

Why Educate for Sustainability (EfS)?

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Sustainability

The Capacity to Endure



SUNY Fredonia's Operational Sustainability Initiatives

- Energy Consumption

- Has decreased every year since 2003

• 2003	169,291 BTUs	} 30% Decrease
• 2009	115,505 BTUs	

- “I’m Only Sleeping”

- Almost 800,000 KWh of energy
- Over 500,000 lbs of CO₂
- Nearly 50,000 lbs. of SO₂
- Over 5,000 lbs. of No_x

- Athletic Field Lighting Upgrades

- Over 200,000 KWh of energy
- Nearly \$30,000 annually



SUNY Fredonia's Operational Sustainability Initiatives

- Recycling

- Over 3,000 green recycling toters in

- All Student Residence Halls
- Classrooms
- Offices
- Meeting Rooms

- Over 120 Interior & 18 Exterior Recycling Locations

- “Dumpster Dive”

- 2008 90% of sorted ‘trash’ was recyclable
- 2009 down to 80%
- 2010 down to 33%





SUNY Fredonia's Operational Sustainability Initiatives

- Recycling

- “Household Electronics Recycling”

- 2008 & 2009 >30,000 lbs. of materials collected
- 2010 >81,000 lbs.



SUNY Fredonia's Operational Sustainability Initiatives

- Reusable Bags

- Distributed to all Faculty & Staff on 4/20/10
 - As part of “Shake the Habit”
- Distributed to all Residence Hall residents beginning Fall 2010 semester



- Green Cleaning

- Green Seal Certified Cleaning Systems & Products

- Food

- More Local
 - Maplevale Farms
- More Organic



SUNY Fredonia's Operational Sustainability Initiatives

- Green Landscaping
 - Using More Perennials
 - More Native Plant Gardens
 - New Tree Plants
 - Removing Invasive Species
- Green Building
 - LEED Certified Buildings



SUNY Fredonia's Operational Sustainability Initiatives

These are all great things....

But isn't our primary goal as an institution...

Education?



Why Educate for Sustainability (EfS)?





***Why
Educate?***

Why Educate?

*To create
thoughtful, engaged citizens
for a better and brighter tomorrow*



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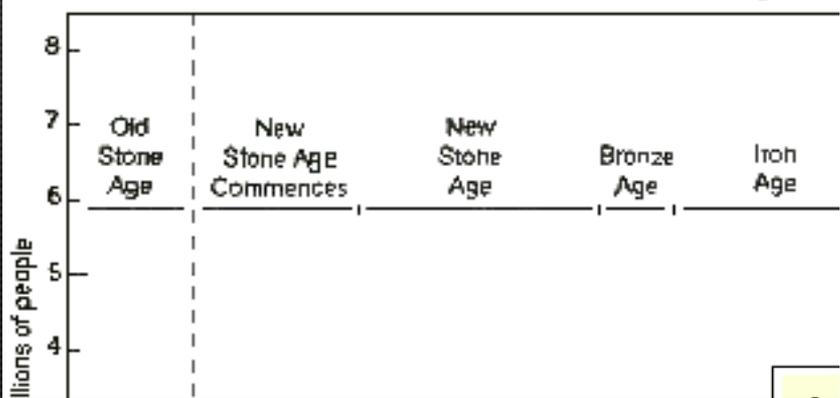


What if there was no tomorrow?

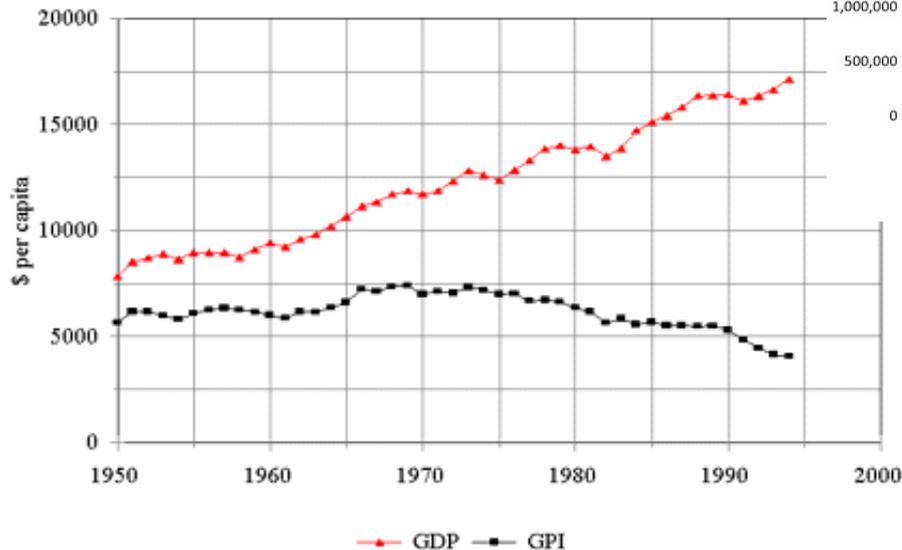


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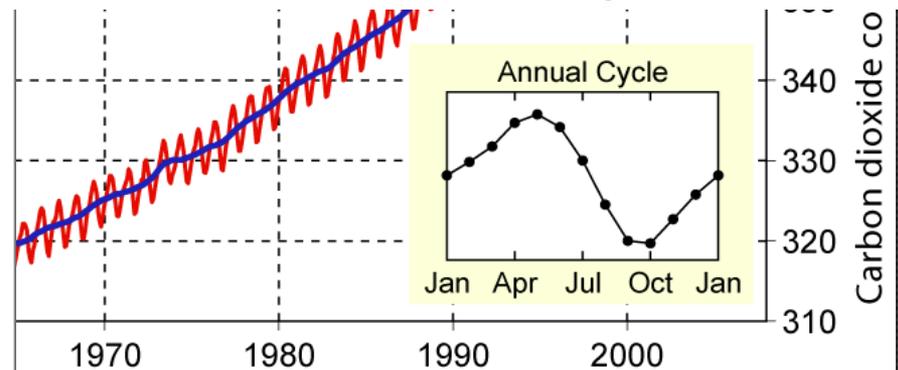
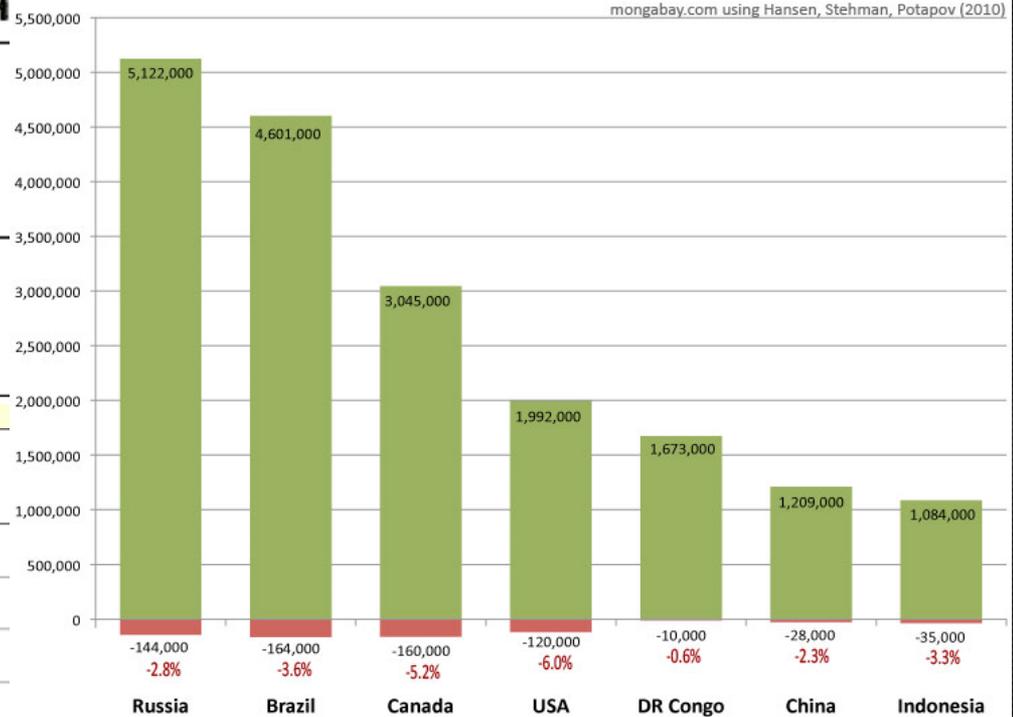
World Population Growth Through History



USA Genuine Progress Indicator



Global Forest Cover Loss by Country, 2000-2005 (sq km)



Our current
Socio-Economic System
is *Unsustainable*



Sustainability

The Capacity to Endure

The Ability of Humans to
Sustain Themselves
on this Planet



Why Educate for Sustainability?

We have to *learn* how to live well in our places without undermining their ability to sustain us over time

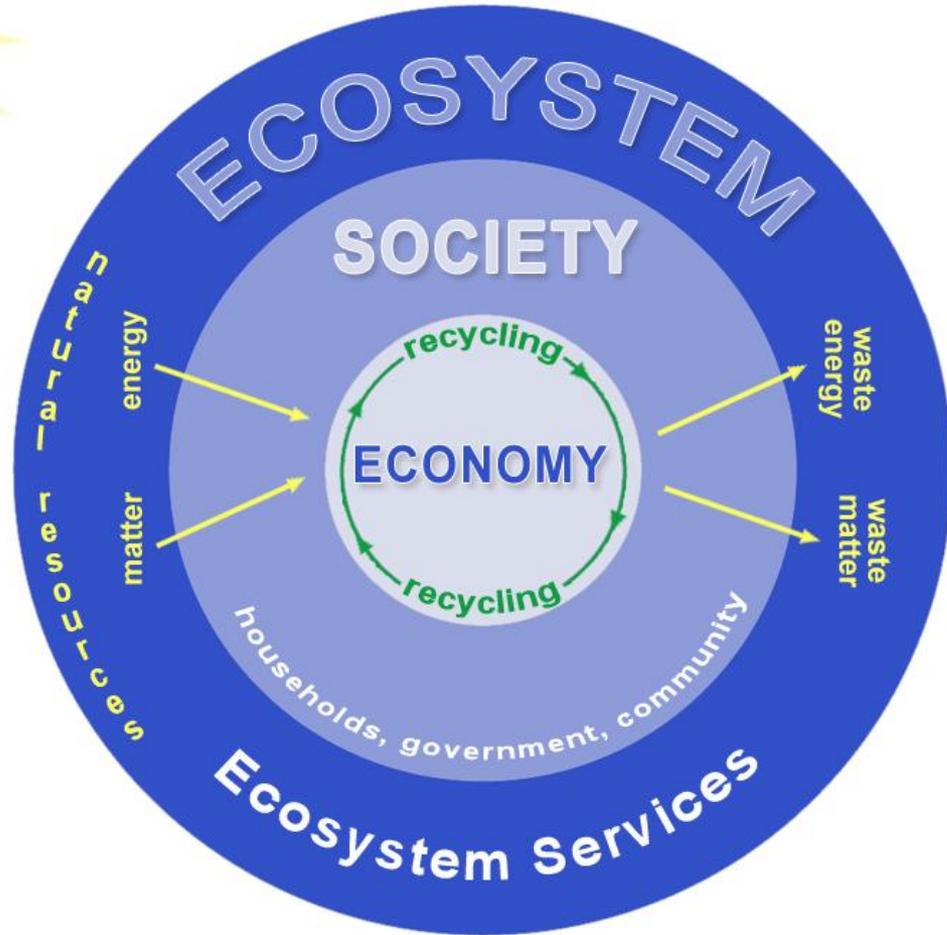
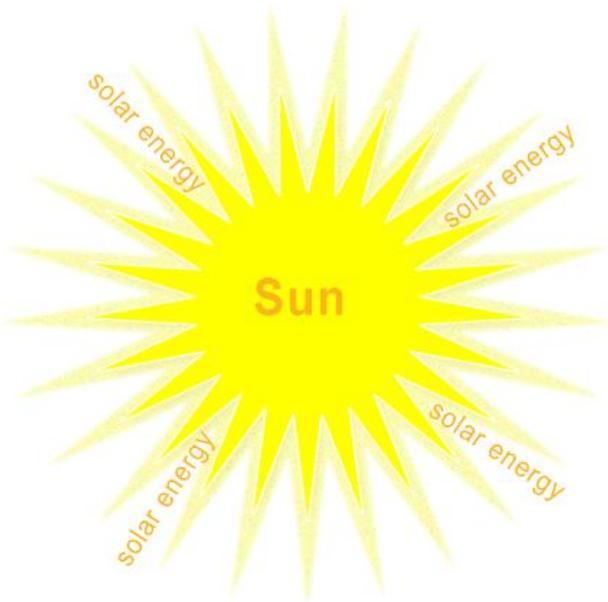
The foundations of our knowledge, skills, and habits of mind are cultivated in our schools



Why Educate for Sustainability?

**Thinking Drives Behavior
and
Behavior Causes Results**





Sustainability Disciplines

- **Sciences**
 - Natural Sciences
 - Environmental Science
 - Science Education
 - Neuroscience
 - Quantum Physics
- **Economics**
 - Sustainable Economics



Sustainability Disciplines

- **Social Sciences**

- Global Education
- Ecological Design and Architecture Education
- Holistic Education
- Future Studies
- Organizational Learning and Change
- Environmental Ethics and Philosophy
- Ecological Psychology
- Positive Psychology
- Science of Happiness
- Conflict Resolution Education
- Systems Thinking and System Dynamics
- Game Theory



Sustainability Disciplines

- **Arts & Humanities**
 - Sense of Place
 - Environmental Literature
 - Philosophy
 - History
 - Music
 - Art



Educational Umbrella



How do We Educate for Sustainability?

- **Shifting Mental Models**

- Mental models shift

- through experience,

- by asking different questions,

- story telling &

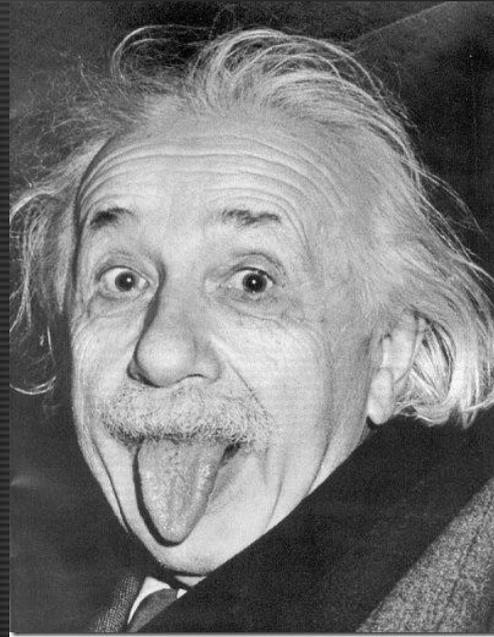
- the creative process

- Some mental models are easier to shift than others.

- (ask Copernicus)



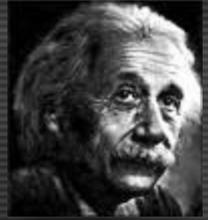
The mental models of children and young people change over time with new knowledge and applied insight



It all begins
with a change in thinking



Mental Models for a Sustainable Future



**A
Healthy & Sustainable
Future is Possible**

We can learn how to live well &
within the means of nature.



This viewpoint inspires and motivates people.

Mental Models for a Sustainable Future



We Are All In This Together

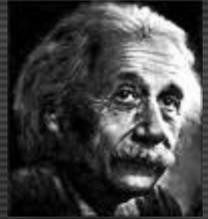
We are all interdependent on each other and on the natural systems upon which all life depends

In the context of interdependence self interests are best served through the development of mutually beneficial relationships.

Reciprocity is not Optional.



Mental Models for a Sustainable Future



Live by the Natural Laws

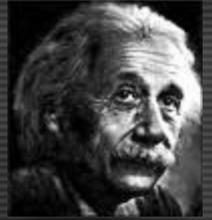
We must operate within natural “laws”
and principles rather than attempt to
overcome them.



It's non-negotiable.



Mental Models for a Sustainable Future



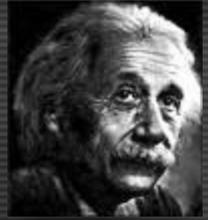
Healthy Systems Have Limits

Tap the power of limits

Note: Please do not confuse the mental model of scarcity with the reality of limits.



Mental Models for a Sustainable Future



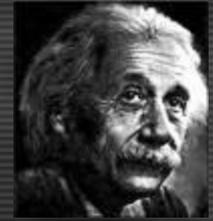
Recognize & Protect the Commons

That upon which we all depend
and for which we are all responsible.

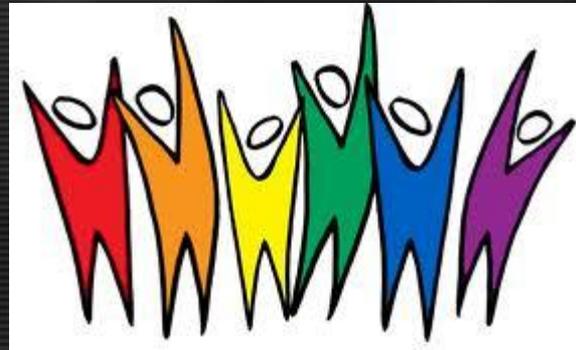


Mental Models for a Sustainable Future

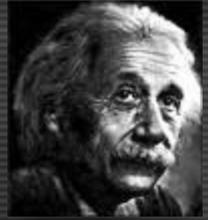
Diversity Makes our Lives Possible



Diversity is required to support
rich complex systems (like us)
to build strength and
to develop resilience.



Mental Models for a Sustainable Future



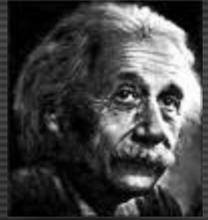
Reconcile Individual Rights with Collective Responsibilities

Responsible & ethical
participation & leadership

are required in order to make
the changes we need to make.

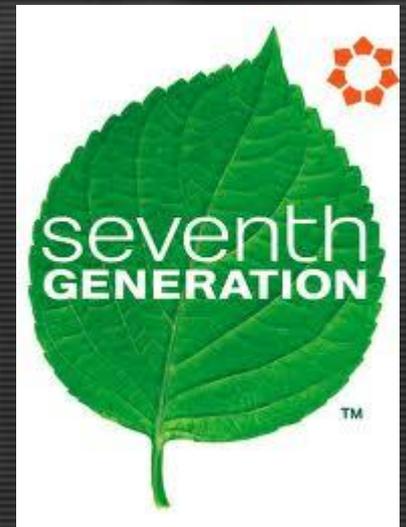


Mental Models for a Sustainable Future

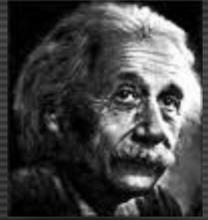


Think 1000 years

Envision the kind of future we want
and start working towards it.



Mental Models for a Sustainable Future

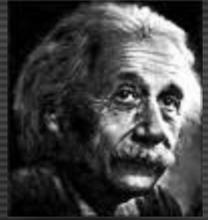


Read the Feedback

We need to pay attention to the results of our behavior on the systems upon which we depend.

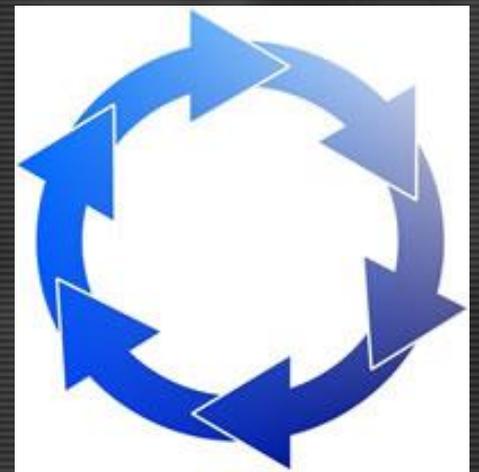


Mental Models for a Sustainable Future

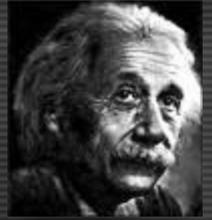


**Create Change at the Source,
Not the Symptom**

Identify the most upstream
problem you can address
within your sphere of
influence.



Mental Models for a Sustainable Future



We are all Responsible

Everything we do
and everything we don't do
makes a difference.

