



U.S. Environmental Protection Agency

Municipal Solid Waste

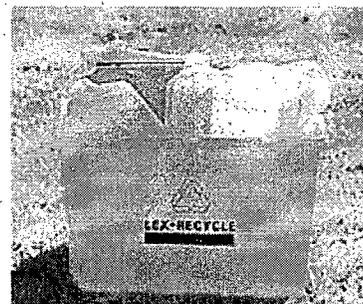
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Basic Facts

Municipal Solid Waste (MSW)

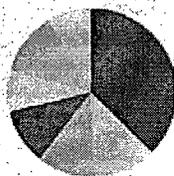
MSW—more commonly known as trash or garbage—consists of everyday items such as product packaging, grass clippings, furniture, clothing, bottles, food scraps, newspapers, appliances, paint, and batteries. To learn more about MSW, view our interactive presentation about [Milestones in Garbage: 1990–Present](#).



In 2005, U.S. residents, businesses, and institutions produced more than 245 million tons of MSW, which is approximately 4.5 pounds of waste per person per day.

2005 Total Waste Generation—  
245 Million Tons  
(before recycling)

- Paper: 34.2%
- Yard Trimmings: 13.1%
- Food Scraps: 11.7%
- Plastics: 11.9%
- Metals: 7.6%
- Rubber, Leather, and Textiles: 7.3%
- Glass: 5.2%
- Wood: 5.7%
- Other: 3.4%

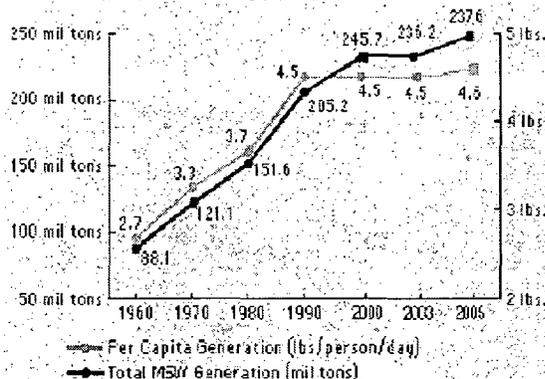


Several MSW management practices, such as source reduction, recycling, and composting, prevent or divert materials from the wastestream. Source reduction involves altering the design, manufacture, or use of products and materials to reduce the amount and toxicity of what gets thrown away. Recycling diverts items, such as paper, glass, plastic, and metals, from the wastestream. These materials are sorted,

collected, and processed and then manufactured, sold, and bought as new products. Composting decomposes organic waste, such as food scraps and yard trimmings, with microorganisms (mainly bacteria and fungi), producing a humus-like substance.

Other practices address those materials that require disposal. Landfills are engineered areas where waste is placed into the land. Landfills usually have liner systems and other safeguards to prevent groundwater contamination. Combustion is another MSW practice that has helped reduce the amount of landfill space needed. Combustion facilities burn MSW at a high temperature, reducing waste volume and generating electricity.

Trends in MSW Generation 1960-2005



Solid Waste Hierarchy

EPA has ranked the most environmentally sound strategies for MSW. Source reduction (including reuse) is the most preferred method, followed by recycling and composting, and, lastly, disposal in combustion facilities and landfills.

Currently, in the United States, 32 percent is recovered and recycled or composted, 14 percent is burned at combustion facilities, and the remaining 54 percent is disposed of in landfills.

Source Reduction (Waste Prevention)

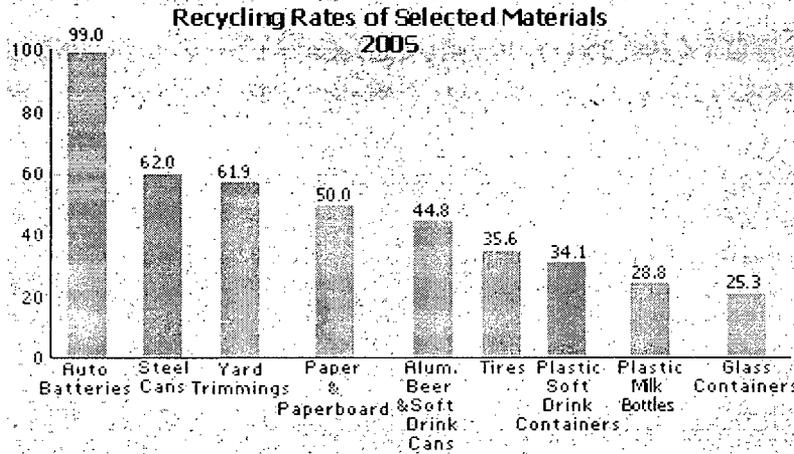
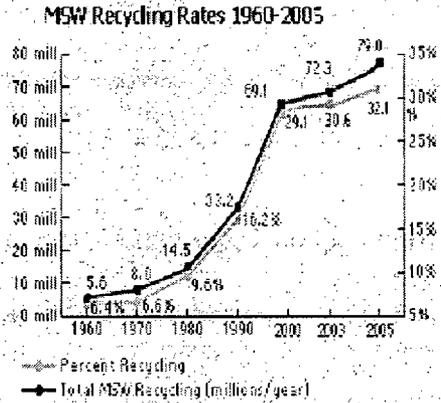
Source reduction can be a successful method of reducing waste generation. Practices such as grasscycling, backyard composting, two-sided copying of paper, and transport packaging reduction by industry have yielded substantial benefits through source reduction.

Source reduction has many environmental benefits. It prevents emissions of many greenhouse gases, reduces pollutants, saves energy, conserves resources, and reduces the need for new landfills and combustors.

## Recycling

Recycling, including composting, diverted 79 million tons of material away from disposal in 2005, up from 15 million tons in 1980, when the recycle rate was just 10% and 90% of MSW was being combusted with energy recovery or disposed of by landfilling.

Typical materials that are recycled include batteries, recycled at a rate of 99%, paper and paperboard at 50%, and yard trimmings at 62%. These materials and others may be recycled through curbside programs, drop-off centers, buy-back programs, and deposit systems.



Recycling prevents the emission of many greenhouse gases and water pollutants, saves energy, supplies valuable raw materials to industry, creates jobs, stimulates the development of greener technologies, conserves resources for our children's future, and reduces the need for new landfills and combustors.

Recycling also helps reduce greenhouse gas emissions that affect global climate. In 1996, recycling

of solid waste in the United States prevented the release of 33 million tons of carbon into the air—roughly the amount emitted annually by 25 million cars.

## Combustion/Incineration

Burning MSW can generate energy while reducing the amount of waste by up to 90 percent in volume and 75 percent in weight.

EPA's Office of Air and Radiation is primarily responsible for regulating combustors because air emissions from combustion pose the greatest environmental concern.

Recycling also helps reduce greenhouse gas emissions that affect global climate. In 2005, the national recycling rate of 32 percent prevented the release of approximately 49 million metric tons of carbon into the air—roughly the amount emitted annually by 39 million cars, or 1400 trillion BTUs, saving energy equivalent to 11 billion gallons of gasoline.

## Landfills

Under the Resource Conservation and Recovery Act (RCRA), landfills that accept MSW are primarily regulated by state, tribal, and local governments. EPA, however, has established national standards

these landfills must meet in order to stay open. Municipal landfills can, however, accept household hazardous waste.

The number of landfills in the United States is steadily decreasing—from 8,000 in 1988 to 1,654 in 2005. The capacity, however, has remained relatively constant. New landfills are much larger than in the past.

**Resource Conservation and Recovery Act**

The Resource Conservation and Recovery Act (RCRA) was enacted by Congress in 1976 and amended in 1984. The act's primary goal is to protect human health and the environment from the potential hazards of waste disposal. In addition, RCRA calls for conservation of energy and natural resources, reduction in waste generated, and environmentally sound waste management practices.

**Household Hazardous Waste**

Households often discard many common items such as paint, cleaners, oils, batteries, and pesticides, that contain hazardous components. Leftover portions of these products are called household hazardous waste (HHW). These products, if mishandled, can be dangerous to your health and the environment.

**Environmental Terms, Abbreviations, and Acronyms**

EPA provides a glossary that defines in non-technical language commonly used environmental terms appearing in EPA publications and materials. It also explains abbreviations and acronyms used throughout EPA.

**Recommended Sources for MSW Information**

- *Municipal Solid Waste in the United States: 2005 Facts and Figures*: Describes the national MSW stream based on data collected between 1960 and 2005. Includes information on MSW generation, recovery, and discard quantities; per capita generation and discard rates; and residential and commercial portions of MSW generation.
- *Decision-Maker's Guide to Solid Waste Management, Volume II*: Contains technical and economic information to assist solid waste management practitioners in planning, managing, and operating MSW programs and facilities. Includes suggestions for best practices when planning or evaluating waste and recycling collection systems, source reduction and composting programs, public education, and landfill and combustion issues.

*Additional MSW materials can be found at Publications.*

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 URL: <http://www.epa.gov/epaoswer/non-hw/muncpl/facts.htm>