



*Northern Arizona University
Campus Environmental Sustainability Plan*

APPROVED BY PRESIDENT JOHN HAEGER
AND THE PRESIDENT'S CABINET ON FEBRUARY 17, 2004



The NAU Campus Sustainability Plan has coalesced many efforts on campus and in our surrounding community to practice what we preach: that environmentally friendly ways of doing business are not only ethical, but also reduce waste and inefficiencies that would otherwise be costly to our operations and to our health. Whenever we can lower our cost of operations by implementing best practices, we are able to steward our resources to have the most positive effect on our students, our faculty and staff, and our community at large. This document celebrates efforts by many individuals and teams on our campus – from landscapers and vehicle mechanics, to inventors of renewable energy technologies and environmental communicators – to do their part in sustaining the common good.

Our curricular and research emphasis on advancing sustainable practices is one of several strengths which makes Northern Arizona University unique among institutions of higher education in the West. We know that our Mountain Campus is now nationally ranked as a place ideal for outdoor-oriented students to come to live and explore the surrounding environments of Grand Canyon Country, but these kinds of students also want a healthy campus setting to live in and study. In addition, they can use our very campus as a teaching tool – as curriculum – to absorb ways of living in harmony with the environment that they can carry with them to any other community in the future.

NAU does not exist in a vacuum. This plan also strengthens our alliances with the Greater Flagstaff Economic Council, Coconino County, and Sustainable Arizona the City of Flagstaff and the Arizona Department of Commerce in plans to attract green businesses to our community and to the state. We hope that these collaborations in advancing sustainability will create both internships and future jobs for our students as NAU redoubles its efforts to “green the ivory tower” as a means to more broadly benefit the citizens, cultures, and environments of Arizona and the country at large.

Sincerely,

John Haeger
President, Northern Arizona University





There is no more important issue in today's world than learning to live in sustainable ways that respect the rights of all people and cultures around the world. Universities have a critical role to play in this regard, both in terms of their classroom curriculum and their embodied curriculum – their day-to-day practices. The Campus Environmental Sustainability Plan is an important instrument enabling Northern Arizona University to address its responsibilities in this regard.

We share Presidents Haeger's belief that NAU has an ethical commitment to sustainable practices. Universities have long enjoyed a position of respect in Western society. They are revered, not only for their commitment to truth, but also for the role they play in educating citizens in a democratic society. Universities who adopt practices and policies that do not reflect what we know to be true and do not adequately prepare students to live responsibly in the world will cease to be respected.

We enthusiastically endorse the Campus Environmental Sustainability Plan and will work to make sure that this plan succeeds.

Sincerely,

The Ponderosa Faculty

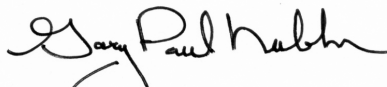
The Center for Sustainable Environments has been fortunate to bring together diverse talents on the Northern Arizona University Mountain Campus to draft this Campus Environmental Sustainability Plan. It is modeled on the Oregon state government sustainability plan, which asked two questions of its professional staff:

1. What are you already doing to advance sustainability, curb excessive consumption and reduce waste?
2. What do you aspire to do, as budget, technology, and human resources allow?

What our Center staff quickly learned is that no one had yet sought out and listened to the many innovators among the NAU staff, faculty, administration, and student body; that many unheralded advances had already been initiated; and many more had been proposed. Since the Center's mission is to serve as a catalyst for collaboration between NAU and surrounding communities, we also knew that NAU employees had played key roles in the forging of the Coconino County Comprehensive Plan and the Flagstaff "Clean and Green" Committee. Once we assembled these disparate initiatives into a cohesive document, we realized that there was much to celebrate, and much more to do.

Northern Arizona University can be proud to be among a growing number of institutions of higher education that have a broad-ranging initiative to advance sustainability in our workplace, and to advance sustainability science in the classroom, laboratory, and field. The Center is now beginning to assist other entities – towns, tribes and businesses – with designing and implementing similar plans. We believe, as the Battelle Memorial Institute recently informed the Arizona state government, that sustainability science is the wave of the future for businesses, educational institutions, and communities in our state, and are honored that Battelle recognized the Center's pivotal role as a catalyst in this field. We welcome inquiries from others on how to make their vision of sustainability a reality on the NAU campus and the northern Arizona region.

Sincerely,



Gary Paul Nabhan, Director
Center for Sustainable Environments



Gary B. Deason, Associate Director
Center for Sustainable Environments





1. *Use of the a campus-wide site plan (Master Plan) to ensure sustainable and appropriate uses of land, water and resources managed by NAU.*

- A. The long-term goal of the Master Plan is to assure the efficient and appropriate use of NAU Mountain Campus lands, energy, water and materials, and the services that rely upon them. The plan can help to avoid unnecessary conflicts in land uses and misdirected investments that disrupt sustainable practices.

Aspirations:

NAU should establish a task force of staff, faculty and students to develop and implement an Environmental Management System (EMS). An EMS is a comprehensive, quality-driven process in which all environmentally-related data (energy, emissions, transportation, hazardous waste, recycling, certified suppliers, etc.) relevant to the operation of the university are collected, tabulated and analyzed. Regular reviews and modifications create a continuous closed-loop improvement system resulting in refined goals, increased sustainability practices and cost savings. The plan should also be reviewed to ensure that it dovetails with the Coconino County Comprehensive Plan. NAU's plan should eventually be extended to help coordinate major development initiatives on other campuses and proposed field stations, including the Yuma and Ganado campuses, the Centennial Forest, and the EMA Foundation sites on the Babbitt Ranches. The plan could also be used to set longer-term objectives for the sustainable management for all NAU campuses, and to engage students, faculty and staff in learning about them and achieving them.

2. *Advance sustainable building, explore the potential use of renewable energy for heating, and seek reduction of heating costs on campus.*

- A. Provide incentives to use Leadership in Energy and Environmental Design (LEED) standards and other green building practices in the development of facilities

Aspirations:

To train two members of staff in LEED standards per year.

- B. Beginning with achieving LEEDs Platinum rating for the Applied Research and Development building now in planning stages, phase in a high performance facilities program that makes energy and water conservation objectives and green building design services part of planning all new or renovated facilities. In line with Coconino County's Sustainable Building Resolution, new designs and renovations should be incorporated that significantly improve energy efficiency, reduce campus energy bills, improve indoor air quality, and in most cases, do so at no additional capital cost to the state.

Aspirations:

To ensure that all new and university buildings as well as major renovations meet the Coconino County Sustainable Building Resolution's standards in achieving energy and water conservation goals over the next decade, while addressing indoor air quality, and providing higher levels of day lighting.

- C. Create a task force of student organizations to develop a proposal for the NAU President to designate each October as Energy Awareness Month. This student task force could coordinate a campus-wide awareness campaign to provide information, ideas, incentives and materials to promote energy conservation in residence halls and other facilities, to promote the use of non-fossil fuel transportation on campus, and to reduce green house gas emissions on campus and in the surrounding community.

Aspirations:

To establish the task force this October, with the first Energy Awareness Month to be held on campus October, 2004 with a preview of the campaign to be featured at the Southwest Renewable Energy Conference; and thereafter, enlist students doing independent studies to use the EMS (see I.c), and monitor the campaign's success in reducing overall electric and gas heating costs on campus.

- D. Work with Arizona Public Service to deliver alternative energy sources to the Mountain Campus as soon as they become available through APS in Coconino County.

Aspirations:

To use NAU research expertise to assist APS in any analyses or pilot projects which advance the cogeneration of energy from renewable resources such as wind, solar or biomass. In addition, to evaluate the feasibility of generating wind, solar or biomass for campus from sites associated with the EMA Foundation on Babbitt Ranches, the Diablo Trust, and/or the Centennial Forest


3. *Increase institutional purchases of Arizona-grown foods to reduce fossil fuel use and carbon emissions associated with long-distance transport, and reduce food waste.*

- A. In collaboration with the Arizona Department of Agriculture, the NAU Center for Sustainable Environments, the Southwest Marketing Network, the Arizona Farmers Direct Marketing Association, campus food services should be encouraged and supported in developing strategies, baseline data and targets to increase institutional purchase of Arizona-Grown and certified, locally produced food. Since the university is directly supported by taxes from Arizona farmers and ranchers, and the fossil fuel use and carbon emissions associated with their transport are far less than those of foods from other regions or countries, Arizona-grown foods should be featured on campus whenever cost effective.

Aspirations:

To send at least two campus food service employees and/or their contract-providers to the annual Farm to Cafeteria training events offered by the Community Food Security Coalition. In addition, to invite campus food service managers from other universities that use the same vendors and contractors to speak on campus about how they implemented their local or state food purchasing efforts, and at what costs or savings. Also, to use discretionary clauses in current contracts to justify featuring more Arizona-Grown and





Canyon Country Fresh produce at campus banquets and special event receptions whenever it is cost effective.

- B. Continue to support the campus-wide bottle aluminum can, paper and cardboard recycling, maintaining NAU's capacity to rescue and recycle cans and bottles from residence halls, cafeterias and office buildings through stronger public awareness campaigns and expanded operations. In addition, maintain the percentage of paper recycled over and above the state mandate of 50%, with our current paper recycling efforts at 80%.

Aspirations:

To enlist students and faculty in further promoting an increasing the use of recycling bins already distributed campus-wide.

4. *Develop diversified strategies for reducing fossil fuel use and carbon emissions associated with motorized vehicles on campus.*

- A. Maintain strong motor and vehicle purchase standards that reduce fossil fuel use and carbon emissions, while still meeting mandated competitive solicitation processes.
- B. Favor the purchase of new light duty vehicles (under 8,500 lbs. Gross Vehicle Weight) that score 8.0 or higher on the U.S. Environmental Protection Agency's emissions/air pollution index, provided that such vehicles are available and capable of carrying out the operational needs of using agencies. Aspirations: To make at least one third of the future purchases of light duty vehicles meet these standards. In addition, to determine whether NAU can collaborate with the City of Flagstaff to obtain biodiesel fuel from the city's facility for heavy duty vehicles, such as shuttle buses.
- C. Continue the rigorous existing review process wherein all NAU vehicles are evaluated on the basis of the composite EPA emissions/air pollution score and an average motor pool miles-per-gallon score for all 2003 and later models, so that those vehicles that chronically pollute can be selected out of the vehicle pool. Aspirations: To set goals increasing incrementally the pollution-reducing performance of both light and heavy duty vehicles.
- D. Foster the use of non-motorized bicycles and hybrid cars by faculty and staff.

Aspirations:

To provide incentives for faculty and staff to bike, carpool or ride in hybrid cars to campus.

5. *Maintain sustainable materials purchasing and disposal practices.*

- A. In consultation with the Arizona Department of Environmental Quality and the Western States Contracting Alliance, maintain sustainability-sensitive purchasing and disposal policies for office products, CPUs, monitors, florescent light bulbs and other items. Currently, half of the paper purchased

for campus use is from recycled sources. Campus Supply carries a line of recycled office products under the "Environmental Choice" banner.

Aspirations:

To establish for the next five years measurable targets, such as direct supplier take-back of these components at the end of their operational lifetimes.

- B. Maintain the purchase of computers and other electronic equipment with built-in energy saving features.

Aspirations:

To periodically revise the campus-wide bid specifications for electronic office equipment, for instance, to require an "Energy Star" or other third-party certification standard relative to energy savings.

6. *Maintain attractive outdoor landscapes on campus through environmentally friendly means.*

- A. Develop a program to phase out, as funding for new purchases allows, the use of two-cycle engines used by Facilities Services and its grounds maintenance staff.

Aspirations:

To develop a report that contains an inventory of all implements with two-cycle engines, determines the availability and suitability of substitute implements that are more efficient and significantly less polluting, estimates the emissions reductions from the new equipment and calculates the additional cost for implementing this program. On the basis of this report, to develop a plan for phasing-out two-cycle engines in the context of current and anticipated budgetary constraints.

- B. Use local and native materials, whenever cost-effective and available, for landscaping purposes.

Aspirations:

To continue current emphasis on native plants in xeriscape designs, and the use of rock from nearby sources, bark/wood chip mulch and compost, especially those materials that are derived from forest restoration and thinning projects organized by NAU.


7. *Ensure that hazardous chemicals are safely stored, used and disposed.*

- A. NAU will continue to work with its contractors to comprehensively manage hazardous materials on campus to minimize/optimize usage, waste produced and to reduce the number and severity of safety-related issues (exposure, accidents).

Aspirations:

As part of the EMS process, all hazardous materials used and stored on campus (including pesticides, fertilizers, cleaning/maintenance products and research/student laboratory chemicals) will be inventoried. The inventory will





include information such as their location, hazard index, safety information, usage rate, disposal rate, purchase and disposal costs, permit information and costs, costs of noncompliance/ enforcement actions, etc. Also, all safety-related information regarding hazardous materials (accidents – number, severity, costs, penalties etc) will be obtained. The EMS process will inherently reduce campus-wide exposure, usage, related costs and emissions of such materials.

8. Promote development projects to benefit NAU and the Greater Flagstaff community that are based on renewable resources and sustainable business practices.

- A. Initiate an annual sustainability awards program modeled on the Oregon Excellence Awards in sustainability program.

Aspirations:

To honor professional staff, faculty and students who advance campus and community sustainability, so that they may serve as inspirations to others. Also, to seek the involvement of private for profit corporations and businesses, non-profit entities and local and federal government to fund honorees to obtain more training or to tell NAU's success stories at national meetings.

- B. Assist Coconino County in implementing sustainability initiatives that are part of its new Comprehensive Plan.

Aspirations:

To obtain private or public support to facilitate community roundtables to discuss strategies for the Plan's implementation, and assist in public education about it.

- C. Involve the Northern Arizona Technology Business Incubator group whenever possible. Promote sustainable industries and business practices in coordination with NAU's other public and private partners.

Aspirations:

To develop a target industry strategy as part of Arizona's statewide initiatives to capitalize on business opportunities that support sustainable development, including opportunities for new and existing businesses. Such as those promoting renewable energy and energy conservation, recycling and reuse products and technologies; ecosystem restoration; sustainable agriculture; green building design and construction technologies and products from certified forest practices. To scale-up this effort, to initiate a business partners forum with Sustainable Arizona by April 2004, to foster other events to be held annually in association with the Southwest Renewable Energy Fair, and reserve "incubator space" for sustainable businesses in the Applied Research and Development Building by 2005.

- D. Sponsor workshops and training opportunities, connecting local and in-state-businesses with NAU providers of technical assistance, identifying suppliers of sustainable products, supporting partnerships that encourage sustainable development and providing information concerning sustainable business practices to businesses throughout the state. The Renewable Energy Fair and

the Sustainable Foods Fair for the Four Corners are but two examples of NAU's current commitments to attracting and assisting sustainable businesses in our region.

Aspirations:

To ensure that NAU sponsors several for-credit or non-credit workshops and conferences each year benefiting the sustainable or "green" business community.

- E. Continue to collaborate with the Dark Skies Coalition to ensure that appropriate lighting and lighting shields reduce light pollution, in order to maintain Flagstaff's status as the first internationally recognized Dark Skies City.

Aspirations:

To work with student groups to explain the Dark Skies initiative to incoming students and faculty. Also, to ensure that light-pollution reducing fixtures are incorporated into any NAU facilities to be built on Centennial Forest and Babbitt Ranch lands.

- 9. *Use the "campus as ecosystem" concept across the curriculum to educate faculty and students about the physical, biological, cultural, socioeconomic, and ethical dimensions of sustainability.*

- A. Support the Ponderosa faculty in their efforts to introduce sustainability issues into the curriculum and to assist faculty in these efforts.

Aspirations:

Ensure that NAU faculty members have the opportunity to receive training in sustainability issues by means of mentorship and/or workshops.

- B. Support student educational experiences outside of and beyond the classroom.

Aspirations:

Provide support for student organizations and activities that relate to campus, community, and regional sustainability initiatives and projects.

- C. Encourage the concept of "Campus as Curriculum."

Aspirations:

Ensure that the NAU campus is a "working model of sustainability" so that students can see their sustainability education at work and experience pride in attending a university that incorporates sustainable practices.

- 10. *Employ the talents and skills of NAU's faculty, staff, and students in communication efforts that positively reflect the progress of NAU's sustainability initiatives and accomplishments.*

- A. Promote communication about NAU's sustainability efforts and successes.





Aspirations:

To ensure that NAU receives recognition for contributions to sustainability, within and beyond the greater Flagstaff area.

- B. Employ communication efforts to attract students to NAU, and to participate in on-campus activities that reduce waste and conserve water, energy and materials.

Aspirations:

To attract students interested in sustainability issues to NAU's degree programs that incorporate sustainability education. Also, to use students' environmental communication skills to promote on-campus sustainability initiatives.

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