Planning for Campus Sustainability

Kevin Greene
Illinois EPA

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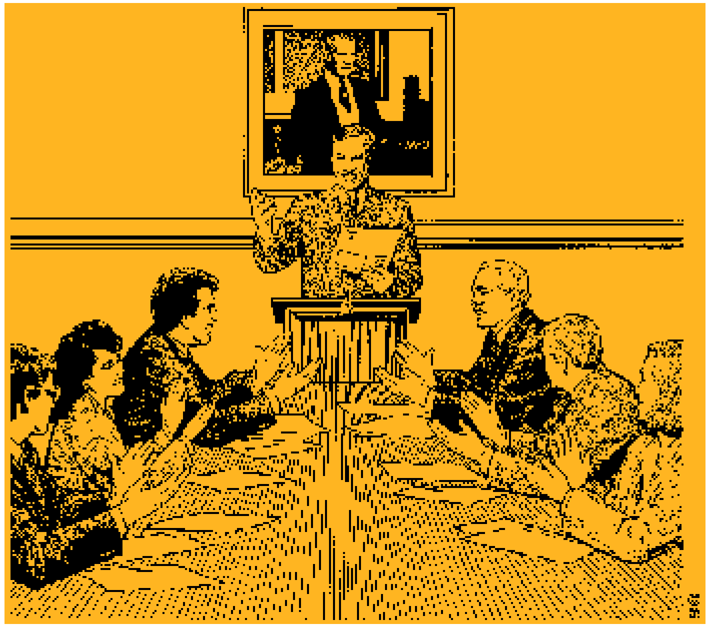
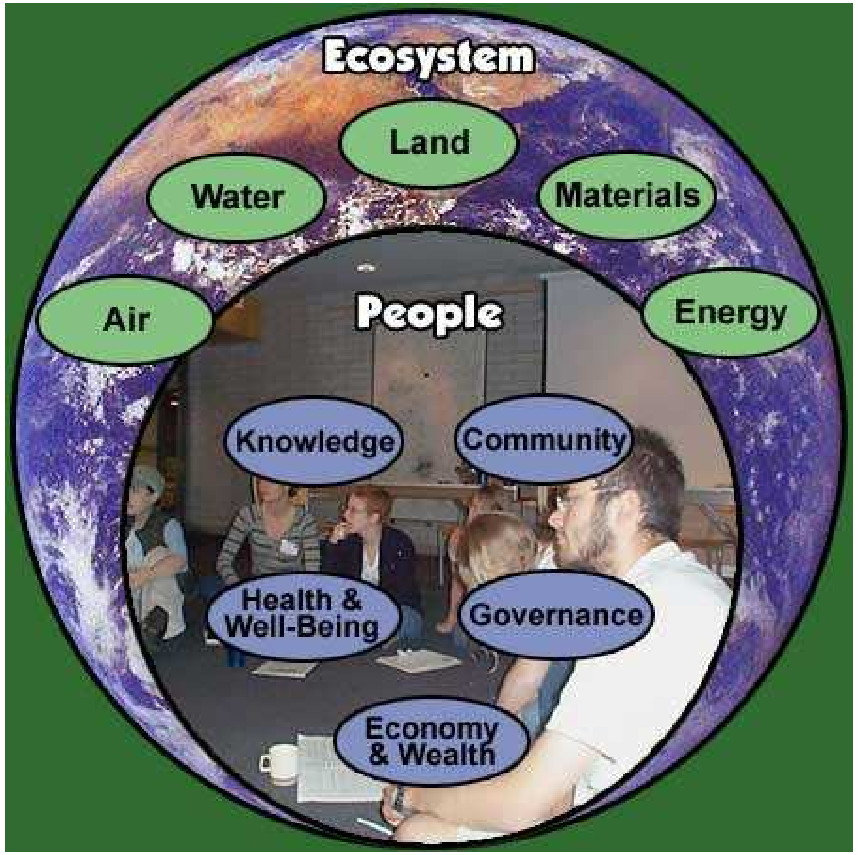
Presentation Objectives



- Describe the benefits of developing a sustainability plan
- Review key elements of the planning process
- Provide examples of campus sustainability plans
- Tell you where to get more information and help

Why develop a sustainability plan?

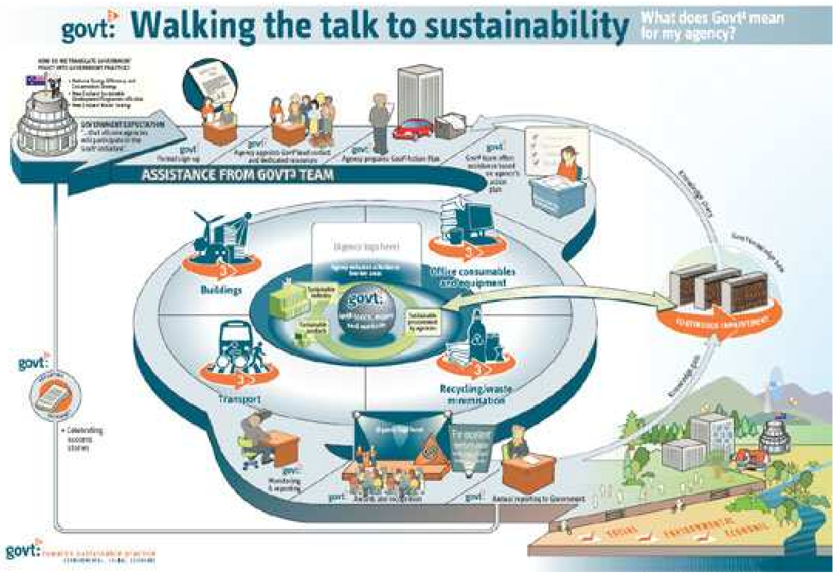


- Put more emphasis on long term change and address a range of issues
- Increase collaboration across an organization
- Foster broad involvement from top to bottom
- Allow for discussion before implementation
- Help institutionalize environmental practices into everyday processes and actions
- Shift focus from projects & programs to continuous improvement towards a desired future state

Why conduct sustainability planning at institutions of higher learning?

- Universities/colleges:
  - Resemble mini-cities
  - Act as role model in the community
  - Have significant environmental impacts
  - Are leaders in critical thinking, research and inquiry
  - Provide students with skills and experiences to be “change agents”
  - Serve as testing grounds for innovative processes and practices

What does the sustainability planning process involve?



- Characterize operations and gather data on baseline impacts and existing practices *("Where are we now?")*
- Analyze potential impacts and trends *("Where are we going?")*
- Create vision and long term goals *("Where do we want to go?")*
- Identify strategies *("how do we get there?")*
- Establish performance objectives and measures *("How do we know we're there?")*
- Assign roles and timelines *("Who will do what by when?")*

Tips for a successful planning process

- Secure approval from upper management (e.g., policy statement or directive)
- Bring key players together early in the planning process (include representatives from administration, facilities management, faculty, students and alumni)
- Consider strategic planning approach (e.g., SWOT) or sustainable planning framework (e.g., Talloires Principles or Natural Step)
- Identify available resources within the institution and surrounding community that can help facilitate and support the process
- Ensure the planning process is open and inclusive
- Make sure employees and students are kept informed and seek their feedback
- Consider inviting local officials, businesses and neighborhood groups to participate

Plan Step 1: Establish a team to oversee sustainability planning process

- Senior Level Management
- Facilities and Operations
- Purchasing
- Communications
- Information Technology
- Faculty
- Student Organizations
- Interested Students and Staff
- Interested Alumni

Plan Step 2: Identify process for outreach and involvement

- Large group (75 to 125 participants)
  - Convene 4-6 meetings
  - Led by facilitator skilled in strategic planning processes
  - Break into working groups
- Small group (e.g., sustainability team or special task force)
  - Hold workshops to gather feedback
  - Survey groups, students and staff
  - Make plan available for public comment
- Department or area specific (e.g., academic, built environment, food, transportation, student life)
  - Establish planning guidelines to ensure continuity
  - Merge plans together

Plan Step 3: Characterize operations and gather baseline data on current impacts and practices

- Identify key operations and activities and create environmental baseline or "footprint" for the campus:
  - Facilities
  - Academic
  - Outreach
  - Students

- Facilities
  - Management Systems
    - Purchasing, land use/capital planning, investment strategies
  - Operations/Infrastructure
    - Office operations, facilities operations and maintenance, grounds, housing, information technology, power plant, transportation and food

- Academic:
  - Teaching
    - Course offerings, lecture series, interdisciplinary work
  - Research
    - Laboratory & field settings, research activities, consulting, think tanks
- Outreach
  - Public service/involvement
    - Internships, service learning projects, civic volunteerism
- Students
  - Student Life
    - Services, events, clubs, orientation
  - Alumni
    - Civic involvement

Sample indicators for baseline inventory

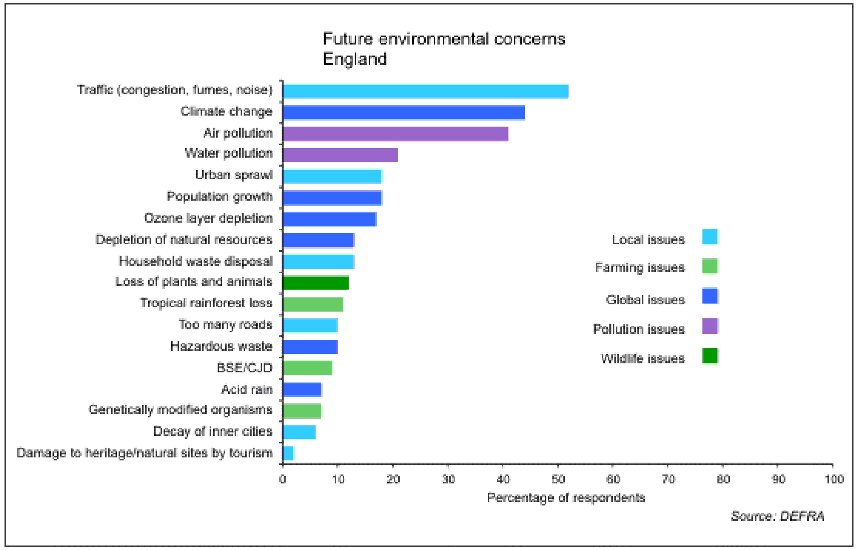
- Facilities and Operations
  - Building space
  - Resource consumption (energy, water, fuel)
  - Amount of paper consumed and percentage of recycled content paper
  - Miles driven for business and commuting
  - Percentage of students and staff using alternative transportation
  - Greenhouse gas emissions
  - Solid and hazardous waste generation
  - Reduced use of toxic materials
  - Amount of landscape with native plants
  - Percentage of organic food
- Teaching and Research
  - Sustainability courses and enrollments
  - Environmental internships
  - Research projects
  - Symposiums and workshops

Environmental Baseline – Tufts University

- 6 million meals served (Medford)
- 21 million copies made
- 40 million pages printed
- Large quantity generator of hazardous waste
- 2,500 tons of solid waste (Medford)
- Approximately a 35% recycling rate
- 4 million kWh of electricity usage
- 40,000 gallons of number 6 fuel oil
- Over 100 million gallons of water (Medford has decreased >10% since 1990)
- 24,200 metric tons carbon equivalent emissions (will decrease to about 1990 levels in January 2006 due to new electricity source)

    - All numbers are per annum

Plan Step 4: Analyze trends



- Project environmental trends
- Project educational and research directions
- Project changes in built environment
- Project trends in student perspectives and attitudes

Plan Step 5: Create vision statement

- What would a sustainable campus look like?
- Where do you want to be in the future (20 – 30 years)?
  - Present possible scenarios of university's future
  - No area should be "off-limits"
  - Gather views from stakeholders
  - Based on consensus

Excerpt from Sustainability Vision and Mission Statement– University of Colorado at Colorado Springs

- The University of Colorado at Colorado Springs is a recognized leader in sustainability.
- UCCS seeks to be a campus:
  - Where committed campus administrators, in partnership with a dedicated faculty, staff, and educated student body, provide leadership and contribute expertise to local, regional, and global environmental efforts, and foster links with other institutions;
  - Where we recognize our obligation to educate the university community about the importance of individual and institutional environmental responsibility and prepare our students by integrating sustainability literacy into academic learning and research across the curriculum and between the colleges;
  - Where sustainability is integrated into all aspects of university functioning, including buildings, operations, planning, and purchasing, in such a way that we minimize the impact of our growing, dynamic campus upon the earth.

Plan Step 6: Establish long term goals

- Key directions to move over the long-term:
  - Foster long term thinking
  - Stated in broad terms
  - Be meaningful to faculty, employees and students

Sustainability Goals – University of Michigan

- The University of Michigan will implement programs and policies which:
  - Encourage incorporation of environmental sustainability issues into curriculums and research campus wide.
  - Foster environmental justice.
  - Ensure that individuals are knowledgeable about the environmental and health issues that affect their discipline.
  - Reduce energy and water demand on campus to a minimum.
  - Develop independence from non-renewable energies, including nuclear power, by use of alternative energy sources, combined with extensive reductions in energy demand.
  - Select products and materials which are environmentally sustainable throughout all life cycle phases, non-toxic, and preferably of local origin.
  - Emphasize reducing and reusing, then recycling of waste, and explore organic waste recycling systems.
  - Restore indigenous natural ecosystems as part of the campus aesthetic.
  - Incorporate life-cycle cost accounting into economic decision making, while also respecting spiritual, aesthetic, and qualify of life values.
  - Support sustainable and local food production.
  - Provide staff with the training and resources necessary to meet Sustainability objectives.
  - Communicate our progress towards sustainability to the community and to the outside world.
  - Help the University of Michigan to be a leader in the continuous pursuit of sustainability by experimentation, monitoring, education and outreach.

Plan Step 7: Identify future strategies/projects for improvement

- Association for the Advancement of Sustainability in Higher Education
  www.aashe.org/index.php
- National Wildlife Federation, Campus Ecology Program
  www.nwf.org/campusecology/
- University Leaders for a Sustainable Future
  www.ulsf.org/
- Second Nature: Education for Sustainability
  www.secondnature.org/
- Green Campus Initiative
  www.easternct.edu/depts/sustainenergy/colleges_n_uni/home_colleges_n_uni.html
- Campus Sustainability Assessment Project
  http://csap.envs.wmich.edu/index.html
- Massachusetts Institute of Technology, Environmental Virtual Campus
  www.c2e2.org/evc/home.html
- Alliance to Save Energy, Green Campus Program
  http://ase.org/section/program/greencampus/

Plan Step 8: Set priorities for action

- Prioritize action steps
  - Does activity move institution towards vision and goals?
  - Will the action result in savings over its life?
  - Is the time frame and ease of implementation manageable?
  - Is training needed?
  - Is the issue of significant concern to students, faculty, others?
  - Is there an opportunity for student participation?
  - Does the activity have educational value?

- Identify necessary resources
  - funding
  - staffing
  - technical assistance
  - technologies
- Pick a way to measure results *("What gets measured, gets managed")*
- Establish timetable for implementation
- Assign tasks and responsibilities

Plan Step 9: Set objectives for environmental improvement

- Objectives (*What results are you trying to achieve?)*
  - Have specific dates (*Do what by when?*)
    - Zero waste generation by XXXX
    - Zero use of persistent, bio-accumulative toxins by XXXX
    - All new buildings and major renovations are LEED Gold certified, beginning XXXX
    - Reduce greenhouse gas emissions to 1990 levels by XXXX
    - Purchase only hybrid or alternative fuel vehicles as fleet is replaced
    - Reduce paper consumption by X percent annually

- Cut vehicle miles traveled by X percent by XXXX
- Increase student enrollments in sustainability courses by X percent by XXXX
- All students take at least one sustainability course
- Increase faculty sustainability projects by X percent annually
- Increase student service learning by X percent by XXXX
- Increase environmental partnerships with local communities by X percent
- Create sustainability institute by XXXX

Sustainability Plan Outline

- Long Term Goal: Reduce energy consumption and increase energy efficiency
  - Area of operation: Purchase of Goods and Services
    - Objective #1:
    - Measure:
    - Strategies:
      - Strategy #1
      - Strategy #2
      - Strategy #3

  - Area of operation: Facility, Construction, Operations & Maintenance
    - Objective #1:
    - Measure:
    - Strategies:
      - Strategy #1
      - Strategy #2

Excerpt from *Blueprint for Environmental Action* – University of Colorado at Boulder

- **Long Term Vision for Campus Water Use** : Educate every campus user on how and why to conserve, appropriately use, and protect the quality and quantity of water resources
  - **Objective**: Achieve 5 percent reduction in water use each year for next five years
  - **Metrics**: Water use data, testing, surveys
  - **Action Steps**:
    - Conduct all campus research using upgraded machinery and technology that conserves water and protects water quality.
    - Educate students, faculty, staff, and visitors about the semi-arid climate where CU is located.
    - Increase xeriscaping on campus and decrease water and energy intensive turfs.
    - Decrease potable water use by converting to ditch water where possible.
    - Obtain at least three out of five possible LEED points for water use in all future building construction.

Excerpt from *Campus Sustainability Plan* – University of California at Santa Barbara

- **Long Term Goal for Academics and Research**: Promote education and research on social, economic, and environmental sustainability by building community, student, faculty and staff awareness.
  - **Objective #2**: Have at least 30% of students know where to find a course on sustainability.
  - **Metric**: Number of students in sustainability courses
  - **Actions**:
    - Create a fully operational website that highlights sustainability-related courses within one year (Summer 2006 - Summer 2007).
    - Update the website every week, so that it is regularly maintained and outreach keeps up with high student turnover.
  - **Barriers**: In the long-term, the most significant barrier to achieving this goal is consistent funding for the website.

Excerpt from *Campus Sustainability Plan* – University of Wisconsin at Oshkosh

- **Long Term Vision for Teaching**: Link the university's formal teaching mission and informal teaching opportunities to develop understanding, attitudes and habits that promote sustainability
  - **Goal#3**: Raise awareness of students and staff through participation in campus sustainability activities that take place outside of the formal classroom
    - **Action Plan/Recommendations**
      - **Initial Consideration (First Year):**
        - Develop sustainability programs in the residence halls.
        - Include sustainability in the first year experience and orientation program.
        - Inaugurate competitions focused on sustainability amongst campus groups (e.g. dorms, clubs, departments, etc.) and with other institutions.
      - **Within Three Years**:
        - Develop a Student Sustainability Leaders Program in which students serve in paid positions as student sustainability educators.
        - Include concepts of sustainability, and campus sustainability initiatives, in employee training and orientation.

Tracking and Progress Reports

ENVIRONMENTAL PERFORMANCE AT-A-GLANCE

	1996 - 2005	1997-2002			2002	
	GOAL	TARGET	PERFORMANCE	SAVINGS[1] ($ MILLIONS)	TARGET	PERFORMANCE
Reduce Air Toxics[2]	80%	53%	81%[3]	0.5[3]	n/a[3]	—
Reduce Energy Use and Associated Greenhouse Gas Emissions[2]	30%	20%	19%	27.9	4%	3%
Reduce Regulated Waste Generation[2]	35%	23%	0%	0.5	4%	(8)%
Reduce Non-hazardous Waste Generation[2]	35%	23%	14%	20.9	5%	13%
Increase Recycling	—	—	12%[4]	17.2	—	13%[4]
Reduce Packaging	20%[5]	14%[6]	15%[6]	12.9[6]	3%	4%
Reduce Water Use	—	—	9%	1.2	—	3%
TOTAL				≈$81.1		

[1] Total savings and cost avoidance realized in 2002 from prior years' efforts.
[2] Per unit of production value.
[3] Target met in 2001; performance and savings as of 2001.
[4] Increase in quantity of non-hazardous waste being recycled per unit of production value.
[5] 1995-2005 goal.
[6] Performance and savings are for 1996-2002. Performance measured as the sum of project reductions versus 1995 baseline volume.

- Create system to track performance
- Communicate results *(e.g., annual report or scorecard)*
- Create process for ongoing/continuous improvement
- Benchmark performance against leading peer institutions
- Celebrate successes

Campus Sustainability Plans

- University of California at Santa Barbara http://sustainability.ucsb.edu/plan/
- University of Colorado at Boulder

  http://ecenter.colorado.edu/blueprint06/
- University of Wisconsin at Oshkosh

  www.uwosh.edu/assets/announcement/sustainability

Questions?