



An Ounce of Prevention... SOURCE REDUCTION PROGRAM OPTIONS

Reduction and reuse, the highest priorities on the resource recovery and waste management hierarchy, are the only practices that are preventative (fig. 1). However, they have received little focus compared with recycling because the solid waste issue has been depicted as a waste disposal problem. Recognizing that it is also a **waste generation** problem, local government officials can reduce waste through source reduction and reuse.

Several terms are often used interchangeably to describe these prevention methods including: waste reduction (WI statutes), source reduction and reuse (National Recycling Coalition, [NRC]), and waste prevention (US EPA). Source reduction practices include:

- decreasing consumption
- minimizing materials use
- minimizing use of toxics
- reusing products and packaging
- making and using more durable and repairable products & packaging

Implementing source reduction and reuse practices can improve the overall economics of recycling programs. They are like preventative medicine -- money is saved by implementing them up-front as opposed to paying to clean up afterward. It has been shown that source reduction and reuse save money in purchasing, material use, liability, regulatory compliance, recycling and garbage collection, transportation and disposal costs.

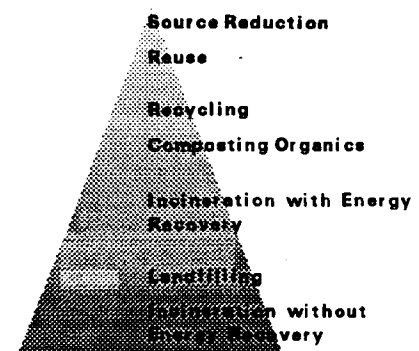
Now that Wisconsin communities have fulfilled state requirements to set up effective recycling programs, local

DEFINITIONS

The definition of **source reduction** as adopted by EPA and the NRC is: "the design, manufacture, purchase, use [or reuse] of materials or products (including packages) to reduce their amount or toxicity before they enter the municipal solid wastestream. Because it is intended to reduce pollution and conserve resources, source reduction should not increase the net amount or toxicity of waste generated throughout the life of a product."

Reuse is defined as "the recovery or re-application of a package or product for uses similar to or identical to its originally intended application. Unlike recycling, reuse does not involve manufacturing or preparation processes that significantly alter the original condition of the package or product."

Fig. 1. Solid Waste Hierarchy



officials can focus on reducing the overall amount of materials their programs have to handle. By taking a comprehensive approach to source reduction, involving all sectors of a community, local officials can help to reduce waste generation and resource consumption. **Local recycling managers can implement a variety of source reduction and reuse programs in the residential, government and commercial sectors. This fact sheet lists those source reduction programs and explores each option.**

Residential Source Reduction Programs

By creating local source reduction opportunities, like sponsoring a volunteer, neighborhood repair center, coupled with a strong education program, local recycling managers can promote source reduction by the residential sector.

These initiatives can include:

Materials Reuse program¹

- ♦ Divert reusable materials at drop-off, curb, in concert with local businesses or nonprofit
 - building materials reuse program (+-) tool rental program for low-income housing rehab
 - regular curbside collection of clothing, small appliances, books, [nonprofit, municipal, private]
 - reuse area at drop-off center for bicycles, equipment, furniture, clothing, remodeling items

Repair Centers

- ♦ Repair equipment to extend the useful life of the product. This results in less materials used and a decrease in waste generation.
 - volunteer neighborhood repair centers
 - repair training programs at local technical colleges

Volume-based rate program²

- ♦ Charge a direct user fee based on the amount of garbage disposed to provide an economic incentive for people to generate less waste, through buying fewer disposable products and less packaging, and through recycling. Costs of garbage disposal (& some of recycling) can be taken off the taxes.
 - pay by bag, tag, sticker or punch card
 - subscription service-- sign up for particular size or # of containers
 - weight-based system-- set fee per pound
 - base rate-- a set fee for a base amount of service, then pay extra for amounts of garbage in excess of the base

Benefits of Source Reduction & Reuse

Source reduction is both cost effective and environmentally beneficial.

Benefits include:

- ♦ \$\$ savings by business, government & the public on:
 - ✓ purchasing
 - ✓ material use
 - ✓ liability
 - ✓ regulatory compliance
 - ✓ collection
 - ✓ transport
 - ✓ disposal
- ♦ conservation of natural resources and energy
- ♦ environmental protection
- ♦ reduced waste production
- ♦ job creation

Source Reduction (SR) & Reuse Programs

Residential programs:

- materials reuse
- repair centers or programs
- volume-based rates
- household hazardous waste collection
- yard material SR
- public education on SR
- forum on SR

Government programs:

- procurement
- SR/waste assessments
- interdepartmental task force
- case studies/recognition
- solid waste plans
- SR practices
- grasscycling
- waste management plans for building
- tracking results

Business programs:

- materials exchange
- training/workshops
- SR/waste assessment
- waste management plans for building
- compost commercial food waste
- case studies/recognition

Household hazardous waste (HHW) collection program³

- Implement HHW collection to keep toxics from entering the municipal solid wastestream (see definition box,pg.1)
 - paint exchange
 - permanent HHW collection site

Yard material source reduction⁴

- Promote managing yard material and food waste in the yard to keep it from entering the municipal wastestream
 - education on lawn alternatives: low maintenance plantings & ground covers
 - grasscycling/leave it on the yard grass program
 - master composter training
 - back yard composting including food materials
 - education on mulching and on alternatives to synthetic chemical pesticides & fertilizers
 - green waste (food and paper waste) community composting

Public Education on Source Reduction

- Conduct a public education campaign on source reduction to help change consumer behaviors
 - precycling education⁵ --teaching decision-making skills on how to shop for the environment (figs. 1 & 2). Include workshops and demonstrations on packaging, products, labeling and HHW [assistance from UW-Extension & Wisconsin Waste Reduction Coalition]
 - precycling promotion -- ad campaign, radio PSA's, flyers, store "shopper bulletins", in-store education
 - household hazardous waste education program
 - directory of repair, resale & rental businesses (including nonprofits) as well as other opportunities for reuse

Source Reduction Forum

- Bring together citizens, business leaders, schools, colleges and local government on a regular basis to share information and to plan and support local source reduction activities

Government Source Reduction Programs

Local government can set an example for the community by implementing source reduction and reuse practices in-house. Track and report on source reduction initiatives in government offices, parks, facilities and on public grounds. Programs for the government sector can include:

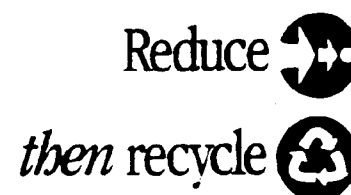


Fig. 2. Source: Minnesota Office of Waste Management



Fig. 3. Packaging Hierarchy

Government SR programs cont'

Procurement

- Write source reduction into bid specifications for purchasing that avoid or reduce waste generation. For example, "Preference will be given to products that create the least solid and hazardous waste while fulfilling their intended function." Use criteria like: repairable, durable, reusable, less packaging, no toxics and source reduced alternative. Examine warranties and leasing options. Include products, equipment, packaging and packing material.

Assessment

- Perform a source reduction/waste audit of municipal facilities to identify source reduction (and recycling) opportunities and cost savings

Task Force

- Establish an interdepartmental source reduction task force. Encourage innovative ideas and reward results.

Case Studies/Recognition

- Identify new and innovative source reduction programs implemented at local government facilities to highlight in newsletters, newspapers, etc. Use these case studies as models for educating others.

Solid Waste Plans

- Include a source reduction goal along with the recycling goal in your solid waste management plan. You can use this tool to analyze the waste stream, to set specific goals, and to prepare an action strategy for source reduction and reuse, as well as recycling, composting and disposal over a 5-10 year period.

Source Reduction Practices

- Implement source reduction measures -- e.g., double-sided copy, refill toner cartridges, use steel air filters, cloth towels and reusable mugs. Maintain equipment and fleet; facilitate repair by standardizing equipment brands for uniformity of parts. Use nonhazardous products for cleaning, operations and grounds maintenance.

How to Track Results of Source Reduction Programs

It is easiest to measure SR on a program by program basis rather than trying to detect overall changes in municipal waste generation. Design each SR initiative to enable measurement. For example, rather than mailing fact sheets to each business, mail a list of resources available with a request form to track the # of requests for information.

Take baseline measurements before program onset to document change.

There are many ways to track results. For example, track:

Residential

- # items brought to & taken from reuse program, # of site visitors, weight of items, estimated value, revenue from sales
- repair programs - status, # of participants, # of items: repaired, returned to owner, resold and donated.

Government

- purchasing costs of each source reduced alternative
- quantity of each item purchased by #, weight or volume
- types & amounts of packaging reduction/reuses per year
- payback on investment in durable equipment, reusable items, etc. Measures: purchase cost, staff time, maintenance, cost of parts, avoided disposal and collection, payback period.

Business

- participation in materials exchange. # of inquiries, listings & actual exchanges. Value & weight of materials, savings
- # businesses requesting fact sheets, newsletters, technical assistance, etc. # phone calls, mail-in requests
- # of businesses conducting SR/ waste assessments. Survey businesses to determine # & types of initiatives implemented
- number of businesses awarded or recognized, # of applicants

Grasscycling

- ♦ Leave grass clippings on public land (golf courses, town hall lawns, etc.). Eliminate use of herbicides and pesticides.

Waste Management Plans for Building

- ♦ Prepare a source reduction/solid waste management plan for each building and remodeling project generating construction materials and demolition debris.

Tracking Results

- ♦ Measure impacts of source reduction programs to help justify allocation of funding and staff time to the preventative methods of solid waste management. Consider how to track results during the program design process. Measure cost and materials savings for each initiative as well as participation (see box, pg.4).
 - determine the effectiveness of various initiatives
 - educate all sectors about successes

Business Source Reduction Programs

Local recycling managers can promote voluntary source reduction activities in industry and business through the following programs:

Materials Exchange

- ♦ Promote a program that can help businesses find a market or an end-user for materials they no longer need. Materials exchange programs link businesses with each other and with non-profits and schools regarding available or wanted surplus or waste materials.
 - local materials exchange – printed listings or exchange expo/swap meet. Network between city, county and businesses [work with local chambers of commerce, public & private entities]
 - education about existing materials exchange programs⁶

Education & Training for Businesses⁷

- ♦ Provide training/workshops, education materials and programs targeted for businesses.
 - workshops to specific business sectors (retail, lodging, manufacturers, etc.) or to all businesses [e.g. Waste Wise Program, EPA]
 - newsletter for businesses [by local government, through local chambers of commerce newsletter or other existing business bulletins]
 - source reduction column in local paper, written case studies, handouts [from UW-Extension, Waste Reduction Coalition, DNR]

Assessment⁸

- ♦ Encourage businesses to conduct in-house source reduction/waste assessments. Refer them to available technical assistance [from UW-Extension/SHWEC, consultants, local program managers].

Waste Management Plans

- File source reduction/solid waste management plans for building projects generating construction materials and demolition debris

Commercial Food Waste Management

- Create the opportunity for reuse of excess food and composting of food waste from restaurants, grocery stores, schools, hospitals, etc.
 - food bank network for leftover foods with local agencies, non-profits, church groups
 - organic composting program [public or private]

Case Studies/Recognition

- Establish, in conjunction with local chambers of commerce, an awards recognition program for business achievements in source reduction.
 - window sticker award to environmentally responsible businesses
 - publicity for businesses that achieve model results
 - written case studies of model programs for educating other businesses

Resources

- 1 - *Starting a Materials Reuse Program*, 605.SG.9307. UW-Extension/SHWEC Waste Education Series.
- 2 - *Wisconsin Volume Based Rate Collection Guide: Economic Incentives for Source Reduction and Recycling*, 615.SG.9311. UW-Extension/SHWEC Waste Education Series.
- 3 - *Household Hazardous Waste Clean Sweep Resource Packet and Updates*, 720.EA.9310. UW-Extension/Environmental Resource Center
- 4 - *Common Backyard Composting Questions and Answers*, 125.HJ.9502A. UW-Extension/SHWEC Waste Education Series.
 - *Composting Bin Distribution: Setting Up a Community Program*, 125.HJ.9502B. UW-Extension/SHWEC Waste Education Series.
- 5 - *Precycling – Consumer Decision-Making*. Satellite Video: Train the Trainer. March 12, 1992.
- 6 - *Materials Exchange Programs*, 605.SG.9502. UW-Extension/SHWEC Waste Education Series.
- 7 - *Steps to Establish an Effective Business Source Reduction & Recycling Program*, 605.SG.9304. UW-Extension/SHWEC Waste Education Series.
 - *Pallets: Management & Markets*, 605.SG.9412. UW-Extension/SHWEC Waste Education Series.
- 8 - *Pollution Prevention: A Guide to Program Implementation*, 420.DL.9307. UW-Extension/SHWEC Waste Education Series.

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❖ For More Information, Contact Your County Extension Agent or SHWEC ❖

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