



Fact Sheet

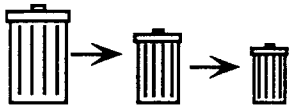
OFFICE OF WASTE REDUCTION SERVICES

State of Michigan • Departments of Commerce and Natural Resources

WASTE REDUCTION OVERVIEW

You and your business can contribute to a substantial reduction in the toxicity and volume of waste produced in Michigan. This effort will not only lessen dependence on the state's overburdened landfills, but will reduce escalating waste transportation and disposal costs.

Rethink the way you look at waste to achieve substantial reductions in your waste volumes.



Rethinking waste management means prioritizing reduction options, toward *preventing* waste.

Imagine — not creating waste in the first place! This shift in thinking from “how do I get rid of waste” to “how do I prevent waste” is at the top of the *hierarchy* of waste reduction options, that will help businesses structure a new approach to waste management:

Source Reduction

don't produce it in the first place

Reuse

give it a second life

Recycling and Composting

recover valuable resources

This waste reduction hierarchy establishes *priorities* for how to think about waste management options. Your management strategy will include a blend of practices since inevitably, these options will overlap. Overall, the hierarchy will help you make decisions about which option is best. For example, recycling cardboard is an excellent option, however, it ranks third on the list of importance. Reuse, in the

form of returnable and reusable containers, is generally a better option. Eliminating packaging all together (source reduction) by shipping materials in bulk is even better than the reuse option, in some cases.

Examining each waste your company generates for its optimum reduction potential will get you on your way to cost efficiency and a waste-free future.

SOURCE REDUCTION

Source reduction is a philosophy or practice of not creating or generating waste materials. Minimize the environmental and financial impact of waste by not creating it in the first place. Increase efficiency, substitute materials or change processes so that fewer waste materials are produced.

Your most cost-effective and desirable approach to sound waste management is to prevent wastes from being produced at all. A few general tips can be applied to a variety of businesses and waste streams to help prevent waste generation. Many of these options have side benefits for your firm, as well. These approaches include:

- **Renewed Commitment to Quality Control:** Upgrade equipment and improve quality monitoring systems to improve production efficiency. This will result in fewer rejected products and generally less



waste. Improve worker training to reduce production of inferior products. Improve inventory systems to reduce inventory needs and increase material handling efficiency. This can mean less waste because raw materials are kept from spoiling, warping or becoming obsolete. You can also send faulty inputs back to suppliers to send a strong signal that quality counts.

- **Durability and Repairability:** Choose equipment and machines which are durable (thus longer-lasting) and which you can repair. This extends the life of equipment and avoid discarding it. Negotiate service contracts. Practice regular maintenance.
- **Input Substitution:** Examine your raw materials for ways to reduce the toxicity or volume of waste. This might mean using an input that is easier to recycle than another.
- **Input Packaging:** Work with suppliers to reduce the amount of packaging that is sent to you. Buy in bulk, and ask vendors to eliminate unnecessary plastic wrapping or foam padding. Insist that suppliers backhaul their containers and packing materials.
- **Office Management:** Two-sided copying, computerized bulletin boards, routing slips and central filing are just a few examples of many ways to reduce office paper waste and save the cost of purchasing supplies.

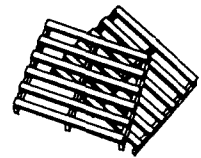
Recycling can eliminate a substantial portion of a business' waste, resulting in reduced disposal costs, and revenues from the sale of recyclables.

REUSE

Reuse is the use of a product at least twice, without changing its original form. The secondary user may be the same as, or different from, the original user.

Each time a good is reused, a new one need not be manufactured, purchased, or disposed. In other words, don't throw away a good thing. When designing or procuring products and packaging, consider the potential reuse of scrap, containers and other materials.

- **On-site Recovery:** Recover cooling waters, used solvents, waste heat, plastic scrap, trimmings and other production materials to save money and materials.
- **Reusable Pallets and Containers:** Work with suppliers to develop returnable containers and pallets. Program implementation requires some up-front capitalization costs, but you will save in disposal costs and your supplier will save on materials costs. This may keep your raw material or "piece price" costs down in the long run.
- **Remanufacture:** This industrial process involves the restoration of worn-out products to a like-new condition. Discarded products are disassembled, usable parts cleaned and refurbished, and the product reassembled from old and new parts. Those materials commonly targeted for remanufacture include automotive parts and industrial equipment. By purchasing remanufactured goods, you reuse products which might otherwise have been disposed of, and support an important remanufacturing industry.



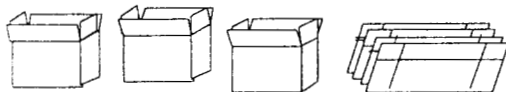
- **Reusable Products:** Reusable napkins, dinnerware, placemats, tablecloths, coffee mugs and condiment containers are common waste reduction items for restaurants. In the office, use refillable pens, the second-side of scrap paper for drafts, memos, scratch pads and telephone messages. Retailers can package sales in returnable or reusable containers. Manufacturers can reuse packing materials and pallets. Design products for reuse, and actively market and procure items which are reusable instead of disposable.

RECYCLING AND COMPOSTING

Recycling is the collection, separation and recovery of useful materials, which cannot be directly reused and would otherwise be discarded as waste. Composting is the biological decomposition of organic materials such as leaves, grass clippings, brush and food waste into a material known as humus, that can be used to enrich the soil. It is nature's way of recycling nutrients.

The waste streams of most commercial and industrial establishments contain high percentages of homogeneous, recoverable materials. Recycling can eliminate a substantial portion of your waste, resulting in reduced disposal costs, and revenues from the sale of recyclables.

The solid waste from office buildings, financial and insurance firms, for example, contains more than 60 percent recyclable paper. High grade office paper, including computer printout and letterhead, is one of the most valuable "grades" on the paper recycling market.



Nearly half the waste from wholesale and retail firms is bulky, corrugated cardboard or other container waste. Cardboard is easy to separate from waste and its elimination from dumpsters results in substantial volume reduction, and thus, far fewer waste pickups. Its bulk, volume and marketability also makes it an excellent material to recycle.

Service firms and some manufacturers and distributors will find a significant portion of recyclable plastic in their waste streams.

Restaurants and cafeterias, of course, generate food waste which is compostable, and can be mixed with lawn and other yard waste. These two business types also generate quantities of recoverable glass, tin and plastic.

Materials targeted for recycling or composting should be segregated from waste at the point of generation. Storage bins and collection containers must be clearly marked and sized according to estimated generation rates and storage time. Handling requirements must be considered early in the planning stages.

All businesses with an interest in recycling will want to consider the following approaches:

- **On-site Recycling:** On-site recycling means returning scrap materials to processing or manufacturing operations.
- **Off-site Recycling:** Materials not targeted for on-site recycling must be shipped off-site. Secure a hauler, broker or end-user prior to implementing collection. Determine the level of on-site processing (i.e. glass crushing, paper baling, shredding) needed.

- **Composting:** Restaurants and food processors in particular may want to explore composting of food waste. Contact local municipalities to explore opportunities to co-compost food scraps with leaves, wood chips and other organic materials. Other businesses with large yards can compost yard debris (grass clippings, leaves, brush) for use on-site as a soil amendment.



- **Waste Exchange:** One company's waste can be another's raw material. Explore an informal waste exchange for solid and hazardous waste with other companies, or utilize the services of an organized waste exchange service such as the Great Lakes/Midwest Waste Exchange.

Moving Ahead

This brief overview of waste reduction options is intended to provoke thought and initiate further action. The scope of your waste reduction goals will dictate the amount of effort and resources you expend in this area, however, most waste reduction efforts require planning and careful implementation. Seek the advice of experts, or become an expert yourself. By exploring a variety of options, you'll achieve maximum success in reducing your waste and saving money.

Developed by:

Resource Recycling Systems, Inc.

Funded by:

**The Clean Michigan Fund
Michigan Department of
Natural Resources**

For more information on the subject of waste reduction for businesses, contact the **Office of Waste Reduction Services**, Michigan Department of Commerce, P.O. Box 30004, Lansing, MI 48909; (517) 335-1178.

December 1989 • #8904