

# Green Materials 101

Using Resources within  
King County



**King County Building Summit:**  
Dollars and Sense Tools to Green Your Project

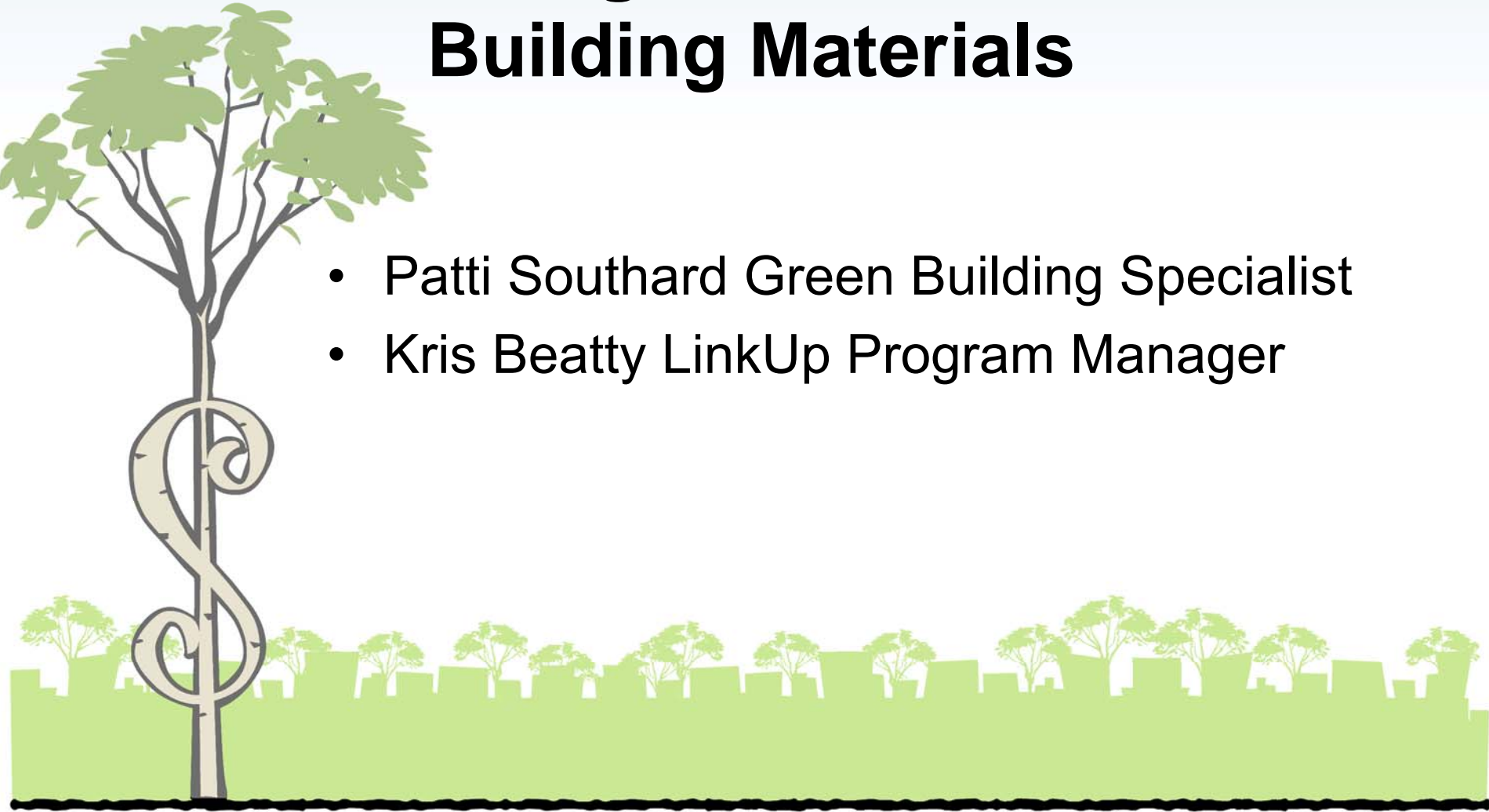


King County

# **Solid Waste Division**

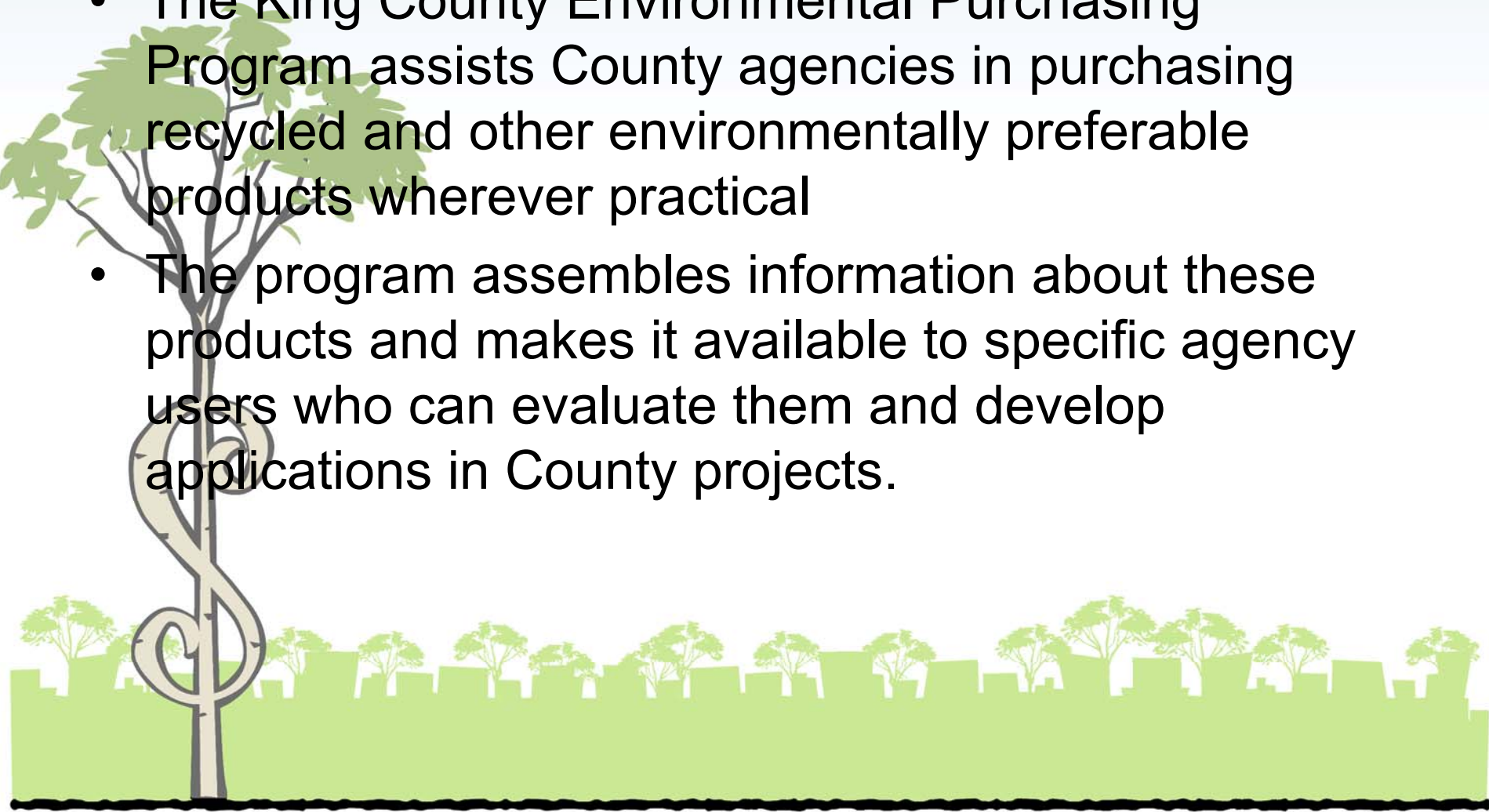
## **Your LEEDing Resource for Green Building Materials**

- Patti Southard Green Building Specialist
- Kris Beatty LinkUp Program Manager



# Environmental Purchasing Program

- The King County Environmental Purchasing Program assists County agencies in purchasing recycled and other environmentally preferable products wherever practical
- The program assembles information about these products and makes it available to specific agency users who can evaluate them and develop applications in County projects.



# Materials and Resources

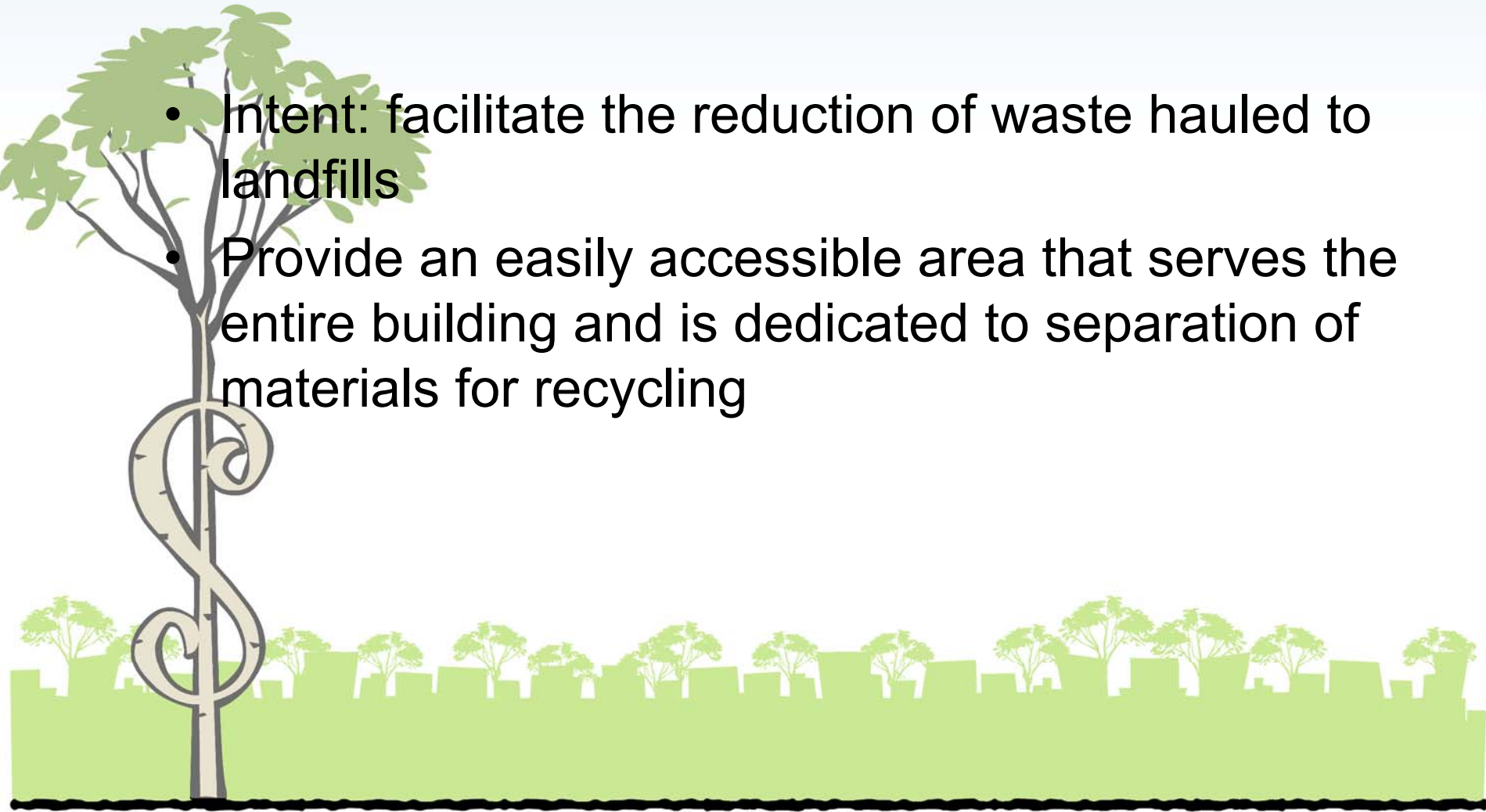
## MR 1-7

- In LEED Materials and Resources are integrated through the entire point system and deliver a symbiotic relationship to all sections



# Storage and Collection of Recyclables MR Credit Prerequisite

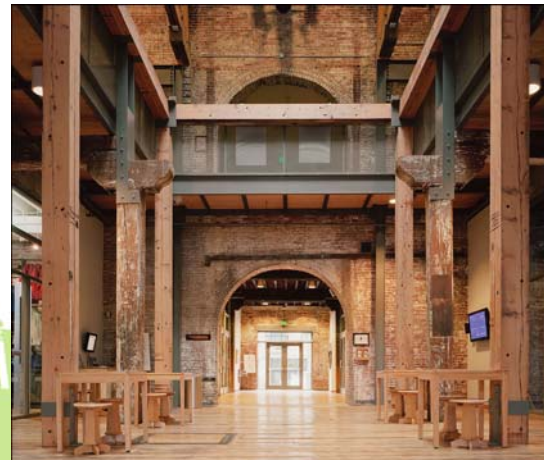
- Intent: facilitate the reduction of waste hauled to landfills
- Provide an easily accessible area that serves the entire building and is dedicated to separation of materials for recycling





# Building Reuse

- MR Credit 1.1 1.2 1.3 (potential of 3 points)
- Maintain existing walls, floors and roof
- Requirement for 1.1 maintain at least 75% of existing building structure
- 1.2 maintain an additional 25%
- 1.3 100% plus 50% of non shell areas



# Construction Waste Management

- MR Credit 2.1
- Divert 50% of Construction and Demolition and Land clearing from landfill disposal
- King Street Center Case study:
  - 3,351 tons of decontaminated topsoil
  - 668 tons of granite (reused by the Port of Seattle)
  - 44 tons of steel
  - 50 cubic yards of shotcrete
  - 1 ton of railroad ties
  - 8 tons of wood
  - 4,832 tons of concrete and 150 cubic yards of masonry

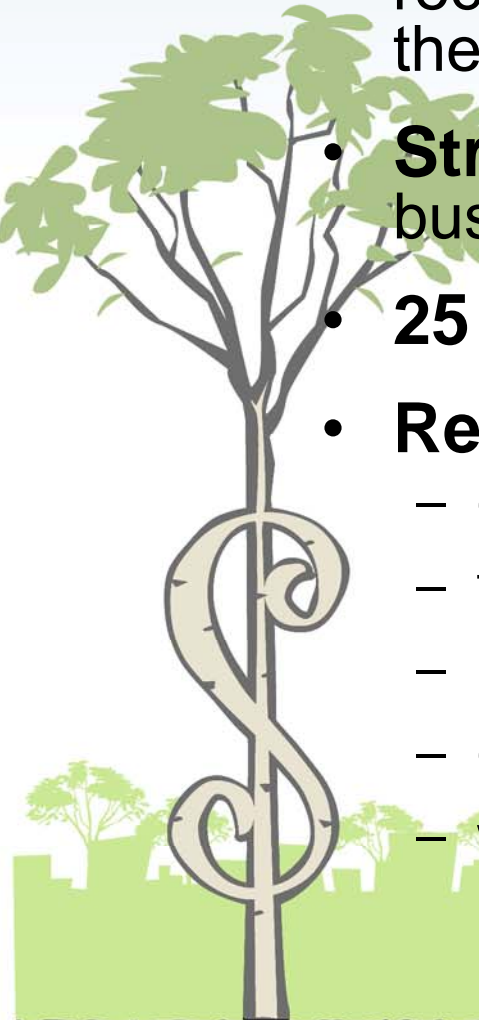


# Resource Reuse

- MR Credit 3.1 and 3.2
- Reuse Building Materials and Products
  - timbers, beams, windows, doors, furnishings
- Reduces demand for virgin materials
- Reduces impacts associated with extraction





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- A stylized illustration of a tree with a green canopy and a trunk that is shaped like a large dollar sign. The tree is positioned on the left side of the slide. At the bottom of the slide, there is a green silhouette of a city skyline with several trees in front of it.
- **Goal:** Develop markets for reusable items and recyclable materials and the products made from them
  - **Strategy:** technical and marketing assistance to businesses
  - **25 partner businesses** in Puget Sound area
  - **Recycled-content products** include:
    - compost
    - furniture
    - plastic lumber
    - countertops
    - wood erosion control
    - water filtration media
    - Asphalt cold patch
    - concrete aggregate
    - glass and ceramic tile

# Recycled Content

- **MR Credits 4.1 and 4.2**

- **Intent:** Reduce impacts from using virgin materials and solid waste volumes

- **FTC definitions** – post-industrial and post-consumer recycled content

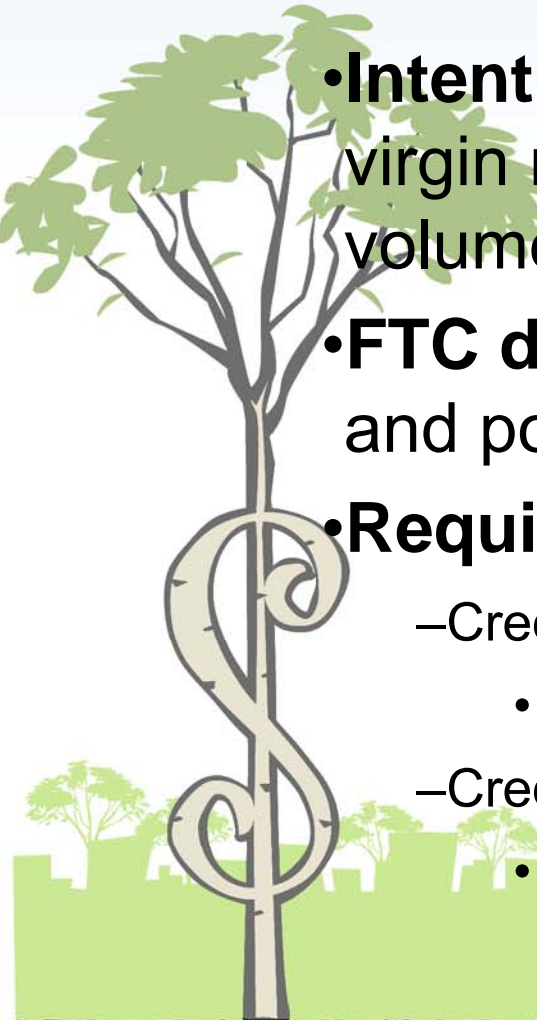
- **Requirements**

- Credit 4.1 - 5% of total value of materials

- 1 point

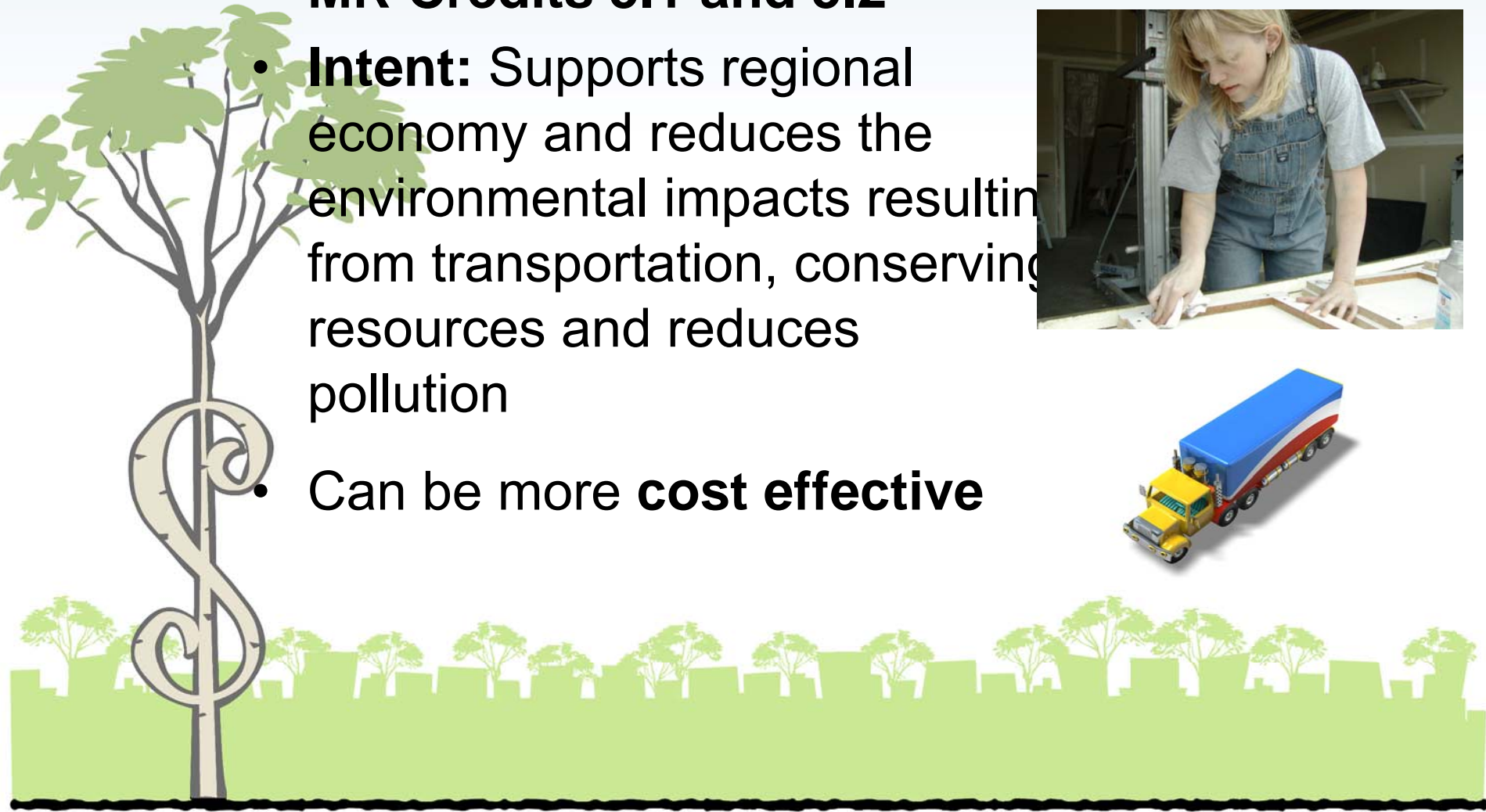
- Credit 4.2 – 10% of total value of materials

- 1 point in addition to 4.1



# Regional Materials

- **MR Credits 5.1 and 5.2**
- **Intent:** Supports regional economy and reduces the environmental impacts resulting from transportation, conserving resources and reduces pollution
- Can be more **cost effective**



# Regional Materials

- **Requirements**

- **Credit 5.1** – minimum 20% of building materials and products that are manufactured regionally within 500 mile radius

- 1 point

- **Credit 5.2** - Of regionally manufactured materials for credit 5.1, a minimum of 50% extracted regionally

- 1 point in addition to 5.1





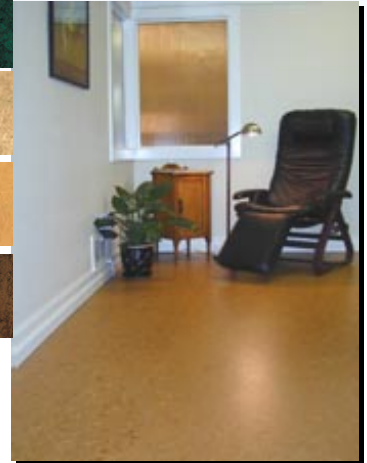
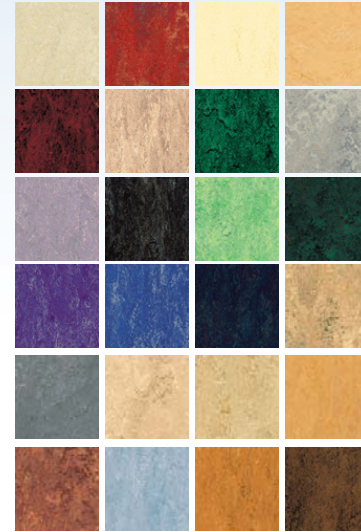
# Rapidly Renewable Materials

- MR Credit 6
- 5% of the total value of all building materials
- Reduce the use and depletion of finite raw materials
- Materials made from plants that are typically harvested within a 10 year life cycle



# Rapidly Renewable Materials

- Products include
  - **Flooring**  
cork, bamboo, sisal
  - **Interior Surfaces**  
vinyl free wall paper, composite furniture
  - **Plant Based Finishes**  
furniture grade, floor and wall coatings





# Certified Wood

- MR Credit 7
- Certification from Forest Stewardship Council “FSC”
- 1 credit for 50% total cost of wood based materials and products



# Certified Wood can also be integrated in MR Credits 5 & 6





# Recycled Wood-Plastic Composite boardwalk



# FSC Certified Wood dimensional lumber



# Recycled Content

- Products include
  - **Flooring**
    - carpet, rubber, tile, terrazzo
  - **Plastic and wood-plastic composite lumber**
    - decking, fencing, furnishings
  - **Exterior surfacing**
    - porous and other pavers, poured rubber, rubber mats, wood mulch





# Recycled Content

- Products include
  - **Insulation**
    - fiberglass, cellulose, cotton
  - **Drywall** (paper & some gypsum)
  - **Doors**
  - **Furnishings**
    - indoor and outdoor furniture and equipment





# Recycled Content

- Products include
  - **Landscape and erosion control materials**
    - wood mulch, compost
  - **Sub-base and engineered fill**
    - concrete aggregate
  - **Pipe**
    - plastic
  - **Paint**



# Recycled Plastic Lumber truck sideboard



# Recycled Plastic Lumber public space furnishings





# Recycled Asphalt asphalt cold patch





# Recycled Glass tile



TILE SHAPES AND SIZES





# Recycled Asphalt Shingles

temporary road base, pipe bedding





# Recycled Organics compost





# Salvaged Timbers



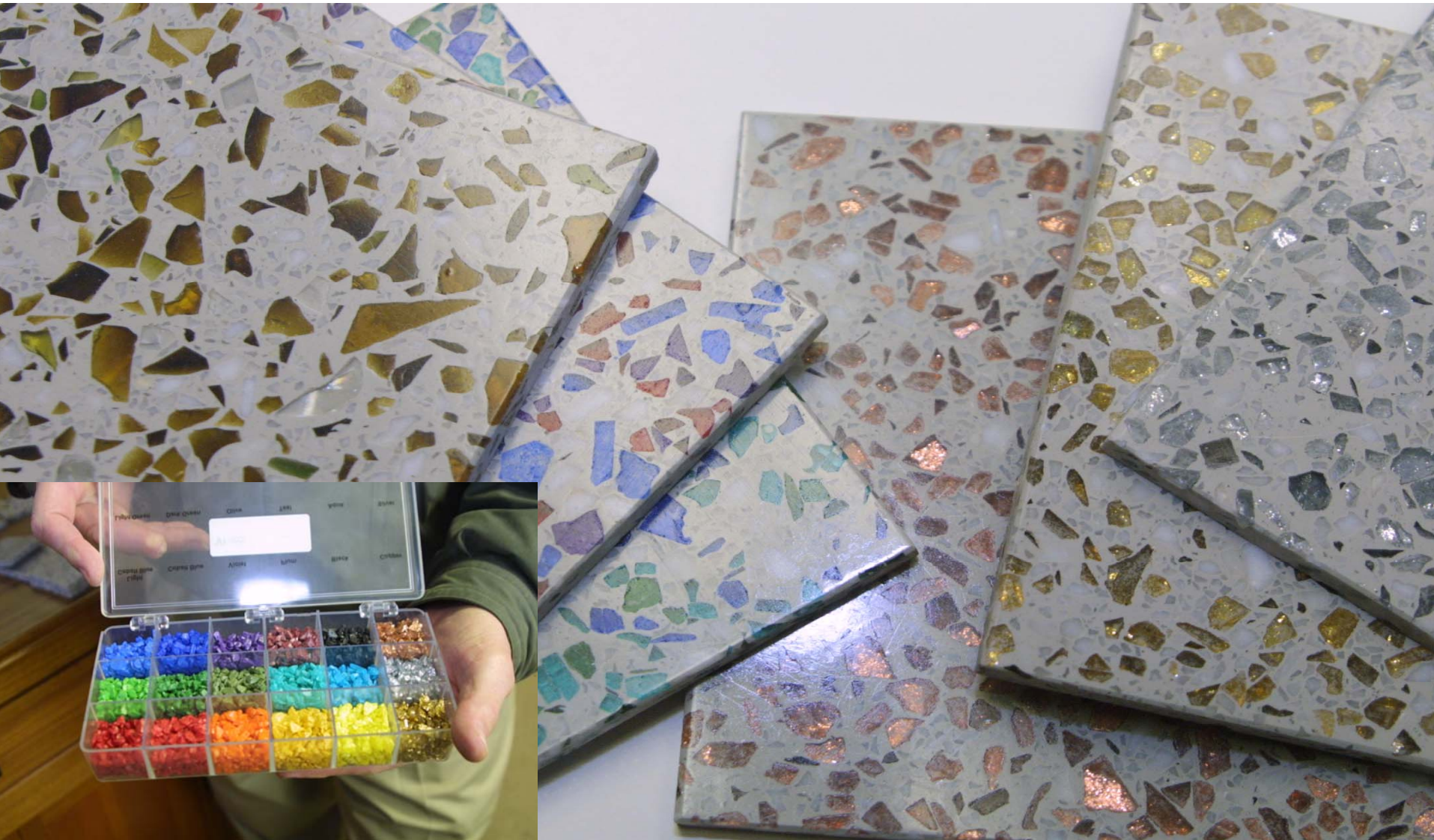


# Recycled Glass decorative tumbled glass





# Recycled Glass terrazzo flooring





# Recycled Glass water filtration media



# Recycled Glass blasting abrasives





# Recycled Urban Wood

## landscape mulch and playground chips



# Recycled Paper, Fly Ash and Glass countertops





# Salvaged Wood and Wood Alternatives furnishings



# Recycled Textiles Cotton Insulation





# Cork – a rapidly renewable resource

## Flooring

