

# The Natural Step

## Green Office Focus Group

### City of Madison



February 21, 2008

# What is Sustainability?

“Sustainable Development is development that meets the needs of the present without compromising the ability of future generations to meet their needs.”

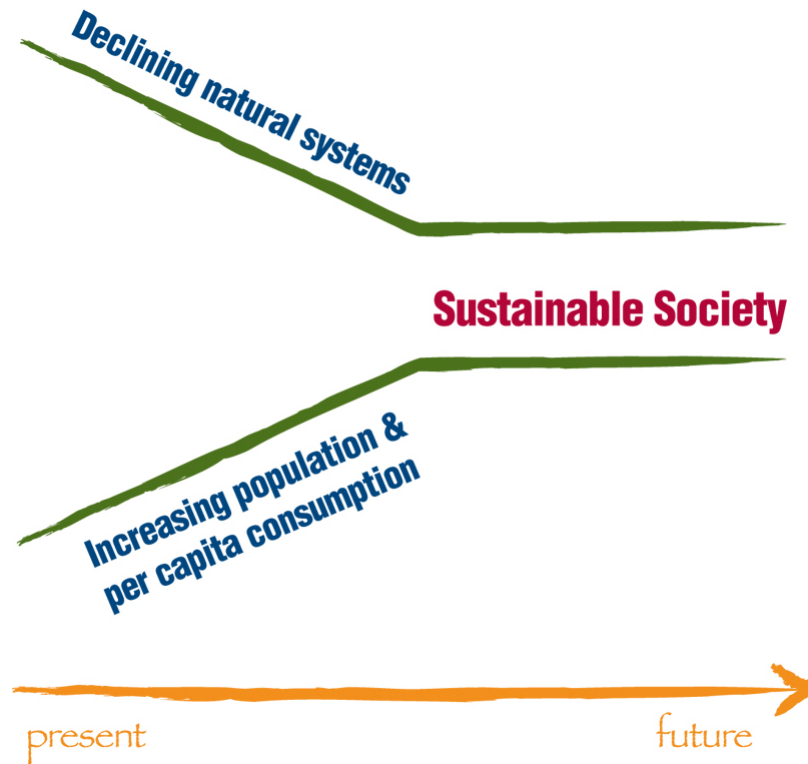
United Nations 1987 Brundtland Report - *Our Common Future*



City government -- as both consumer and steward of our environment and its resources -- must incorporate the principles of sustainability to ensure the needs of tomorrow can be met.



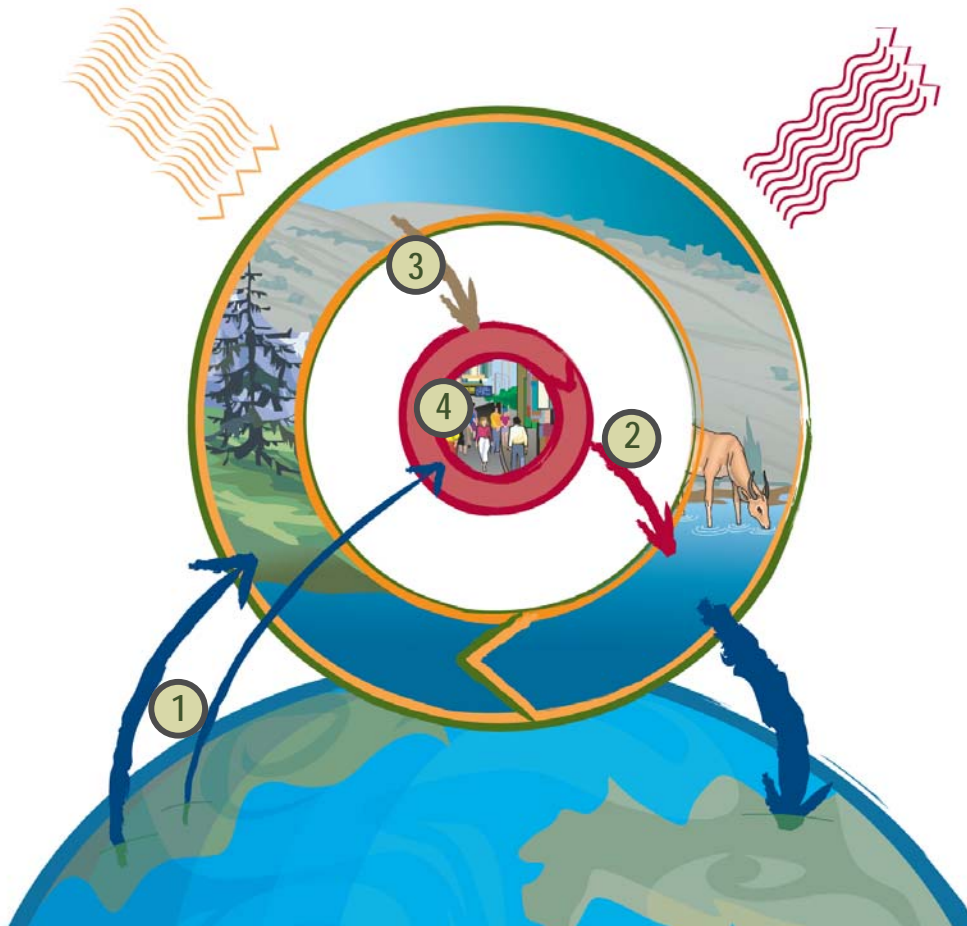
# The Funnel as a Metaphor



- As time goes by, population growth and consumer habits increase the demand on natural resources and the environment.
- At the same time, the capacity of natural systems to accommodate that demand is shrinking.
- The convergence of these two realities will restrict our options.
- In a sustainable society, these two pressures are stabilized or even reversed.

# System Conditions for A Sustainable Society

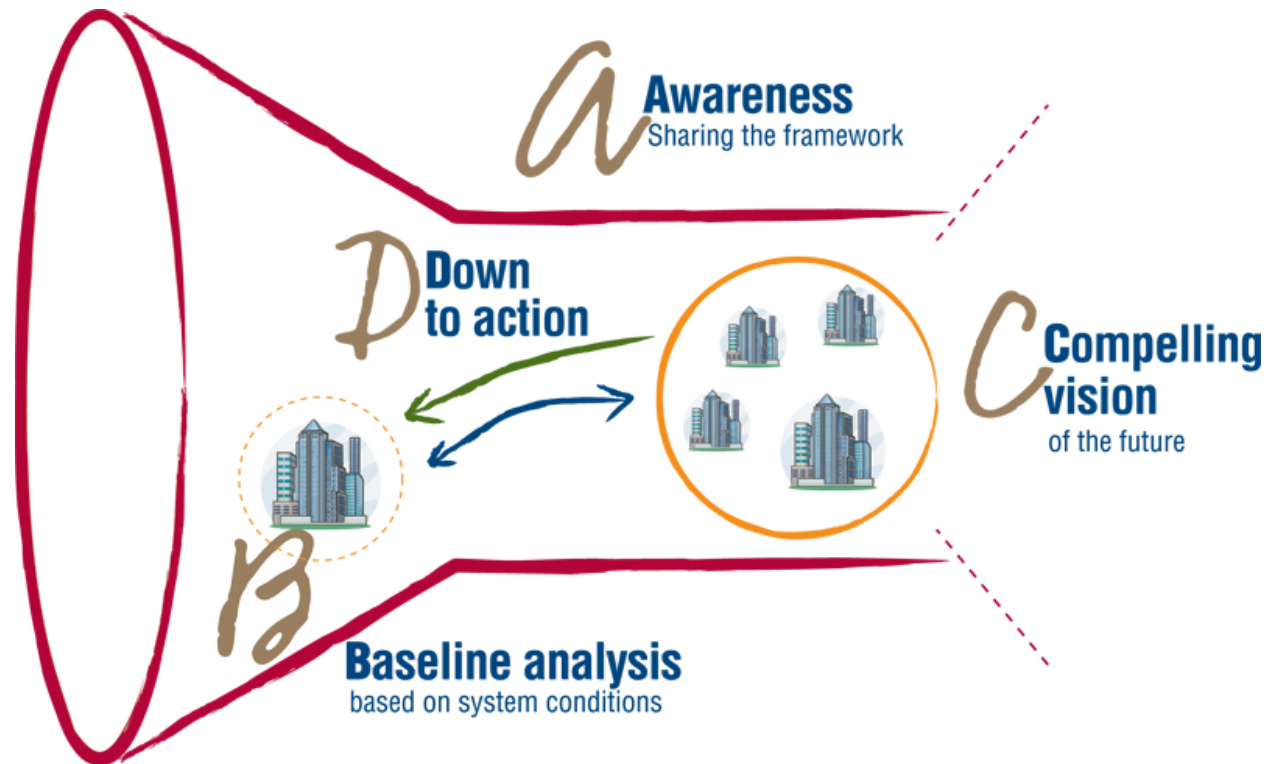
In a sustainable society, nature is not subject to systematically increasing:



- ① concentrations of substances extracted from the earth's crust
- ② concentrations of substances produced by society
- ③ degradation by physical means  
and, in that society...
- ④ people are not subject to conditions that systematically undermine their capacity to meet their needs.

# Strategic Planning Framework

Right direction?  
Flexible platform?  
Return on investment?



# "A" is for Awareness

According to EPA, office furniture is an \$11 billion industry

- Consumes forest, fossil fuel and mineral resources
- VOC's can pollute air and water during manufacturing
- VOC's can continue to be released once installed contributing to indoor air pollution
- Furnishings are often landfilled at end-of-life
  - Businesses discard 3 million tons of it each year
  - Disposal costs almost \$100 million

According to EPA, 1.6 billion single use pens are discarded in the US each year

# "A" is for Awareness

## What's in there:

- Volatile Organic Compounds (VOC's)
- Formaldehyde
- Aldehyde
- 4-phenylcyclohexene (4-PC)
- Polybrominated diphenyl esthers (PBDEs)
- PVC (vinyl)
- Hydrochloroflourocarbon (HCFC's)

## Why we care:

- Ozone depletion
- Photochemical smog
- Indoor air quality
- Worker environment
- Persistent toxins
- Carcinogens
- Mutagens
- Teratogenic substances (reproductive toxins)

# "A" is for Awareness

What is the full cost of everything that goes into furnishing City offices?

- Furniture, overhead and task lighting, office supplies, appliances

Per the four system conditions, how can we:

1. Reduce our use of electricity, coal and petroleum byproducts?
2. Reduce our reliance on persistent compounds, synthetic chemicals and packing materials?
3. Reduce our consumption of raw materials? How can we reuse and recycle more?
4. Satisfy our business needs while moving us toward sustainability?

# "B" is for Baseline Analysis

## Fiscal costs:

- We spent about \$400k on office furniture in 2007
- \$200k annual spend for office supplies; 27% spent for recycled products
- Non-standard purchasing practices forego leveraging... bulk is good

## Administrative costs:

- 3.6 million square feet of office, storage and service space
- 700 hours staff time to re-allocate, surplus, auction and dispose of items
- Nonstandard and non-interchangeable furniture is harder to reuse/relocate

# "B" is for Baseline Analysis

## Environmental costs:

- Indoor air quality and worker health
  - Concentrations of VOC's and particulates can be more than 100 times higher in indoor spaces than outside
  - The average person spends 90% of his or her time indoors
- Poor design can result in injuries and ailments
- Potentially unsustainable forestry practices
- Greater awareness and opportunities to:
  - Reduce
  - Reuse
  - Recycle

# "C" is for Compelling Vision

We can do better and *need to* do better

- Fiscal pressures (... the usual)
- Environmental pressures
  - Greenhouse gases
  - Protect indoor work environments
  - Energy efficient appliances are good; fewer is better
  - Landfilling is bad...
    - Recycling is good...
    - Non-consumption is better

# “D” is for Deployment

- What alternatives move us toward sustainability?
- Which alternatives provide a flexible platform?
- What are the alternatives' return on investment?
  - Financial
  - Environmental
  - Social
- What policies are needed to ensure staff needs are met?

# General Proposal

We will develop purchasing guidelines with preferences for office materials and furnishings that are:

- Recyclable
- Made of recycled content
- Contain low or no VOC's
- Free of toxins
- Manufactured with reduced energy and/or improved air emissions

# General Proposal

- This policy is one in a series of Green Purchasing policies driven by *The Natural Step*
  - An APM will outline the standards and reasons for this policy and its guidelines
  - A stand-alone Purchasing policy will cover specifications, identify available models, identify vendors, links to detailed source documents
- Training will be provided for purchasing agents and P-Card holders
- Office electronics will be dealt with in a separate policy

# Specific Proposal: Lighting

- #1 – Arranging office space to optimize natural and overhead lighting
- Motion/occupancy sensors when possible
  - Manual dimmers are also an improvement
  - If not available, simply turn it off... especially task lighting
- Fluorescent tubes and compact fluorescent bulbs are preferred
- Take-back and recyclability of lamps with mercury
- *EnergyStar* label when available

# Specific Proposal: Appliances

Energy and water efficient

*EnergyStar* is the standard

If *EnergyStar* is not available, then an energy saver plug-in is required

Take-back, recyclable, take away old appliance

Good design: Low-noise, Long life

This includes vending machines



# Specific Proposal: Office Supplies

**Key is recyclability and recycled content**

– Post-consumer waste (PCW) is best

Reusable/refillable – pens, envelopes, USB drives

Low-odor markers, correction fluid, highlighters

No PVC (like covering on 3-ring binders)

Unbleached paper products

Bulk delivery, minimal packaging



# Specific Proposal: Office Supplies

<https://bsd.officedepot.com/>

# Specific Proposal: Office Furniture

First question: Can current furniture be reused?  
refurbished? reupholstered?

If buying new, then we will obtain furniture that is:

- Modular... must have flexibility throughout the City enterprise
- Recyclable materials
- Made of recycled content and/or sustainable materials
- Low or no toxicity; low VOC
- Ergonomic design
- Packaged in minimized or reusable materials

# Office Furniture Categories

- Modular Desking (Free standing)
  - Systems Furniture
  - Seating (Desk, Task, Work)
  - Seating (Conference, Side/Guest, Cafeteria)
  - Conference/Training Tables
  - Storage (Files, Bookcases, Storage)
- 
- Community, Parks, Recreation, Convention, Cultural Centers, Libraries, Fire Dept. locations

# State / UW Contracts

- Fixed discounts for individual purchases
- Negotiated discounts for volume buy

## Discounts for single purchases...

	HERMAN MILLER	PARAGON	HON	BRETFORD
Modular Office	58.5%			
Seating (Desk)	52%	61.72%	57%	
Seating (Conf, Side, Cafeteria)	56.5%			
Panel Systems	71.5% (Action) 71% (Ethospace)			
Conference Tables	?			53%
Storage	58.5% (Meridian)			

Discounts for bulk purchases are deeper







Fair Share  
2011

15









# MODULAR DESKING

## 5000 Series (Herman Miller)

<http://www.hermanmiller.com/CDA/SSA/Product/1,1592,a10-c440-p1,00.html>



# PANEL SYSTEMS – Action Office

<http://www.hermanmiller.com/CDA/SSA/Product/1,1592,a10-c440-p6,00.html>



# OFFICE CHAIR # 1 – Mirra (Herman Miller)

<http://www.hermanmiller.com/CDA/SSA/Product/1,1592,a10-c440-p205,00.html>

## Environmental Summary

MBDC cradle to cradle certified

96 percent recyclable.  
Recyclable fabric.  
Latitude back upholstery is 100 percent recyclable.



# OFFICE CHAIR #2 – Zody (Haworth)

[http://www.haworth.com/Brix?pageID=148&product\\_sakey=98](http://www.haworth.com/Brix?pageID=148&product_sakey=98)

- Zody, is the first chair endorsed by the American Physical Therapy Association (APTA)!

Other Zody awards include:

- Silver Best of NeoCon
- Gold Product Award at NeoCon Canada IIDEX
- Gold Cradle to Cradle Product Cert. from MBDC
- 2005 GOOD DESIGN Award



# OFFICE CHAIR #3 – Improv (Haworth)

[http://www.haworth.com/Brix?pageID=148&product\\_sakey=18](http://www.haworth.com/Brix?pageID=148&product_sakey=18)



# OFFICE CHAIR #4 –F3 (HON)

<http://www.hon.com/Products/Chairs/FWCM.spx>



# CONFERENCE / SIDE CHAIR # 1 - Caper Chair (Herman Miller)

<http://www.hermanmiller.com/CDA/SSA/Product/1,1592,a10-c440-p24,00.html>



# CONFERENCE / SIDE CHAIR # 2- Improv (Haworth)

[http://www.haworth.com/Brix?pageID=148&product\\_sakey=18](http://www.haworth.com/Brix?pageID=148&product_sakey=18)



# CAFETERIA CHAIR # 1- Limerick (Herman Miller)

<http://www.hermanmiller.com/CDA/SSA/Product/1,1592,a10-c440-p94,00.html>

100 percent recyclable

Environmental Product  
Summary



# Conference Tables – Bretford Here Mobile Tables



**GANGING//** Exclusive ganging Gere provides simple one-handed locking operation to interlock furniture quickly and effortlessly.

**POWER PULL UP//** Available for fixed leg Here tables. It fits conveniently in the grommet hole and is concealed when not in use.

**CORD MANAGEMENT//** Hollow legs and raceway conceal wires and provide vertical and horizontal cord management.

# Storage – Herman Miller Meridian



# Additional Alternatives

What are your thoughts?

What exemptions should be made?

Should there be a specific policy regarding price differential?

What other alternatives can help us move toward sustainability while meeting our business needs?

- Policies?
- Technologies?
- Configuration?

# Contact Info

If you have thoughts or suggestions later, please contact:

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