



# Environmental Fact Sheet

## Source Reduction of Municipal Solid Waste

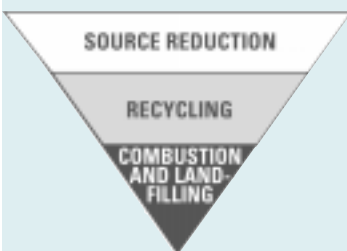
### What Is Source Reduction?

**S**ource reduction, often called 'waste prevention,' is any change in the design, manufacturing, purchase, or use of materials or products (including packaging) to reduce their amount or toxicity before they become municipal solid waste. Prevention also refers to the reuse of products or materials.

The Pollution Prevention Act of 1990 established source reduction as a national policy.

### EPA's Solid Waste Management Hierarchy

In managing solid waste, communities should consider expanding source reduction programs first, then recycling programs, and, finally, determine a proper waste disposal method (i.e., waste combustion or landfilling) for what remains.



**S**ource reduction is the key to solving America's growing solid waste problem. Reducing waste before it is generated is a commonsense way to save financial and natural resources, and it makes good business sense. If the entire country adopted source reduction principles, the strain on our limited natural resources would be dramatically reduced. As many organizations have already realized, source reduction also can cut costs and improve productivity by targeting wasteful processes and products. This fact sheet outlines the significant growth in U.S. solid waste generation and the impact of source reduction on the national waste stream. It also profiles some key source reduction strategies and lists resources for further information.

### The Problem: Too Much Waste

During the past 4 decades, America has witnessed an extraordinary growth in its waste stream. In 1960, 180 million Americans produced 88 million tons of waste (or 2.68 pounds per person per day). In 1997, 266 million Americans produced nearly 217 million tons of waste (4.4 pounds per person per day). As our consumer spending has increased and we have improved our material well-being, we have also become more wasteful. Americans

are buying more and more products, many of which are designed to be thrown away after one use.

Building, operating, and maintaining waste disposal infrastructure costs billions of dollars. Americans also pay for the transportation and disposal of waste, often throwing away valuable resources in the process. The domestic supply of many of these resources is limited.

### The Solution: Source Reduction and Recycling

By reducing the amount of waste generated in the first place, source reduction controls municipal solid waste (MSW) and helps promote the efficient use of our natural resources. It also decreases the pollution generated when unnecessary packaging and product materials are manufactured.

According to available data, current source reduction activities across the country already reduce the volume of our waste stream by 11 percent. In addition, approximately 28 percent of our waste is recovered for recycling or composting. Together, source reduction and recycling divert more than 80 million tons of waste from landfills and combustors each year.

Reduce  *then* recycle 

## Source Reduction Versus Recycling

$$\frac{\text{Source Reduction} + \text{Recycling}}{\text{Waste Diversion}}$$

Recycling is a beneficial way to manage materials that would otherwise become waste. It uses reclaimed material in lieu of virgin material in the manufacture of products. Recycling includes collecting, processing, and remanufacturing recyclable material and buying recycled-content products. Source reduction helps create less waste in the first place. It includes reducing the amount of material used to accomplish a particular task; reusing a product in its original form; or using repairable, refillable, and durable products with the capacity for a longer useful life. All things being equal, source reduction is preferable to recycling. For waste that cannot be prevented, however, recycling is the next best choice.

### A Note About Terminology

MSW includes wastes such as durable goods, nondurable goods, containers and packaging, food scraps, yard trimmings, and miscellaneous inorganic wastes from residential, commercial, institutional, and industrial sources. MSW does not include sewage, hazardous waste, nonhazardous industrial waste, construction and demolition debris, or automobile bodies (household hazardous waste is MSW). This fact sheet examines source reduction from an MSW perspective.

## MSW Source Reduction in Action

Source reduction includes a wide range of activities. Individuals and organizations can practice source reduction for a variety of materials in different settings, from the home to the office to the factory floor.

■ **Backyard composting and grasscycling.** Yard trimmings are one of the single largest components of the U.S. waste stream. Although the percentage has decreased since 1992, yard trimmings still accounted for 12.8 percent of the total waste generated in the United States in 1997. Homeowners can reduce the amount of yard trimmings in the waste stream through backyard composting and grasscycling. Backyard composting and grasscycling are considered source reduction because they prevent yard waste from entering the municipal waste collection system.

Backyard composting is the controlled decomposition of food scraps and yard trimmings in open piles, pits, or bins. Spreading finished compost on lawns and gardens conditions the soil and replenishes vital nutrients.

Grasscycling means leaving short grass clippings on lawns, rather than collecting and bagging them. As the clippings filter to the ground and naturally decompose, nutrients return to the soil and support further turf growth.

■ **Donating textiles.** Textiles accounted for 3.8 percent of the U.S. waste stream in 1997. Over the past 35 years, the amount of textiles in the waste stream has steadily climbed from nearly 1.8 million tons in 1960 to more than 8.2 million tons in 1997.

Americans recover textiles for reuse through donations to local thrift stores, charities, churches, and consignment stores. Donated textiles include clothing, drapes and curtains, towels, sheets and blankets, clean rags, and table cloths. Although some donated textiles are recycled into new fabric, most of them are reclaimed as secondhand clothing or converted into wiping and polishing cloths.

■ **Reducing unwanted mail.** Third-class mail made up 2.2 percent of the U.S. waste stream in 1997. One way Americans can reduce paper consumption at home is by removing their names from bulk mailing lists. Entering a contest, making a donation, purchasing something, ordering a product by mail, or sending in a subscription often results in a new entry on someone's mailing list. Americans can reduce unwanted mail by avoiding unnecessary warranty cards; returning unwanted mail; and by notifying mail-order catalog companies and mailing list brokers that they want their names removed from mailing databases.

■ **Reducing paper consumption at the office.** Office paper, including copier paper, computer printouts, and stationery, accounted for 3.2 percent of the U.S. waste stream in 1997. A wide variety of source reduction activities at the office can help reduce paper consumption:

- Printing and copying double-sided.
- Printing drafts on blank sides of used paper.
- Keeping files on diskettes.

- Reviewing, editing, and finalizing reports or letters on the computer screen before printing.
- Communicating through voice or electronic mail.
- Circulating memos, documents, periodicals, and reports rather than distributing individual copies.

■ **Replacing disposable corrugated shipping containers with reusable containers.** Like yard trimmings, corrugated (cardboard) boxes represent a relatively large component of the U.S. waste stream—almost 14 percent in 1997. Although an impressive 67 percent of corrugated waste is recycled, organizations can generate less of this material in the first place by switching from single-use corru-

gated boxes to reusable containers. Organizations either buy or lease the containers and establish a system for returning emptied containers after shipment. In addition to preventing waste, returnable containers are often less expensive than disposable containers over the long term.

■ **Repairing and reusing wood pallets.** In 1997, 7 million tons of wood pallets entered the waste stream, accounting for 3.2 percent of total MSW generated. Organizations can reduce this waste by repairing used wooden pallets and reusing them. Some businesses repair their own pallets in-house, while others contract with local pallet repair operations. Organizations refurbished and reused an estimated 2.6 million tons of wood pallets in 1997.

## EPA MSW Source Reduction Programs

EPA promotes source reduction through a variety of programs, including the following:

■ **Pay-As-You-Throw Programs.**

EPA provides technical and outreach assistance to encourage communities to implement pay-as-you-throw programs for solid waste. Under pay-as-you-throw, residents are charged for MSW services based on the amount of trash they discard, creating an incentive to generate less trash and increase recycling. On average, communities with pay-as-you-throw achieve waste reductions of 14 to 27 percent. For more information about these programs, access EPA's Pay-As-You-Throw Web site at <[www.epa.gov/payt](http://www.epa.gov/payt)> or call 888 EPA-PAYT (372-7298).

■ **WasteWise.** WasteWise is a voluntary partnership between EPA and U.S. businesses, institutions, nonprofit organizations, and government agencies to prevent waste, recycle, and buy and manufacture recycled-content products. By eliminating more than 1.8 million tons of waste through source reduction in the first 4 years of the program, WasteWise partners prevented the emission of 1.1 million metric tons of carbon equivalent (the basic unit of measure for greenhouse gases) into the atmosphere. More than 750 organizations participated in the WasteWise program in 1998. For more information about the program, access EPA's WasteWise Web site at <[www.epa.gov/wastewise](http://www.epa.gov/wastewise)> or call 800 EPA-WISE (372-9473).

## How Does Source Reduction Affect Climate Change?

**H**uman activities that thicken the gaseous 'greenhouse' around the planet threaten to disrupt the natural atmospheric balance that supports our earth's diverse ecosystems. Source reduction can greatly reduce the release of greenhouse gases into the atmosphere by:

- **Reducing emissions from energy consumption.** When consumers reuse products and manufacturers use less material in their factories, they reduce the amount of energy needed to retrieve, process, and transport raw materials and to manufacture products. When energy demand decreases, fewer fossil fuels are burned and less carbon dioxide is emitted to the atmosphere.
- **Reducing emissions from waste combustors.** Diverting certain materials from combustors reduces greenhouse gas emissions to the atmosphere.
- **Reducing methane emissions from landfills.** Source reduction (including backyard composting) diverts organic wastes from landfills, reducing the amount of methane emitted when these materials decompose.
- **Increasing storage of carbon in trees.** Source reduction of paper products preserves forests that remove large amounts of carbon dioxide from the atmosphere.

# How Do I Get More Information on Source Reduction?

## Information Available From EPA

The following publications are available on EPA's Public Access Server at <[www.epa.gov/epaoswer/osw](http://www.epa.gov/epaoswer/osw)>. They also are available through the RCRA Hotline. To order a document, call 800 424-9346 (or 800 553-7672 for the hearing impaired). In Washington, DC, the number is 703 412-9810 or TDD 703 412-3323. The RCRA Hotline is open from Monday through Friday, 9 a.m. to 6 p.m., e.s.t.

### ▼ EPA's Climate Change and Waste Web Site

[www.epa.gov/globalwarming/actions/national/ccap/waste/index.html](http://www.epa.gov/globalwarming/actions/national/ccap/waste/index.html)

### ▼ EPA's Office of Solid Waste

[www.epa.gov/osw/](http://www.epa.gov/osw/)  
[www.epa.gov/compost](http://www.epa.gov/compost)

### ▼ The Consumer's Handbook for Reducing Solid Waste

(EPA530-K-92-003)

### ▼ Business Guide for Reducing Solid Waste (EPA530-K-92-004)

### ▼ Environmental Fact Sheet: Recycling Grass Clippings (EPA530-F-92-012)

### ▼ Environmental Fact Sheet: Yard Waste Composting

(EPA530-SW-91-009)

### ▼ Enviro\$en\$e

[www.epa.gov/envirosense/](http://www.epa.gov/envirosense/)

### ▼ Electronics Reuse and Recycling Directory (EPA530-B-97-001)

### ▼ Pay-As-You-Throw: Throw Away Less and Save (EPA530-F-96-028)

### ▼ Waste Prevention, Recycling, and Composting Options: Lessons from 30 Communities

(EPA530-R-92-015)

## Other Selected Sources of Information

Some of the publications listed below might require an ordering fee.

### ▼ Reuse it, Repair It, Rent It, Donate It—But Don't Throw It Away!

To order, contact:  
New York City Department of Sanitation  
P.O. Box 156  
Bowling Green Station  
New York, NY 10274-0156  
Phone: 212 837-8089

### ▼ Making Source Reduction and Reuse Work in Your Community

To order, contact:  
National Recycling Coalition, Inc.  
1727 King Street  
Suite 105  
Alexandria, VA 22314-2720  
Phone: 703 683-9025, Ext. 405

### ▼ Making Less Garbage: A Planning Guide for Communities

### ▼ Making Less Garbage on Campus: A Hands-On Guide

### ▼ Reducing Office Paper Waste

To order, contact:  
Inform, Inc.  
120 Wall Street  
New York, NY 10005-4001  
Phone: 212 361-2400

### ▼ Source Reduction Now

How to implement a source reduction program at an organization.

To order, contact:  
Minnesota Office of Waste Management  
1350 Energy Lane  
St. Paul, MN 55108  
Phone: 800 657-3843

### ▼ Weaving Textile Reuse into Waste Reduction

To order, contact:  
Institute for Local Self-Reliance  
2425 18th Street, NW  
Washington, DC 20009-2096  
Phone: 202 232-4108

## Selected Internet Resources

### ▼ California Integrated Waste Management Board (CIWMB)

[www.ciwmb.ca.gov/](http://www.ciwmb.ca.gov/)

### ▼ Indiana Institute on Recycling (IIR)

[web.indstate.edu:80/recycle/](http://web.indstate.edu:80/recycle/)

### ▼ INFORM

[www.informinc.org/](http://www.informinc.org/)

### ▼ National Pollution Prevention Roundtable

[www.p2.org/](http://www.p2.org/)

### ▼ National Waste Prevention Coalition (NWPC)

[www.metrokc.gov/nwpc/](http://www.metrokc.gov/nwpc/)

### ▼ Privacy Rights Clearinghouse's Reducing Junk Mail Fact Sheet

[www.privacyrights.org/fs/fs4-junk.htm](http://www.privacyrights.org/fs/fs4-junk.htm)

### ▼ The Solid Waste Association of North America (SWANA)

[www.swana.org/](http://www.swana.org/)

## National Reuse Organizations

Reuse organizations are points of contact for organizations interested in buying, selling, or donating excess material that would otherwise go to waste. Contact your state recycling agency for information about local and regional reuse organizations.

### ▼ Reuse Development Organization, Inc.

Indianapolis, IN 46244

Phone: 317 631-5396

E-mail: [info@redo.org](mailto:info@redo.org)

Internet: [www.redo.org/](http://www.redo.org/)

### ▼ Chicago Board of Trade Recyclables Exchange

141 West Jackson Boulevard

Chicago, IL 60604-2994

Phone: 312 435-7223

Internet: [cbot-recycle.com](http://cbot-recycle.com)

### ▼ National Association for the Exchange of Industrial Resources

560 McClure Street

Galesburg, IL 61401

Phone: 800 562-0955

E-mail: [donor.naier@misslink.net](mailto:donor.naier@misslink.net)

Internet: [www.freegoods.com/](http://www.freegoods.com/)