

# Denver Solid Waste Management & Denver Recycles Programs



# Solid Waste Management

*What we do....*

- Trash & Large Item Collection
- Recycling Collection
- Composting Collection
- Special Programs: HHW, Electronics, Appliances
- Seasonal Programs: Treecycle, LeafDrop, Mulch Giveaway & Compost Sale, Learn to Compost Classes
- Graffiti Abatement
- Keep Denver Beautiful

# Way Back When...



# The Present



# Moving towards 3 cart system



# Denver Recycles

- Single Stream (recyclables mixed together)
- 173,000 households eligible for service
- 128,000 (75% signed up for recycling)
- Plus City municipal buildings & DPS schools
- Every other week collection
- No fee, opt in service

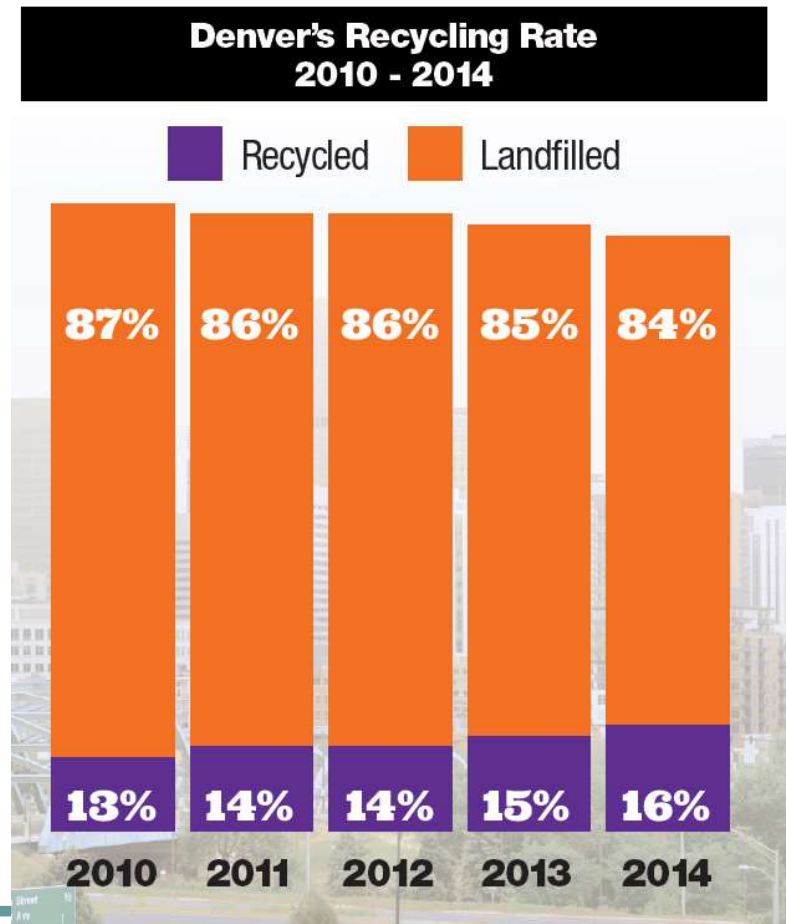


# Denver's Numbers

## 2014 Numbers:

- Recycled 34,350 tons
- Composted 1,915 tons
- Landfilled 208,222 tons

Colorado Recycling Rate is 11%,  
National Average is 34%



# Automated Cart Collection





# Where Does Recycling Go?



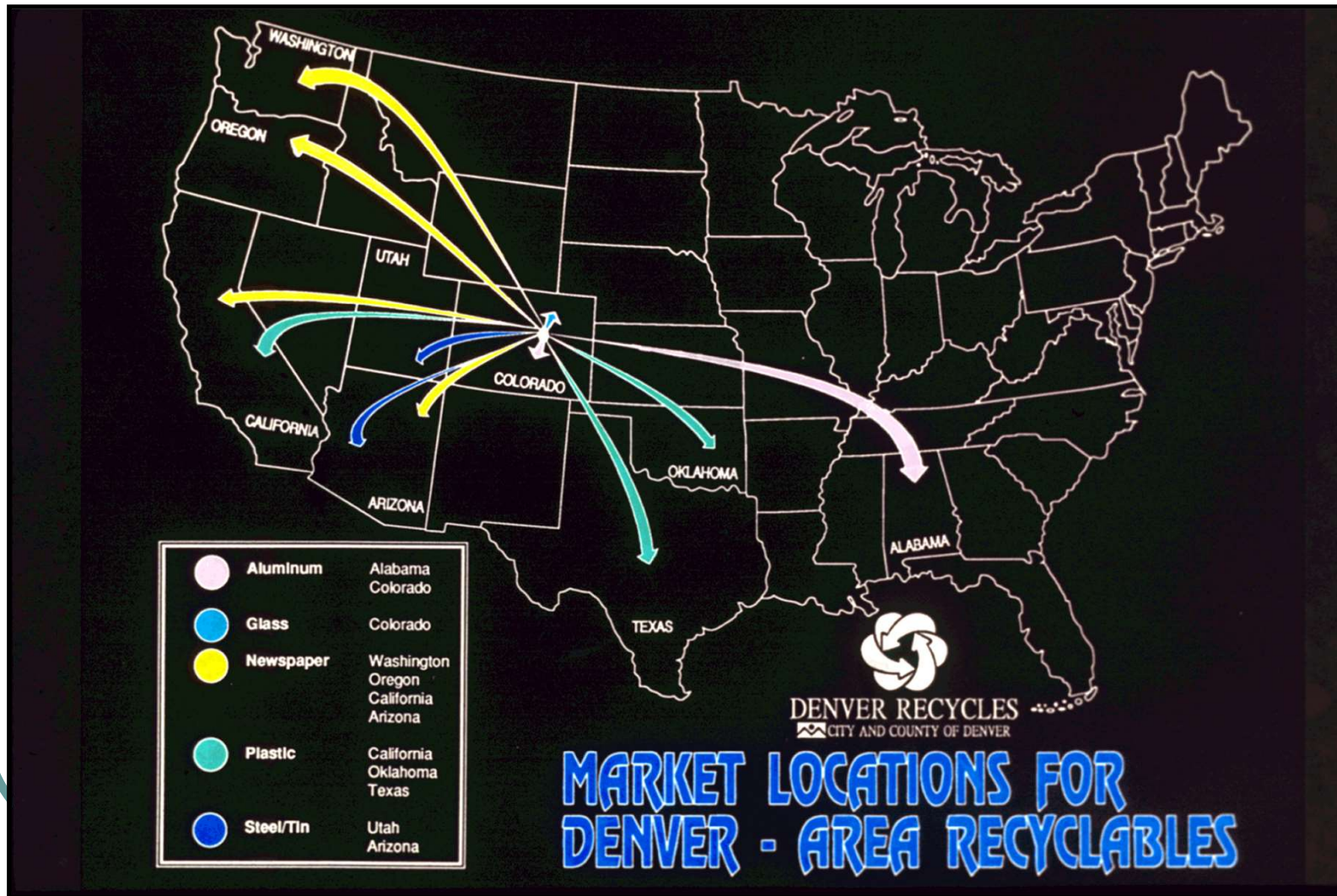
# Recycling Processing



# Preparing Materials for Market



# Market Locations



# Accepted for Recycling



Magazines & Catalogs



Office Paper



Junk Mail



Pizza Boxes



Paper Bags

# Paper Accepted



Newspaper



Phonebooks

Cardboard



Shredded Paper



# Paperboard Accepted



# Containers Accepted

## Aluminum Cans, Foil & Pie Tins



Glass Bottles & Jars



Steel Cans & Empty Aerosol Cans



# Plastics Accepted



All rigid plastic bottles, jugs, jars, cups, tubs, trays and containers #1 through #7

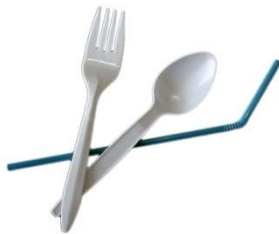
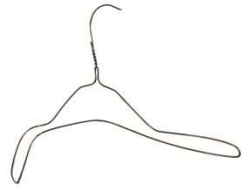


# Cartons Accepted

## Drink, Aseptic & Ice Cream Cartons



# Not Accepted



# Environmental Benefits to Recycling

## CONSERVES NATURAL RESOURCES

- The average American uses seven trees a year in paper, wood, and other products made from trees. This amounts to about 2 billion trees per year!
- More than 100 million trees' worth of bulk mail arrives in American mailboxes each year. That's the equivalent of deforesting the entire Rocky Mountain National Park every four months.

## REDUCES THE NEED FOR NEW LANDFILLS

- Enough plastic bottles are thrown away each year to circle the earth four times.
- Recycling one ton of aluminum saves approximately 10 cubic yards of landfill space.



# Environmental Benefits to Recycling

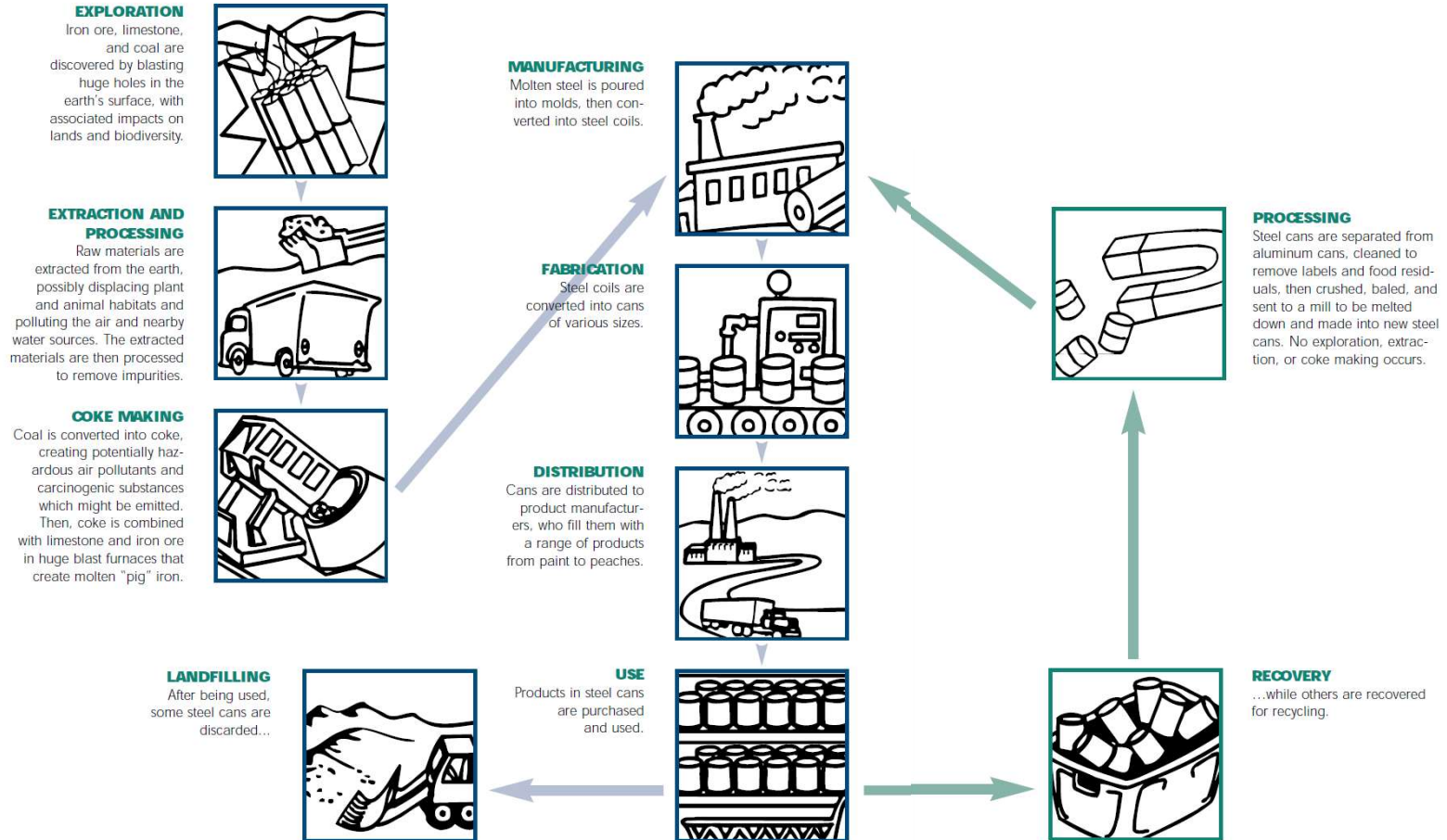
## CREATES JOBS & REDUCES DISPOSAL COSTS

- For every job collecting recyclables, there are 26 jobs in processing the materials and manufacturing them into new products.
- Recycling creates 1.1 million U.S. jobs, \$236 billion in gross annual sales and \$37 billion in annual payrolls

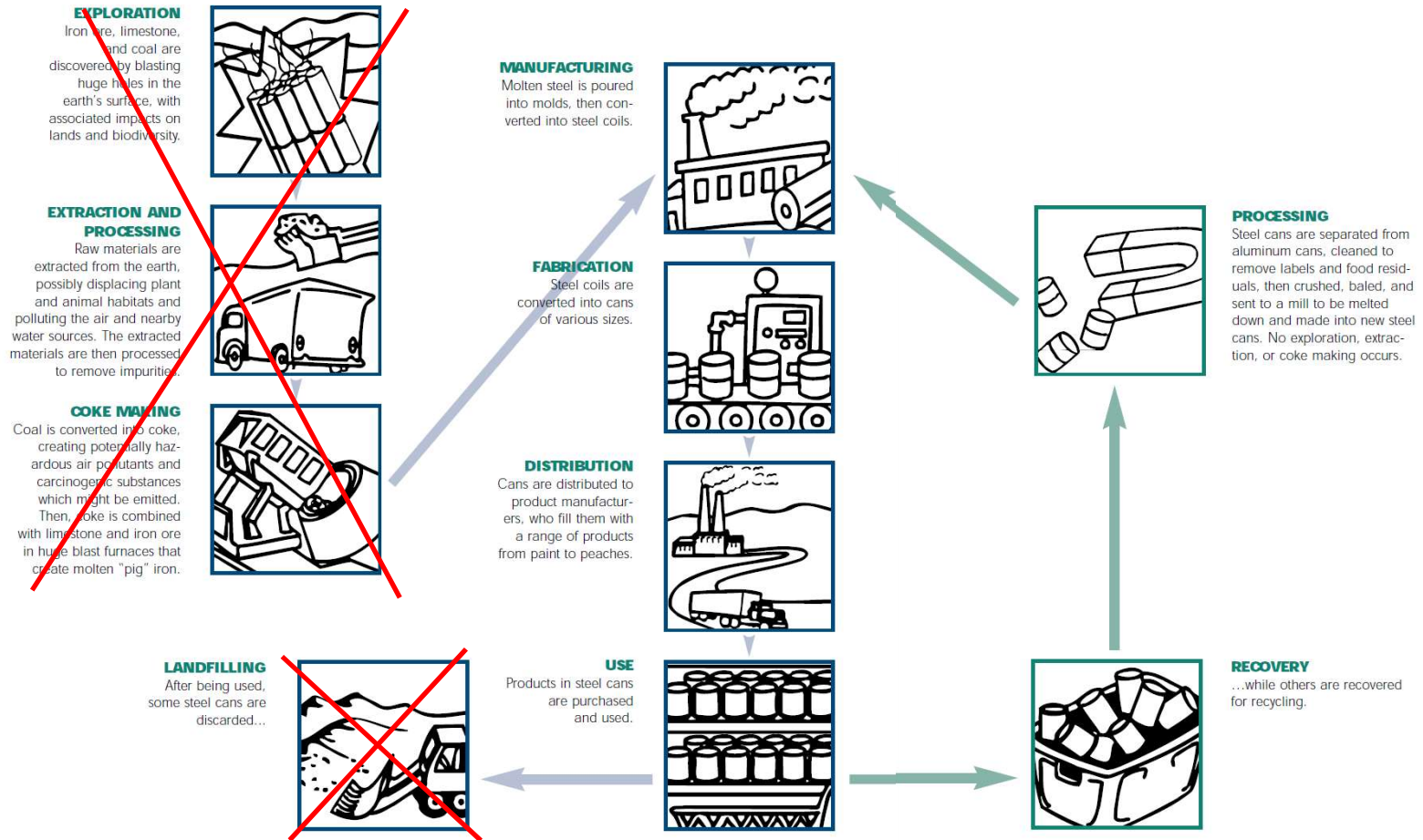
BUT THE LARGER ENVIRONMENTAL BENEFITS ARE UPSTREAM



# The Life of a Steel Can



# Recycling Eliminates Most Wasteful Processes



# Exploration, Extraction, Refining





# Environmental Benefits to Recycling

## SAVES ENERGY & WATER

- Making new aluminum cans from used cans takes 95 percent less energy than making cans from raw aluminum bauxite ore.
- One ton of recycled office paper saves approximately: 4,100 Kwh of energy; 9 barrels of oil; or 54 million BTU's of energy.
- Recycling one ton of newsprint saves an estimated 7,000 gallons of water.

## REDUCES AIR & GROUNDWATER POLLUTION

- Recycling glass reduces related air pollution by 20% and water pollution by 50%.
- Recycling benefits the air and water by creating a net reduction in ten major categories of air pollutants and eight major categories of water pollutants.



# Environmental Benefits to Recycling

## LOWERS GREENHOUSE GAS EMISSIONS

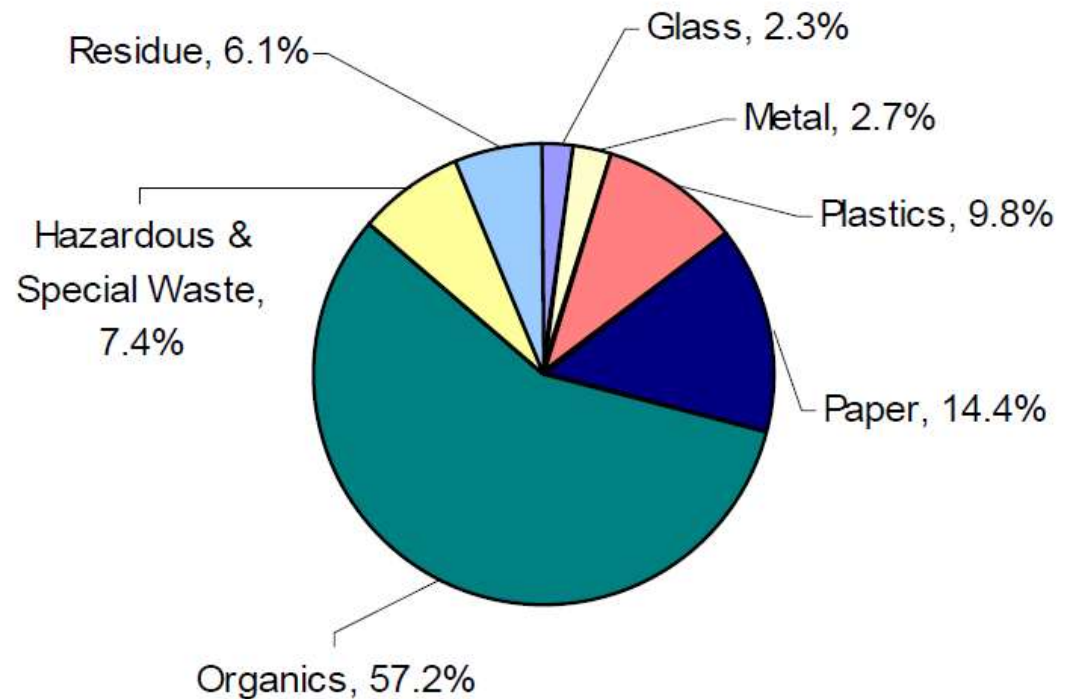
- If an average family of four were to recycle all of its mixed plastic waste, nearly 340 pounds of carbon equivalent emissions could be reduced each year.
- Currently, the U.S. recycles approximately 32 percent of its waste which saves an equivalent amount of greenhouse gases to removing 39.6 million cars from the road. Increasing the recycling rate to 35 percent would reduce greenhouse gas emissions by an additional 5.2 Million Metric Tons of Carbon Dioxide Equivalent.
- Recycling all of its office paper waste for one year, an office building of 7,000 workers could reduce greenhouse gas emissions by 546 Metric Tons of Carbon Dioxide Equivalent. This is the equivalent to taking nearly 400 cars off the road that year.



# Next Greatest Opportunities for Waste Diversion

## Denver's Waste Stream

- 14% food waste
- 29% yard waste



\*2008 Denver Waste Composition Study (by weight)



# Program Basics

- Only homes within existing compost route areas are eligible to participate
- **Subscription based program** at \$9.75 per month (participants pay quarterly or annually)
- Once a week collection, year-round
- Residents provided with green cart, kitchen pail and starter box of small green compostable bags



# Not Accepted in Green Carts

- **No** Plastic, Glass or Metal
- **No** Styrofoam®
- **No** Diapers, Human waste or Pet waste
- **No** Dirt, Sand, Sod, Rocks or Stone
- **No** Lumber or Treated wood
- **No** Liquids, Cooking Oil or Grease



# Where Does it Go?

- Organic material hauled to a commercial composting facility in Keenesburg, CO
- Facility Operated by A1 Organics
- Organic material screened and ground into fine pieces by an industrial grinder



# Producing the Compost Product

- Compost windrows maintained between 90 to 120 days under controlled temperatures and conditions (pathogen destruction and appropriate nutrient values)
- Analytical tests and documentation ensures that the compost is a quality product, meets industry regulations and is ready to be sold on the open market





## Reduction of Greenhouse Gas Emissions

Keeping organic materials out of the landfill and avoiding potent methane emissions is the quickest, easiest and cheapest first step for a community to immediately reduce its Greenhouse gas emissions.

# Next Greatest Opportunities for GHG Reduction

## Greenhouse Gas Emissions

- **Lower Methane** Emissions Through Composting
- **Carbon Sequestering** in Compost and Soils



**Food discards produces 16.2% more methane than the average mixed solid waste loads.**

# Backyard Composting

Free “Learn to Compost”  
Classes offered by Denver  
Recycles in partnership with  
Denver Urban Gardens

Classes FREE

May through October



# Recycling Symbols



All types of symbols. What do they mean?

# Recycling Symbols



**This symbol designates products and packages made with 100% recycled paperboard.**



**HDPE**

**Plastic containers are marked on the bottom with a symbol consisting of arrows in a triangular shape containing a number (1 through 7) and abbreviation identifying the component plastic resin.**

# Post-Consumer vs. Pre-consumer

**Pre-consumer** = Factory or manufacturing “waste” materials put back into the manufacturing process to make products.

**Post-consumer** = Materials that have been used by consumers and returned as recovered materials to make new products.



50% Recycled Paper

35% Post-Consumer

So, what percentage is “Pre-consumer” material here?

## *Look for other products made from recycled materials such as:*

Copy/printer paper, note pads, greeting cards  
and other stationary supplies

Toilet paper

Plastic flower pots, recycling bins toys,  
fencing and decking

Carpeting

Packing boxes

Re-refined motor oil

Retread tires

Automotive batteries

Counter tops

Insulation

Glassware



# Contact Information

Denver Recycles

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