



WASTE MANAGEMENT

**Recycle  
America.**

# **Waste Management Recycle America**

## **The Story of Recycling**



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# What Does Recycling Really Mean?

Recycling is the diversion or “steering away” of materials from the waste stream.

Materials or resources can be processed into new materials and/or manufactured into new products, instead of being buried in landfills as trash.





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## **What Does Recycling Really Mean?**

**How many pounds of waste do Americans  
generate per year (before recycling)?**

4.4 pounds of municipal solid waste (MSW) per day

x

295,734,134 United States residents

x

365 days a year

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Americans throw away =

**474,949,019,204 pounds per year**

**That's 474 billion, 949 million, 19 thousand, two  
hundred four pounds.**



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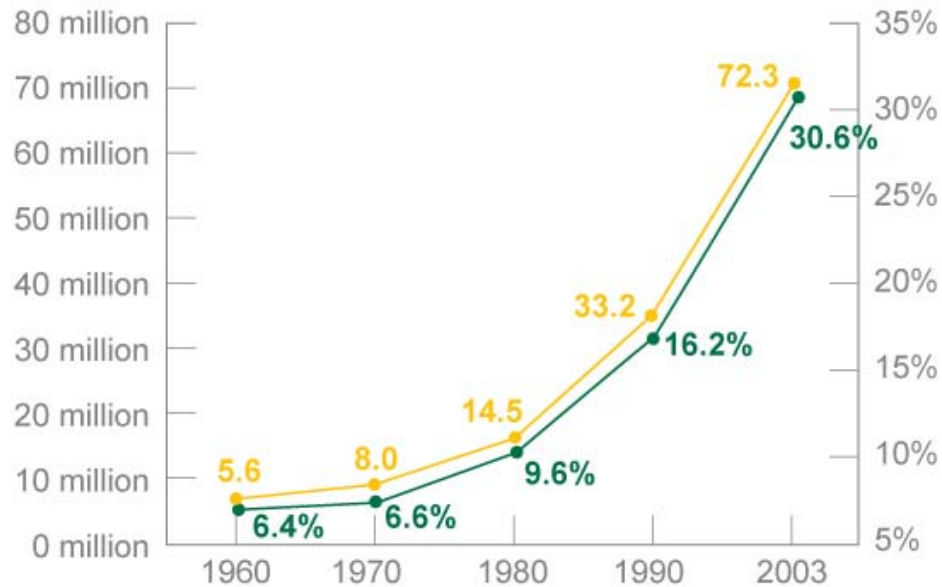
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## The Good News

**Americans are recycling more – and the U.S. EPA hopes this will continue, setting a goal of 35%**

**MSW Recycling Rates 1960-2003**



—●— Total MSW Recycling (millions/year)  
—●— Percent Recycling



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## **We All Benefit from Recycling**

### **The Recycling Industry:**

- Provides stable, beneficial jobs
- Generates state and local government revenues
- Stimulates capital investments
- Helps the environment
- Recycling is great for the economy and our environmental health and sustainability





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## **We All Benefit from Recycling**

### **Recycling helps the environment by:**

- Reducing greenhouse gas emissions
- Lessening the need for new landfills, thereby preserving open space
- Saving energy
- Cutting air pollution
- Conserving resources for future generations



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# **Sustainable Recycling**

**Do we have an economically  
sustainable curbside recycling  
system in the US today?**



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## **What affects the economical sustainability of curbside recycling?**

- **High Collection Costs**
- **High Processing Costs**
- **Capital Intensive**
- **Volatile Commodity Prices**
- **Tight Municipal Budgets**
- **Inbound Quality**





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# **Sustainable Recycling**

**Is the recovered fiber currently sourced  
from curbside programs at risk?**





## **Elements of a Sustainable Residential Curbside Recycling Systems**

- **Secure Base Fiber Source (ONP, Mix, OCC)**
- **Opportunity to Grow Fiber Sources**
- **Carts Leverage the Collection of Residential OCC and Overall Higher Volumes Per Household/Month**
- **Inbound Quality**





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# **Sustainable Recycling**

**How can single stream affect the economic sustainability of curbside recycling?**



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## **Keys to an Economically Sustainable Curbside System**

- **Single Stream Processing**
- **Every Other Week Collection with Cart**
- **No Sort Glass**
- **Physical Floor Pricing**
- **Upgraded & Consistent Public Education**





## **Single Stream Benefits**

- **Higher Participation, recovery rates**
- **Growing residential fiber stream**
- **Reduced safety risks**
- **Optimized fleet utility**
- **Improved aesthetics**
- **Expand to Multi-family/commercial**





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# **Single Stream Technology**

- **Fiber Quality – Is it an Issue or an Opportunity?**
- **To Date – significant tons have been and are being shipped without quality issues**
- **Opportunity to secure and grow volume**
- **Commercial Single Stream**



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# Single Stream Equipment

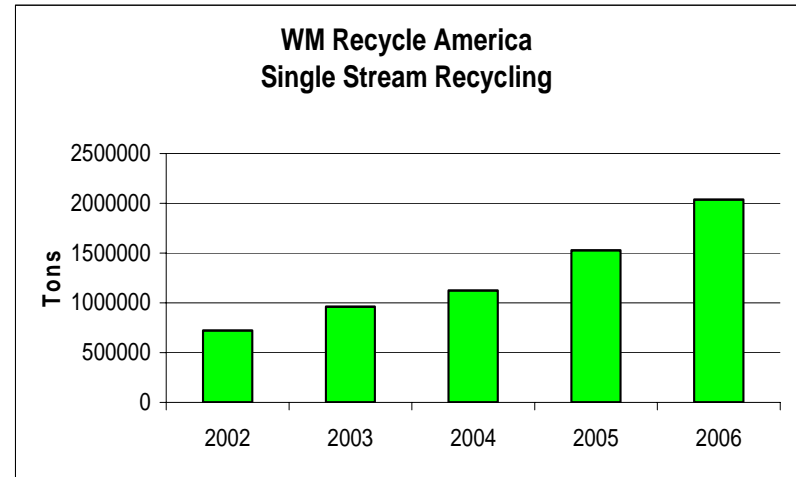
- **New generation of equipment now**
- **Competition between vendors generating technical improvements**
- **Separation of fiber and non-fiber is good**





# Recycle America Single Stream Technology

- **From 2002 to 2006, the volume of material processed in our single-stream recycling facilities nearly tripled, from about 722,000 tons in 2002 to more than 2.0 million tons in 2006.**





# Single Stream Collection Objectives

- **Meet customer demand**
- **Significantly reduce collection truck operating cost**
- **Leverage the use of large body compaction vehicles**
- **Enable opportunities for cart-based semi-automated /fully automated collection**
- **Standardization of the collection fleet.**





# Single Stream MRF Objectives

- **Provide a safe working environment**
- **Effective separation of fiber and non-fiber materials**
- **Reduce labor costs per ton processed**
- **Increase in recovered materials (better yield)**
- **Reduce inbound trash through education**





# Single Stream Pros & Cons

<b>PROS</b>	<b>CONS</b>
Decreased Collection Costs	Increased MRF Capital Costs
Allows Automated Collection	Potential Increased MRF Residue Levels
Higher Participation Rates	Potential for Increased Contamination of Recyclables
Potential Switch to Compaction Vehicles	Increased Labor Costs for Processing





# Residential Summary

- **The Single Stream approach is a key element in**
  - *Reducing the cost per ton of residential recycling*
  - *Making residential recycling economical and sustainable*
  - *“Securing” and growing the residential fiber stream*





- *From everyday collection  
to environmental protection,*

*Think Green.*

*Think Waste Management*

