



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



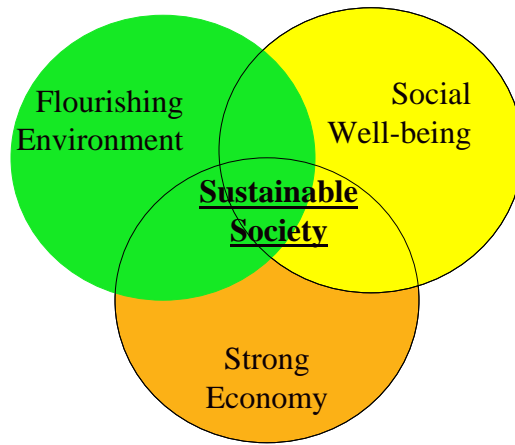
- Part I What is sustainability and education for sustainability?
- Part II What are our sustainability challenges?
- Part III Solutions and Trends
- Part IV Resources for you!



**Sustainable Development
is often defined as:**

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

Brundtland Commission, *World Commission on Env. and Development. (1987).
Our Common Future. England: Oxford University Press.*



Triple Bottom Line of Sustainability

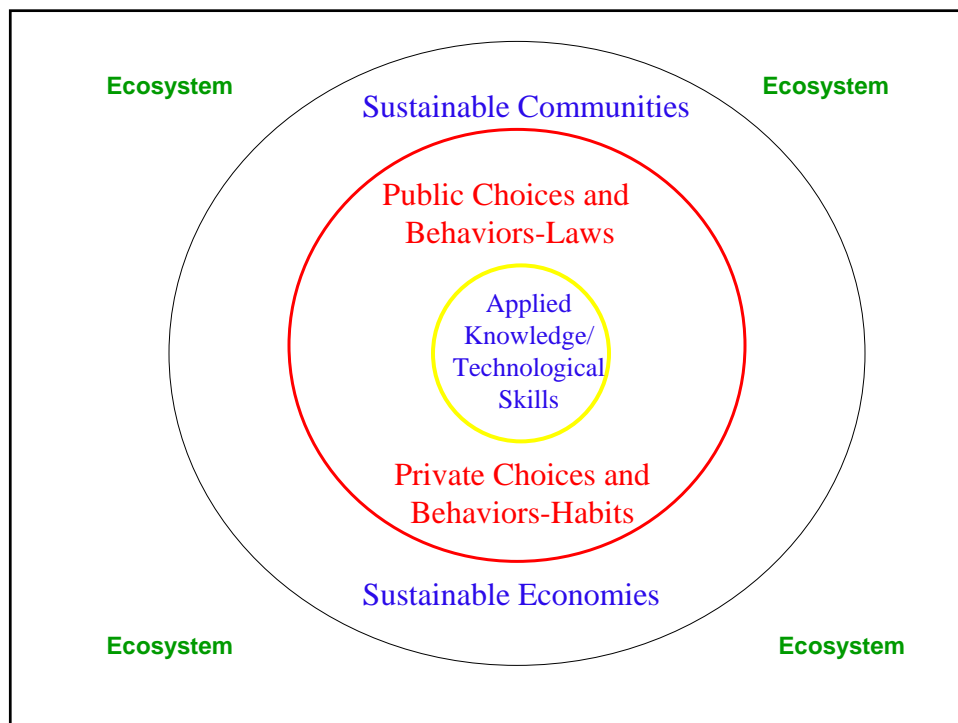


The United Nations
has declared a
**Decade of Education for Sustainable
Development
2005-2014**



Education for a Sustainable Society:

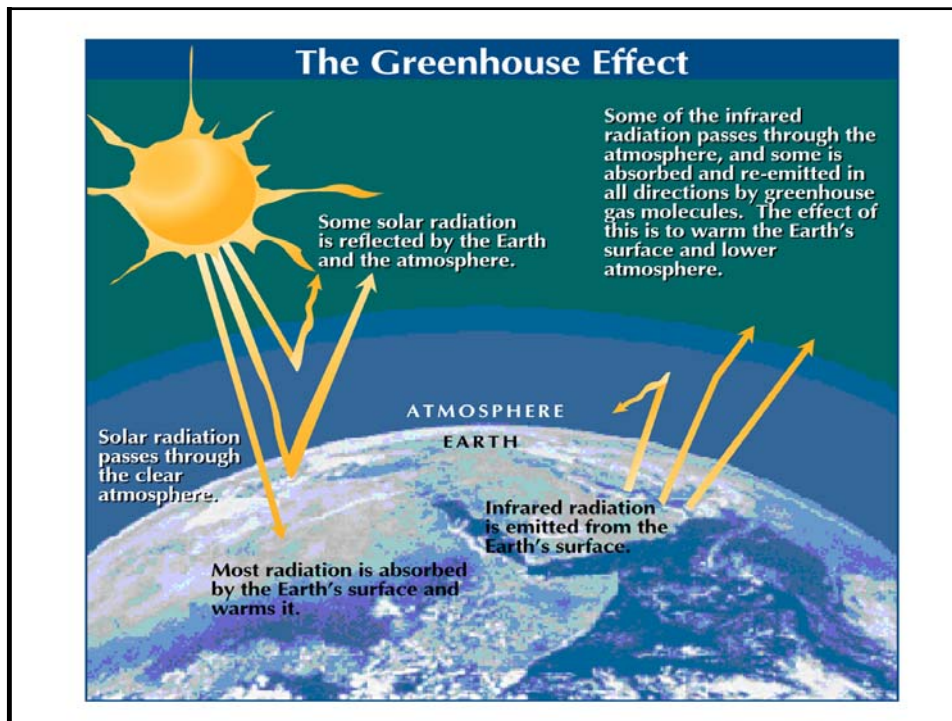
“enables people to develop the knowledge, values and skills to participate in decisions ..., that will improve the quality of life now without damaging the planet for the future.”





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)





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.

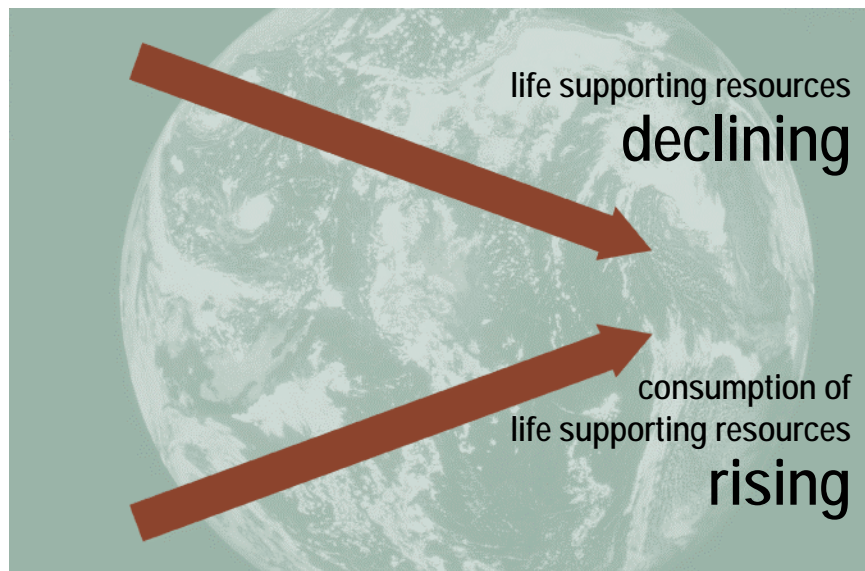


Why climate change and other environmental issues are so important

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





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)
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.



Global Transition – Paradigm Shift

From

- Fossil powered
- Take, make, waste
- Living off nature's capital
- Market as master
- Loss of cultural & biological diversity
- Independence
- Materialism as goal

To

- Non-polluting powered
- Cyclical production
- Living off nature's income
- Market as servant
- Maintain cultural & biological diversity
- Interdependence
- Reduced human suffering and quality of life goal



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



Potentials for Renewable Energies

Can we meet all our needs
with renewable energies and energy
conservation?

YES



KEY THRUST – KEY OUTCOME

**Staff 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 policy and in behaviors.

Outcomes: more health, higher quality of life

“Function more knowledgeably as responsible citizens in
our democratic society.”



Your Home and Your Institution - Facilities, Purchasing and Operations

Residential – What you can do!!!

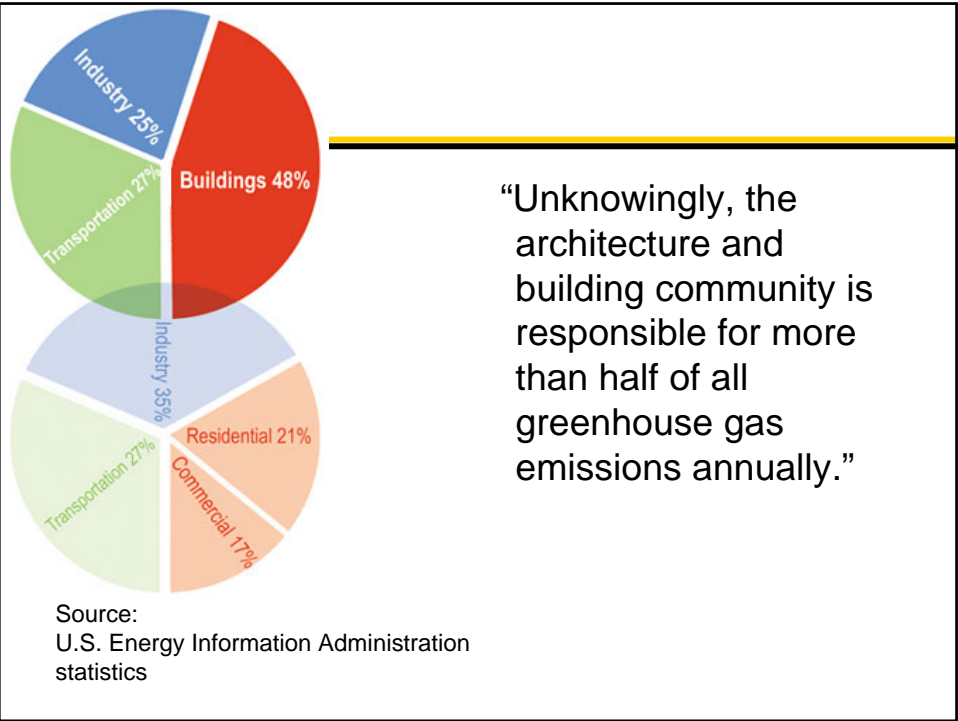
- ***Environmentally and socially responsible purchasing – www.coopamerica.org, www.newdream.org***
- ***Environmentally and socially responsible investments – www.socialinvest.org***
- ***Caulk and weatherstrip***
- ***Parasitic power – unplug the TV, computer, etc. when not in use!***
- ***Fill the freezer. Clean the coils***
- ***Carpool or use bikes and buses***
- ***Turn down the tank to 120 and use water conserving showerheads.***



Your Home and Your Institution - Facilities, Purchasing and Operations

Residential – What you can do!!!

- **Permaculture instead of grass**
- **Eat lower and local on the food chain**
- **Buy/create renewable energy locally and offsets (www.nativeenergy.org)**
- **Be an “energy waste detective”**
- **Reduce, reuse and recycle**




Green Design Does Not Have to Cost More

- Studies verify this
- Can be positive cash flow from the first month
- Use experienced professionals
- For a free publication on how to go green for no more money,
http://www.ieice.com/portfolio/green_building/book/book.html



Solutions:

- All of us engaged as **effective change agents** in our sustainability challenges
- From apathy  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, elected reps, 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...
- 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 for all graduates to be literate about our sustainability challenges and engaged in solutions



Trends in sectors – some examples

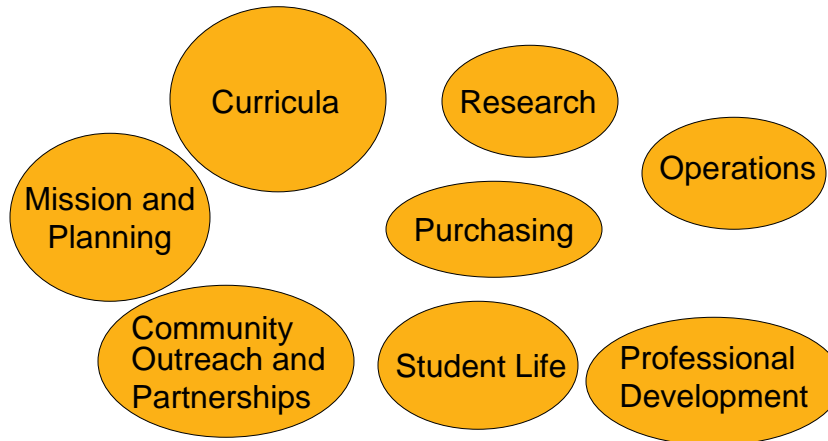
- **Business** – LOHAS - Japan, SOL Sustainability Consortium, Businesses for Social Responsibility, Shareholders, Investors (e.g. Goldman Sachs and Swiss RE)
- **Communities** - Mayors Climate Protection and Smart Growth, Grand Rapids model
- **K-12** – Nat. Assoc. of Independent Schools, U.S. Summit, need for international alliances
- **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:



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 in Costa Rica
- Association of Canadian Community Colleges
- Environmental Sust. Group, World Federation of Colleges and Polytechnics
- Global Sustainability Group out of MIT, Chalmers,...



**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**



Engaged National Associations over 4,000 higher education institutions

1. ACE—Am. Council on Ed.—
Presidency Magazine W'06
 2. AACU – Ass. of American
Colleges and Universities
 3. AACC – Am. Ass. of
Community Colleges
 4. AASCU – State Institutions
 5. ACUHO – Housing
 6. NACAS – Aux. Officers
 7. NAEP – Educational
Buyers
 8. NACA – Campus Activities
 9. APPA – Facilities
 10. NACUBO – Business
 11. SCUP – College and
University Planners
 12. ACUI – Student Unions
 13. ACPA – Student Life
 14. NACUFS – Food
 15. ACEED-I – Events and
Conference Directors
 16. NACS – Campus Stores
 17. NIRSA – Recreation
 18. AGB – Ass. of Governing
Boards
- AND MORE



Higher Education Associations Sustainability Consortium www.heasc.net

**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 – CONGRATULATIONS ON SIGNING!**
www.presidentsclimatecommitment.org
 - Team building on campus at VP and other levels for sustainability
 - Learning Outcomes in sustainability for all students
 - Professional development for all higher education staff



Disciplinary Associations Network for Sustainability – DANS - www.aashe.org/dans

- | | |
|---|--|
| <ul style="list-style-type: none">• American Psychological Association• Sociology• Religion• Philosophy• Math• Broadcasting• Architecture• Engineering (civil, mechanical, eng. ed.) | <ul style="list-style-type: none">• 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



www.playagreaterpart.org

Imagine a country where all college 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:**

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



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



HE Sustainability Examples
more at www.aashe.org Annual Digest

- 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



**Making sustainability an
integral part of**
*planning, operations, facility design,
purchasing, investments, community
partnerships and curricula.*



More Organizations and resources to assist you:

- Second Nature – www.secondnature.org
- Grey Pinstripes for **business schools** through the World Resources Institute and Aspen Institute
http://projects.wri.org/project_description.cfm?ProjectID=18
- Green Schools Listserv – almost instantaneous answers to your specific questions - send mail to LISTSERV@LISTSERV.BROWN.EDU with the command: SUBSCRIBE GRNSCH-L



Skills:

- 1) Teach/learn sustainable development literacy
- 2) Teach/learn optimism skills (Seligman)
- 3) Teach/learn efficacy; tell stories of “normal” people making a difference
- 4) Teach/learn interpersonal and intrapersonal intelligences – e.g. civil discourse, conflict resolution, emotional intelligence
- 5) Teach/learn systems thinking, futurist skills and change agent skills



Key Places to Place Sustainability: (Academic Assignments can include this!)

- Mission
- Strategic Plan
- Budget
- Orientation
- Campus Map and Signage
- Building Policies
- Operations and Purchasing Policies
- Student Life
- Daily Living
- Infused throughout curricula
- First Year Experience
- Gen Ed Core
- Curricula Review
- Community Partnerships
- Workforce Development
- Continuing Education



Student Learning Outcomes

ACPA's Sustainability Taskforce, 2006

1. Each student will be able to define sustainability.
2. Each student will be able to explain how sustainability relates to their lives and their values, and how their actions impact issues of sustainability.
3. Each student will be able to utilize their knowledge of sustainability to change their daily habits and consumer mentality.
4. Each student will be able to explain how systems are interrelated.



Student Learning Outcomes (cont.)

ACPA's Sustainability Taskforce, 2006

5. Each student will learn change agent skills.
6. Each student will learn how to apply concepts of sustainability to their campus and community by engaging in the challenges and solutions of sustainability on their campus.
7. Each student will learn how to apply concepts of sustainability globally by engaging in the challenges and the solutions of sustainability in a world context.



The higher education community as a living lab for sustainability oriented practices and skill building.

Providing opportunities to practice behavior changes

Building values, behaviors, and identities

A community of learners.
A community of real life problem solvers.



What You Can Do – Political Activities are Crucial!!!

Local Level

Take it to your community – do a community sustainability plan/ energy audit.

Governmental Level

***Take it to your elected representatives.
Engage in energy and sustainability policy.***



What is needed? Solutions:

Civic engagement – people asking for it

Political will – legislators doing it

Civic engagement – people making sure it happens



Possibilities for Next Steps Commit to:

Utilize the media to publicize the positive steps all can take to both teach and model sustainable development.



If you feel overwhelmed or unsure, you are normal. Keep moving forward!!

Doing nothing is a destructive decision.

There are people you can talk to/email about how to create success.

Possibilities for Next Steps

1. Explicitly recognize and include ESD in the next round of mission definition and strategic planning (e.g. Illinois Wesleyan, Lane CC, Georgia Tech, ASU)
2. *Encourage your strategic planners, purchasing agent, facilities director, coordinators, and staff to **join the online learning communities** dedicated to education for sustainable development. (go to <http://www.aashe.org/lists/lists.php>)
3. ***Include sustainable development in your professional development and course offerings and designate it in the schedule, include in first year experience, orientation (examples at www.ncseonline.org/EFS/DebraRowe.pdf , www.aashe.org and <http://www.myacpa.org/task-force/sustainability/> and Curricula for the Bioregion)**

Possibilities for Next Steps Build Commitments to:

- a. Build and renovate facilities using socially and environmentally responsible practices (e.g. LEED and Energy Star)
 - b. *Purchase socially and environmentally responsible products (e.g. no sweatshop products) (e.g. national initiative from NACS)
 - c. ***Infuse sustainability throughout the disciplines via more staff development offerings and engagement strategies** (e.g. Broward CC and Emory)
 - d. ***Develop college-community partnerships for sustainable development and using those partnerships for service learning opportunities for students** (e.g. Grand Rapids CC and Middlebury)
- Work with students to create this. Learn together.**

Possibilities for Next Steps Build Commitments to:

- e. *Engage in the Campus Climate Challenge to reduce greenhouse gas emissions (<http://www.campusclimatechallenge.org/>)
- f. *Work to **help create economic policies that support stronger economies via the building of healthier ecosystems and social systems** (e.g. powervote.org)
- g. ***Utilize the media** to publicize the positive steps your institution takes to both teach and model sustainable development.

Possibilities for Next Steps Build Commitments to:

- h. Support/join your Sustainability Committee
- i. Utilize AASHE resources
- j. Utilize the AASHE STARS system.
- k. What else is in your imagination?
How can you institutionalize it and make it part of the culture here?



Additional resources
besides www.aashe.org and
the links in this presentation and the list at
www.heasc.net/sustainablefuture

And



Resources

- Societal sector resources at the U.S. Partnership for Education for Sustainable Development - www.uspartnership.org
- Alliance to Save Energy – <http://www.ase.org/> - internship programs
- Building solar air panels – www.oaklandcc.edu/EST
- National Wildlife Federation Campus Ecology Program



Additional Resources

1. Education in renewables – www.ceret.us and www.irecusa.org
2. Greener Buildings News at www.greenbiz.com
3. Energy Star – U.S. Dept of Energy
<http://www.energystar.gov>
4. Energy Efficiency and Renewable Energies –
<http://www.eere.energy.gov/>
5. National Renewable Energy Labs – www.nrel.gov



Careers in Energy and Sustainability – put in your Careers Office!!

- Green jobs on Monster - www.monstertrak.monster.com/greencareers_guide/index.html
- Association of Energy Engineers – www.aeecenter.org
- <http://www.sustainablebusiness.com> and click on "Green Dream Jobs"
- <http://www.homepower.com/resources/jobs.cfm>
- <http://www.greenbiz.com> and click on "Job Link"
- <http://www.EnvironmentalCareer.com>
- <http://www.idealists.org>
- www.ecojobs.com
- www.eco.org
- www.greenjobs.com
- Renewable Energy Access Jobs
www.renewableenergyaccess.com/rea/jobs/home
- AASHE – www.aashe.org



Challenges and Answers

Challenges

- Already busy
- Don't know this stuff
- Putting out fires, don't have time to do the right thing
- Issues complex and systemic
- Societal & environmental impacts invisible and ignored

Answers

- Don't have to know the answers. Just keep asking the sustainability questions. Don't try to get it perfect first.
- Use resources and learn from others to help you learn, grow and implement
- Sustainability is everyone's job
- You have an important role to play



Conclusions

1. The public is not educated enough about the energy and sustainability issues before us.
2. We need sustainability literacy for ALL.
3. You are creating the future with your daily decisions.
4. Successful precedents/materials can assist you in the sustainability path you choose as a private person, as an employee, and as a community member.
5. Climate change is the highest priority with the shortest time line.
6. We can model and change consumption and investment behaviors, and institutional and civic policies to create a sustainable future.



The Power of What You Do

- *We can choose a sustainable future*



Congratulations for all you
have done.

Congratulations for all you will do in the
future.

Let your enthusiasm show!

For more information,
contact Debra Rowe at dgrowe@oaklandcc.edu