Why and How to Green Your Textiles Choices
What do we mean by “sustainable”?

• Toxicity – environmental issues
• Toxicity – human health issues
• Carbon Footprint
• Social justice issues
• Water treatment
We’ll look at:

• “Made of organic cotton” ≠ good enough

• Fabrics production and water, chemical, and energy use

• Certifications

• What YOU can do
Steps in textile processing

- Man-made Filament Fibers
  - Texturizing
    - Warping
      - Slashing (Sizing)
        - Knitting
          - Preparation
            - Dyeing
              - Finishing
                - Cutting
                  - Sewing
                    - Finished Goods

- Man-made Staple Fibers
  - Filter Preparation
    - Spinning
      - Weaving
        - Knitting
          - WET PROCESSING
            - Printing
              - Fabric FORMATION
                - YARN FORMATION
Comparison of chemical use

Comparison of chemicals need to grow cotton fiber vs. make cotton fabric

- Chemicals needed to grow 25 lbs. FIBER
- Chemicals needed to weave into FABRIC
- Total chemicals needed to grow fiber + weave fabric
#1 industrial polluter of water

= 500 gallons

= 425,000,000 gls. each day
#1 industrial polluter of water
Mad as a hatter
Chemicals used in textile processing

Phthalates
Formaldehyde
Arsenic
Benzene and Benzidine
Lead
PBDE’s, decaBDE
Organochlorines
Polyvinyl chloride (PVC)
Textile clippings = toxic waste
Carbon footprint
Embodied energy comparison of common building products

- Concrete
- Sawn hardwood
- Linen
- Glass
- Steel, virgin

Embodied energy in MJ per KG
Embodied energy comparison of common building products

- concrete
- sawn hardwood
- linen
- glass
- steel, virgin
- polyester
Embodied energy: comparison of common building products
Embodied energy: comparison of common building products

![Bar chart showing embodied energy in MJ per KG for various materials]

- **Concrete**
- **Sawn hardwood**
- **Linen**
- **Glass**
- **Steel, virgin**
- **Polyester**
- **Acrylic**
- **Nylon**
Embodied energy in sofa components: wood, foam and fiber
Great Pacific Gyre
Social Justice

WHITE GOLD
THE TRUE COST OF COTTON

Uzbekistan, cotton and the crushing of a nation

ENVIRONMENTAL JUSTICE FOUNDATION
A natural fiber is NOT automatically “green”

- Toxicity – chemical use during growing and weaving
- Carbon Footprint
The new vernacular

- Green
- Natural
- Earth friendly
- Chemical free
- VOC free
- Non Toxic
- Sustainable
- Organic
- Water based
Textile Certification

Global Recycle Standard

Confidence in Textiles
Tested for harmful substances according to Oeko-Tex Standard 100 No. 11-20489

Oeko Tex
What you buy will get produced.

“Members should at all times consider the health, safety and welfare of the public.”
How to go green

- Ask for and buy only:
  - GOTS certified fabrics if buying natural fiber fabrics
  - Or GRS Gold certified fabrics if you must buy synthetic fibers

- Never buy PVC, acrylic, or conventional cotton
Making Sustainable Textile Choices: Why and How?
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