

Charting a Course to Energy Independence

Providence, RI
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Managing Materials in a Material World



Comprehensive Procurement Guidelines Program USEPA



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TODAY I WILL

- Define materials management and the relationship to a products life cycle
- Explain how materials management is related to resource conservation, energy and climate change
- Identify actions that make a difference i.e. follow the waste management hierarchy and buy recycled

Resource Conservation and Recovery Act

- RCRA, Subtitle F – Federal Responsibilities
- Section 6002 - The CPG program is authorized by Congress under Section 6002 of the Resource Conservation and Recovery Act (RCRA) (1984 Amendment)



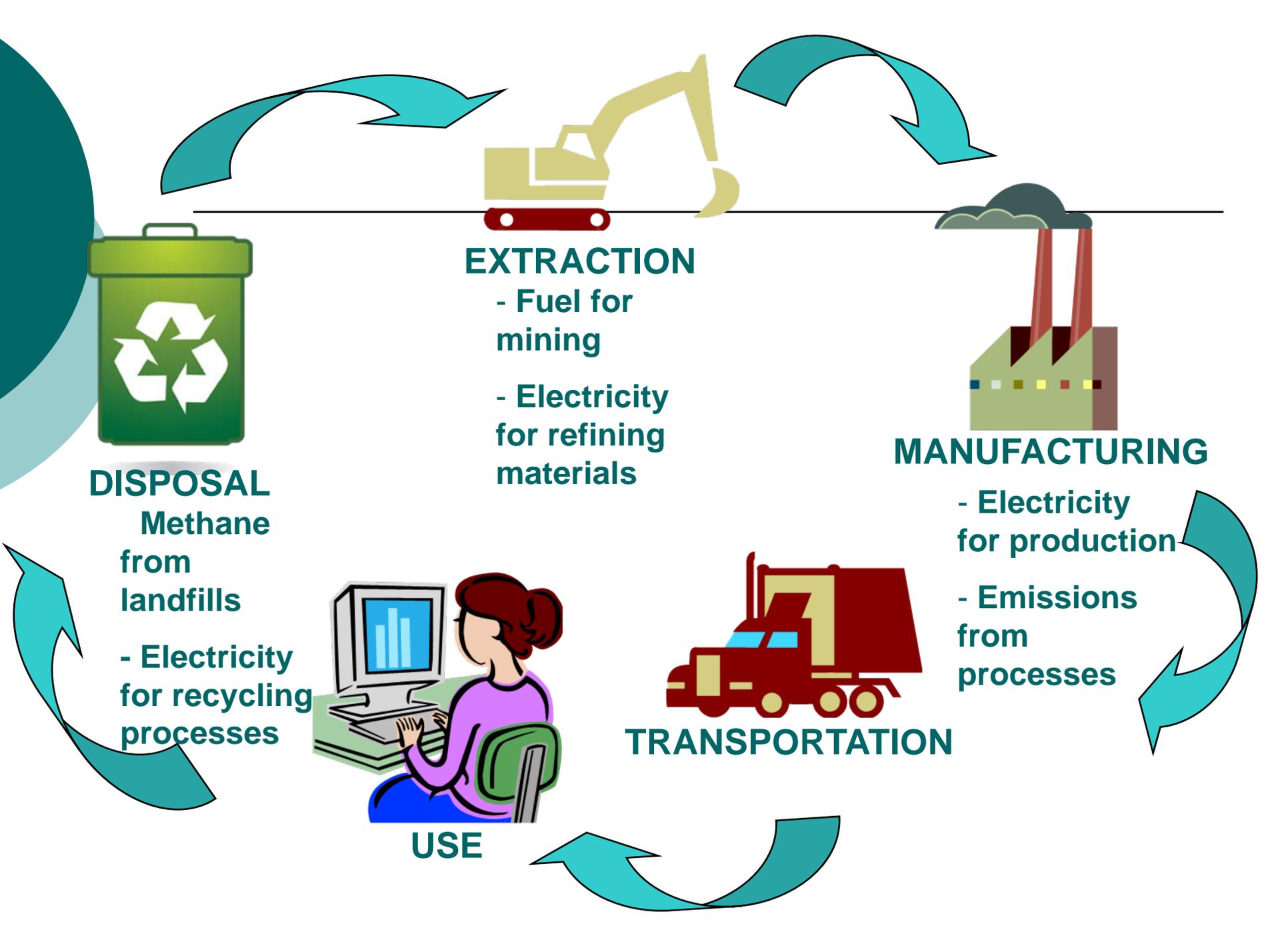
E.O. 13423, *Strengthening Federal Environmental, Energy, and Transportation Management*, 1/24/07

- The order sets goals in the areas of energy efficiency, **acquisition**, renewable energy, toxics reductions, **recycling**, renewable energy, **sustainable buildings**, electronics stewardship, fleets, and water conservation
- The head of each agency shall ensure that the agency reduces the quantity of toxic and hazardous chemicals and materials acquired, used or disposed....."
- The head of each agency shall ensure that new construction and major renovation of agency buildings comply with the *Guiding Principles for Federal Leadership in High Performance and Sustainable Buildings...."*

Definition



Materials Management - considering the greenhouse gases produced during all stages of a product's or material's life when making decisions related to purchasing, recycling, composting, and disposal.





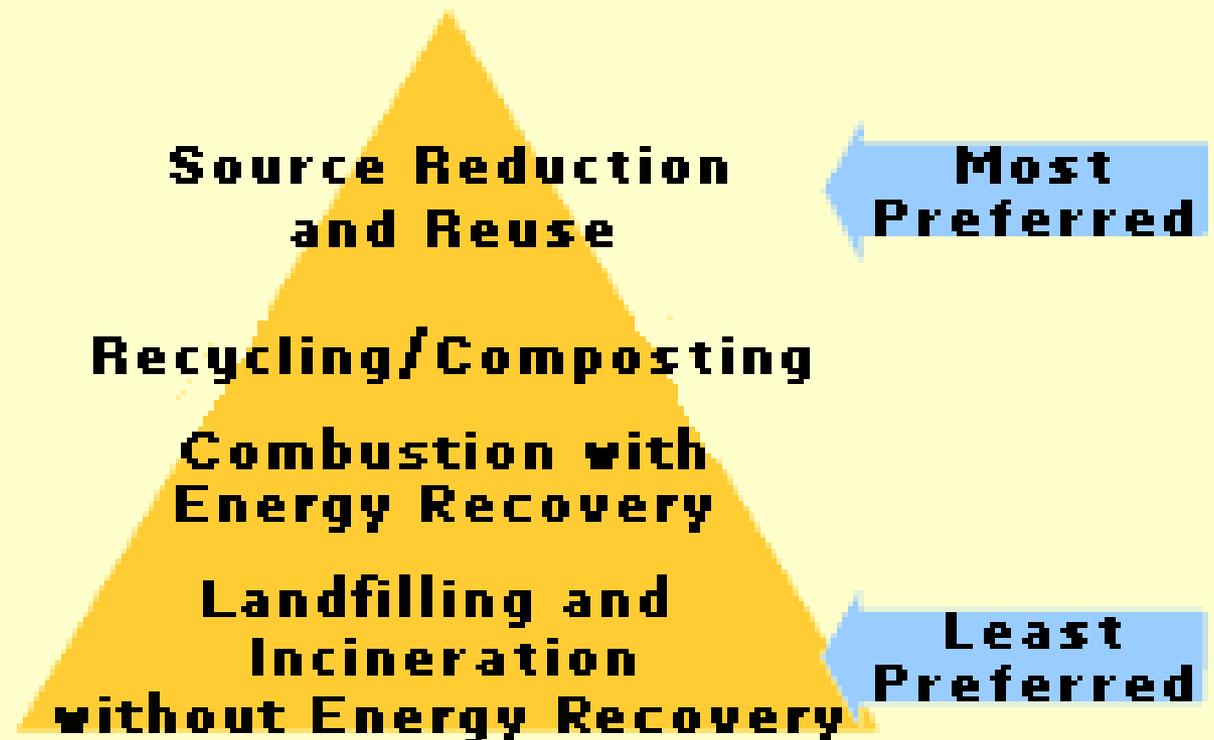
The Energy & Climate Connection to MSW

- Products (i.e. building materials) have energy impacts and associated GHG emissions at each stage of their life cycle.
 - acquisition of raw materials,
 - manufacture of raw materials into products,
 - product use by consumers, and
 - product disposal.

Embodied Energy

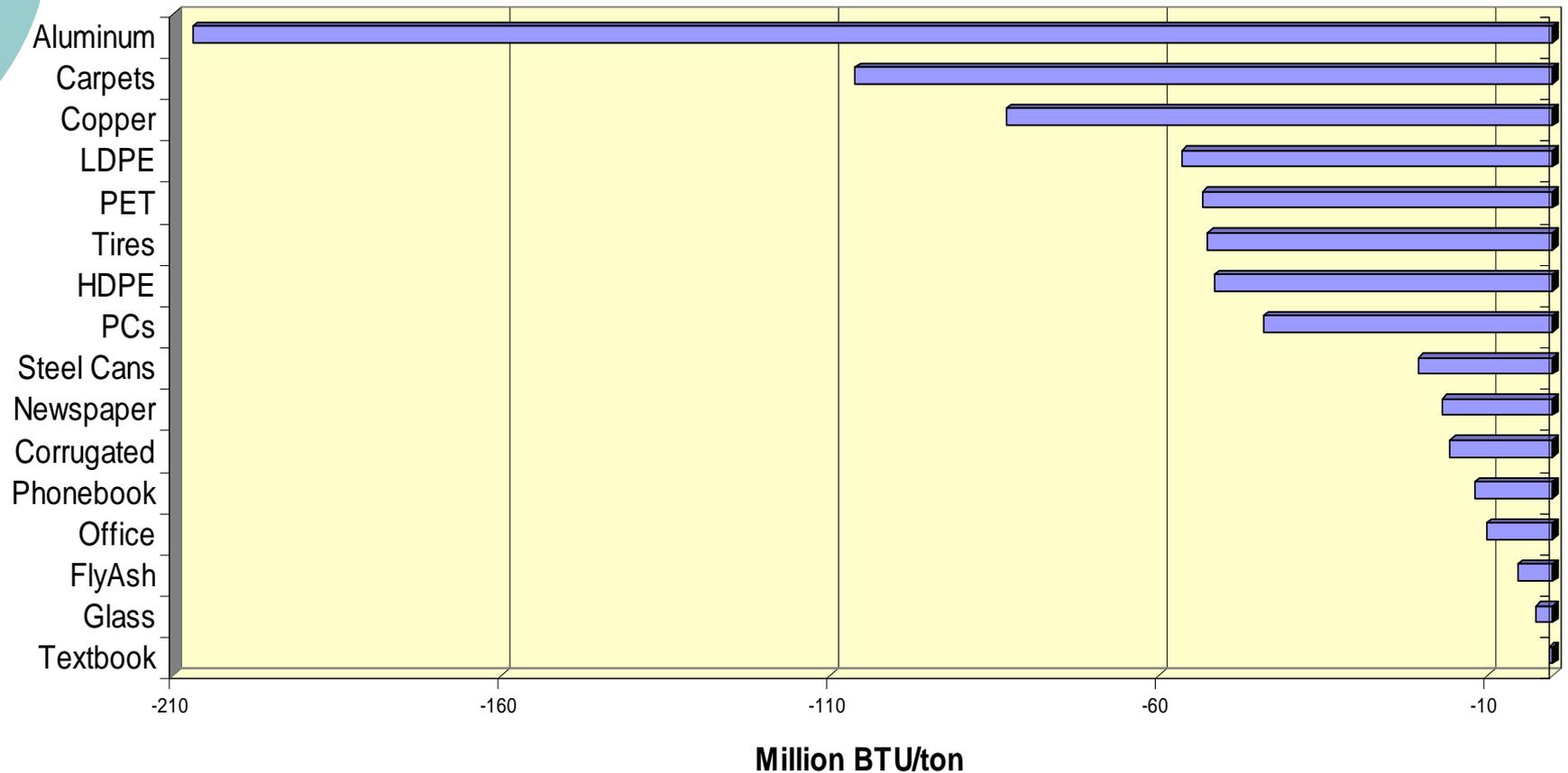
- Embodied energy is the total energy from a material's lifecycle including extraction, manufacturing, and disposal.
- To combat climate change, green builders must reduce not only operational energy, but also embodied energy in building materials.
- **Measurement tool used to calculate GHG reduction:** Waste Reduction Model (WARM)
www.epa.gov/climatechange/wycd/waste/calculators/Warm_home.htm

Solid Waste Management Hierarchy



Some Common Recycled Material Savings

Energy Savings per Ton Recycled



Why Materials Management Matters

Energy Savings and CO2 Emission Reductions

- Using recycled materials preserves the energy that would have been used to extract, transport, and process virgin materials.
- Using recycled materials in manufacturing reduces energy usage



Building Materials

Building construction uses large quantities of natural resources by the U.S. Geological Survey's estimate, construction activities consume 60 percent of the raw materials, other than food and fuel, used in the U.S. economy



The Greenest Building is the One Already Built

“Preservation saves energy by taking advantage of the nonrecoverable energy embodied in an existing building and extending the use of it”

<http://buildingsdatabook.eren.doe.gov>

Reuse Materials

Reuse of marble
bathroom stall
partitions on a green
roof at
EPA New England's
new office building



RECYCLE and BUY RECYCLED: CLOSE THE LOOP



Brief History

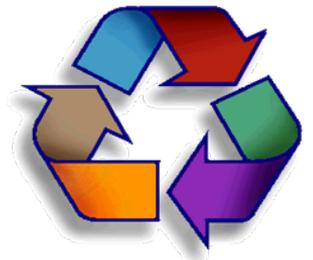


- **The Comprehensive Procurement Guidelines (CPG) program is authorized by Congress under Section 6002 of the Resource Conservation and Recovery Act (RCRA).**
- **RCRA 6002 – 1984 stipulated designation of CPG for Paper, paper products, fibers (from wood, cloth, waste water) and to add 3 product categories (including tires) by October 1985**
- **EPA is required to designate products that are or can be made with recovered materials, and to recommend practices for buying these products.**
- **Once a product is designated, procuring agencies are required to add it to their Green Procurement Program requirements and to purchase it with the highest recovered material content level practicable –within one year from designation**

Federal Government Purchasing of Designated Recovered Content Products Under RCRA Section 6002

The Comprehensive Procurement Guideline (CPG) program is part of EPA's continuing effort to promote the use of materials recovered from solid waste.

Buying recycled-content products ensures that the materials collected in recycling programs will be used again in the manufacture of new products.



RCRA 6002, CPG



- Establishes a government buy recycled program – focused on **post consumer content**
- Applies to “**procuring agencies**”
- Applies to purchases of **\$10,000 per year or more** of a designated item
- Requires an **affirmative or green procurement program/policy**

Procuring agencies – not just Feds

Procuring agencies are defined as:

- **Federal** government departments or agencies
- **State** government agencies that use appropriated federal funds for procurement of a designated product
- **Local government** agencies that use appropriated federal funds for procurement of a designated item
- **Government contractors and grantees** that work on a project funded by appropriated federal funds, with respect to work performed under the contract.





GREEN PURCHASING CAN BE ACCOMPLISHED THROUGH

- **Purchase card/fleet card purchases**
- **Simplified acquisitions (<\$100,000)**
- **Larger (>\$100,000) purchases of supplies**
- **Support services contracts**
- **Detailed scopes of work or performance-based contracting**
- **Purchases from mandatory sources**

CPG continued



- **Criteria to be considered**
 - the **availability** of the product;
 - the potential **impact** of procurement on the solid waste stream;
 - the economic and technological **feasibility** of producing the item; and
 - **other uses** of the recovered materials used to produce the item.
- **EPA also considers** comments from end users, manufacturers, distributors, the general public, and other interested parties through a formal rulemaking process to designate items.



61 CPG Designated Products in 8 categories (CPG I-V)

- Paper and Paper
- Vehicular Products
- Construction
- Transportation
- Park and Recreation
- Landscaping
- Office
- Miscellaneous Products.

Paper and Paper Products

Vehicular Products

Engine Coolants
Rebuilt Vehicular Parts
Re-refined Lubricating Oils
Retread Tires

Construction Products

Building Insulation Products
Carpet Cushion
Cement and Concrete Containing Coal Fly Ash,
Ground Granulated Blast Furnace Slag,
Cenospheres, or Silica Fume
Consolidated and Reprocessed Latex Paint
Floor Tiles
Flowable Fill
Laminated Paperboard
Modular Threshold Ramps
Nonpressure Pipe
Patio Blocks
Polyester Carpet
Railroad Grade Crossing Surfaces
Roofing Materials
Shower and Restroom Dividers and Partitions
Structural Fiberboard

Transportation Products

Channelizers
Delineators
Flexible Delineators
Parking Stops
Traffic Barricades
Traffic Cones

Park and Recreation Products

Park Benches and Picnic Tables
Plastic Fencing
Playground Equipment

Playground Surfaces
Running Tracks

Landscaping Products

Compost Made From Recovered Organic Materials
Fertilizer Made From Recovered Organic Materials
Garden and Soaker Hoses
Hydraulic Mulch
Lawn and Garden Edging
Plastic Lumber Landscaping Timbers and Posts

Nonpaper Office Products

Binders (plastic covered, chipboard, and pressboard)
Office Furniture
Office Recycling Containers
Office Waste Receptacles
Plastic Binders
Plastic Clipboards
Plastic Clip Portfolios
Plastic Desktop Accessories
Plastic Envelopes
Plastic File Folders
Plastic Presentation Folders
Plastic Trash Bags
Printer Ribbons
Toner Cartridges

Miscellaneous Products

Awards and Plaques
Bike Racks
Blasting Grit
Industrial Drums
Manual-grade Strapping
Mats
Pallets
Signage
Sorbents





Recovered Materials Advisory Notice (RMAN)

- For each item designated in the CPG, EPA also publishes corresponding and guidance in an RMAN
- EPA recommends recovered content levels and provides information on specifications for purchasing a particular item and other pertinent purchasing information.

CPG Program



- Today, more and more products are made from recycled materials—from the carpeting and insulation used in office buildings, clothing, and compost, to the reams of office paper purchased each day.
- Buying recycled helps "close the recycling loop" by putting the materials we collect through recycling programs back to good use as products in the marketplace.
- Beware of Green washing!



For more information:

- CPG Web Pages
<http://www.epa.gov/epawaste/conservetools/cpg/index.htm>
- CPG Program Overview Fact Sheet
<http://www.epa.gov/epawaste/conservetools/cpg/pdf/cpg-fs.pdf>
- Products Page:
<http://www.epa.gov/epawaste/conservetools/cpg/products/index.htm>



What about Energy:

- Office of Resource Conservation and Recovery exists under RCRA
- EPA will look at energy savings when designating a product
- Office of Federal Procurement Programs, Office of the Federal Environmental Executive – collect info

Converting Purchased Recycled Content Products to Energy Savings...

Recycled Content (ReCon) Tool.

- The ReCon Tool was developed to assist companies and individuals in estimating the life-cycle GHG and energy impacts of purchasing or manufacturing certain materials of various recycled contents.

Additional Information

Several tools to help determine the greenhouse (GHG) impact of purchasing, manufacturing, and waste management actions

- <http://epa.gov/climatechange/wycd/waste/tools.html>
- http://epa.gov/climatechange/wycd/waste/calculators/ReCon_UsersGuide.html



Actions That Make a Difference

1. Utilize Reuse options
2. Adopt or Expand Recycling and Composting Programs
3. Adopt Construction and Demolition Recycling Policies
4. Purchase Environmentally Preferable Products-
Comprehensive Procurement Guidelines

Questions?

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