Sustainability
Lakeland Community College

PEOPLE, PLANET, PROSPERITY

Sustainability In A Nutshell

Presented by: Susan Walker-Meere  Department for Facilities Management

http://lakelandcc.edu/web/about/sustainability
1) First, agree WHY? we need to act.

Positive, long-term success for all humans on a healthy planet.

We would like humans and all living systems to flourish.
Global Issues

Climate Change Disturbances and Greenhouse Gases

Photo By Daniel Acker/Bloomberg

DESTRUCTIVE

Photo By Scott Olsen/Getty Images

Photo By NASA

Photo By Reed Timmer/Science Lab
Ocean Acidification and Over-fishing

DESTRUCTIVE
Global Issues

Negative Consequences of Contemporary Human Products and Processes

Oceanic Garbage Patches

Landfills & Waste of Resources

Pollution
Global Issues

Negative Consequences of Contemporary Human Products and Processes (Externalized)

- **HUMAN HEALTH & WELLNESS**
- **ENVIRONMENTAL DAMAGE**
- **POLLUTION**

Global Issues

Water

USGS, Water Photo Gallery, How much water is on Earth? 2014.
Global Issues

Negative Consequences of Contemporary Resource and Ideology Conflicts

Societal, Environmental & Economic Devastation, Disruption & Despair
Negative Consequences of Contemporary Individual Stress and Insecurity

Depression is one of the most significant public health problems facing the world in the 21st century.

~ The Economist
November 2014
2) Second, **WHAT?** is sustainability?
Historically, the term “sustainable” was defined in relation to only environmental concerns.

However, it is increasingly recognized that sustainability cannot be achieved without addressing social, economic, environmental & cultural systems and issues that arise within and between them.
Sustainability Defined

The Brundtland Commission - 1987

Sustainability is the capacity ‘to meet the needs of the present without compromising the ability of future generations to meet their own needs’.

Sustainability at Lakeland!

Sustainability can prevail with a global culture that: protects and preserves the environment, develops strong and peaceful relationships, while maintaining flourishing and just economies and societies.

• Understanding the inextricable relationship between diverse human cultures and natural systems
• Understanding the interconnections between economy, society, environment & culture
• Seeking equitable opportunities for livelihood and equitable distribution of resources
• Conserving resources, preserving and renewing natural systems
Sustainability

- Looks at the interconnectedness of Human Beings and Nature.
- Seeks to balance Society, People, Environment, Planet, Economy, Prosperity.

It is gained by building human cultures that make decisions that insure positive, long-term success for all.
3) Third, **How?** do we accomplish it?
The Planet Earth
—a biosphere composed of dynamic relationships between all living
and non-living things that interact with each other.

**Ecosystems**
relationships between living things (including humans) and their environment
The Air, Land & Water
called the ‘Commons’: Ecosystem Services


**Human Systems**

Social Systems
Economic Systems

Sustainability is about \textit{interconnected systems}

**PLANET**
- Environmental Issues
  - Conservation of Natural Resource
  - Human Connection To & Impact On Nature
  - Resource Equity
  - Health & Wellness
  - Food & Water
  - Education

**PROSPERITY**
- Economic Issues
  - Business & Industry being Profitable & Green
  - Energy Efficiency
  - Supply Chain Responsibility
  - Built Environments
  - Conflict Areas & Human Rights
  - Health & Safety from Products & Processes
  - Fair Labor Practices

**PEOPLE**
- Social Issues
  - Socially Responsible Economies
  - Health & Wellness
  - Education

\textit{dynamic relationships in interconnected systems}
RESILIENCE
ADAPTABILITY
OPENNESS
PRESERVATION
DIVERSITY
Individuals, Families, Communities, Regions, Countries

- Humans & Nature
- Human Health & Wellbeing
- Conflict (both resource & ideological)
- Gender, Race & Religion
- Human Rights & Social Justice
- Population
- Consumption & Production
- Political Accountability to Sustainable Outcomes

DIVERSITY

Multiple References: Andrews et.al. & MacDonald
The Effects of Human Development on

- Human Health
- Environmental Health

The Planet – a complex system
Clean Air
Fertile Land
Clean Water
Biodiversity

Human Created Impacts
There is a growing requirement for cleaner & safer processes and products that look at lifecycle and externality threats.
The Means of Production, Distribution & Consumption of Goods & Services

(Greek) The Management of the House
The Bottom Line = Profits (Prosperity)

- Raw Materials (Resource Conservation and Equitable use of the Commons, Extraction Impacts)
- Labor (Safety & Equitability through the Supply-Chain)
- Life-cycle Analysis (Recycle)
- Externalities (The long-term Environmental & Social impacts associated with all products and processes.)
- Corporate Social Responsibility (Corporate/Industrial responsibility to Sustainable Outcomes.)

The Triple Bottom Line
People * Planet * Prosperity

Multiple References: MacDonald
Aesthetics
Cultural Sustainability

Everybody needs beauty as well as bread.
— John Muir, The Yosemite, 1912

“Aesthetics is not a luxury, but a universal human desire.” - Virginia Postrel

- Reflects and interprets human culture & nature
- Connects humanity
- Dialogs about individual, community & global issues and experiences
- Art, Music, Poetry & Prose, Film, Architecture . . .

http://coolbusinessideas.com/images/Art+Nature.jpg
Rescue on the Collapsed Freeway, Oakland, CA 1989
Michael Macor – (USA)

Ordinary people doing extraordinary things.
What Does This Mean for Us?

Develop a way of thinking that reframes the way we make our decisions that consider People, Planet & Prosperity.
THE GREEN REVOLUTION: chemicals in agriculture

• Neonicotinoids – a class of pesticides that disrupt the nervous & navigation systems in bees.
  • Implicated in:
    ‘Colony Collapse Disorder’

• Bateson (1972:177-193): Framing – a concept which suggests a need to include whole systems & relationships.
Aphid + Oak Leaf=Honey Dew= Bees Food. (Bees pollinate)

• Industrial Agriculture’s Frame: spray pesticides kill the ‘pest’ **APHID**.
• Inadvertently alters an integral synergistic relationship – a downstream and long-term effect of a short-term Ad Hoc solution!

This is man undoing the built-in checks and balances that keep species within bounds. (Carson, 1962 pg. 20)
1. We **apply the principles of Sustainability** to help guide efforts that offer positive, campus wide benefits to the Students, Staff, Faculty and Community.

2. By creatively designing **system efficiencies** we save money and support a healthy community. Using **advanced technologies** wisely.

3. We realize that sustainability is a dynamic process so we are **open to new opportunities** that will better our community, our environment and our economy.

4. We **measure and assess** initiatives noting successes, identify challenges, sharing and comparing with other intuitions and ultimately teaching by example and from experience.
Lakeland is a Member of:

aashe
The Association for the Advancement of Sustainability in Higher Education

Sustainability Tracking Assessment & Rating System

To assess, rate and share practices with over 800 other colleges.
The Sustainability Tracking, Assessment & Rating System™ (STARS) is a transparent, self-reporting framework for colleges and universities to measure their sustainability performance.

Divided into areas:

1) Education & Research (Curriculum and Co-Curricular Education, Research)
2) Operations (Buildings, Climate, Dining, Energy, Grounds, Purchasing, Transportation, Human Resources, Investment & Public Engagement)
3) Innovation
4) Planning & Administration (Diversity & Equity, Programs for Underrepresented Groups, Affordability & Access Programs)
LEED
Leadership in Energy and Environmental Design

• A third party assessment and rating framework that promotes a whole building approach to sustainability.

Because it is good for cost savings,
creates a pleasant, healthful indoor environment,
reduces impact on the earth's resources,
and it is good for the environment.

Apply, Measure & Assess

Holden University Center
Lakeland has reduced its greenhouse gas footprint! And other GHG’s: Methane (CH₄), Nitrous Oxides (N₂O), Sulfur Dioxide (SO₂), HCFC’s.

- We use the ‘Campus Carbon Calculator’ which resides in the University of New Hampshire’s Sustainability Institute.

Reduction since 2007 baseline:
- 48% in Natural Gas (mcf)
- 38% in Electric (kwh)
- 37% in water use (gal)

Energy Conservation
LCC Resolution No. 28-08
Energy Efficiency & Emissions

Greenhouse Gas Emissions

- On-Campus
  - Stationary - Natural Gas: 6%
  - Direct Transportation: 0.5%
- Purchased Electricity: 23%
- Student Commuting: 63%
- Faculty / Staff Commuting: 5%
- Paper: 1%
- Wastewater: 0.25%
- Solid Waste: 0.25%
- Scope 2 T&D Losses: 1%

Apply, Measure & Assess
Energy Efficiency & Emissions
Energy Efficiency Initiative is Best in Class!

Saves Money!  
Conserves Natural Resources  
Reduces Energy Dependence from Conflict Areas  
Reduces Pollution and Increases Human and Environmental Health!

Lakeland’s social, economic, environmental & cultural systems
Recycling/Diversion Report 2014

47% is Recycled or Diverted

Student Waste Audit 2014 Spring Semester

34% of the Trash is Recyclable

Apply, Measure & Assess

Recycling/Diversion Streams:

Lakeland Community College Waste Summary FY14

- Trash Compactor: 36%
- Trash Dumpsters: 17%
- Paper & Cardboard: 15%
- Metal: 20%
- Plant Material: 1%
- Tires: 0%
- Light Bulbs: 0%
- Oil: 1%
- Pallets: 1%
- Surplus: 5%
- Single Stream: 4%

Recycling & Diversion
Operations

- Installed the 1st Green Roof in Lake County
- White Roofs – reflects UV ‘heat’ reducing cooling costs!
- Low Mow areas for Biodiversity & Energy savings
- Storm water Retention slow run off
- Use Native Plants & Integrated Pest Management
- Energy Star Purchasing
- ‘Green Kiosk’ – monitor on wall in E building by coffee kiosk
Education

Apply, Measure & Assess

Curriculum
Sustainability concepts can be woven trans-disciplinarily illustrating the interconnected, dynamic relationships between society, People, environment, Planet, economy, Prosperity.

Co-curricular Events and Forums
Phí Theta Kappa – Honors Project – Knowledge Exchange on ‘Sustainability’, Short Video on Sustainability for New Student Orientation

Center for International Education – Richard Currie Smith, ‘Sustainability Presentation’

Center for Geographic Information Services – ‘Ghost Debris’

Women’s Center – Educating Girls MOVIE Screening “GIRL RISING”

Green Group – Hunger Banquet
Mooreland Mansion & Gardens
Accessing Lakeland’s Sustainability Webpage

http://lakelandcc.edu/web/about/sustainability
We Do Well Together!

PEOPLE

Sustainability In A Nutshell

PLANET

PROSPERITY
Continued on next slide.
References

Continued from previous slide.

Klare, Michael

Leonard, Annie

Lieber, Kurt
Ocean Defenders Alliance http://www.oceandefenders.org/who-we-are/kurt-lieber.html

MacDonald, Kate
Many resources on Human Rights responsibility through supply-chain. Dr Kate Macdonald Background Publications - School of ...

UNESCO

University of California - Berkeley.

US Department of the Interior

Wolf, K.L., and K. Flora
   Many good empirical studies showing the health benefits of human exposure to nature on mental and physical well-being.