000-acre site in Dakota County, over the next 25 to 30 years. Guided by the Regents principles for the property, the UMore Park Steering Committee has shaped a vision that includes social sustainability (community gathering space, emphasis on community engagement), economic sustainability (quality schools, workplaces, and shopping areas), and environmental sustainability (earth-friendly landscaping, energy-efficient homes, focus on renewable energy) as integral drivers of the design.



# Education and Outreach

## Board of Regents Policy Guiding Principle 6:

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

A weaving metaphor informed the efforts of the education and outreach work team. Each fiber has unique character; it is in the weaving, the interconnections, that a rich and strong fabric emerges. In the same way, each academic discipline has its own unique strengths. Our vision is that together University of Minnesota disciplines weave sustainability through the education of every University of Minnesota student. Community members bring their wisdom, truths, and hopes to the process. System-wide initiatives, implementation flexibility, and complementary thought and action guide us as we integrate education, outreach, and community/partner involvement. Together we create a future in which generations to come have options, opportunities, and resilience to thrive.

## Education and Outreach Goal 1

Capture the land-grant mission: Sustainability is part of the educational or campus experience of each and every University of Minnesota student

### Desired Outcomes and Measures

- a. Systemwide initiatives are created that include academic and operational sustainability internships
- b. A systemwide summit is held by 2010 for students, faculty, University of Minnesota Extension, community partners, etc.
- c. Graduate and undergraduate sustainability-related minors on multiple campuses and first-year and graduate sustainability seminars are established by 2010
- d. For residents, sustainability is an explicit aspect of living in student housing and being on campus

The University of Minnesota has already made laudable progress toward this goal. On the Twin Cities campus, University Dining Services employs student interns to educate customers on organic recycling and other sustainability initiatives, and Housing & Residential Life employs a student sustainability education coordinator. The

Sustainable Agriculture minor offers an academic undergraduate or graduate student internship, and two new internships are planned for the Sustainability Studies minor. The Sustainability Studies Minor currently serves around 300 undergraduates. On the Duluth campus, the Center for Sustainable Development offers internships; the Environmental Studies Program mandates a 120-hour internship for graduation; the Center for Environmental Education mandates a 600-hour internship for graduation; and Facilities Management offers stormwater internships.

The desire is to develop internships that span the University system and include experiences on each campus as well as offer an opportunity to include community outreach. Creating new academic internships would require faculty time and strengthened relationships with business and community partners. Collaboration between academia and operations is needed to develop joint opportunities, such as an academic internship that requires hands-on experience in operations at the University or with community partners.



## Education and Outreach Goal 2

Integrate service learning into the undergraduate and graduate experience, linking students, faculty, University of Minnesota Extension, and community partners

### Desired Outcomes and Measures

- a. Service-learning and undergraduate research projects related to sustainability are extended by 2012; student assignments are linked to University of Minnesota operational needs

- b. The sustainability focus of service learning projects increases each year to reach 25 percent by 2020; research and outreach centers are used for service learning
- c. Undergraduate research projects and applied research projects that address sustainability challenges increase each year to reach 25 percent by 2020
- d. By 2012, service-learning relationships with organizations are identified and formalized, building especially on the experience of the Regional Sustainable Development Partnerships, service-learning coordinators, and faculty

A number of University of Minnesota units already match students and faculty with community-based service-learning opportunities. Many have supported sustainability-related projects in past years. Existing formal service-learning and individual projects that focus on sustainability can be readily identified, as can undergraduate research projects. Specific targets may need to be modified depending on the findings.

A formal arrangement for bringing sustainability-focused projects to the attention of faculty and service-learning coordinators could be valuable. Systemwide, an annual summit creates a venue for shared learning across campuses, while University of Minnesota Extension provides a connection to the broader community. The Regional Sustainable Development Partnerships engage directly with community projects; full implementation of the partnership program to cover all of greater Minnesota should be supported.

Targeted funds available through the Office of Public Engagement, the Center for Urban and Regional Affairs, and the Undergraduate Research Opportunities Program could encourage a focus on sustainability. Clean Energy Resource Teams, the Minnesota Institute for Sustainable Agriculture, and Regional Sustainable Development Partnerships all prioritize sustainability.

## Students'-Eye View

How does sustainability stack up at the University of Minnesota Duluth? Anthropology professor David Syring gave students in his spring 2009 senior seminar a worldview-expanding task: Spend the semester evaluating various aspects of campus sustainability. The students formed four teams around four themes: waste management, alternative transportation, satisfaction with green construction, and bottled water use. Final reports were posted to the Internet—so people around the world can emulate their approach and benefit from their insights.

## Education and Outreach Goal 3

Create and implement curricula and educational programs that address the interface of environment, society, and economy

### Desired Outcomes and Measures

- a. Capacity is in place for creating and implementing sustainability-focused curricula and educational programs
- b. Each campus has an assigned academic sustainability coordinator

This goal includes not only developing courses on sustainability, but also helping interested faculty and other educators integrate sustainability content into existing educational programs.

Academic sustainability coordinators on each campus will develop a plan for implementing education and outreach recommendations. These individuals would also collaborate with community partners, such as the Regional Sustainable Development Partnerships, and seek input from students. University of Minnesota administration could provide training workshops and sustainability postdoctoral positions and professorships, making resources and materials available to interested educators through the sustainability Web site and other venues.

## Education and Outreach Goal 4

Develop outreach programs for sustainability education of working professionals in the public and private sector

### Desired Outcomes and Measures

- a. By 2010, existing University of Minnesota sustainability-related training programs are catalogued, a needs assessment has been conducted to determine what training and certificate programs would be most effective, and programs are prioritized
- b. First education programs for working professionals are established with program completion by first cohorts (e.g., certificates) by 2011
- c. A mechanism is in place for fostering interaction among past participants and connecting them with current students interested in internship opportunities

Bringing knowledge to the wider community is an important part of the University of Minnesota's mission. Training and programs exist in numerous fields that strongly align with sustainability, including forestry, environmental education, gardening, agriculture, and stormwater.

A team of University experts should assess the need for new outreach programming, taking into account the need for training; the social, environmental, and economic benefits training would provide; and the ability of the University of Minnesota to provide the training. Program development should involve a variety of parties, with University of Minnesota Extension and College of Continuing Education playing key roles. The Office for Public Engagement should also be included in the implementation.



### **Local Foods**

Environmentally, economically, and socially sound food production is a cornerstone of sustainability. The Pride of the Prairie Local Foods Initiative, established in 2001, is a collaborative effort of the University of Minnesota (the Morris campus, West Central Regional Sustainable Development Partnership, West Central Research and Outreach Center, and University of Minnesota Extension), and partners to bring local food to campus, support sustainable agriculture, and forge educational links with local food producers. [Localfoods.umn.edu](http://Localfoods.umn.edu), a resource of the Minnesota Regional Sustainable Development Partnerships and Local Foods Partnership (a project of the Northwest Regional Sustainable Development Partnership), provides a one-stop Web site to strengthen local food economies.

# Communication

Communication was identified by each work team and in feedback during campus consultations as a critical element both for engaging the community and for raising awareness. In synthesizing the goals outlined by work teams, the committee noted several key goals and outcomes that aligned under the common theme of communication. These goals have been brought together under this separate section to provide opportunities for confluence of thought and action.

## Communication Goal 1

Create opportunity for dialogue to discuss global and local sustainability challenges, opportunities available, and the work of the University to advance sustainability

### Desired Outcomes and Measures

- a. Communication tools and tracking systems make data related to sustainable practices available to the University community
  - i. Building energy use is measured and kiosks inform occupants about ways to reduce energy consumption
  - ii. Operational priorities and policies are communicated
  - iii. Operational priorities for resource management and waste reduction are communicated throughout the University of Minnesota to maximize success
  - iv. Success is monitored for meeting operational goals and to provide feedback (to waste producers, for example)
  - v. Systems for tracking University travel are supported
- b. Communication and reporting is provided throughout the University and to Resource Responsibility Centers (RRCs) to ensure awareness of policies, priorities, and results of performance metrics discussed in this report

The goals and activities to achieve them have an extraordinarily broad impact, rippling through every aspect of what the University of Minnesota is and does. As a result, in order to maximize engagement and increase awareness of the integration of sustainability into University of Minnesota culture, committee members and sustainability leaders at all campuses identified the need for the president to lead initial communication about this sustainability goals, outcomes, and measures report and the



importance of integrating sustainability into teaching, research, outreach, and operations systemwide. Ongoing marketing, promotion, and two-way communication will be crucial if we are to successfully engage students, faculty, and staff across all campuses, programs, and realms of interest in embracing sustainability as a fundamental and integral way of being for ourselves, our institution, and ultimately our world. The outcomes in this section also address specific operational priorities for providing useful information to individuals, vendors, and others (such as campus waste producers or energy users) to ensure they are informed about their impacts and successes.

## Communication Goal 2

Develop and implement marketing/promotion efforts to engage those who may not be aware of sustainability-focused education, outreach, and research opportunities

### Desired Outcomes and Measures

- a. By 2010, marketing plan and staff are designated to publicize and help implement goals
- b. By 2010, a listserv and database of sustainability resources and opportunities have been developed

The University of Minnesota has already publicly promoted many of its sustainability efforts. However, an aggressive and dedicated marketing strategy is needed to engage those who are not aware of the sustainability-focused education, outreach, and research opportunities and to strengthen implementation in the context of the University's overarching social, economic, environmental, and top-three-public-research-university strategies. Good marketing and promotion will be crucial if we are to successfully compete with other research institutions for funding and attract premier research and students.

Various programs, departments, and initiatives develop strong communication platforms, but linking these through a central communications portal will provide a useful tool to individuals seeking information about the University's work. The listserv and database could be built up through contributions from interested parties who would volunteer to locate and identify sustainability-focused resources and opportunities.

## Communication Goal 3

Develop and maintain a transparent data management information system to enable decisions utilizing environmental, economic, and social factors

### Desired Outcomes and Measures

- a. Select performance metrics discussed in this report are measured and reported on an annual basis for each campus
- b. Select performance metrics discussed in this report are measured and reported on an annual basis for each Resource Responsibility Center (RRC)
- c. Information generated by a sustainability information system is incorporated into annual performance evaluations and budget decision making

Where did we start? Where do we want to go? Where are we now? How shall we proceed? Progress toward any goal benefits from the ability to periodically assess position and make midcourse corrections as needed to keep on track. Annual progress reports will allow campuses and RRCs to identify what's working well and, alternatively, what might benefit from a new approach. A sustainability information system will allow us to readily compile and analyze data to guide next steps and guide resources to best uses. Transparency ensures accountability and gives the many individuals involved in pursuing sustainability a sense of ownership and empowerment that will motivate further action.



"Let us put our minds together and see what life we can make for our children."

—Tatanka-Iyotanka, "Sitting Bull,"  
Hunkpapa Lakota Chief and Holy Man



## Implementation and Reporting

In the spring of 2009, forums were held at all campuses to present the proposed sustainability goals and outcomes to students, staff, and faculty. Approximately 300 people attended the forums and an estimated 90 comments were received informally and online. The goals were, for the most part, received with tremendous enthusiasm, and they resonated with the attendees. There was an eagerness to move forward with implementation. Suggestions during and after the forums showed a sense of ownership and interest in incorporating sustainability concepts into individual areas of responsibility. While recognizing the lofty and long-term nature of many of the goals, individuals had many suggestions for tactics and targets to move forward in a practical manner to implement them.

The University Sustainability Goals and Outcomes Committee work teams did a tremendous job of being visionary—of looking forward with a goal of weaving sustainability concepts into the very fiber of our University. While not included in the charge to the committee, this implementation section supports that visionary future thinking while establishing a framework for moving forward. It is important to provide a perspective for next steps—recognizing implementation will be addressed with more thoroughness by the University Sustainability Steering Committee and campus standing sustainability committees.

### Communication Counts

A key implementation step is communicating this work broadly. During feedback sessions, one concern was for highly visible administrative support to align this effort with the University's community fully—and in the way needed to successfully implement the Board of Regents *Policy on Sustainability and Energy Efficiency*.

## Goals Forward

The breadth of the 8 high-level and 27 work team goals, existing ability to measure outcomes, and complexity of implementation will result in some goals moving forward quickly while others may warrant additional designation of resources and even institutional changes before real progress can begin. The committee recognized the University will face barriers and challenges on this journey toward sustainability. That said, we must take on this challenge and embrace significant transformations in our personal choices, our institutional commitments, and the needed breakthroughs that will come from our research. This process for sustainability is vital for our University to thrive and inspire.

Institutionwide goals are presented here. Recognizing their unique circumstances, resources, strengths, and challenges, each campus must be empowered to achieve these institutional goals. It is hoped that campuses will use the high-level goals as guideposts as they select from the work team goals, objectives, and measures those on which to focus first. We have seen the passion and enthusiasm at all levels for becoming a premier sustainable university; we have every confidence that campuses will strive to reach for the stars, to pursue not just low-hanging fruit, but fat fruit—things that really make a difference for their campus, the University, and the entire planet.



Students and instructors at the University of Minnesota find ways to integrate sustainability into education and curriculum in both undergraduate and graduate programs. Crookston's environmental landscaping students present as part of a seminar class.

## Structure

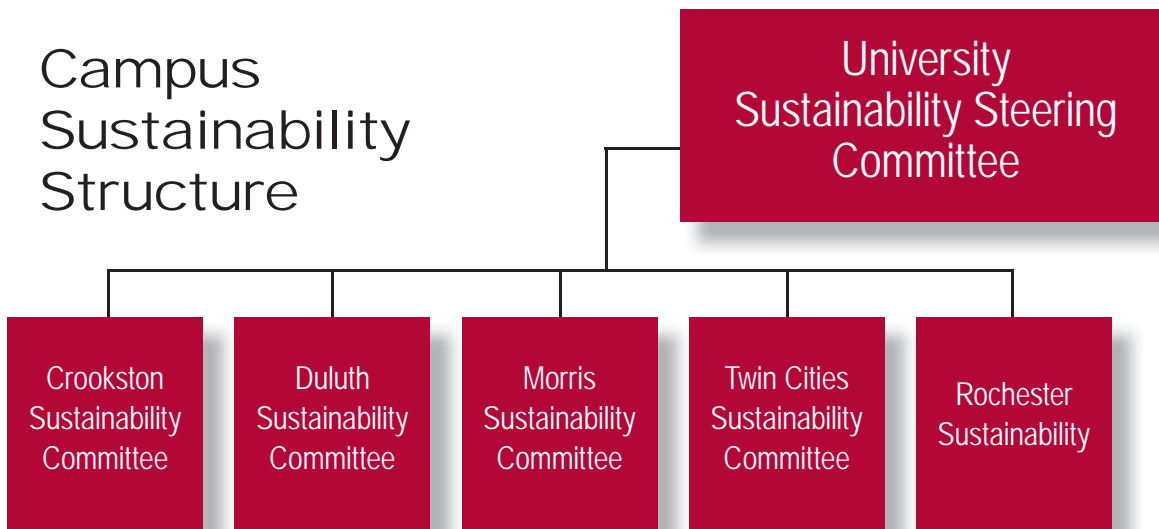
Sustainability committees at each campus will work in an ongoing way to implement the committee goals. Using the proposed outcomes and measures, a set of objectives and targets that are tailored to the campus will be developed through the campus sustainability committees and reported on to the University Sustainability Steering Committee. Each campus committee will also satisfy the institutional structure of the ACUPCC commitments. The structure will include cross-campus work groups to address topics that impact all campuses and to share best practices. This will also help leverage resources efficiently and determine where enterprise solutions are necessary.

Sustainability-supporting work groups and initiatives may have a short-term focus or be of a strategic, long-term nature (e.g., the Regional Sustainable Development Partnerships). There are also topics where focus is needed to meet the requirements of more than one commitment and may require a fast track—for example, meeting the milestones of the ACUPCC. Complexity of ideas and lack of current measurement systems may create the need for us to take a slower course.

Below is a proposed structure that represents the strategy, assessment, and reporting organization for our University sustainability program. Accountability for the outcomes is at each campus. The University Sustainability Steering Committee will have representation from each campus and include representation from students, faculty, and staff in the key areas integral to sustainability efforts. This committee will be charged by President Bruininks.

Campus sustainability committees will be formed and charged by the chancellors of the campus and will develop work plans with defined initiatives and targets and assess and report what metrics are currently tracked and reported. The University Sustainability Steering Committee will oversee systemwide priorities and progress. The systemwide committee will ensure a reporting system is in place. Campus committees will provide a contact to help facilitate communications with the University Sustainability Steering Committee. It is important for the committees to represent key areas/programs/initiatives for each campus and to include student, faculty, and staff representation.

## Campus Sustainability Structure



### Examples of possible cross-University campus teams:

- Communication
- Regional Sustainable Development Partnerships programs – local foods, Clean Energy Resource Teams
- Energy planning, programs, and issues team
- Others?

The work of the campus and University committees will be completed through various work teams and task groups—which may be campus specific or, in some cases, may span campuses to provide opportunities to share and create systemwide solutions.

### Reporting

Reporting will be carried out on an annual basis for key representative metrics. Each campus sustainability committee will share its progress toward sustainability goals with the University Sustainability Steering Committee, which will summarize and synthesize the reports in the context of these goals and present the results to the Board of Regents. Additional metrics may be added as a more comprehensive measurement system is developed.

# Acknowledgments

## Leadership and Modeling

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## Campus Consultations

The committee would like to thank all who attended the campus forums or commented on the University of Minnesota Sustainability Goals and Outcomes Committee Initial Summary Report online. We are grateful as well to the sustainability coordinators and to the individuals on each campus who helped organize the forums.

We appreciate the thoughtful input gained through meetings and forums held during the year to review the progress of the University Sustainability Goals and Outcomes Committee and gather information or input:

- 11/25/2008 Review of endowments, foundation, and process for proxy review, Associate VP and Chief Investment Officer S. Mason
  - 01/16/2009 Community Advisors sustainability training – Housing and Residential Life
  - 01/22/2009 University Services Leadership Team
  - 02/24/2009 Campus Sustainability Forum and Energy Panel, cosponsored event, University Services, Sustainability Studies Minor, and student groups (AEC, MESC, MPIRG, EcoWatch)
  - 02/26/2009 Vice President for Research, T. Mulcahy
  - 04/07/2009 President Bruininks' senior vice presidents meeting
  - 04/21/2009 Senate Committee on Finance and Planning
  - 05/12/2009 Office of Student Affairs, Vice Provost for Student Affairs G. Rinehart, Chief of Staff A. Whyte, Assistant Director of Student Activities M. Sweet
  - 05/26/2009 University of Minnesota Foundation President and CEO S. Goldstein
  - 06/17/2009 University of Minnesota Extension Dean and Director B. Durgan and Associate Dean G. Cuomo
  - 07/22/2009 Institute on the Environment Director J. Foley
  - 08/05/2009 Regional Sustainable Development Partnerships Statewide Coordinating Committee annual meeting
  - 08/30/2009 Orientation and First-Year Program training for Welcome Week leader training
- Campus Consultations on Proposed Goals
- 04/20/2009 Morris
  - 04/24/2009 Crookston
  - 04/27/2009 Twin Cities
  - 04/28/2009 Twin Cities
  - 04/28/2009 Duluth

Finally, thank you to every member of the University of Minnesota community who takes this policy, these principles, and these goals to heart, and helps make them an integral part of what we as an institution are and strive to become.

# Appendices

**Note:** In the spirit of sustainability, a list of appendices and electronic links to materials is included here. Information is available at <http://www.uservices.umn.edu/sustainableU/index.html> - or by clicking on the links if you are viewing this report electronically. If you don't have Internet access, you may request more information by calling University of Minnesota, University Services at 612-624-3557.

## **Appendix A.**

Board of Regents *Policy on Sustainability and Energy Efficiency*

[http://www1.umn.edu/regents/policies/administrative/Sustain\\_Energy\\_Efficiency.pdf](http://www1.umn.edu/regents/policies/administrative/Sustain_Energy_Efficiency.pdf)

(See also on page 63)

## **Appendix B.**

Sustainability Goals and Outcomes Committee Resources

<http://www.uservices.umn.edu/sustainableU/index.html>

## **Appendix C.**

University Sustainability Goals and Outcomes Committee Work Team Reports

<http://www.uservices.umn.edu/sustainableU/index.html>

## **Appendix D.**

Final Report of the University of Minnesota Commission on Environmental Science and Policy: Building on our Strengths: Our Opportunity in Environmental Science and Policy

<http://www.uservices.umn.edu/sustainableU/index.html>

## **Appendix E.**

American College & University Presidents' Climate Commitment Text

<http://www.presidentsclimatecommitment.org/about/commitment>

## **Appendix F.**

AASHE Sustainability Tracking, Assessment & Rating System (STARS)

<http://www.aashe.org/stars/index.php>

## **Appendix G.**

Links to Additional University of Minnesota Sustainability-Related Resources

(continued on p.62)

Sustainability and U

<http://www.uservices.umn.edu/sustainableU/index.html>

University of Minnesota, Crookston Sustainability

<http://www3.crk.umn.edu/committees/sustainability/>

University of Minnesota Duluth Sustainability

<http://www.d.umn.edu/sustain/>

UMM: A Green Campus

<http://www.morris.umn.edu/greencampus/>

University of Minnesota Sustainability

<http://www.uservices.umn.edu/sustainableU/index.html>

Institute on the Environment

<http://environment.umn.edu>

Regional Sustainable Development Partnerships

<http://www.regionalpartnerships.umn.edu/>

It All Adds Up

<http://www1.umn.edu/italladdsup/index.php>

University of Minnesota Purchasing Services Sustainability Policy

<http://purchasing.umn.edu/policy/sustain.html>



## Appendix A



Administrative  
SUSTAINABILITY AND ENERGY EFFICIENCY  
Adopted: July 9, 2004  
Supersedes: (See end of policy)

# University Of Minnesota Board Of Regents Policy

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## SUSTAINABILITY AND ENERGY EFFICIENCY

### SECTION I. COMMITMENT.

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. Sustainability requires the collective actions of the University of Minnesota (University) community and shall be guided by the balanced use of all resources, within budgetary constraints. The University is committed to incorporating sustainability into its teaching, research, and outreach and the operations that support them.

### SECTION II. GUIDING PRINCIPLES.

**Subd. 1. Leadership.** 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.

**Subd. 2. Modeling.** 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.

**Subd. 3. Operational Improvements.** The University shall undertake a continuous improvement process that seeks to meet the operational performance targets, goals, and objectives designed to achieve sustainability.

**Subd. 4. Energy Efficiency.** 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.



Administrative  
SUSTAINABILITY AND ENERGY EFFICIENCY  
Adopted: July 9, 2004  
Supersedes: (See end of policy)

# University Of Minnesota Board Of Regents Policy

Page 2 of 2

**Subd. 5. Research.** 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 operations staff, students, public entities, community organizations, and industry.

**Subd. 6. Education and Outreach.** The University shall promote educational and outreach activities that are linked to operational improvements and innovation principles.

## SECTION III. IMPLEMENTATION.

**Subd. 1. Administration.** The University shall have sustainability goals that inform administrative policies and procedures in the areas of planning, decision-making, execution, assessment, reporting, and alignment. These policies and procedures shall rely on scientific analysis and support the efforts described in subds. 2-4 of this section.

**Subd. 2. Operations.** Each University campus shall develop specific sustainability objectives and targets in the areas of:

- (a) physical planning and development, including buildings and infrastructure;
- (b) operations;
- (c) transportation;
- (d) purchasing; and
- (e) waste management and abatement.

**Subd. 3. Accountability.** The president or delegate shall develop indicators and measures of success in the implementation of the principles outlined in this policy in consultation with appropriate faculty, staff, students, and experts in the broader community.

**Subd. 4. Reporting.** The president or delegate shall report to the Board annually on progress toward established targets and standards, using this information to identify opportunities for subsequent improvement.

SUPERSEDES: POLLUTION PREVENTION AND WASTE ABATEMENT  
DATED JUNE 12, 1992.

## Equal Opportunity

The University of Minnesota is committed to the policy that all persons shall have equal access to its programs, facilities and employment without regard to race, color, creed, religion, national origin, sex, age, marital status, disability, public assistance status, veteran status or sexual orientation.

## Disability Access

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