United States
Environmental Protection
Agency

Solid Waste
and Emergency Response
(5306W)

EPA530-F-99-006
January 1999
www.epa.gov/osw

Source Reduction and Your Community

An Introduction to EPA's Planning Packet

Introduction to Source Reduction

What is source reduction?

Source reduction (also known as waste prevention) involves activities that reduce the amount of waste generated in the first place—activities that involve any change in the design, manufacture, purchase, or usage of materials and products to reduce their volume and/or toxicity before they become part of the municipal solid waste stream.

What can source reduction do for my community?

Reducing waste before it's generated is a logical way to save both money and natural resources. It cuts municipal and commercial costs involved in waste collection and disposal, improves productivity by targeting wasteful processes and products, and helps to preserve the local environment.

How can I determine the potential impacts of various source reduction programs on my community?

EPA developed the *Source Reduction Program Potential Manual* and its companion software, *ReduceIt,* to answer this question. The manual and software are intended to help local solid waste managers determine the potential impact of various source reduction programs and identify how to include them in integrated solid waste management plans. EPA designed *ReduceIt* to help guide users through the various calculations involved in determining the potential impact of a source reduction program.

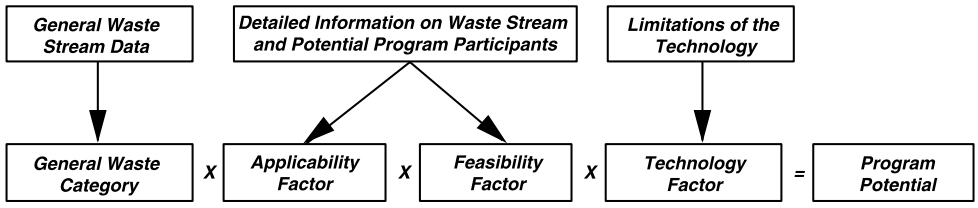
Six source reduction programs are highlighted in the manual and software packet. EPA features these programs because they have been implemented in communities across the country and often have contributed significantly to local solid waste management efforts. Residential source reduction programs include grasscycling, composting, and clothing and footwear reuse. Commercial source reduction programs include office paper reduction, paper towel reduction, and converting to multiuse pallets. EPA does not advocate any one source reduction program over another but recommends using those that best suit the needs of the community.

What is the Potential for Source Reduction?

What is program potential?

Program potential is the portion of the waste stream that could be targeted by a source reduction program. Understanding program potential helps determine whether a specific source reduction program makes sense for your community. This decision ultimately depends on whether a program can cost-effectively reduce a sizeable portion of the waste stream. The procedure for estimating program potential is illustrated in Figure 2.1 (from page 4 of the manual).

Figure 2.1. The procedure for estimating program potential for source reduction.



What are program potential factors?

Program potential factors are multipliers that represent the impact of a source reduction program as a percentage of the overall waste stream. The factors are designed to help you take into account practical realities and technological limitations when estimating how much of a given waste stream you can reduce by implementing a source reduction program. The program potential factor methodology allows managers to narrow down broad waste stream categories into more realistic subsets representing the part of the waste stream that might actually be impacted by a certain source reduction program.

In the case of grasscycling, for example, a manager might know the amount of yard trimmings generated. To estimate the impact of a grasscycling program on that waste stream, the manager needs to consider that not all of yard trimming waste is grass and not all people own mulching mowers or plan to retrofit nonmulching mowers.

How can I use the manual to develop program potential estimates for my community?

The manual presents program potential factors which you can use to apply national results to local waste stream composition data. Specifically, the manual describes how EPA developed program potential factors for each of the six source reduction program options, and then demonstrates how they can be applied to the appropriate components of the local waste stream data.

To estimate the potential of a specific local program, simply multiply the local waste generation data for a specific material by the appropriate program potential factor for that material. If a manager knows, for example, that the residential community

generates 1,000 tons of yard trimmings, he or she can estimate the potential for a grasscycling program. According to Table 5.2 from the manual, the residential program potential factor for grasscycling is 33.1 percent (from page 18). Multiplying the amount of waste generated by the program potential factor, the manager can estimate the amount of grass that could be prevented from the waste stream by implementing a grasscycling program—331 tons.

Table 5.2. Program Potential Factors

Source Reduction Option	General Waste Category	Program Potential Factors (percent) for All MSW	Residential Waste	Commercial Waste
Grasscycling	Yard Trimmings	29.7	33.1	
Home composting	Food scraps Yard trimmings	26.9 30.1	54.3 30.1	
Clothing reuse	Other	8.2	16.0	
Office paper prevention: Duplexing Networking Total	Paper and paperboard	 0.8 0.8 1.6		 1.4 1.5 2.9
Converting to multiuse pallets	Wood	11.0		14.4
Paper towel reduction	Paper and paperboard	0.3		0.5

What data do I need in order to calculate source reduction program potential?

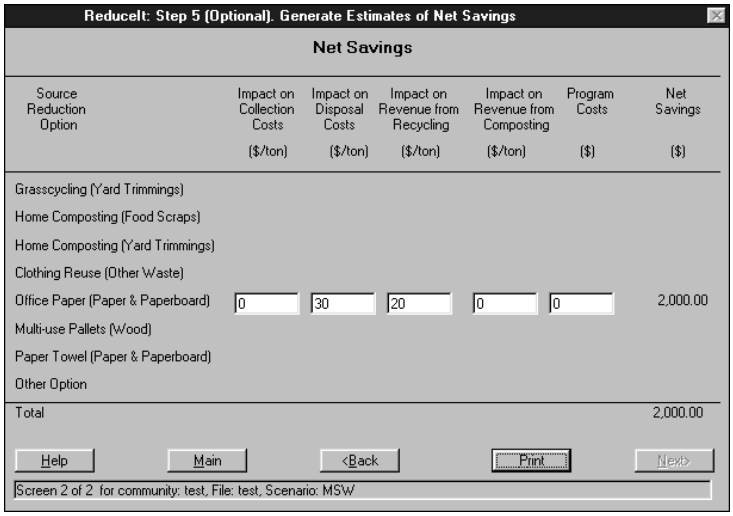
You will need actual or estimated data on the weight (in tons) and composition by material type (e.g., yard trimmings, wood, paper and paperboard) of your municipal solid waste stream. If these data are not available, the manual provides default values based on national averages.

Note: The source reduction program potential methodology is designed to use waste generation data. While waste disposal data can be used to track progress in source reduction, this methodology is not designed for waste disposal data.

Can these tools help me to identify potential savings and/or costs?

Yes. You can get general information about savings on collection and disposal, and impacts on recycling revenues by using the worksheets or the appropriate *ReduceIt* screens. The worksheets will ask you to estimate "program costs." Factors influencing program costs include spending on promotional programs, staffing, and products such as composting bins.

Note: Users interested in estimating program costs can complete the screen leaving the "program costs" column blank and the resulting "net savings" column will then provide an estimate of a break-even "program cost." If a solid waste manager calculates that an office paper reduction program has the potential of conserving 100 tons of paper, he or she can estimate the maximum program cost to break even on the investment.



In *ReduceIt*, for example, he or she can estimate the percent of office paper currently recycled (20 percent), the impact on disposal costs (tipping fee of $30/ton), and the impact on recycling revenues ($20/ton). Leaving the program cost column blank, the net savings equals $2,000 ([$30/ton x 80 tons] - [$20/ton x 20 tons]). In other words, the manager can spend up to $2,000 on program costs and still save money.

For More Information

Who can I call if I have any questions about the *Source Reduction Program Potential Manual* or *ReduceIt*?

Call the Technical Support Helpline at 888 249-8883.

What if I am interested in source reduction programs not addressed in this manual?

- EPA has other voluntary programs that specifically deal with reducing municipal solid waste—WasteWise and Pay-As-You-Throw (PAYT).

—To contact WasteWise, call 800 EPA-WISE (372-9473), or access its Web site at <www.epa.gov/wastewise>.

—To contact PAYT, call 888 EPA-PAYT (372-7298), or access its Web site at <www.epa.gov/payt>.

- To order a copy of the National Recycling Coalition's publication *Making Source Reduction Work in Your Community: A Manual for Local Governments*, call 703 683-9025.