



How to Start or Expand A Recycling Collection Program



Recycling involves three steps:

-  Collecting recyclable materials.
-  Using recovered materials as feedstock in the manufacture of new products.
-  Purchasing the recycled products for use again.

In the recycling collection component of the WasteWise program, companies are encouraged to implement the first part of recycling by establishing, expanding, or improving on a program to collect recyclables.

Recycling in commercial enterprises is important because commercial waste makes up about 40 percent of total municipal solid waste. Business and industry operations generate recyclable materials in many areas, such as offices, cafeterias, supply stores, shipping or warehouse units, print shops, and production areas. Many companies are already enthusiastically collecting recyclables in high-profile programs, while others are just beginning. Collecting recyclables costs money, but it also saves money by reducing the volume of waste that must be disposed of. In addition, the sale of some recyclable materials can generate revenues.

This document provides basic information on establishing recycling collection programs in any setting, but focuses on collection in offices. Suggestions are also provided on ways to expand or improve an existing collection program.

What Materials Are Recyclable?

Generally, materials that have recycling potential are those that can be collected in quantity and free of contamination, and that can be economically transported to a processor or end user. A decision to collect such materials also will depend on projected costs and revenues, employee interest, corporate environmental policy, local solid waste laws, and community support for recycling. The following materials are most commonly collected for recycling.

Paper

Most types of paper are recyclable. Office paper is usually collected in two grades: "high-grade" and "mixed" paper. High-grade paper typically consists of white copier paper, white computer paper, white office stationery, and white note paper. Mixed office paper includes nearly all paper generated in an office, including both white and colored paper, newspapers, file folders, manila envelopes, and paperback books. Because it is minimally sorted, mixed paper is considered to be low quality and generally yields very low market prices. Buyers of either type of recyclable paper usually prohibit certain contaminants such as glossy paper, tape, and envelopes with plastic windows. The highest prices are paid for sorted paper with little contamination.

Corrugated Containers (Cardboard)

The commercial sector in the United States generates more corrugated cardboard than any other single material. Cardboard is a very good candidate for recycling because it is easily separated from other materials. In addition, because of its bulk, collecting cardboard for recycling can significantly reduce the amount of waste requiring disposal. This can reduce the number of trash pickups or the size of solid waste containers needed, thereby lowering disposal costs. Collecting cardboard for recycling can involve removing contaminants, flattening boxes, and baling or tying them together for pickup.

Glass

Many buyers require that collected glass be separated by color (clear, green, and brown) before pickup, although some will accept mixed glass. Typically, broken glass and paper labels are acceptable. Most buyers require, however, that glass be clean and free of contaminants such as bottle caps, ceramics, rocks, and light bulbs.

Metal

Aluminum and tin/steel cans, aluminum foil, and other scrap metals are readily recyclable. Some metals, such as copper and aluminum, can yield high market



prices. Collection requirements depend on the metal type and the local market situation.

Plastic

While plastics recycling is a relatively young industry, it is expected to expand as processing technologies develop. To recycle recovered plastic materials into high-quality products, they must be separated by resin type. The plastic resins most commonly recycled are PET (polyethylene terephthalate), used in soda bottles, and HDPE (high density polyethylene), used in milk jugs. Markets are often available to manufacturers and other commercial enterprises that generate large volumes of plastic waste, especially if the plastic is segregated by resin type. In some areas, there also may be buyers for recovered plastics that contain a mix of resin types. Mixed plastics can be used to manufacture items such as plastic wood park benches, garbage containers, and highway barriers.

Other Recyclables

Other materials, such as wood waste and textiles, also are recyclable. To find a buyer, identify the composition of the waste material and the amount generated. Then creatively look for a market for the used material. The local Chamber of Commerce, local business networks, and your local or state government might be able to help you find a market.

How Do I Start a Collection Program?

Obtain Management Support. The first step in planning a collection program is to gain the support of top management. An enthusiastic recycling coordinator should be appointed. That person will need to work with individuals responsible for facilities management, materials handling, transportation, and procurement, as well as with vendors, contractors, employees, and the public.

Form a Team. Many companies have found that forming a waste reduction team helps to ensure a successful program. Together with the recycling coordinator, this group will plan, implement, and manage the program.

The waste reduction team should include employees from many parts of the organization, thereby establishing recycling advocates in all areas of the company. Certain key employees should be enlisted. For example, custodial staff should be integrally involved in creating the collection system, since they are involved in waste management and will be relied on to implement important aspects of the program. Waste reduction team members can also assist with employee education and program evaluation activities.

Know Your Waste. When determining what recyclables your program should collect, it is important to know what waste your company generates. The best way to determine this is to conduct a “waste assessment” (see the tip sheet on *Waste Assessment* or EPA’s *Business Guide for Reducing Solid Waste*). A waste assessment

provides baseline data that can be used to establish waste reduction and recycling goals and to monitor progress.

Set Waste Reduction Goals. The next step is to define your waste reduction goals. EPA’s *Business Guide for Reducing Solid Waste* provides some guidance on how to do this. Ultimately, however, your goals will reflect the amount and type of waste generated, those waste management options that are most feasible and cost-effective for your operation, and other specifics. Remember to first consider activities that actually prevent waste from being generated. Then, examine the waste that is generated to determine which materials could be collected for recycling.

How Do I Find a Market?

Before your recycling program begins, a market must be found for the materials that will be collected. If no market for a material exists, it should not be collected for recycling. Not all markets will pay for recyclables. Some will require you to pay a small fee. However, you may still find this to be more cost effective than paying for disposal of the material.

Demand for products made with recovered material content increases demand for recovered raw materials. For this reason, in addition to collection, WasteWise also encourages businesses to purchase products with recycled content and to use recovered materials in the manufacturing process to help build stronger markets for collected recyclables.

Several types of companies purchase recyclables. These companies are generally referred to as “vendors.” A company that helps set up the collection program might also buy the material. Recyclables also can be sold directly to the processor who prepares them for the end user or manufacturer, or to a broker who will market the materials to processors or end users. The arrangements you make will be unique to your company and the company collecting the materials.

In many cases, a vendor will be easy to find in the telephone book. In other cases, more research might be required. Sometimes a new market might need to be developed for a material. Your local or state government recycling offices, the local Chamber of Commerce, or a local or regional recycling organization might be able to help you find or develop markets for materials you intend to collect. In addition, other businesses might be able to use these materials. A neighboring business might, for instance, be able to use your recovered materials in their production process. An organization, such as a “waste exchange,” can provide the necessary communication link between those who have materials that could be recycled and those who are looking for materials to use in their production processes.

What Must I Know to Sell the Material I Collect?

Buyers of recovered materials will be interested in both the quantity and quality of your recyclables. These fac-

tors will influence the price they will pay for your collected materials. The economic value of recovered materials also depends on how they will be used, as well as on the prices manufacturers must pay for comparable virgin raw materials. Keep the following points in mind when you plan your collection program.

Quantity Considerations. Aggregating sufficient quantities of recyclables is important because vendors cannot always afford to handle and transport small amounts of material. The marketing potential of your recyclables can be improved if you cooperate with neighboring businesses that generate the same types of materials. For example, businesses in the same building or in a shopping mall might share storage space for recyclables at the loading dock or other central location. Together, they can find a buyer for the larger quantity of material. Businesses also might be able to share processing equipment, such as balers.

Quality Considerations. The second key to selling recyclable materials is meeting the buyer's quality requirements. Quality refers to the extent to which the materials are clean, consistent, and contaminant-free. Your program should stress the importance of minimizing contamination and collecting high-quality recyclables. The vendors you ultimately contract with will provide specific quality requirements and explain how the material must be sorted and prepared.

How Do I Actually Collect and Store Recyclables?

Once you have decided what materials to collect and you have located a vendor, it is time to set up your collection program. Use your ingenuity and creativity to design a program that suits the specific needs of your business.

Place collection containers in convenient locations as close as possible to areas where recyclables are generated. For instance, in an office paper collection program, it is most convenient for individuals to have small paper collection containers at their desks. Employees or custodial staff can then transfer the paper collected in these small containers to a larger central collection point. Convenience is especially important in a manufacturing setting where employees might have little time to properly separate materials.

Recyclables that are generated in small quantities can be collected at central drop-off points. For example, beverage containers can be collected at drop-off points located in lunch rooms, cafeterias, or near building exits.

How Do I Involve, Educate, and Motivate Employees?

Employee involvement, education, and motivation is critical to the success of your entire waste reduction program. These factors certainly will affect the quality and, therefore, the marketability, of the materials collected. Remember that employee education and pro-

gram promotion will be ongoing components of your recycling program, so plan and budget accordingly.

At the offset of the program, send a kick-off memo from senior management announcing the recycling program and requesting the involvement of all employees. The memo might encourage employees to volunteer to become members of the waste reduction team. Involving employees at the planning stage will give them a sense of ownership, making it more likely that they will support the program. Soliciting feedback from employees during program implementation will ensure their continued involvement.

If you are a manufacturer setting up a collection program, involve employees who work in production areas where materials will be recovered for recycling. They are already familiar with the manufacturing process and might have ideas about how to most successfully collect recyclable materials.

It is also important to teach employees how to properly participate in recycling by providing simple and concise information on what to do. A 20-minute training session for small groups can be very effective in explaining the details of the program. New employees can be trained during orientation sessions. Be sure that the custodial staff is well trained and understands the importance of its role in the program.

Beyond involving employees in planning and training them how to participate, employees must also be encouraged to participate on a regular basis. Employees will be more likely to participate enthusiastically if they understand the benefits of waste reduction and recycling, both for the company and for the environment. Ways to keep employees involved and interested include giving them feedback on program successes and having an awards program.

How Do I Monitor and Evaluate the Collection Program?

Monitoring and evaluating the program should be done on a regular basis. Maintain accurate and up-to-date statistics, such as the types and amounts of material collected, prices paid by vendors, and contaminant levels. Use this information, as well as feedback from employees, to evaluate the program and make changes as needed. For example, contamination could be reduced by placing larger signs on collection containers or by increasing the number of collection containers.

If your collection program is already underway, WasteWise asks that you improve or expand it. Some ways that you can accomplish this are:

- Increasing the collection rate per material.
- Adding materials to your collection program.
- Reducing contamination through employee education or by redesigning the collection system.
- Increasing employee or community education.

- Initiating community projects to increase recycling.
- Reorganizing the structure of the recycling system to make it more efficient.

There are other ways to improve or expand your recycling collection program, so be creative!

What Additional Information Is Available from EPA?

Order the following EPA document from the EPA RCRA/Superfund Hotline at 800 424-9346 or TDD 800 553-7672 for the hearing impaired. For Washington, DC, and outside the United States, call 703 412-9810 or TDD 703 412-3323.

Business Guide for Reducing Solid Waste (EPA530-K-92-004), 1993. Free.

This is a comprehensive how-to guide on assessing your facility's solid waste and choosing cost-effective waste reduction actions.

Order the following document from the National Technical Information Service (NTIS) at 703 487-4650.

Office Paper Recycling: An Implementation Manual (PB90-199-431), 1990. \$22.50.

This detailed manual explains how to set up an office paper collection program and provides examples of successful programs.

Sources of Additional Information

The following list of resources is not intended to be comprehensive and does not constitute EPA endorsement of products. The documents referenced are those WasteWise found to be most useful.

For further information, WasteWise members are encouraged to contact their state and local governments, many of which have manuals on setting up collection programs and information about markets for collected recyclable materials. Please let us know of other resources you have found to be helpful.

National Office Paper Recycling Project, information/enrollment package. Free.

U.S. Conference of Mayors
National Office Paper Recycling Program
1620 Eye Street, NW.
Washington, DC 20006
202 233-3089

Business Recycling Manual, 1991. \$90.00.

This comprehensive manual provides a systematic approach to establishing a recycling program in businesses. Topics range from negotiating with haulers to sustaining your program over the long run.

INFORM, Inc. and Recourse Systems, Inc.
381 Park Avenue South
New York, NY 10016
212 689-4040

Guide To Commercial and Institutional Recycling, 1992. \$10.00.

This comprehensive guide explains how to establish a waste reduction and recycling program, including conducting a waste assessment, employing an eight-step approach to office recycling, and buying recycled products.

Northeast Maryland Waste Disposal Authority
25 South Charles Street, Suite 2105
Baltimore, MD 21201-3330
410 333-2730

RecycleLine

RecycleLine is an online recycling network and resource center. It offers continually updated information on recycled products, markets, equipment, and services.

P.O. Box 32428
Louisville, KY 40232
800 824-2144

Waste Cap Interactive Computer Model (WICM). \$10.00 outside New Hampshire.

This menu-driven program for personal computers can help identify and evaluate recycling opportunities in your organization.

Emily Hess, Director
Business and Industry Association of New Hampshire
122 North Main Street
Concord, NH 03301
603 224-5388
603 224-2872 (FAX)



WasteWise is a partnership between EPA and America's leading businesses. Participants set their own waste prevention, recycling, and recycled product purchasing goals. WasteWise supports company efforts through technical assistance and recognition of participants' successes.

For more information about any aspect of WasteWise, call 800 EPAWISE (800 372-9473).