

LESS IS MORE

**A Guide To Reducing
Waste & Improving Profits**



Produced by the
St. Louis - Jefferson Solid
Waste Management District

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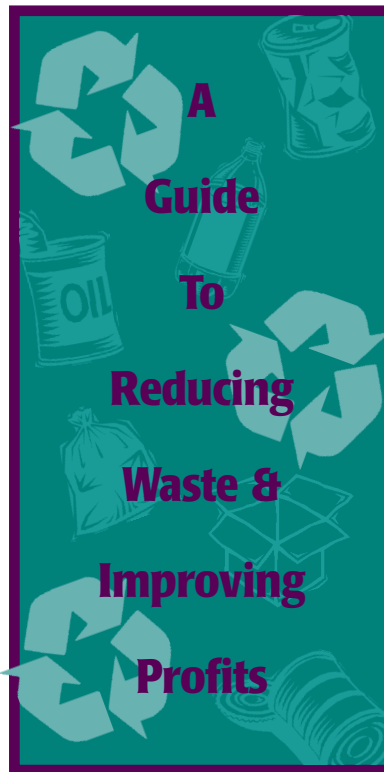
I N T R O D U C T I O N



If you have monitored your organization's utility bills lately you probably noticed something rather odd. Your trash disposal bills have risen faster than any of your other utility costs! These fee increases are steadily creeping upward and reducing your organization's profitability.

In order to provide adequate environmental protection the government has established, and is enforcing, new regulations for the collection and disposal of our trash. These new EPA landfill regulations, subtitle D, are causing significant increases in disposal costs, and siting new landfills will become ever more difficult in the

During the 1970s the OPEC oil embargo caused energy costs to rise dramatically. Responsible business owners immediately spent much of their time looking for ways to reduce the amount of energy their company consumed in order to survive that crisis. The rise in waste collection and disposal costs has been less dramatic, but just as real in terms of the impact on the bottom line of the organization's balance sheet.



future. However, as costs continue to rise, businesses and organizations can take steps to hold these costs down.

This guidebook will examine the advantages of reducing and recycling your trash to save money for your organization. It will provide suggestions on how to begin a waste reduction program and how to monitor that program to obtain optimum results. For some businesses, implementing a waste reduction program may bring an immediate payoff, including lower disposal costs.

The problem of solid waste disposal in our country has been discussed in the local newspapers and on the nightly news. We've seen trash trains and trash barges moved from place to place looking for a home, irate homeowners protesting the siting of new landfills in their area, and listened to our children's lectures on recycling. However, many businesses are not spurred to action until it makes economic sense.

For many, the process of analyzing your organization's waste practices may be as helpful as the actual savings gained from that process. You may find benefits in more efficient utilization of feedstocks, better collection methods, improved employee morale, and a competitive advantage by letting your customers know you are environmentally responsible.

L E S S I S M O R E

That's No Small Potatoes!

Frito-Lay, the nation's second largest producer of industrial potato starch, collects the starch from sliced potatoes as they are washed, dries the starch, and then sells it to industrial manufacturers.

In addition to recovering almost 20 million pounds of starch annually, Frito-Lay sells 20 million pounds of wet solids (such as potato peelings and cracked corn kernels) to U.S. livestock and dairy farms for use as a feed supplement.

President dives into dumpster . . .

The president of a large chain of clothing stores would periodically take his warehouse manager out to the trash dumpsters and begin removing cardboard boxes from the dumpster. Invariably they would find clothing in "supposedly" empty

boxes. After several such experiences, the warehouse manager purchased a vertical baler and implemented a cardboard recycling program. The program saved over two thousand dollars in reduced trash pick-ups, generated thousands of dollars in revenue from the cardboard, salvaged considerable savings from internal theft, and saved the warehouse managers job.

Did You Know?



Americans threw away enough copier, computer and typing paper in 1990 to build a 12-foot high wall from New York to Los Angeles.

Why Should I Care About Reducing Waste?



Why Should I Care About Reducing Waste?



There are several advantages to reducing, reusing, or recycling your organization's waste.

LOWER DISPOSAL COSTS

By reducing the size of the waste container and/or reducing the number of times it is removed or emptied, waste hauling costs can be greatly lowered.

LOWER COSTS BY BUYING IN BULK OR USING MINIMAL PACKAGING

Encouraging suppliers to reduce packaging on incoming materials, and buying in bulk quantities, can save on purchasing costs, labor costs and disposal costs.

LOWER COSTS BY REUSING PRODUCTS AND SUPPLIES

By purchasing reusable supplies and materials a business can significantly reduce waste and save money on future purchases.

REDUCE DISPOSAL COSTS BY PARTICIPATING IN DONATION PROGRAMS

By giving unneeded supplies or equipment to non-profit organizations you can improve your organization's public image, obtain tax credits, and avoid the cost of disposal for those items.

RECEIVE REVENUE FROM RECOVERED MATERIALS

The markets for "recyclable" materials have dramatically improved. You may be throwing away some valuable commodities that could generate cash.

BULK
REUSABLE
SUPPLIES
MORALE
RECYCLED
PRODUCTS
DONATION
PROGRAMS
COMPOSTING
DURABLE
EQUIPMENT
REVENUE
PUBLIC
RELATIONS

SAVE MONEY BY PURCHASING DURABLE EQUIPMENT

Purchasing and maintaining good quality equipment can save on future equipment needs and save the disposal fees to haul off the old equipment.

SAVE MONEY BY ELIMINATING UNNECESSARY ITEMS

Don't overlook the obvious. Your organization may routinely use items that contribute little or nothing to your product or service. You may be able to eliminate both the purchase cost and disposal cost of these items.

REDUCE DISPOSAL COSTS BY COMPOSTING FOOD OR YARD WASTES

If you have the space available, this could be an excellent method to reduce disposal costs of organic wastes and reduce yard maintenance and landscaping fees.

IMPROVED PUBLIC RELATIONS IMAGE

A recent survey revealed that 87% of consumers felt business was primarily responsible for environmental problems. You can rebut that argument by reducing your waste and promoting your organization as being environmentally conscious.

IMPROVED EMPLOYEE MORALE

Most employees want to see their organization succeed. Participating in a waste reduction/recycling program gives them the opportunity to personally contribute to that success.

INTERNAL THEFT PREVENTION

Many materials and products "stolen" internally leave the facility via the trash. By reducing the trash flow, internal theft can be controlled more effectively.

LOWER COSTS BY PURCHASING PRODUCTS MADE FROM RECOVERED MATERIALS

Many "recycled" products have dropped in price and are now very competitive with "virgin" products. Also, the quality of recycled products are usually equal to or superior to virgin products. Buying recycled products also sends your suppliers a message to encourage recycling and promote good environmental practices.

Taking advantage of as many of these benefits as possible in your organization may make a significant difference to your bottom line.



A "Weird" Idea

That's Not Really So Strange . . .

Maybe an employee that has a garden at home could use coffee grounds in their compost! At one office, all coffee grounds are dumped into old coffee cans and sealed tightly with the original lid. No smell, not much bother either- but all of the coffee grounds (and even the occasional orange peel) get "recycled" into flowers at home!

A Waste Reduction Program Started? How Do I Get Involved?

Did You Know?



Residents and businesses in Missouri threw away over eleven billion pounds of trash in 1995.



Recycled Silver Medallions Show

Management Support:

Custom Printing in Owensville, MO has an effective and comprehensive waste reduction program. This program has saved Custom Printing over a million dollars in avoided disposal costs and revenue from the recovered materials. One of the materials that is recycled is silver from their photographic process. Management decided to use that “waste” material to make solid silver medallions for each of the company’s employees. The medallions were given out at the company’s 25th anniversary as a “thank you” for the employees efforts in waste reduction.

There are two very important things you must do before you begin reducing your trash and start saving money.

1: OBTAIN SUPPORT FROM TOP MANAGEMENT

For your waste reduction program to be successful there needs to be strong and vocal approval of top management. This will send a clear message to all employees that your organization is truly committed to reducing, reusing and recycling waste.

Throughout the program, company management should support the waste reduction effort by endorsing program goals, communicating the importance of reducing waste within the organization, and encouraging and rewarding employee commitment and participation.

There are a variety of experts available to help “sell” top management on the benefits of a waste reduction program. The list of government agencies in the back pocket of this manual would be an excellent starting place if you would like this type of assistance.

The example set by a number of highly successful organizations committed to reducing waste is also helpful in convincing management. The commitment made by the McDonald’s Corporation on page 9 is an excellent example of such a commitment.



How Do I Get A Waste Reduction Program Started?

2: SELECT A WASTE REDUCTION COORDINATOR

Once support from top management has been secured, the next step is finding someone who will implement the program. The *waste reduction coordinator* should be someone who understands the organization's structure and works well with both management and employees.



If your organization is fairly large, the coordinator may need to form a *waste reduction committee*. This committee should meet periodically to provide input from their sections and “brainstorm” ways to make the waste reduction program more efficient.

Organizations that lease or rent space must also have the support from, and work with, their *building management*. The reduction coordinator will need to meet with the building management and custodial staff early in the planning stage. Your waste reduction efforts will have a direct impact on their operations.

INVOLVE
TOP
MANAGEMENT
SELECT
COORDINATOR



McDonald's Corporation: Our Commitment to the Environment

"McDonald's believes it has a special responsibility to protect our environment for future generations. This responsibility is derived from our unique relationship with millions of consumers worldwide whose quality of life tomorrow will be affected by our stewardship of the environment today. We share their belief that the right to exist in an environment of clean air, clean earth and clean water is fundamental and unwavering."



"We realized that in today's world, a business leader must be an environmental leader as well. Hence, our determination to analyze every aspect of our business in terms of its impact on the environment, and to take actions beyond what is expected if they hold the prospect of leaving future generations an environmentally sound world. We will lead, both in word and in deed."



Selecting A Waste Reduction Coordinator

Four years ago, the Hyatt Regency Hotel decided to reduce the amount of waste being sent to Chicago's landfill. A former housekeeping manager was selected to organize collection programs and survey potential market outlets for recyclables. In this case, the housekeeping manager already understood the types of wastes generated within the hotel and was able to develop effective programs and recycle waste. As a result, International Recycle Co., a Hyatt Corporation subsidiary, was formed to assist the hospitality industry with waste reduction programs.

**What Does
Waste Program
Cost?
Current?**



Do you need everything you purchase?

Can any items be re-used?

Are any items available in bulk?

Are items available with less packaging?

One of the tasks for your new reduction coordinator will be to learn about your organization's current purchasing and waste disposal practices.

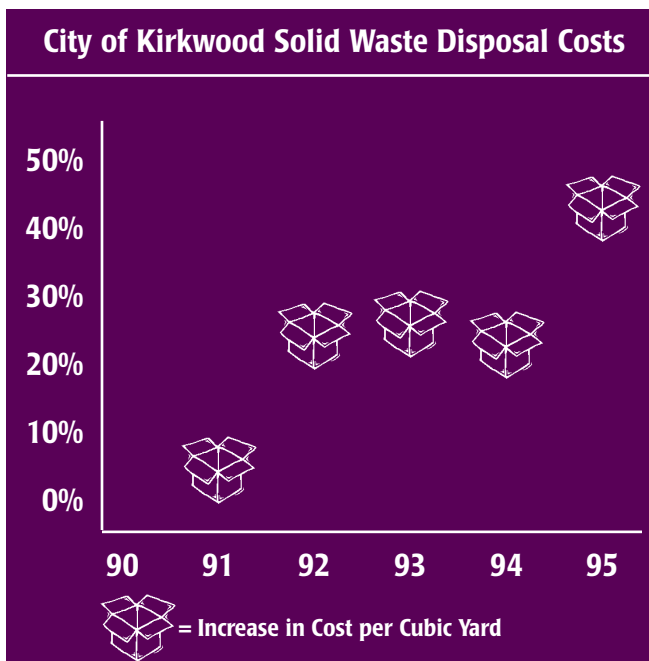
Look at the purchasing practices.

Everything your organization buys either goes into a product or service, or is thrown away.

Understanding your organization's purchasing practices and how these products are being used in the workplace can be an effective way to identify wasteful practices and tell you what type of wastes are going into the dumpster.

Ask yourself the following questions when talking to the individuals who do the organization's buying.

Do you need everything you purchase?
Can any items be re-used?
Are items available in bulk?
Are items available with less packaging?



What Does My Current Waste Program Cost?

Look at your organization's current waste disposal system.

Find out how your current waste is being handled and what it's costing you.

Learn how waste flows through your organization by talking to the people who work with it everyday - the janitorial staff.

Determine current disposal costs.

You'll never know how much the waste reduction program has saved if you don't know what it's costing you now.

Review the terms of the current waste hauling contract to determine the present use of the services and their costs.

EXAMINE WASTE & ITS COST


Internal Collection

How and when is waste picked up?
Who is responsible for taking the trash out?
How does it move through the building?
Are there any recycling programs in place now?

Disposal

1. Is pricing based on volume or weight?
2. What size trash dumpster(s) do you currently use?
3. What is the frequency of pick-up?
4. Are the dumpsters full when picked up?
5. Do you share a dumpster with any other organization?
6. Is your waste hauling agreement part of the rent or taken care of by the landlord?

It may take some time to gather and understand all of the pieces of your current waste picture. However, it is essential to spend this time and establish some baseline costs for future evaluations of your waste reduction program. The worksheet on Page I7 is a good way to organize these baseline costs. Additional worksheets are in the back pocket.



... if we reuse these folders, we won't have to buy new ones for a while!



A Better Way To Purge A File Cabinet . . .

If an average file cabinet drawer holds about 100 hanging folders, and the cabinet has five drawers, then about 500 folders would be thrown away for each purged cabinet. At a cost of \$.50 each, that adds up to \$250 worth of otherwise reusable hanging folders. Add another \$50 worth of reusable manila file folders, for a total of \$300 per file cabinet.

If that doesn't seem like much to you, consider this: In 1988, the New York State Office of General Services' "3R's" Program recovered between 3,000 and 4,000 file folders each month!



What's In My Trash?

Unless you're working with your trash every day, you probably don't know what is thrown away.

There are several ways to determine the composition and volume of your waste.



Talk to the Janitorial staff -

The people who work with the trash each day should know the make-up of your waste. They may also have some helpful ideas on how to reduce it.

Look at other organizations similar to yours -

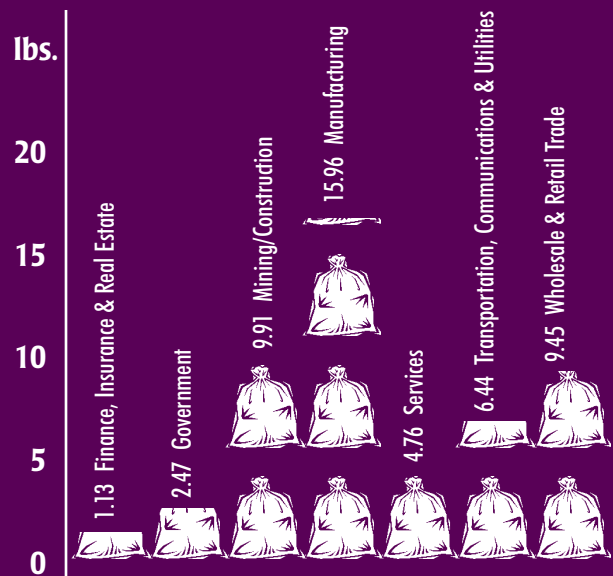
The chart on page 17 shows the normal waste disposal percentages for certain industries. If your organization fits closely with one of these you may have similar waste generation characteristics.

Walk through the facility -

Talk to the employees who are generating the waste. Ask them what they discard and be receptive to ideas they might have about reducing that waste.

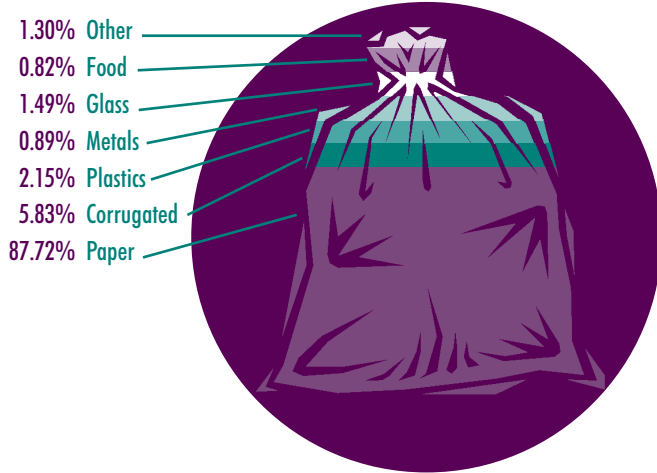
The worksheets on the Page 17 will be helpful in determining your organization's waste practices. Additional copies are supplied in the back pocket.

Per Employee, Per Day Waste Generation Rates for Selected Business Classifications



What's In My Trash?

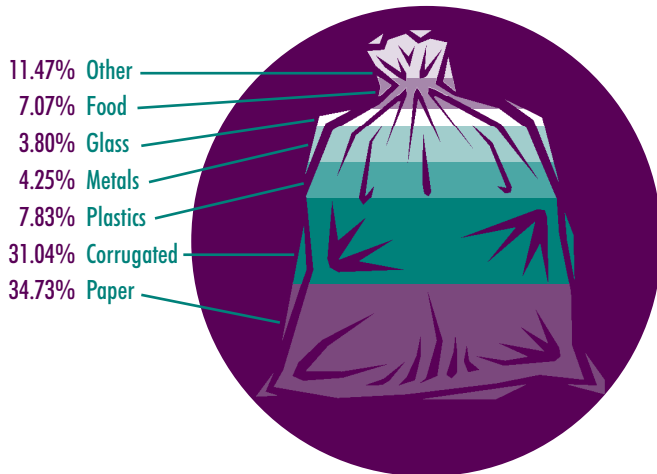
Finance, Insurance and Real Estate



Manufacturing



Wholesale and Retail Trade



Did You Know?



The number of landfills in the U.S. has been reduced from 8,000 in 1988 to less than 4,000 in 1995.

Worksheet 1

Waste Collection

1. Name and phone number of waste hauler:
2. Container size:
3. Average percent fullness:
4. Collection frequency (daily, twice, weekly, etc.):
5. Volume of waste per month (#2 x #3 x #4) =
If waste is compacted, multiply by 450: _____ =pounds of waste per month
If waste is not compacted, multiply by 200: _____ =pounds of waste per month
6. Cost of service: \$ _____/week, \$ _____/month, or \$ _____/

Recycling Collection

1. Name and phone number of recycling provider:
2. Materials collected in the program:
3. Container size:
4. Collection frequency:
5. Pounds of recyclables per month (from Service Provider's Records)
6. Cost of service: \$ _____/week, \$ _____/month, or \$ _____/
7. Revenues received from the sale of recyclable materials:

Worksheet 2 - Facility Walkthrough Checklist

1. How many workstation waste containers are in use?
Are more or fewer needed?
2. How many workstation recycling containers are in use?
Are more or fewer needed?
3. Is there space available for additional containers and storage of recyclables?
4. How are waste and recyclables handled internally (i.e., janitors, outside cleaning staff)?
5. Does any processing of materials take place (i.e., compacting, bailing)?
6. Are there any security issues that must be considered (i.e., document shredding, etc.)?
7. Are there any products purchased that contain recycled-content?
8. Does your facility produce items using materials with recycled-content?
9. How full are the final disposal containers when they are collected by the waste hauler?

Waste Assessment? What is A

Did You Know?



Worldwide,
over 14 billion pounds
of trash is dumped into
the sea each year.



Do a formal Waste Assessment -

This can get fairly technical but it's not rocket science. There are some forms to conduct your waste assessment on page 20 and in the back pocket. Just follow the instructions and realize that this is not an exact science. Even the highest priced consultants can't tell you exactly what is in your waste.

Whichever method you use always ask yourself the same questions.

Could this trash have been eliminated through different purchasing practices?

Could any of the "trash" be re-used without sacrificing quality or taking up too much room for storage?

Could any of the materials currently being thrown out be recycled? Is it contaminated by some other trash and, if so, could it be separated to reduce that contamination?

If you feel that your organization is too complex or too large to conduct your own in-house waste assessment, your regional solid waste district or one of the other organizations listed in the back pocket may be able to provide on-site technical assistance.

The worksheet on the next page will be helpful if you decide to do a waste sort. Additional copies are in the back pocket.



When Looking For Waste . . .

High volumes of paper are often generated near copy machines and printers.

How many newspaper subscriptions does your company have and who receives them? This can tell you where old newsprint may be found.

For sources of corrugated cardboard, find out where supplies are unpacked.

Worksheet 3A - Waste Sort

Column A	Column B	Column C
Material	Weight of Material	Percent of Total
Corrugated Cardboard		
Office Paper		
Newsprint		
Other Paper		
Aluminum		
Steel/Bi-Metal Containers		
PET plastic (#1)		
HDPE Plastic (#2)		
Other Plastic		
Glass		
Wood		
Food Waste		
Other (Specify)		
TOTAL		100%

Worksheet 3B - Visual Estimation

Column A	Column B	Column C
Material	Weight of Material	Percent of Total
Corrugated Cardboard	N/A	
Office Paper	N/A	
Newsprint	N/A	
Other Paper	N/A	
Aluminum	N/A	
Steel/Bi-Metal Containers	N/A	
PET plastic	N/A	
HDPE Plastic	N/A	
Other Plastic	N/A	
Glass	N/A	
Wood	N/A	
Food Waste	N/A	
Other (Specify)	N/A	
TOTAL	N/A	100%

The bigger the company the bigger the savings...

Johnson & Johnson began a waste reduction program in 1988. One strategy was to reduce the weight of paper. Simply by changing from 30 pound to 28 pound paper they reduced their waste by 115 tons per year. Combined with reduced paper costs their savings on that decision alone was \$450,000 annually.

Trash to feedstocks...

Versa Tag Inc. in Cuba, MO purchased a plastic grinder. Now they return their ground plastic to their supplier where it is re-extruded into plastic sheets and returned to Versa Tag. Versa tag has saved several thousand dollars on reduced disposal costs and revenue from the ground plastic.

Simple ideas can save money too...

Taylor Equipment Co. purchased a paper shredder for \$250 and replaced foam packing peanuts with shredded waste paper from the office. This saves the company over \$2000 per year in reduced waste disposal and avoided purchase costs for the packing peanuts.

Did You Know?



Some capital expenditures, such as a baler, can yield impressive savings over the long term. Many collection services will place a baler at your property in return for a percentage of recycling revenue.

How Will I Save Money By Reducing Waste?

How Will I Save Money By Reducing Waste?

By now you've gotten a good idea of what your present waste system is costing and what is in your trash. Now it's time to look at some potential strategies to reduce those costs.



Reduction Strategies:

Double sided copies will reduce the amount of paper purchased and discarded.

Copy files on computer disk instead of making paper documents for storage in file cabinets.

Buying in bulk can reduce packaging.

Work with suppliers to reduce unnecessary packaging.

Purchase durable equipment and supplies that last longer and need less replacement.

Reuse Strategies:

Reuse incoming packing material.

Reuse suppliers' pallets.

Subscribe to a local materials exchange program (See information in the back pocket).

Donate unwanted items to charities or other nonprofit organizations.

Replace disposable styrofoam cups with ceramic mugs.

Reuse inter-office envelopes.

Recycling Strategies:

Determine what materials within your waste are recyclable and look for a market for these materials.

Work with the plant manager to identify a storage area for these materials.

Work with your recycling market on the best way to prepare these materials.

Composting Strategies:

Food wastes can be separated and composted if there is a sufficient outside area.

Yard maintenance contracts can be reduced if grass clippings are left on the lawn and leaves are mulched.

Purchasing strategies:

Purchasing products made from “recyclable” materials may be less expensive than “virgin” products and will eventually provide a better market for your “recyclables.”

The worksheet on the next page will help you calculate your waste reduction savings:



Recycling Facts...

Americans earned over a billion dollars by recycling aluminum cans during the '80s.

Twenty aluminum cans can be converted back into new aluminum cans for the same amount of energy it takes to make one can out of aluminum ore.

Recycled paper uses 30% to 55% less energy than paper from wood pulp.

One ton of paper made completely from recycled scrap rather than virgin wood fiber saves:

17 trees
7,000 gallons of water
4,100 kwh of electricity
3 cu. yds landfill space

Community curbside recycling programs have increased from 1,000 in 1988 to 7,265 in 1995.



Worksheet 4 - Waste Reduction Program Cost Savings

Monthly Program Costs

Additional Labor (cleaning/maintenance staff)	\$ _____
Additional Energy Requirements	\$ _____
Transportation	\$ _____
Additional Space Requirements	\$ _____
Education/Promotion	\$ _____
Record Keeping	\$ _____
TOTAL Program Costs	\$ _____

Monthly Program Cost Savings

Avoided Collection/Disposal Costs	\$ _____
Revenues from Sale of Recyclables	\$ _____
Avoided Purchases	\$ _____
TOTAL Program Cost Savings	\$ _____

Net Program Monthly Cost Savings

TOTAL Program Cost Savings - TOTAL Program Costs	\$ _____
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Start-Up Costs

Containers	\$ _____
Equipment (if any)	\$ _____
Other	\$ _____

Did You Know ?



Recyclables such as aluminum cans can be donated to charities or organizations working on charitable causes. Your staff or their families may be working with such groups.

What Will I Do With the Recyclables?



What Will I Do With the Recyclables?

Once you have identified strategies for reducing, reusing, and composting your waste, you can shift your attention to recycling.

When planning a recycling program it is important to consider the following:

Collection and Transportation -

How will the materials be separated and stored in the individual work stations?

Who will be responsible for collecting the materials and transporting them to the storage area?

Will any special equipment be needed to collect and transport the materials?

Available storage space -

How much space is available for storing recyclables and how much space will each material require?

Will the storage of these materials comply with local fire codes?

Are any improvements needed for storage of the materials?

Is the space accessible for both incoming and outgoing shipments?

Is outside, or covered space available for additional storage.

Available processing equipment -

What type of processing is needed for each material?

Who will be responsible for the processing and how much time should it take?

What type of processing equipment will be needed and is that equipment available?

Marketing Your Waste Materials:

The next step is finding a “market” for your recyclable material. There are different types of markets depending on the quality and quantity of the material you’ve removed from your trash. The list on the next page gives a definition of each type of market.

A list of recycling markets is provided in the back pocket. Contact as many of these as possible and ask the following questions:

Is the market a waste hauler, broker, processor, or end-user?

Each will have different material specifications and quantity requirements.

What grades of materials does each market accept?

Can different grades be combined to save space or must they be separated?
What are the acceptable and unacceptable levels of contamination?
What are common contaminant’s for each material?
Will the material be rejected if contamination is too high?

What are the packing requirements?

Do the materials need to be baled?
Will the recycler supply gaylords (4’x4’x4’ cardboard boxes which fold flat to conserve space) to store your materials?

What are the delivery conditions?

Will the recycler pick up your materials or do you need to deliver?
Are there minimum quantities required for pick up?

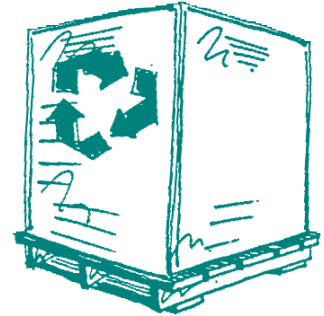
Are contracts available?

What are the terms of the contracts and what provisions are made for fluctuations in pricing?

What is currently being paid for materials?

What is that price dependent on?
How does quality and quantity affect the price?

You’ll be making a lot of decisions about your materials. The following pages may be helpful in sorting out some of those decisions.



“Gaylord” containers (large corrugated boxes) provide an efficient bulk storage mechanism.



What Will I Do With the Recyclables?

Types of Markets

Waste haulers transport and dispose of recyclables and/or waste. Some haulers have processing facilities where recyclables are processed. A list of approved waste haulers is in the back pocket.

Processors sort, haul, grind or somehow add value to the materials prior to selling it to a broker or end user. A list of these processors is in the back pocket.

Brokers arrange transactions between sellers and buyers of recyclable materials. Brokers may or may not physically handle the materials.

End Users utilize recyclables as feedstocks to make products. For example, a paper mill may use office paper waste to make tissue products.



Established Missouri “markets” are available for the following “recyclable” materials:

Aluminum Cans should be separated from cast aluminum products.

Cardboard Baled and loose.

Computer Paper There are several grades but most recyclers will take it mixed.

Ferrous metals All types

Glass All colors

Magazines and Catalogs Baled or loose.

Non-ferrous metals most are recyclable

Newspapers Baled or loose.

Office paper There are over 80 grades of paper but several recyclers will combine grades to make it easier to recycle.

Plastics There are seven basic resin types and markets exists for most resins if there is sufficient quantity.

Textiles and Rags There are several grades but recyclers will allow some mixing.

Markets also exist for more specialized industrial scrap materials.

Office Facts...

One person uses two pine trees worth of paper each year.

Six billion pens are thrown away each year.

Americans receive over 4 million tons of junk mail each year.

Buy white legal pads instead of yellow ones to take advantage of the strong market for recycling white office paper.

Did You Know?



Every year
Americans use almost
**23,000 square miles of
toilet paper** each year.

Will Reducing Waste
Take All of My Time?

Will Reducing Waste Take All of My Time?

3

After talking to a variety of recycling companies about marketing your recyclables you may be asking yourself if all this is really worth it? At this point take a deep breath and remember one important principle:

KEEP
IT
SHORT AND
SIMPLE



The Best Paper Container is Free and Recycled

Cardboard soda trays and box tops from supplies (e.g., folder box tops) easily fit underneath a desk and eliminate the need to purchase recycling containers for every employee.

Tray-shaped recycling containers are not likely to be mistaken for trash containers and discourage employees from crumpling paper into balls, making separation easier and transportation to a market more efficient.

Here are some tips that should provide you with the most flexibility in your waste reduction planning.

Start slow and build the program as time goes on.

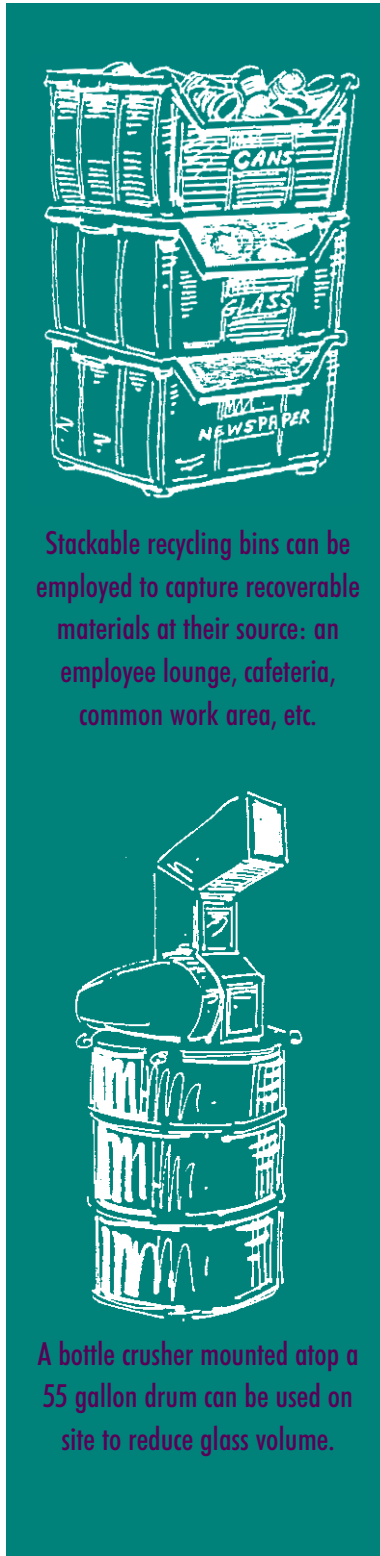
Take the one or two materials that will make the biggest impact on your waste and start with them. It's much better to start slow and build your program than to overwhelm everyone at once.

The simpler you can keep the program the more cooperation you will get from your fellow employees.

Your best market may be the one that allows you to mix grades, even if the price they pay for that "service" is less.

Provide each employee with a container at their own work station.

These don't have to be fancy or expensive (see "Bright Idea" on opposite page).



Stackable recycling bins can be employed to capture recoverable materials at their source: an employee lounge, cafeteria, common work area, etc.

A bottle crusher mounted atop a 55 gallon drum can be used on site to reduce glass volume.

Provide collection centers in obvious locations.

For instance, an attractive rolling cart near the break area would be an ideal location for office paper. Office employees could drop off waste paper on their way to the coffee pot.

Work with the janitorial staff.

Decide how to get the materials from the collection centers to the storage areas. Getting the janitorial staff to "buy in" to the waste reduction plan will be a real key in determining the success of your program.

Make recycling as easy for everyone as possible.

For example, recycling containers do not need to be emptied until they are full (there's no garbage in them so they shouldn't smell).

Finally, don't let recycling be the tail that wags the dog. The waste reduction program should benefit your company, not hinder it!

CO-Workers How Will I Convince My? How Will I Reduce Waste?

The key to almost any new program your organization begins is

EDUCATION and the waste reduction program is no exception.

Did You Know?



Americans recycle about 10% of their trash. Europeans recycle up to 60% of theirs.

Before starting the program:

Create attractive signs or posters describing the new waste reduction program; when it will start and how it will work.

Create signs for the collection bins stating what should be put in each bin.

Develop a “do and don’t” list of what can and cannot be recycled. Remember the KISS principle.

Seek out employees who are enthusiastic about recycling in the early planning stages. These individuals can help in building support among their peers.

When you are ready to implement your waste reduction program make a series of presentations to management and employees.

Management:

Present the program to management being sure to list the benefits and potential monetary savings.

Set a date that you intend to evaluate the program and let them know you will be reporting the results to them at that time.

Ensure their support and try to recruit a member of the management team to be present when you present the program to the employees.



Presentations should address the following...

- The company's goal.
- Planned company-wide actions to meet that goal.
- Changes in procedures required to reduce waste.
- Waste reduction tips.
- Materials targeted for recycling
- Collection plans for those materials.
- A suggested list of "Do's" and "Don'ts" for saving those materials.
- How the materials will be processed and their end use.
- Information about whom to contact with questions.
- Information about management's role and support for the program.
- Recognition that the program will probably expand and change in the future.
- Purchasing changes to reduce waste.

Employees:

Present the program to the employees in groups small enough to ask questions.

Talk about why the organization is trying to reduce waste and state the benefits of the waste reduction program.

Let the employees know that management has endorsed the program. Try to have someone from management present to say a few words.

These meetings should take place near the collection centers where you want them to place their materials. Have the signs and collection receptacles ready to use. If processing (baling, shredding, etc.) will be done at your location, a trip to that area would be worthwhile.

Acknowledge that reduction and recycling in the workplace is a new idea and that changes in the program will occur. Make this point early to minimize resistance to future changes.

Emphasize that reduction and recycling is part of every employees job. If an employee is resistant to the concept of recycling don't try to "brow beat" them into submission. State that the program is voluntary and peer pressure will usually do the rest.

Keep the presentation short, don't preach, and leave enough time for questions. You probably won't have all the answers (no one does) so don't be afraid to say, "I don't know, but I'll try to find out."

If you need assistance in planning or implementing the education component of your waste reduction program call your Regional Solid Waste Management District, or others listed on the list of technical assistance sources contained in the back pocket.

Employee Participation and Incentives...

To achieve a successful waste reduction program all employees must be willing to participate. Incentive programs may provide the spark for this participation. The following incentives may be appropriate for your business:

The department that collects the most recycled paper receives a free lunch.

The department head with the largest reduction in paper usage gets tickets to a baseball game.

The department with the most recyclables collected get an extra break with doughnuts provided by the company.

The employee who collects the most cans and bottles during a specific time period gets a case of their favorite beverage.

During a surprise inspection, the employee with the most paper in their recycling bin gets a \$10 bill on the spot. Half of the money saved by the waste reduction program is used to sponsor a paid employee outing.

What Else Can I Do?

The last strategy to complete your waste reduction cycle is to buy recycled products.

There are several reasons this will be important to you:

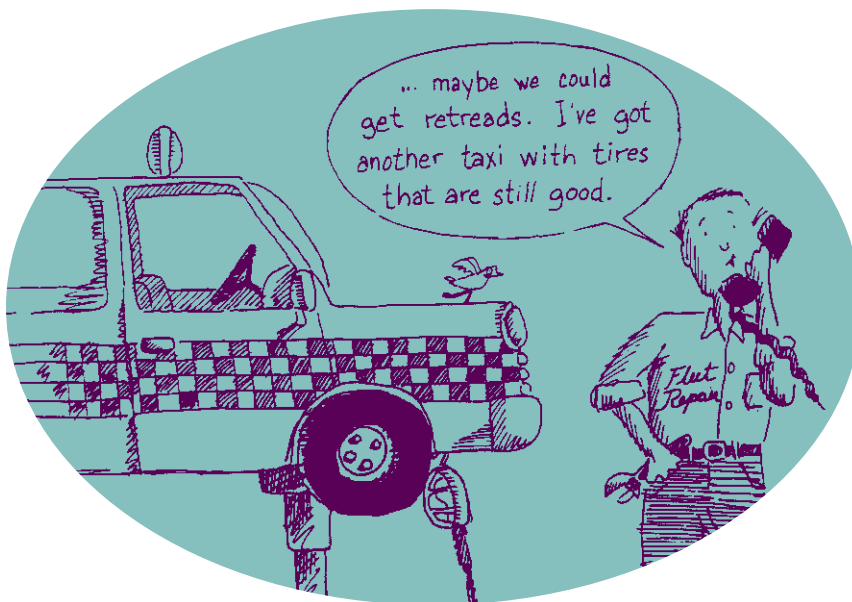
It will create new markets for recyclables and will improve revenues you receive from your materials.

It conserves resources, saves energy, and reduces pollution.

It creates jobs and economic development opportunities.

It enhances the organization's image among your customers and employees and sends the message that you are serious about waste reduction.

There are two very good programs to provide assistance in buying recycled products. The Missouri Market Development Program sponsors the **Missouri Buy Recycled Initiative**, and the EPA supports the **WasteWiSe Program**. Both are excellent and brochures are included in the back pocket.



BUY RECYCLED MATERIALS

Buying recycled products can be difficult and confusing at times. Recycled content percentages and claims by some manufacturers can be misleading, so here are a few guidelines:

Make a commitment to buy -

Establish a policy to buy recycled products. This commitment will provide leadership to users and show your suppliers that a long-term demand exists.

Review purchasing specifications -

Look over your existing specifications within your organization to eliminate bias against recycled products. New technologies have made products with a “recycled” content as good or better than those with “virgin” grade materials.

Use common definitions and percentages -

Use existing minimum content standards and definitions. Manufacturers cannot supply different products for each organization. Ordering products with standard recycled content specifications will allow you to buy at a lower cost.

Buy a variety of recycled products -

Paper is relatively easy to buy with a recycled content. However there are a variety of other products which may fit into your organization’s buying habits.

Test products -

Ask your suppliers for samples and do some “blind” testing to avoid bias against recycled products.

Use a phased-in approach -

Start small and keep increasing your purchases.

Educate your employees -

Encourage your co-workers to request recycled products.

Keep good records -

Knowledge is power.

Publicize your efforts -

Let others know your organization cares about the environment and is backing up that belief with action.

How Can I Implement The Waste Reduction Program?



1

OBTAIN SUPPORT FROM TOP MANAGEMENT

For your waste reduction program to be successful there needs to be strong and vocal approval of top management.

2

SELECT A WASTE REDUCTION COORDINATOR

Once support from top management has been secured, the next step is identifying someone who will implement the program.

3

DETERMINE CURRENT PURCHASING AND DISPOSAL PRACTICES

Establish a baseline for future comparisons.

4

IDENTIFY THE VOLUME AND COMPOSITION OF YOUR TRASH

A variety of in-house methods are available as well as technical assistance from your regional solid waste management district, and other groups listed on the technical assistance list.

5

IDENTIFY INITIAL STRATEGIES TO BEGIN REDUCING WASTES

Select the waste reduction strategies which will produce the greatest cost savings.

6

DESIGN THE COLLECTION, PROCESSING, AND MARKETING PROCEDURES THAT BEST SUIT YOUR ORGANIZATION'S NEEDS

Lay out a plan which is simple and will receive the greatest employee participation.

7

EDUCATE MANAGEMENT AND EMPLOYEES ABOUT THE PROGRAM

Emphasize the potential benefits of the program and the responsibilities each person has to make it work correctly.

8

ENCOURAGE THE PURCHASING OF PRODUCTS MADE FROM RECOVERED MATERIALS

Buying recycled products and supplies will complete the cycle and save your organization money.

9

BEGIN THE REDUCTION PROGRAM

Just Do It!

10

MONITOR AND EVALUATE THE WASTE REDUCTION PROGRAM

Provide management and employees with reports on financial and environmental savings which have resulted from the program.







































11

LOOK FOR WAYS TO IMPROVE AND ENLARGE THE PROGRAM TO REDUCE WASTES AND INCREASE SAVINGS.

Search for, and accept ideas from co-workers to make the program better.

How Can I Implement The Waste Reduction Program?

SAMPLE IMPLEMENTATION SCHEDULE

ACTIVITY	MONTH												
	1	2	3	4	5	6	7	8	9	10	11	12	
1. Obtain support from top management													
2. Select a Waste Management Reduction Coordinator													
3. Determine current purchasing and disposal practices													
4. Identify the volume and composition of your trash													
5. Identify initial strategies to begin reducing wastes													
6. Design the collection, processing, and marketing procedures that best suit your organization's needs													
7. Educate management and employees about the program													
8. Encourage the purchasing of products made from recovered materials													
9. Begin reduction program													
10. Monitor and evaluate the waste reduction program													
11. Look for ways to improve and enlarge the program to reduce wastes and increase savings													

Intangible savings of your waste reduction program...

Over time, the employees who have been trained to continually reduce and avoid waste, will develop a waste wise mentality and save your organization the cost of buying excess materials and unnecessary disposal costs.

Waste reduction offers employees a break from the daily duties and instills a sense of reward in that their efforts will benefit the organization, the community, and the environment.

Publicizing your waste reduction efforts will send a message to your customers that your organization is concerned about the environment and may provide an advantage over your competition.

Reducing the amount of waste going out of your facility will lessen the possibility that valuable merchandise is discarded via the trash.

Buying recycled products promotes the recycling cycle and will eventually provide lower prices for these products, as well as stabilizing the prices for the materials you recycle.

Did You Know?



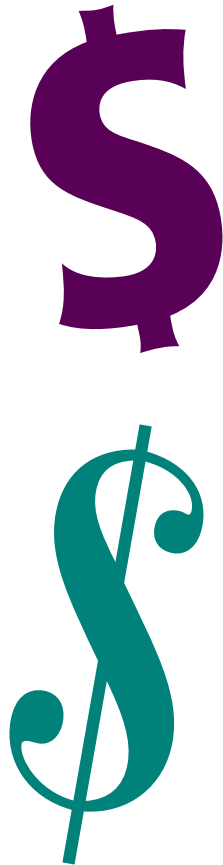
Americans receive over four million tons of junk mail per year.

How Will I Know If It Is Working?

How Will I Know If It Is Working?

The success of your waste reduction program is often measured by comparing “before” and “after” disposal costs.

Therefore, it is very important to identify the “before” costs early in your planning.



Tangible savings:

Those to which you can attach a numerical value. They are literally the sum of the savings less the cost of the program. It is important to set up an accounting system which tracks the following:

Savings:

Savings in monthly disposal costs. Negotiate lower rates with your waste hauler and be sure to use current disposal rates to reflect your true savings.

Revenue from the sale of recovered materials.

Savings from avoided purchases which were identified as not needed.

Savings in janitorial labor due to the reduced waste volumes.

Costs:

Initial equipment costs to collect and process recovered materials.

The portion of time spent by the waste reduction coordinator to plan and implement the program.

The portion of time spent by employees if special meetings are used to implement and maintain the program.

Intangible savings:

Program benefits which cannot be easily identified or quantified, and therefore, are often overlooked. Nevertheless, these intangible savings may play an important role in the overall productivity of your organization. The list on the previous page describes some of those benefits.

Report on the progress of the waste reduction program to both management and employees regularly.

This will give you a feel for how the program is progressing and what changes need to be made to improve it.

Make your reporting as graphic as possible. For instance, if your office recycled 10 tons of paper the third quarter of the program your report might look something like this:

During the third quarter of the waste reduction program the following revenues and costs were incurred:

Revenues:	QTR	YTD
Avoided disposal fees	\$60	\$150
Sale of 10 tons of recycled office paper	\$200	\$400
Sale of aluminum can	\$22	\$50
2 sided copying saved		
10 boxes of paper @ \$15 per box	\$150	\$250
Avoided purchase of styrofoam coffee cups	\$40	\$100
TOTAL	\$472	\$950
Costs:		
Depreciation of equipment	\$50	\$150
Reduction Coordinator 10 hrs @ \$15 per hour	\$150	\$500
TOTAL	\$200	\$650
NET SAVINGS	\$272	\$300

In addition to the monetary savings, the environmental savings were:

	QTR	YTD
Mature trees	170	340
Gallons of water	70,000	140,000
KWH of electricity	4,100	8,200
Cubic yards of landfill	30	60

The waste reduction program will take some effort but the rewards can be very significant. Remember the KISS principle, call for assistance when needed, and then, as the commercial says:

JUST DO IT!

Commonly Asked Questions

Businesses undoubtedly have concerns about designing and implementing a waste reduction program. This section of the manual addresses many common concerns and questions facing businesses that are considering implementing waste reduction measures.

Why should I Begin a Waste Reduction Program?

Participation in a recycling program can help to keep refuse collection costs lower, conserve resources, and provide positive publicity. For example, one ton of recycled paper saves 17 trees. Also, demonstrating a company's environmental commitment will foster goodwill in the community among its employees, and customers.

What is the Company's role in the Program?

A successful waste reduction program is built upon the active involvement of the company's management and employees. Try to involve employees early in the development of the program. This way employees can contribute their input and feedback into the development of the new program. It is also important to educate them as to why the company is making a commitment to waste reduction. Finally, the company should recruit willing employees to form an environmental committee and identify the most appropriate company waste reduction coordinator.

What Activities May Be Necessary to Initially Set Up the Program?

Initial activities for a recycling program include designing the collection processing and storage system in conjunction with the building's maintenance staff, negotiating hauler and recycling service provider contracts, developing an education program, procuring necessary containers and equipment, and notifying employees of the program.

How Much Work Will Waste Reduction Involve?

The level of work involved will depend on the type of waste reduction program adopted. For instance, requiring employees to separate four grades of paper, aluminum, and glass is more labor intensive than offering a mixed paper bin that targets only three types of paper. Various material collection scenarios should be developed for consideration. Recycling programs should be designed to be as convenient as possible. Delegating more tasks to maintenance staff, such as emptying desk-side containers into central collection containers, will result in more convenience and greater participation, but may also add to operating costs. The simpler the program is the better.

More Commonly Asked Questions

What If I Don't Generate Enough Materials to Warrant a Waste Reduction Program?

Don't jump to conclusions without first conducting a waste assessment and discussing the results with local haulers and recycling service providers. In some cases, the cost of adding additional recycling services is offset by a reduction in disposal costs. Also, consider developing cooperative arrangements with other businesses that generate the same types of recyclable material, or asking a neighborhood business that already has recycling service if you could add your recyclables to their collection program, and share the cost of the service. Another option is to maximize the practice of source reduction instead of recycling. Source reduction methods can have a large impact on your waste stream without requiring a large investment or need for contracting with an additional service provider. For others, a materials exchange program may be an efficient approach.

Will This Cause Messy, Unsightly Areas, Attract Pests, or Cause Unpleasant Odors?

Recycling programs should have regular material collection to ensure that materials do not sit out long enough to become messy or to attract pests. Employees and the maintenance staff should be educated to keep normal storage areas neat and orderly. The program should be designed to be as sanitary as possible. Employees must take some responsibility to prepare materials such as rinsing glass or metal containers before placing them in recycling containers.

What Will the Program Cost? How Can the Costs Be Reduced?

Program costs can include the expenditures for hauler/recycling provider services, additional maintenance services, containers/equipment, educational materials, and employee time devoted to planning and implementing the program. Suggestions for reducing program costs include:

Go out for competitive bids. Find the most cost-effective hauler and/or recycling service provider that can meet your needs.

Rearrange or substitute existing services to accommodate new services.
Retrofit existing containers for new uses.

Take advantage of educational materials provided by the USEPA, state or your regional solid waste management district.

Find interested volunteers to develop the program and ensure low contamination and high recyclable recovery.

Practice source reduction as well as recycling to aid in decreasing your disposal costs.

More Commonly Asked Questions

Why Can't All Our Facility's Materials Be Recycled?

Recycling depends on a number of factors including the availability of space to store materials, the ability of the local recycling service provider to collect and process the materials, and the availability of strong, local markets to use the materials that are recovered. Therefore, it may not be practical to recycle all materials.

What is the Maintenance Staff's Role in the Program?

Try to involve the maintenance staff early in the development of the program by inviting maintenance representatives to a formative meeting or to serve on a waste reduction advisory committee. This way they can contribute their input and feedback into the development of the new program.

How Will the Level of Maintenance Service Be Changed?

For some recycling programs, the only change for the maintenance staff will be placing two bags on their cleaning carts: one for refuse and one for recyclables. A properly designed program will minimize any inconvenience for the maintenance staff. Securing the input of maintenance staff during development of the program will help to assure that the needs of the maintenance staff are included in the design of the program.

Will the Program Require More Space?

The topic most often addressed in considering a waste reduction program is the issue of space. In some instances, very little additional space is required. Additional space may be needed for desktop containers, consolidation containers, and final collection containers. However, space may also be freed up by reductions in the number of dumpsters used if an aggressive program is developed.

What On-Going Activities May Be Necessary for the Program?

A continuing education program will be essential to convey important information to management, the employees and the maintenance staff. Be sure to provide employees with sufficient information materials describing how the program works. Furthermore, collection points and containers should be clearly identified so there is no confusion.

Where Can I Go For Help? What if I Have a Question or Comment?

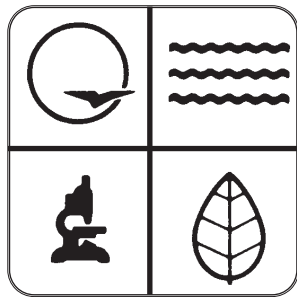
If you have any questions or comments regarding your waste reduction program, contact your regional solid waste management district, or other groups on the technical assistance list. Their phone number is listed among the environmental agencies and groups in the back pocket.



This guide book was produced by the St. Louis-Jefferson Solid Waste Management District. The St. Louis-Jefferson Solid Waste Management District is an inter-governmental organization dedicated to expanding waste reduction and recycling in the City of St. Louis, St. Louis County and Jefferson County, Missouri.

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