HUNGER LOVINS: COMMUNICATING SUSTAINABILITY TO CREATE CHANGE

I. The U.N. Millennium Ecosystem Assessment produced the following findings:
   a. Every ecosystem on earth is in decline
   b. There will be no living coral reefs by 2050

II. Lovins argues that the debate must be framed around saving human civilization not saving the planet.
   a. Four key rules in framing the definition of sustainability
      i. Don’t make it dull
      ii. Don’t preach
      iii. Be transparent
      iv. Let it go

III. Lovins states that we must reinvent most of our major economic, political, and social institutions
   a. We are currently satisficing in terms of design of institutions
      i. Nine dots problem (connect all nine dots without lifting the pen)
   b. Sustainability is spreading rapidly
      i. 884 higher learning institutions are AASHE members
      ii. Princeton Review found that 68% of college applicants and 58% of parents consider a school’s commitment to sustainability when choosing a college to attend
   c. Limits to Growth predictions of Donella Meadows are being borne out in spite of time lag
   d. Yet, most focus groups do not like the word “sustainability>”
      i. The triple bottom line is a bad way to talk to business (integrated bottom line is better)
      ii. There are 41 separate studies from management consulting companies showing that sustainability is not incompatible with profits, but instead enhances them.
         1. Increased labor productivity in green buildings
         2. Positive brand differentiation by associating one’s product with sustainability
      iii. Sustainability will become a normal way of doing business simply because it is better business
      iv. We have to have a strategy for transitioning the worst of the bad business into something else
Bill McKibbon may be right about the need for a divestment movement to force intransigent oil companies to do something about renewable and carbon dioxide emissions. Some CEOs of major oil companies have embraced renewable (Shell & BP), but they have been replaced and their visions have not prevailed. Leadership matters.

For other companies we can try to get them to meet science-based goals.

Framing Sustainability

a. Chipotle commercial
b. Responsibility vs. convenience (Homer Simpson vs. Bill Moyers or Ned Flanders?)
c. Don't preach
   i. Most environmental organizations try to win people over with facts and science
   ii. The message that “I am right and you are wrong” is self-defeating.
   iii. 50% of Americans don’t believe that climate change is human caused
d. Reframe environmental movement as neither conservative nor liberal
e. Many people may not related to saving polar bears, but do relate to conserving natural resources
f. Nascar is going green
   i. Developing the skills to talk to people with different values is crucial

Transparency

a. It is important to be honest about what works and what doesn’t work.
b. 82% of consumers say they want green products
c. Be clear about green labeling
d. Patagonia and Timberland are creating an environmental apparel index
e. Glassdoor.com is a corporate and educational transparency website.

At Rio+20 Higher Education was recognized as a stakeholder and many goals were tailored for higher education

Let it go

a. Tell your story (share what you are doing that works)
b. Avoid the low rider syndrome
c. Businesses that actively engage employees enjoy 18% higher profitability and 16% higher productivity.
d. How do you distinguish between greenwashing and authentic corporate sustainability claims? (Wal-Mart Sustainability Consortium)
   i. The more activists expose corporate hypocrisy the more leverage people who promote the transformation of corporations to sustainable practices have leverage to promote change.
e. “Green Hawaii” by Ira Roeder
f. Get campuses to stop selling plastic water bottles on campus.
g. AASHE linked in site helps faculty and sustainability officers share best practices
h. Enlist vendors to help you make the business case for sustainability changes on your campus.

VIII. Hunter Lovins’ company’s website is: [www.natcapsolutions.org](http://www.natcapsolutions.org)

Curriculum Convocation

I. Jim Brea directs the educational program for the American Meteorological Society
   a. The AMS has a turnkey curriculum for freshman/sophomore climate science that they hope community colleges and universities will adopt. They are happy to send examination copies.

II. A Global Sustainability perspective is informed by:
   a. Earth system perspective
   b. Public health perspective
   c. Citizen of the world perspective which bridges differences
   d. Engaged intellectual perspective which links ideas to action

III. Jean of Evergreen State College talked about redesigning a system on campus using principles of biomimicry

IV. The Northwest Earth Institute in Portland, Oregon
   a. Assumption is that change starts at an individual level, but is most effective in a social setting.
   b. Transformative learning model
      i. Shared discovery
      ii. Personal reflection (integrate affective and cognitive)
      iii. Positive action
      iv. Use both dialogue and discussion to drive critical thinking and action
      v. Avoid prescription or judgment of each other – listen and learn even if you don’t agree
      vi. Identify and assess your own assumptions
      vii. Consensus is not the goal

V. Learning and Pedagogy
   a. Get students to think critically about their own experiences with technology
   b. Sustainable Endowments Institute and the Billion Dollar Green Challenge
      i. Green revolving loan funds can get 28% return
      ii. In CA the green economy is growing three times as fast as the conventional economy
      iii. Feed-in tariffs in Germany gave Germany the lead in renewable
iv. Germany has cities that are 100% renewable
   1. Butte College is grid positive
v. A Goldman Sachs study found that companies that embrace
   sustainability get 25% higher returns than conventional companies
vi. 96% of young workers say they want to work for a green company

Hunter Lovins Evening Lecture: Universities risk becoming irrelevant

I. Reforming Higher Education
   a. Epic2020.org predicts the death of universities by 2020 (replaced by Apple and
      Google offering free on-line education). Khan Academy model.
   b. MOOCs
   c. Math is the most adaptable form of online education
   d. Flipped World will pull together the best sustainability thinkers from around the
      world.

Facilities and Operations Workshop: Evergreen State College

I. Evergreen State has a carbon action plan, but does not expect to make the
   carbon neutral goal by 2020.
   a. The school’s utility budget is about 35% of its operating budget. Washington
      state faced a budget crisis in 2008.
      i. Evergreen State conducted an after hours light survey to check for
         lighting and HVAC use against occupancy in campus buildings.
      ii. They reduced steam pressure from 100 to 50 psi.
      iii. They worked with Puget Sound Energy’s pilot program to shed load.
      iv. They also used their Energy Services Company (ESCO) for systemic
          upgrades.
   b. Washington schools set a goal of a 10% energy reduction in all utilities
      i. Previously the highest reductions they had seen had been around 2%-3%.
      ii. Evergreen State found ESCOs to be very helpful
      iii. Students voted for a student fee to provide green electricity for the
          college. Green electricity costs 0.16 cents per kilowatt hour more than
          conventional electricity. They get 100% green energy now.
      iv. Evergreen State got grants from a utility and a student committee for
          ESCO Phase I.
   c. Evergreen created a position of Resource Conservation Manager and got
      funding from a utility to help pay for the position.
d. Evergreen State’s department of facilities and operations sends out regular emails with energy conservation tips, but the Resource Conservation Manager doesn’t think it’s working that well.

e. Evergreen received a grant from the Dept. of Commerce as well as a Puget Sound Energy grant for over $400,000.

f. They put LED lighting in parking lots and walkways. They also added occupancy sensors to library stacks.

g. They installed pool covers over their main lap pool at night. They also implemented a heat recovery system for the pool.

h. They implemented a steam trap replacement process.

i. They installed a small solar array.

j. They saved about $1.3 million as a result of these changes. Ultimately they got about $1.3 million in grants.

II. The ESCO collaborated on grants and rebates.

a. The ESCO also partnered with the college staff and did not demand a high fee (they came down a lot)

III. Cooperation from staff, faculty, and students on new temperature set points has been significant.

a. Senior management accepted risk to achieve energy savings

b. College Clean Energy Committee made up of faculty, students, and staff administers green energy fund.

c. Campus Sustainability Committee administers the campus action plan

IV. Advice for other schools

a. Contact your utility to see what programs are in place to help you with conservation and renewable

b. Contact state energy office

c. Contact U.S. Dept. of Energy

d. Inform college community about how much money you are saving

e. Involve students

f. Encourage staff, faculty, and students to be partners in energy conservation

g. Look for energy waste.

V. Contacts:

a. Paul Smith (Head of Facilities & Planning)
   i. smithpa@evergreen.edu
   ii. (360) 867-6115

b. Richard J. Davis (Resource Conservation Manager)
   i. davisr@evergreen.edu
   ii. (360) 867-6136
c. Mike Drennon (?)  
   i. drennonm@evergreen.edu  
   ii. (360) 867-6586  

**DIS: Study Abroad**  
I. natureofcollege.org  
II. Kaplan asks her students about common plant and animal species found in the local community contrasted with pop culture symbols such as the McDonalds golden arches.  
III. She takes students on a tour in the local community of urban gardens and green buildings as well as examples of sustainable city planning and the “fix room” that provides an alternative to the criminalization of drug use.  
IV. She takes students to Scheswhostein (?) in Germany, a city that is 100% renewable and her class teaches them to think about what policies made this possible (feed-in tariffs, etc.)  
V. The class takes a biking tour of Samso Island which is 100% self-sufficient in renewable energy and even exports energy.  
VI. In Denmark by 2020 50% of energy will come from wind. Communities (or individuals) own the windmills that exist there.  
VII. Reconomy Project – project to promote local businesses in the U.K.  

**Educating Citizens As Change Agents:** David Osborne (Portland State University)  
dosborn@pdx.edu  
I. PSU employs service learning courses as capstones for its sustainability programs.  
II. Spectrum of Agency  
III. Portland State is trying to create communities of practice by identifying service learning courses that are related  
IV. PSU is trying to create digital communities to remain involved with students and support them in doing social change work even after they leave the university.  
   a. The digital communities need to be connected to in-person opportunities for students to come together and work on a social issue or problem.  
V. Cross-course reflection involves taking students involved in service learning organized around a similar theme and facilitating critical reflection and dialogue.  

**Anthony Cortese: Senior Fellow at Second Nature**  
I. Sustainability is about sustaining human civilization rather than the environment
a. Application of sustainability principles is the best way for higher education to succeed.
b. It’s been estimated that 75% of GDP is based on research and training as well as jobs provided by higher education.
c. Higher education is one of the few U.S. institutions charged with thinking about the long term
d. Climate change is much worse than originally predicted by the IPCC
e. We have already seen 0.8 degrees centigrade of warming and we will inevitably see another 0.8 degrees of warming based on CO2 already in the atmosphere.

II. Sustainability Dimensions
   a. Health
   b. Social justice, cultural diversity, and strong communities
   c. Economic opportunity for all
   d. Restore and sustain the life support system

III. We have a systems design failure
IV. To some extent higher education is reinforcing the damaging cultural assumptions that are driving the ecological crisis
   a. Earth as a provider of infinite resources
   b. Humans as separate from nature
   c. Linear thinking
   d. Disciplinary silos are also part of the problem

V. The challenge for education is to make the invisible impacts of industrialization visible
   a. Systemic life cycle impacts
   b. True cost pricing and accounting
   c. Better measures of well being (GDP)

VI. We need to move from problem-solving to creating
   a. When we think in terms that don’t accurately define the parameters of the problem we just solve one problem only to create another one.

VII. The economy should be seen as something that defines people, communities and nature
   a. We need to think in terms of a social floor and a planetary ceiling
      i. We must live off nature’s income not its capital
   b. We need a new human story
      i. We must find a way for everyone to get their basic needs met
         1. Needs vs. wants (consumerism & status anxiety)
      ii. We need to create strong communities that promote sound values
iii. We need to promote cooperation and collaboration  
iv. Caring for all life needs to become the new golden rule  
v. We need to transition to a sustainable economy  
c. What would higher education look like if it fully embraced sustainability?  
   i. Interdisciplinary thinking – systemic thinking  
   ii. Education would emphasize active experimental and inquiry-based learning  
   iii. Higher education would collaborate with communities  
d. Sustainability has seen phenomenal growth in higher education. Yet, we are not yet sufficiently connecting up the sustainability agenda with civic engagement and social justice.

VIII. American College and University Presidents’ Climate Commitment  
IX. Scaling Up the Movement  
   a. Inter-institutional collaboration  
   b. National effort on faculty and staff development  
   c. Partnerships with business and communities  
   d. Influencing federal policy and funding.

EPA Renewable Energy Workshop

I. EPA’s Green Power Partnership  
   a. 64% of colleges and universities have conducted a GHG inventory  
   b. The EPA’s Green Power Partnership is free to schools  
      i. There are currently 123 college and university partners with green power use totaling 2.2 billion kwh  
   c. American College and University Presidents’ Commitment on Climate Change (AUPCC)  
      i. If all ACUPCC signatories went to 100% green power the total demand would be equal to?  
      ii. EPA seeks to provide services and information to help schools convert to renewable  
      iii. Third-party financed solar power  
         1. University of San Diego uses this strategy and its solar array is saving them about 1 cent per kwh.  
   iv. Collaborative purchase of on-site systems  
      1. Hawaii is the only place in the U.S. where the solar penetration rates are so high that the market is almost saturated  
   v. If two to ten schools will install solar the costs to each institution are reduced.
vi. There are various financing options (direct purchase, PPA, equipment lease)


viii. Utility-scale power purchase agreement

1. Santa Clara university did a PPA
2. They installed 1 megawatt of solar pv
3. The 968 kilowatt solar energy system satisfies about 6% of the university’s annual electrical energy needs and about 20% of summer day time demand.
4. There were no upfront costs and energy costs are locked in for 20 years.
5. The company maintains the solar energy arrays
6. Lindsey Cromwell Kalkbrenner (Santa Clara University Director of Sustainability)

ix. Luther College (Erika Kambs: Luther’s Energy and Waste Steward)

i. 1.6 megawatt General Electric XLE wind turbine
ii. 5.2 million kwh of net electricity generated per year are enough to power more than 500 homes and represents about 1/3 of Luther’s annual consumption
iii. The turbine has a 5-10 year payback
iv. The turbine will save Luther College over $3 million in the second ten years of the turbine’s life.

**Colleges and Universities Collaborating With Communities**

I. The Center for Green Schools at the U.S. Green Building Council

a. Greenbuild is the USGBC’s annual conference
b. Green Schools: The USGBC’s goal is green schools for everyone in this generation.
   i. There are 133,000 K-12 schools in the United States

c. Fletcher Beaudoin (Partnerships Director at Portland State University)

i. PSU Institute for Sustainable Solutions
ii. Community Partnerships for Sustainability
iii. Electric avenue is a series of charging stations in the middle of downtown Portland for electric and plug-in hybrid vehicles

d. Curriculum for Advancing Sustainability Goals in the Community
i. There are currently five ecodistricts in the city of Portland (an ecodistrict is a neighborhood committed to highly exacting sustainability goals)

e. Ciannet Howett, Emory University
   i. The campus gate should not turn the campus into the equivalent of a gated community
   ii. Triple bottom line
   iii. Emory received $1 million from Coke Foundation to do projects involving over 600 students in low income communities
   iv. One project has sought to address food deserts in Atlanta by bringing in fresh produce from farmers’ markets.
   v. Emory exists in a suburb of Atlanta that is not currently designed with sustainability in mind. The university commissioned a study and report on redesigning the surrounding community which it then made available to local developers and businesses for free in the hope that it would inspire them to redevelop along the lines recommended by the study.