Education for Sustainability
K-12 and Teacher Education
National Professional Organizations
Summit

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Education and Action for a Sustainable Future: Opportunities and Resources for You
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Thanks to John Richter and Anthony Cortese for some of these slides
• Part I  What is sustainability and education for sustainability?
• Part II What are our sustainability challenges?
• Part III Solutions and National Trends
• Part IV Resources for you!
Sustainable Development is often defined as:

“meeting the needs of the present without compromising the ability of future generations to meet their own needs”

Triple Bottom Line of Sustainability

- Healthy Environment
- Social Well-being
- Strong Economy

Sustainable Society
The United Nations has declared a Decade of Education for Sustainable Development 2005-2014
Education for a Sustainable Society:

“enables people to develop the knowledge, values and skills to participate in decisions ..., that will improve the quality of life now without damaging the planet for the future.”
Sustainable Communities

Public Choices and Behaviors - Laws

Private Choices and Behaviors - Habits

Sustainable Economies

Applied Knowledge/Technological Skills

Ecosystem
Why is environmental responsibility such a high priority?

- Freshwater withdrawal has almost doubled since 1960 and nearly half the world’s major rivers are going dry or are badly polluted (New Internationalist, no. 329)
- 11 of the world’s 15 major fishing areas and 69% of the world’s major fish species are in decline (State of the World, Worldwatch Institute)
- Climate change (global warming) exists, a major culprit is fossil fuels, and impacts are very serious. (Intergovernmental Panel on Climate Change report: Summary for Policymakers: The Science of Climate Change)
The Greenhouse Effect

Some of the infrared radiation passes through the atmosphere, and some is absorbed and re-emitted in all directions by greenhouse gas molecules. The effect of this is to warm the Earth’s surface and lower atmosphere.

Some solar radiation is reflected by the Earth and the atmosphere.

Solar radiation passes through the clear atmosphere.

Most radiation is absorbed by the Earth’s surface and warms it.

Infrared radiation is emitted from the Earth’s surface.
Effects - Climate Change

- Disruption of food production and the food chain
- More extreme weather events
- Disruptions of ecosystems and the food chain, including water supplies
- Spread of disease e.g. West Nile, Malaria, Dengue Fever
- Submersion of land masses –
  - 1 to 4 foot sea level rise - now up to 80 feet
  - 50% of world’s population lives on the coasts

= Civilization Disruption

Source: Intergovernmental Panel on Climate Change
Why is Climate Change Important?

It is outside of the normal variability of climate.

We are the first generation capable of determining the habitability of the planet for humans and other species.

The decisions of this generation are crucial.
Why climate change and other environmental issues are so important

1. Human presence on a global scale
2. All living systems in long term decline at unprecedented and accelerating rate
3. Unprecedented growth in population and consumption
4. Climate change

Our decisions will create:
more scarcity and suffering, or a future of greater abundance and higher quality of life
Global Perspective

life supporting resources declining

cconsumption of life supporting resources rising
Why is EFS such a high priority?

1. Much of the public doesn’t know that we are exceeding the carrying capacity of the planet. ([www.myfootprint.org](http://www.myfootprint.org))

2. Public doesn’t know that solutions exist. We can reduce human suffering, environmental degradation and social ills now while building stronger economies.

3. A rapid shift in mindset is needed and education to action is the key.
Dominant Inaccurate Human Beliefs
Which ones do you have to eliminate?

- Humans dominant species separate from environment
- Resources free and inexhaustible
- Technology the answer
- Earth can assimilate all wastes
- All human needs can be met by human means
- Individual success independent of health of communities, cultures and ecosystems

Old Worldview

vs. Updated Worldview of Sustainability
Potentials for Energy Conservation and Renewable Energies

Plan B: Mobilizing to Save Civilization

by Lester Brown

Founder of Worldwatch Institute

Downloadable at www.earth-policy.org
Can we meet all our needs with renewable energies and energy conservation?

YES
KEY THRUST – KEY OUTCOME

Staff, students and community members know how to and choose to be more environmentally, socially and economically responsible.

Where? In the personal, business, community and governmental spheres.

In private and public policies and behaviors.

Outcomes: more health in ecosystems and economies, higher quality of life

“Function more knowledgeably as responsible citizens in our democratic society.”
Green Design Does Not Have to Cost More

- Studies verify this
- Can be positive cash flow from the first month
- Use experienced professionals
Health and facilities go sustainable!

- From daylighting to efficient lighting, CFLs to LEDs,
- From non toxic (green) materials to air to air heat exchangers and better indoor air quality,
- From unsustainable foods to local healthy foods,
- From retrofits to good initial design producing smaller mechanical systems,
- From LEED EB to LEED NC to Net Zero and Ecologically Restorative buildings,
- From employee awareness and suggestion programs to incentives and rewards
Not just facilities’ solutions:

- All of us engaged as effective change agents in our sustainability challenges
- From apathy to caring involvement.
- Know that our daily decisions affect the quality of life of people around the globe.
- Culture of sustainability – Breaking the Addiction to Oil
- Push for appropriate policies, regulations
Part III

Trends and Examples
U.S. Partnership for Education for Sustainable Development:

Convene, Catalyze and Communicate

Sector Teams: Business, Higher Education, K-12, Communities, Faith, Youth…
U.S. Partnership for Education for Sustainable Development

- Non-partisan
- Multiple Sector Teams: Business, Higher Ed., K-12, Youth, Faith…
- Over 300 partner organizations
- Convene, Catalyze, Communicate

www.uspartnership.org
www.uspartnership.org
Join for free
Participate in a sector or action team
Business principles of sustainability:

- Cradle to Cradle (McDonough)
- Biomimicry (Benyas – Like nature, efficient and not toxic)
- World Business Council for Sustainable Development (www.wbcsd.org)
- Natural Step (Sweden and U.S.)
- Natural Capitalism (Lovins, Harvard Bus. Review)
- Ethical Markets – (Hazel Henderson)
- Calls from business for all graduates to be literate about our sustainability challenges and engaged in solutions
Trends in sectors – some examples

- **Business** – LOHAS - Japan, SOL Sustainability Consortium, Businesses for Social Responsibility, Shareholders, Investors (e.g. Goldman Sachs and Swiss RE)

- **Communities** - Mayors Climate Protection and Smart Growth, Grand Rapids model – regional approach

- **Faith** - Religious Partnership and Interfaith Alliance, Regeneration Project

- **Youth** – Climate Challenge, Reduce Your Impact, Action Campaigns…
Higher education is taking a leadership role to prepare students and provide the information and knowledge to achieve a sustainable society.

What does it look like?
For higher education, Sustainable Development is being integrated into:

- Curricula
- Research
- Operations
- Purchasing
- Student Life
- Professional Development
- Mission and Planning
- Community Outreach and Partnerships
- plus legislation and public awareness
Internationally, a taste...

- In Sweden, it is a law that all undergraduates be educated about sustainability
- High priority in higher education principles in European Union
- U.N. Decade and other ESD international conferences in Mexico
- Earth Charter - international
- Association of Canadian Community Colleges
- Environmental Sust. Group, World Federation of Colleges and Polytechnics
- Global Sustainability Group out of MIT
- U.S. is behind many other countries
Association for the Advancement of Sustainability in Higher Education

AASHE
(AY-shee)

www.aashe.org

Sign up for the free bulletin
Search the resources and the digest
GREAT NEWS!!!
Growing National Trend in U.S.:

Seventeen national HE associations and twenty national disciplinary associations are creating initiatives on Education for Sustainable Development
<table>
<thead>
<tr>
<th>Number</th>
<th>Association</th>
<th>Description</th>
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<tbody>
<tr>
<td>1</td>
<td>ACE – Am. Council on Ed.</td>
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<tr>
<td>2</td>
<td>AACU – Ass. of American Colleges and Universities</td>
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<td>3</td>
<td>AACC – Am. Ass. of Community Colleges</td>
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<td>4</td>
<td>AASCU and NAICU – State and Private Institutions</td>
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<td>ACUHO – Housing</td>
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<td>NACAS – Aux. Officers</td>
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<td>7</td>
<td>NAEP – Educational Buyers</td>
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<td>8</td>
<td>NACA – Campus Activities</td>
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<td>APPA – Facilities</td>
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<td>NACUBO – Business</td>
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<td>11</td>
<td>SCUP – College and University Planners</td>
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<td>ACUI – Student Unions</td>
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<td>ACPA – Student Life</td>
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<td>14</td>
<td>NACUFS – Food</td>
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<td>15</td>
<td>ACEED-I – Events and Conference Directors</td>
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<td>16</td>
<td>NACS – Campus Stores</td>
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<td>17</td>
<td>NIRSA – Recreation</td>
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<tr>
<td>18</td>
<td>AGB – Ass. of Governing Boards</td>
<td>AND MORE</td>
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Higher Education Associations
Sustainability Consortium
www.heasc.net
Resources for your associations and your members.

More information on U.S. trends at www.heasc.net/sustainablefuture
Higher Education Associations

• Collaboration between higher education associations on:
  • AASHE Rating system - STARS
  • Socially and environmentally responsible procurement
  • President’s pledge on climate change – over 500 presidents in all 50 states
    www.presidentsclimatecommitment.org
  • Team building on campus and in community partnerships
  • More resources for you – Activities, Learning Outcomes, Primer, Pledges, Business Models (The Business Case for Renewables), sustainability for all students
  • Professional development for all higher education staff
Disciplinary Associations Network for Sustainability – DANS - www.aashe.org/dans

- American Psychological Association
- Sociology
- Religion
- Philosophy
- Math
- Broadcasting
- Architecture
- Engineering (civil, mechanical, eng. ed.)
- Ecological Economics
- Chemistry
- Biology
- American Association for the Advancement of Science
- Computer Research
- Humanities
- Women’s Studies
- Political Science
- Anthropology
- More…
DANS – Infusing s.d. into:

1. Curricula
2. Promotion and tenure and accreditation
3. Legislative briefings
4. Informing the public
5. Cross-disciplinary approaches
6. Professional identity as an academic

Resources for You!
Imagine a country where all students get credit for helping to solve our societal problems through their academic assignments.
Play A Greater Part

Academic learning combined with real life problem solving for sustainability in all disciplines and as degree core.

Building healthier self-concepts.
We can change society for the better.
Becoming life long change agents.

Models: service learning sustainability credit in all courses, S designation in schedule of classes
Sustainable Living Practices – Higher Ed Leading the Way

Presidential Taskforce on Sustainability – ACPA
http://www.myacpa.org/task-force/sustainability/, including:

- sustainable living campaigns,
- first year experience and freshman pledge,
- orientation,
- sustainability media festivals,
- 2 pages of campus activities,
- downloadable poster for student organizations

Resources for you and your members!
HE Sustainability Examples
more at www.aashe.org Annual Digest

- Systemic integration
  - University of Florida
  - Georgia Tech
  - University of North Carolina
  - University of British Columbia
  - Arizona State
  - Lane Community College – empower everyone to act with sustainability in mind
HE Sustainability Examples
more at www.aashe.org Annual Digest

- Green Computing
  - Michigan State

- Transportation
  - UC Boulder

- Institutionalization in job descriptions and performance reviews
  - Cornell
  - Arizona State University
Energy Conservation, Renewable Energies & Climate Change

- SUNY Buffalo
- Carleton
- University of Minnesota Morris
- South New Hampshire
- Middlebury
- UC Santa Cruz
- LACCD – 100% renewables
HE Sustainability Examples
more at www.aashe.org Annual Digest

- Curriculum
  - Northern Arizona University
  - University of Georgia – Article in ACE Presidency W ‘06
  - Comm. Colleges – Article at AACC site/sustainable (e.g. Maricopa, Miami Dade, Oakland, Moraine Valley)

- Food
  - University of Montana
  - Yale
HE Sustainability Examples
more at www.aashe.org Annual Digest

• Green Building
  • University of Washington
  • South Carolina universities
  • Presidents’ Climate Commitment - $2 billion in ESCO money

• Socially and Environmentally Responsible Purchasing
  • Rutgers
  • Stanford
  • OCC