ECO-AMBASSADORS
CONDENSED PROGRAM

Boston Campus
January 18, 2013
Eco-Ambassadors

Have you been thinking about being green?

- Do you ever wonder how energy use in your office relates to climate change?
- Have you ever thought about planning a green event for your office?
- Has your office started a cool eco-initiative?
- Would you like help increase the recycling rate on campus?

IF SO, BECOME AN ECO-AMBASSADOR! There are currently two options:

- Our new, condensed program will be offered in the Boston campus this August, comprising of two half-day sessions. Register here and fill out the calendar on Schedule Once with your availability. Download the flyer for more details.
What does an Eco-Ambassador do?

- Model sustainable behaviors
- Act as a point of contact
- Take an active role in your office
- Create a healthy work environment
- Complete an office audit and other assignments
- Implement at least one sustainability project
- Provide quarterly updates on challenges and successes in your office
- Make office sustainability fun!
What is Sustainability?
Economic

Social

Environmental

Sustainability
Sustainability Highlights at Tufts

1990
- Talloires Declaration

1993
- Kyoto Protocol
- Environmental Improvement Committee

1999
- New England Governors/ Eastern Canadian Premiers Climate Initiative

2000
- Tufts Climate Initiative

2001
- Recycling Coordinator hired

2004
- Chicago Climate Exchange
- Dental School Vertical Expansion receives LEED Silver Excellence in Energy Efficiency Award

2006
- Sustainability incorporated into Administrative Excellence Plan

2008 2009
- President Monaco establishes Council on Campus Sustainability

2012
- Dental School 2nd Floor receives LEED Gold
Dental School
What does a sustainable office look like?
Your sustainable office ideas
By the time a US baby reaches age 75, she/he will have...

- Used 3,375 barrels of oil
- Consumed 43 million gallons of water
- Produced 52 tons of garbage

28 5,000-gallon tanker trucks
65 Olympic-size swimming pools
104 10-yard Dumpsters
Do you know what these mean?

- Down-cycling
- Recycling
- Reusing
- Reducing ⇐ strive for this choice!
What’s in America’s waste?

- 28.5% Paper & Paperboard
- 13.9% Food Scraps
- 13.4% Yard Trimmmings
- 12.4% Plasctics
- 9% Metals
- 8.4% Rubber, Leather, & Textiles
- 6.4% Wood
- 4.6% Glass
- 3.4% Other

Source: EPA 2010 MSW data
Aluminum

• 1.3 billion cans thrown in landfills each year
  – 50% recycled
  – Can be recycled infinite times
• For every recycled aluminum can:
  – Energy saved can run a TV for 3 hours
  – 95% less energy
Glass

• Glass takes 4000+ years to decompose  
  – 33% recycled
• For every recycled glass bottle:
  – Energy saved can run a CFL for 20 hours  
  – 30% less energy
  – 20% less air pollution
  – 50% less water pollution
• 2 billion trees per year used to make paper/wood products
  – 72% recycled
• Recycling 1 ton of paper:
  – Saves 17 trees
  – 40% less energy
  – 50% less water
Plastic

- Americans generated 31 million tons of plastic waste in 2010
  - Only 8% recycled
- Recycling plastic:
  - 90% less energy
- Plastics usually down-cycled
In 2012, Tufts Boston recycled 26.7% of its waste – can we can do better?
Boston Solid Waste Data

- Recycling Rate
- Paper & Cardboard
- Other Recycling (bottles, furniture, pallets, etc.)
- Trash

Switched to baler system from trailer system in 2010.
What is recyclable at Tufts?

Tufts Recycling Guidelines

Recycle glass, plastic & metal
Recycle all clean glass, metal & plastics (including non-numbered).

Trash only!
Do not recycle:
- Paper plates
- Napkins & tissues
- Plastic bags, wrap, film
- Dirty pizza boxes
*Bioplastics (they are compostable but not recyclable)

Recycle paper & cardboard
Most paper is recyclable!
- files & folders
- white paper envelopes
- phone books
- books
- color paper
- box board (i.e. cereal box)
- clean Coffee Cups
- cartons & aseptic packaging
- cardboard (please flatten)
- notebooks
- newspaper
- glossy
- clean pizza boxes

Empty paper coffee cups are recyclable.
Please rinse latte cups. No Styrofoam.
Recycling at the Dental School

Mixed Recycling
Cardboard  
Paper  
Glass  
Metal  
Plastic  
All go in this bin

Not Recyclable:  
Paper Plates  
Plastic Bags & Film  
Styrofoam  
No Liquids  
Dirty Pizza Boxes  
Tissues  
Dirty Coffee Cups!

Tufts gets green Boston  
Tufts Recycles!  
recycle@tufts.edu  617/627-3819
Don’t worry about trash in the recycling
Recycling batteries, ink cartridges, and phones is easy!

Recycle (all) batteries, ink cartridges and cellular phones:
Always tape the ends of batteries to reduce the risk of an accidental fire.

<table>
<thead>
<tr>
<th>Boston Campus Buildings</th>
<th>Battery Receptacle Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hirsch Health Sciences Library</td>
<td>On a counter to the left of the elevator and the stairs</td>
</tr>
<tr>
<td>Human Nutrition Research Center on Aging (HNRC)</td>
<td>Main entry</td>
</tr>
<tr>
<td>Jaharis Building</td>
<td>Main entry</td>
</tr>
<tr>
<td>M &amp; V, South Cove, and Arnold</td>
<td>M &amp; V entryway near police booth AND near the elevator next to security (two separate bins)</td>
</tr>
<tr>
<td>Posner Hall</td>
<td>Student entryway AND near the elevator next to Bursar's Office</td>
</tr>
<tr>
<td>Sackler Building</td>
<td>Next to the recycling bins in the elevator lobby</td>
</tr>
<tr>
<td>School of Dental Medicine</td>
<td>7th floor lounge</td>
</tr>
</tbody>
</table>
Furniture Disposal and Reuse

place a work order with Facilities!
Keurig vs. Brewed Coffee

Keurig Office Maker Pro

Brewed Coffee

How much waste does each generate?
Keurig vs. Brewed Coffee

Keurig Office Maker Pro

- ~ 10,000 K-Cups
- $5,677 per year

Brewed Coffee

- 222 empty 1-lb bags
- $1,200 per year

Based on an office that collectively drinks 40 cups per work day.
What can you do in your office?

Reduce as much as possible
• Buy only what your office needs, and go for durability
• Go electronic
• Share office supplies
• Default double-sided printing

Reuse what you have
• Set up an office reuse area
• Use reusable dinnerware in the office
• Buy used when possible
• Buy remanufactured toner cartridges from Roxbury Toner
• Go reusable in the lab

Recycle the rest
• Set up waste stations
• Recycle batteries, ink cartridges, phones, furniture, and electronics
Questions about waste or recycling? Ask: 
Dawn Quirk 
Tufts’ Waste Reduction Manager 
dawn.quirk@tufts.edu 
sites.tufts.edu/tuftsrecycles/
Behavior Change
## Benefits of Behavior Change

<table>
<thead>
<tr>
<th>Action</th>
<th>Individual Annual Savings</th>
<th>Campus Annual Savings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Turn off computer or enable power management</td>
<td>$38</td>
<td>$61,000 (quantity = 1600)</td>
</tr>
<tr>
<td>Turn off copiers at night/weekend – use power management</td>
<td>$160</td>
<td>$12,800 (quantity = 80)</td>
</tr>
<tr>
<td>Shut off lights every time</td>
<td>$100-$400</td>
<td>$10,000+</td>
</tr>
<tr>
<td>Shut fume hood sash</td>
<td>$500 +</td>
<td>$170,000+ (quantity = 340)</td>
</tr>
</tbody>
</table>
Basics of Behavior Change

- Many factors influence behaviors
- Education → behavior change
- Address beliefs, values, and attitudes
- Learn your coworkers’ barriers to change
- Look for the good in your colleagues
Social Marketing

1. Select Behavior
   a. What problem do you want to solve?
   b. What behavior change is needed?
   c. Whose behavior needs to change?

Stages of Change Model
2. **Identify Barriers and Benefits**
   - Find through observations, group discussions, surveys
   - Different barriers/benefits for different value modes
     - Settlers
     - Prospectors
     - Pioneers
       - Tailor messages to all 3 value modes
   - Change strategies should decrease barriers and increase benefits
Social Marketing

3. Develop Strategies
   • Enhanced products or services
   • Convenience
   • Commitment
     – Make voluntary, written, and public
   • Social Diffusion
   • Prompts
   • Incentives
• Social Norms
  – Descriptive (what people do)
  – Injunctive (what people approve/disapprove of)

<table>
<thead>
<tr>
<th>Message</th>
<th>Reuse rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protect Environment</td>
<td>38%</td>
</tr>
<tr>
<td>Cooperate to protect environment</td>
<td>36%</td>
</tr>
<tr>
<td>Descriptive norms</td>
<td>48%</td>
</tr>
</tbody>
</table>
Social Marketing

3. Develop Strategies
   • Omega Strategies
     – Reactance $\rightarrow$ stories
     – Skepticism $\rightarrow$ change comparison
     – Inertia $\rightarrow$ disrupt and reframe
   • Reduce scarcity
   • Liking principle
   • Frame your message attractively
Social Marketing

4. Pilot
5. Broad Scale Implementation
6. Evaluation
How do you effect long-term change?

- “Small steps” as a great starting point, but follow up with larger steps
- Tailor your message to value modes
- For real, long-lasting change, appeal to pro-environmental values
- Focus your attention in the right places
Climate Change
ACCORDING TO THE 1,325 SCIENTISTS ON THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE,

“Warming of the climate system is unequivocal.”

Source: 2007 IPCC Report
The 12 Hottest Years on Record
1880-2011

1998  2001  2002  2003  2004  2005
2006  2007  2009  2010  2011  2012

Source: NASA/GISS/NOAA
More intense storms... (Shelburne, 2011)

More frequent droughts... (Hingham, 2011)

More heavy precipitation events... (Boston, 2010)

Increased flooding... (Quincy, 2010)
What is Peak Oil?

World oil production by type in the New Policies Scenario

Source: Post-Carbon Institute/IEA, 2009
How will climate change affect Boston?
Source: Union of Concerned Scientists: Confronting Climate Change in the U.S. Northeast
High-Degree Days—Projections

Days over 100°F

- Observations
- Lower Emissions
- Higher Emissions

Boston, MA

1961-1990: 1 day
2070-2099: 24 days
2040-2069: 6 days

DAYS PER YEAR OVER 90°F

Source: A Climate of Progress: City of Boston Climate Action Plan Update 2011
Landmarks
A. Commonwealth Avenue
B. Newbury Street
C. Old South Church
D. Copley T Station
E. The Esplanade
F. Copley Square
G. Trinity Church
H. John Hancock Tower
I. Hatch Shell
J. Arlington T Station
K. Public Garden and Swan Boats

Current 100 year flood zone
Projected 100 year flood zone (higher emissions scenario)

Source: Sparking Boston’s Climate Revolution
Who are the 6 Americas?

Source: Yale/George Mason University
6 Americas Activity

• Roles
  – Person A: “persuader,” tailor message
  – Person B: “persuadee,” act according to your role

3 Parts
1. Person A plays Alarmed, Person B plays X (one of other 5 Americas) – 4 minutes
2. Person B plays Alarmed, Person A plays X (one of other 5 Americas – flip your card) – 4 minutes
3. Large group discussion – 4 minutes
How can you talk about climate change in your office?

1. Know your audience

Source: Columbia University, CRED Guide: The Psychology of Climate Change Communication
How can you talk about climate change in your office?

2. Frame it appropriately

<table>
<thead>
<tr>
<th>TABLE 1</th>
<th>Words That Appeal To Those with Either a Promotion or Prevention Focus</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROMOTION</td>
<td>PREVENTION</td>
</tr>
<tr>
<td>ideal</td>
<td>ought</td>
</tr>
<tr>
<td>attain(ment)</td>
<td>maintenance</td>
</tr>
<tr>
<td>maximize gains</td>
<td>minimize losses</td>
</tr>
<tr>
<td>hope</td>
<td>responsibility</td>
</tr>
<tr>
<td>wish</td>
<td>necessity</td>
</tr>
<tr>
<td>advance(ment)</td>
<td>protect(ion)</td>
</tr>
<tr>
<td>eager(ness)</td>
<td>vigilant/vigilance</td>
</tr>
<tr>
<td>avoid missed opportunities</td>
<td>avoiding mistakes</td>
</tr>
<tr>
<td>promote</td>
<td>prevent</td>
</tr>
<tr>
<td>aspire/aspiration</td>
<td>duty</td>
</tr>
<tr>
<td>support</td>
<td>obligation</td>
</tr>
<tr>
<td>nurture</td>
<td>defend</td>
</tr>
<tr>
<td>add</td>
<td>safety</td>
</tr>
<tr>
<td>open</td>
<td>security</td>
</tr>
<tr>
<td></td>
<td>must</td>
</tr>
<tr>
<td></td>
<td>should</td>
</tr>
<tr>
<td></td>
<td>cautious</td>
</tr>
<tr>
<td></td>
<td>careful</td>
</tr>
<tr>
<td></td>
<td>stop</td>
</tr>
</tbody>
</table>

Source: Columbia University, CRED Guide: The Psychology of Climate Change Communication
How can you talk about climate change in your office?

3. Translate scientific data into concrete experience
How can you talk about climate change in your office?

4. Beware the overuse of emotional appeals
How can you talk about climate change in your office?

5. Address scientific and climate uncertainties

Source: Columbia University, CRED Guide: The Psychology of Climate Change Communication
How can you talk about climate change in your office?

6. Tap into social identities and affiliations and encourage group participation

Source: Columbia University, CRED Guide: The Psychology of Climate Change Communication
How can you talk about climate change in your office?

7. Make behavior change easy

Source: Columbia University, CRED Guide: The Psychology of Climate Change Communication
Wrap Up

For next week:

1. Introduce yourself as an Eco-Ambassador to your coworkers

2. Do Recycling *Survey and Audit*

Questions? Email Dani at danielle.jenkins@tufts.edu.