

recycling

WASTE REDUCTION AND RECYCLING GUIDE FOR BUSINESSES

waste

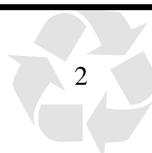
Brought to you by

WasteCap
OF LINCOLN 



TABLE OF CONTENTS

WASTE REDUCTION AND RECYCLING _____	PAGE 1
2 Getting Organized	
3 Assessing the Potential	
5 Program Design and Implementation	
6 Program Evaluation and Improvement	
CARDBOARD RECYCLING _____	PAGE 9
9 Cardboard Recycling Information	
9 Assessing Your Cardboard Recycling Potential	
10 Separating and Handling Your Cardboard	
OFFICE PAPER RECYCLING _____	PAGE 13
15 Office Paper Recycling Information	
16 Assessing Your Office Paper Recycling Potential	
17 Separating and Handling Your Office Paper	
FLUORESCENT LIGHTING RECYCLING _____	PAGE 18
21 Fluorescent Lighting Recycling Information	
21 Assessing Your Fluorescent Lighting Recycling Potential	
21 Handling Your Fluorescent Lighting Wastes	
22 Contracting for Fluorescent Lighting Recycling	
TONER CARTRIDGE RECYCLING _____	PAGE 21
25 Toner Cartridge Recycling Information	
25 Assessing Your Toner Cartridge Recycling Potential	
25 Handling Your Toner Cartridges	
26 Contracting for Toner Cartridge Recycling	
CONTAINER LEASING THROUGH WASTECAP _____	PAGE 24
29 Container Leasing Information	
29 Assessing Your Container Leasing Potential	
29 Contracting With WasteCap of Lincoln	
RECYCLED PRODUCTS PURCHASING _____	PAGE 26
33 Recycled Purchasing Information	
33 Assessing Your Recycled Purchasing Potential	
33 Designing Your Recycled Purchasing Program	
INDEX _____	PAGE 28
37 Office Paper/Cardboard Recycling Memorandum	
38 Fluorescent Lighting Recycling Memorandum	
41 Toner Cartridge Recycling Memorandum	
43 Container Lease Agreement	
44 Recycled Purchasing Memorandum	
45 Resources	
NOTES _____	PAGE 36



REDUCE • REUSE • RECYCLE • REBUY

Commercial and industrial waste represents over half of the solid waste disposed of in the Bluff Road Sanitary Landfill in Lancaster County. To help reduce the amount of waste sent to landfills across the state, the Nebraska Legislature passed the Nebraska Integrated Solid Waste Management Act in 1992. It set substantial waste reduction and recycling goals for the state, including a 50% reduction in the waste stream by the year 2002. In order to achieve these goals, Lincoln's business community must develop comprehensive waste reduction and recycling programs.

WasteCap of Lincoln can help change the way your business thinks about garbage. It can help you set up your own waste reduction and recycling program. The implementation of voluntary waste reduction procedures will enhance your image and further establish your firm as a responsible corporate citizen and visionary industry leader—qualities that appeal to both current and potential employees and markets.

Improved waste management offers numerous advantages: it can enable you to enhance your bottom line by cutting materials purchasing, handling, and disposal costs, and will aid you in increasing your competitive edge. We all profit from sensible natural resource management practices through a cleaner, healthier environment.

The information offered in this guide can help your business develop the necessary policies and procedures to develop a successful waste reduction and recycling program. Working in conjunction with Industrialized Nebraskans for Organized Recycling Management (INFORM) and the City of Lincoln Recycling Office, WasteCap of Lincoln can help identify recycling opportunities and secure the services of local recyclers and haulers.

There are four major steps to developing a successful waste management program for your business. This guide attempts to outline them:

- ⇒ **GETTING ORGANIZED**—Management support, employee involvement and appointing a coordinator.
- ⇒ **ASSESSING THE POTENTIAL**—Waste assessment, investigating solutions and cost/benefit analysis
- ⇒ **PROGRAM DESIGN AND IMPLEMENTATION**—Separating and handling recyclables; employee awareness
- ⇒ **PROGRAM EVALUATION AND IMPROVEMENT**—Fine tuning the system; assessing the program's success; buying recycled products



GETTING ORGANIZED

MANAGEMENT SUPPORT

In order for any waste reduction and recycling program to be effective, upper management must support the concept. They must be willing to allocate staff time and resources to investigate the amount of waste generated and to analyze the costs and benefits of establishing a waste management program within your company.

Even without strong management support, employees can start a program. When it becomes clear that employee's efforts are reducing waste, saving money and increasing employee satisfaction, management will inevitably get on board.

EMPLOYEE INVOLVEMENT

A successful program needs the involvement of employees. A well-organized waste reduction and recycling committee can serve as the catalyst for the anti-waste campaign. Committee members should be well respected by their peers and committed to making the business waste-efficient. The committee's responsibilities should include:

- ⇒ Helping to gather waste information.
- ⇒ Investigating various waste reduction and recycling alternatives.
- ⇒ Recommending waste reduction and recycling strategies to management.
- ⇒ Developing the employee education program.
- ⇒ Implementing the program.
- ⇒ Encouraging employee participation.
- ⇒ Evaluating the overall program.

APPOINTING A COORDINATOR

One person should be appointed as coordinator of your business's waste reduction and recycling program. His or her responsibilities include organizing the employee committee, assessing the potential for recycling within your business and working with the committee to peruse the steps identified above.

The coordinator can be the facilities or operations manager, an administrative assistant to the CEO or any number of individuals. It is important that the coordinator is someone who takes these issues seriously and possesses the lasting commitment to make the program work.



ASSESSING THE POTENTIAL

WASTE ASSESSMENT

In order to effectively evaluate a waste reduction and recycling program, a business must first determine the amount of waste generated and the amount of money spent for waste collection and disposal. This is done by examining your waste management practices through a waste assessment. WasteCap of Lincoln can assist businesses in conducting a waste assessment and in identifying waste reduction and recycling opportunities.

A waste assessment begins by determining the composition of the waste stream and the costs of disposal. The level of detail for a waste assessment depends upon the needs of the company. One approach is to take a simple walk through the facility, looking directly into waste disposal containers and observing work areas and procedures to identify recycling or waste reduction opportunities.

INVESTIGATING SOLUTIONS

The material you choose to recycle will depend on the volume, value and contamination level of the recyclable materials in your waste stream. When beginning a program, the most promising and cost effective approach is to start with materials that have a high market value, account for a large portion of your waste stream, and are easy to separate.

The markets and infrastructure for post-consumer recyclable materials are expanding rapidly. Although market maturity varies across material types, successful commercial recycling programs can reduce waste disposal needs by 50% or more.

For each type of material selected, determine the method employees will use to separate the material from waste and move it from work areas to a central dock area for the recycler.

Separation of recyclables by employees at the point of generation is an efficient and usually successful method for diverting recyclables from the waste stream. Employees then deposit recyclables into conveniently placed intermediate containers. The custodial or maintenance staff play an important role in this method of collection, so their involvement is essential.

Based on the amount of the recyclable material identified in the waste assessment, determine the storage space that is necessary for each material between collections. (WasteCap will assist you with this.)



Based on volume, value and ease of recycling, prioritize the recyclable material by its ability to meet the requirements of your program. Phasing in a recycling program is an effective way of gaining widespread acceptance and participation. Ranking the materials according to how they meet your facility's waste reduction objectives provides a long-range plan for phasing in a comprehensive recycling program.

COST/BENEFIT ANALYSIS

Like any other business decision, waste reduction and recycling should make good business sense as well as good environmental sense. The costs and benefits associated with implementing a recycling program need to be analyzed in order to determine the most practical program for your facility.

This analysis should include estimating the savings from avoided disposal; the potential revenues for each recyclable material; determining the cost of additional equipment and supplies to collect recyclables separately; and estimating ongoing conservation benefits.

Determine what investment will be required to successfully implement the program alternatives that have been identified. This should take into consideration the cost of containers for collecting and storing recyclables, and training and publicity costs.

Using this analysis, the committee can then make specific recommendations to management for your waste reduction and recycling program.



PROGRAM DESIGN AND IMPLEMENTATION

SEPARATING AND HANDLING RECYCLABLES

Once the management has accepted committee recommendations, WasteCap will assist the committee with designing the collection approach, securing storage space and handling equipment, negotiating agreements with recyclers and waste haulers, determining collection frequency, and developing reporting and revenue handling procedures.

Survey your facility to determine locations for intermediate containers. Identify where each recyclable waste is generated and locate containers nearby. Proper placement of containers encourages participation by making it easier for employees to recycle. To discourage contamination, clearly mark the containers and be sure a trash receptacle is also located nearby.

Select a central storage location after consulting with the recycler who will collect the material. A preferred location is generally by the service entrance, elevator, mailroom, or on the building loading dock.

Your recycler may also assist in providing central containers. Standardized containers are available. Recycling stickers and program logos, which clearly designate containers and acceptable materials, should be placed on or near the containers chosen.

Based on the size of the containers selected and generation rate of recyclables, determine how and when containers will be emptied.

Once the collection system is in place and all the containers have been acquired, members of the employee committee should be assigned responsibilities for monitoring the quality and quantity of materials collected. In addition, committee members should help train fellow employees about the recycling program.

EMPLOYEE AWARENESS

A successful waste reduction and recycling program requires healthy participation by employees. If employees do not participate or if they are uninformed about what materials to recycle, the full benefits of the program will not be realized. Some essential elements of a strong educational campaign are:

- ⇒ Announce the program, hold a kickoff event or contest.
- ⇒ Plan and schedule employee training sessions on how the program works.
- ⇒ Integrate program education into new hiring orientations.
- ⇒ Develop a publicity plan that will keep employees informed about their efforts.



PROGRAM EVALUATION AND IMPROVEMENT

The committee needs to work with collection crews, team members and participants to adjust for any problems that may arise in the program's start up activities. Keep in close contact with recyclers regarding quality of materials, collection frequency and other issues. Encourage employees to ask questions and report problems to the committee. This will aid in fine tuning the system and will further encourage employee participation.

It is also important to track recovery rates, participation and the program's financial records, such as revenue from recyclables, program expenses and waste disposal costs. This information should be presented at regularly scheduled meetings of the employee committee. It is also important to make frequent program reports to both participants and management.

The waste reduction and recycling committee should periodically assess the success of the program and plan for ways to improve. There are many fronts where improvement can occur, including material quality and quantity, participation rates and types of materials collected.

Your business's purchasing department should investigate developing policies and procedures for buying recycled or environmentally friendly products. This can help strengthen markets for the material your company recycles and further demonstrates your commitment to better the environment to your employees and customers.



cardboard

CARDBOARD
RECYCLING

recycling



CARDBOARD RECYCLING INFORMATION

Used corrugated boxes and cartons are one of the more noticeable forms of waste generated by businesses today. Because these containers are large, bulky and comprise much of the volume of waste generated, many companies are choosing to recycle their corrugated cardboard rather than adding it to the ever-growing commercial waste stream.

Corrugated cardboard is the single largest source of waste paper used in recycling. It comprises 45% of all waste paper recovered in the United States. In 1995, 107,050 tons of paperboard and corrugated cardboard were recycled in the Lincoln/Lancaster County area, yet it is estimated that only 15% of the cardboard generated in the county is currently being recycled.

Cardboard represents over 30% of the waste stream generated on an annual basis, and commercial waste comprises over half of the total municipal solid waste disposed of in the Lincoln/Lancaster County area. By recycling corrugated cardboard, businesses are an important element in the city's strategy to comply with the waste reduction goals established by the Nebraska Integrated Solid Waste Management Act.

ASSESSING YOUR CARDBOARD RECYCLING POTENTIAL

FINANCIAL INCENTIVES

Since most refuse haulers determine their commercial fees by both the tonnage collected and the frequency of service, your business could benefit by a reduction in both these areas of your refuse bill.

There are different grades of waste paper. Recycling cardboard depends on:

- ⇒ the type and quantity of waste cardboard you have
- ⇒ the current market price for that cardboard
- ⇒ the transportation cost

Most corrugated boxes are collected by either commercial trash haulers or waste paper dealers. The first step in your recycling effort is to determine how much corrugated and other waste paper you generate and its value to a recycler. WasteCap can assist you with this process.

WHAT DOES YOUR BUSINESS GENERATE?

Look at the old corrugated cardboard your business generates. Try to estimate how many of your trash containers you could fill in one week with corrugated waste alone. You should also think about seasonal variations in both your business or special shipments that produce large quantities of cardboard. Note any other types of waste paper that the business generates in significant volumes.

If you are not knowledgeable about the different grades of waste paper, you may want to clip several samples to show your recycler. In most cases, a recycler will visit your establishment to make his or her own assessment prior to accepting your cardboard or other waste paper.



There are no firm rules about the quantity of material you must generate in order to recycle. Keep in mind that you may need to accumulate a sufficient quantity of cardboard before the recycler or hauler is willing to pick it up. Accumulation requires storage space or containers designated to hold specific recyclables.

SEPARATING AND HANDLING YOUR CARDBOARD

Once you have decided to recycle used corrugated containers, keep them separate from other refuse generated by your business. Source separation will keep your waste paper free of contaminants. It also eliminates the time consuming and difficult task of sorting recyclable corrugated boxes that have been mixed with unwanted material.

WHAT METHOD FOR RECYCLING CARDBOARD IS BEST?

There are four methods for recycling corrugated containers. The type of method your business chooses should depend on the quantity of corrugated cardboard generated, the storage area available and the system of preparation.

BALING CORRUGATED CARDBOARD FOR RECYCLING. Large cardboard generators may consider separating the material and baling it. If baling seems a practical way for your business to handle cardboard, you should determine the size and type of baler best suited to your facility. Two types of balers are available on the market today (vertical and horizontal).

Vertical balers handle volumes of cardboard up to about 25 tons per month. At or above this quantity, a horizontal baler should be considered. Note that horizontal



balers produce a smaller bale for a given weight, requiring less storage space. A horizontal baler can also produce a bale faster than its vertical counterpart. Where a horizontal baler produces up to 2.5 bales per hour, a vertical baler can only produce about one bale per hour.

COLLECTING CORRUGATED CARDBOARD IN A DEDICATED DUMPSTER. A second option in recycling cardboard is to separate the material and place it in a dumpster dedicated to storing it. This approach is recommended for smaller businesses. A number of variables are associated with this option.

The dumpster, whether it is provided by your business or by the recycler, may be serviced at regular intervals or on a "will call" basis. Dumpsters come in various sizes, with two to eight cubic yard capacity.

The size of container necessary is a direct reflection of the amount of cardboard your business generates. Dumpsters holding either six or eight cubic yards are generally used for cardboard recycling. A six-yard container holds approximately 600 pounds of flattened or 300 pounds of unflattened cardboard. An eight-yard container holds about 800 pounds of flattened or 400 pounds of unflattened material.

STORING CORRUGATED CARDBOARD IN A DEDICATED COMPACTOR. If your business generates between 50 and 1,000 tons of cardboard per year, a viable option may be to use a compactor as a means of minimizing the servicing schedule for your product. A 42-yard compactor produces approximately a four to five ton load of cardboard, thus reducing the space needed for storage and the number of service calls necessary for your business.

Costs associated with using a compactor are much the same as with using a baler. However, a compactor keeps cardboard "loose" as compared with a bale that is tied with wire for transportation.

STORING LOOSE CORRUGATED CARDBOARD IN A SEMI-TRAILER. Some recyclers may have the resources to rent a semi-trailer to your business for the collection and direct transportation of your cardboard.

The use of this system requires a significant amount of storage space. There needs to be enough room not only for the trailer, but for clearance to maneuver it in and out of its resting spot. Depending on your type of business, this may be the easiest and best method for recycling cardboard.

Much of the cost of waste disposal is collection and transportation. The same is true for recycling programs. In order to maximize the efficiency of your program, it is necessary to minimize the number of service calls needed. The most efficient system is the one in which it is most economical to store recyclable material and require the least amount of service calls.





paper

OFFICE PAPER
RECYCLING

office



OFFICE PAPER RECYCLING INFORMATION

As public awareness of the need for recycling grows, more and more companies are choosing to recycle the waste paper generated in their office buildings. Nationally, office paper recovery reached an estimated 31% in 1992, up from 24% in 1989.

Recycling paper provides a valuable raw material for the manufacture of new paper products and reduces the quantity of paper in our waste stream, easing the burden on municipal solid waste collection and disposal systems.

WasteCap of Lincoln is ready to help your business set up an office paper recycling program tailored to meet your specific needs. The program can help your company identify recycling opportunities and secure the services of waste paper dealers and recyclers.

LINCOLN'S SOLID WASTE STREAM

In Lincoln and Lancaster County, commercial waste represents over half of all waste generated; paper products alone account for 43% of the waste buried in the county landfill. It is estimated that each office worker disposes of at least half a pound of regular paper per day. Each ton of paper reaching the landfill occupies 3.3 cubic yards of valuable space.

Each ton of recycled paper saves:

- ⇒ An estimated 17 trees
- ⇒ 4200 kilowatt hours of energy
- ⇒ 60 pounds of air pollution
- ⇒ Over three cubic yards of landfill space

BENEFITS TO OFFICE PAPER RECYCLING

There are many benefits to starting an office recycling program, but one must understand that these advantages can't always be measured using traditional cost/benefit analysis methods.

The greatest benefit your business will receive, however, is knowing it is environmentally responsible. Recycling office paper conserves our natural resources and saves valuable landfill space.



ASSESSING YOUR PAPER RECYCLING POTENTIAL

A successful office paper recycling program requires a minimum of 500 to 1000 pounds of office paper each week in order for a waste paper dealer or recycler to schedule a collection. 500 pounds may sound like a large amount, but paper adds up quickly. An office with 100 employees will generate from 50 to 75 pounds of recyclable paper every day.

If your business doesn't generate a large volume of paper each week, you may consider pooling your efforts with other small businesses near you to generate the required amount of paper for collection.

There are four types of office paper recycling programs:

- ⇒ **Computer paper only.** Computer paper is a very high quality, long fiber paper.
- ⇒ **White paper only.** White paper, which includes white typing and copy paper, commonly called ledger paper. White ledger paper, which is de-inked, crushed and mixed with virgin fibers to form new paper and paper products, also commands high prices.
- ⇒ **Mixed office paper.** This program includes unseparated paper such as magazines, packaging materials, discarded mail, catalogues, and other "waste" paper. Mixed office paper is often difficult to market and has a very low value.
- ⇒ **Combination.** This program includes any combination of the above programs. This generally includes computer paper, white paper, and some mixed paper items such as colored ledger paper and envelopes.

Most businesses find a combination program to be their best option. This type of recycling program, which is often easier to implement, maximizes the office paper recovered.

If your company doesn't generate enough material to warrant collection by a waste paper dealer or recycler, and you can't combine your efforts with other businesses, there are short term options:

- ⇒ Save your paper until you have a substantial amount and then call a waste paper recycler for a one-time collection. The money received by the recycler for sale of the recovered paper will probably provide for the cost of a service call. Your business may not see any revenues, but it will avoid additional waste hauling charges by recycling.
- ⇒ Take the paper to the waste paper dealer or recycler. In addition to avoiding waste collection charges, your business may receive some income from selling the paper.

It is a good idea to visit a business of comparable size and makeup when starting your recycling program. This will provide insight into the problems they have encountered and solutions to those problems. Visiting another business will also save you valuable time and money when establishing your program. WasteCap can help you identify businesses to visit.



SEPARATING AND HANDLING YOUR OFFICE PAPER

A successful office paper recycling program begins at every employees desk. Each employee should receive a small, sturdy container for storing recyclable paper. This can either be a desktop box or a second waste container.

Your business should also place larger containers around the building where large volumes of paper accumulate. Next to the copier, or in areas where large volumes of blue or green bar computer paper are generated, would be nice locations.

After paper is placed in separate recycling containers, the next step is getting all the recovered paper in one place. There are two approaches: 1) Have employees dump their containers in a central office location; or 2) Have your custodial staff perform this task.

Most office paper recycling programs work best using the first approach. Then custodial staff can collect paper from the central office containers and transfer it to the main storage area. You could also use an alternating collection system in which recyclable paper is collected one night and trash the next.

Reasons to consider a main storage area include:

- ⇒ Paper is collected in one area, so less labor will be required by the waste paper recycler at collection time.
- ⇒ Larger loads can be easily accumulated, saving on transportation expenses.
- ⇒ Storage in one general area avoids overflow of central containers if the recycler can not immediately respond to your collection call.

HOW MUCH STORAGE SPACE IS NEEDED?

The main storage should be organized to minimize accidental mixing of trash with recyclable paper and it must meet local fire code requirements. Your waste paper recycler can help you determine what size of storage space is needed. Typically, you will need a space that is at least six feet by six feet.

Five considerations when using a storage area are:

- ⇒ Is the site large enough to accommodate your needs?
- ⇒ Can the site be locked?
- ⇒ Is there a clear distinction between recycling containers and trash containers if they are stored in the same area?
- ⇒ Is there easy access for the recycler?
- ⇒ Is the site protected with fire sprinklers?

WHAT DOES A RECYCLING PROGRAM COST?

Costs associated with starting an office paper recycling program depend upon the type of program your business operates. As noted earlier, most businesses have housekeeping services collect recyclable paper from central containers and take it to a storage area. This approach is convenient but it does involve extra staff time. At Lincoln's City/County Building, it was estimated that the housekeeping crew requires 10% more time to empty two waste containers as compared to one.



Other costs may include:

- ⇒ Educational materials used at the start of the program to encourage employees' participation and inform them about proper separation procedures.
- ⇒ Time required by employees to start and maintain the program for your business.
- ⇒ Desk side containers purchased for each employee.
- ⇒ Central collection containers and carts used by custodial staff to move the containers to the storage area.
- ⇒ A rental fee from the waste paper recycler for the storage bin used at your business.
- ⇒ A collection fee to pick up recovered paper. However, some recyclers may collect paper and use the revenues generated to cover the cost of collection.

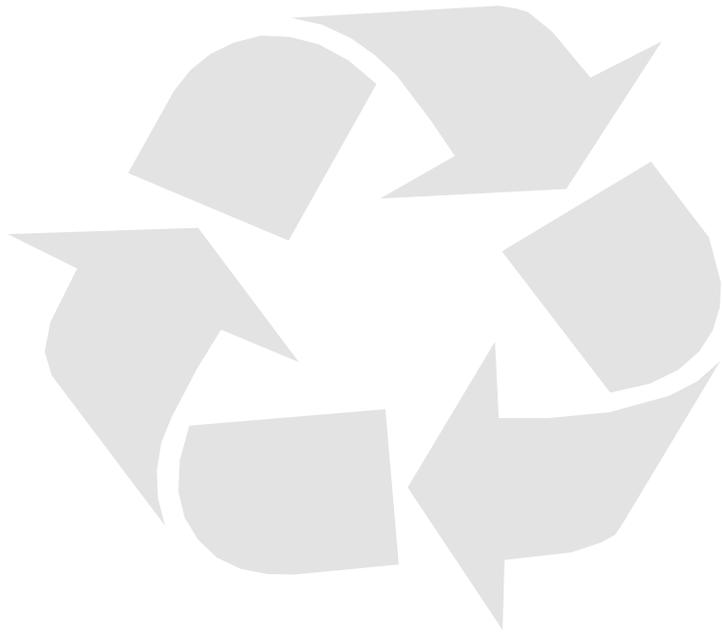
While some cost is associated with any office paper recycling program, your business can also save money because waste disposal costs will decline.



flourescent

FLUORESCENT
LIGHTING
RECYCLING

lights



FLUORESCENT LIGHTING RECYCLING INFORMATION

There are several different varieties of mercury-containing lamps in use today, including fluorescent lamps, high pressure sodium lamps, mercury vapor lamps, and metal halide lamps. All of these contain small quantities of mercury that may be harmful to the environment.

In June of 1995, mercury containing lamps were placed under guidelines for hazardous waste by the Nebraska Department of Environmental Quality. In September of 1996, mercury containing lamps were banned from disposal in the landfill. To avoid the regulatory burden of disposing in a permitted solid waste facility, a recycling vendor for the lamps was located by the INFORM (Industrialized Nebraskans for Organized Recycling Management) coalition of Lincoln (NE). At this time, a memorandum of understanding was established for use between businesses disposing of the hazardous waste and the chosen recycling vendor.

ASSESSING YOUR RECYCLING POTENTIAL

Assessing your fluorescent lighting recycling potential is simple...if your business uses any of the above mentioned bulbs, then you need to dispose of them in the proper manner. A large quantity of the bulbs is not necessary—the bulbs can be disposed of a box at a time if needed. The quantity of bulbs and a pick up scheduled can be determined by cooperating with your chosen recycling vendor.

HANDLING YOUR FLUORESCENT LIGHTING WASTES

Mercury containing lamps contain small quantities of mercury that may be harmful to the environment. Used lamps are classified by state and federal law as hazardous wastes, so they must be handled in an environmentally safe manner. Employees handling used lamps should follow all city, county, and state regulations when handling the wastes.

Used lamps need to be stored in the container they were originally packaged in. This carton will provide adequate protection for the lamps while in storage. The cartons containing the used lamps should be marked "spent mercury-containing lamps" for employee protection. Your recycling vendor will provide you with the proper packaging (if it isn't already available), and will furnish you with adequate instruction on the transportation standards for the bulbs.

When handling the waste, every attempt should be made to minimize breakage of the spent bulbs. No contaminants to the recycling process, such as plastic wrap, wood, paper or other waste products can be placed in the containers designated for the fluorescent lighting wastes.



CONTRACTING FOR FLUORESCENT LIGHTING RECYCLING

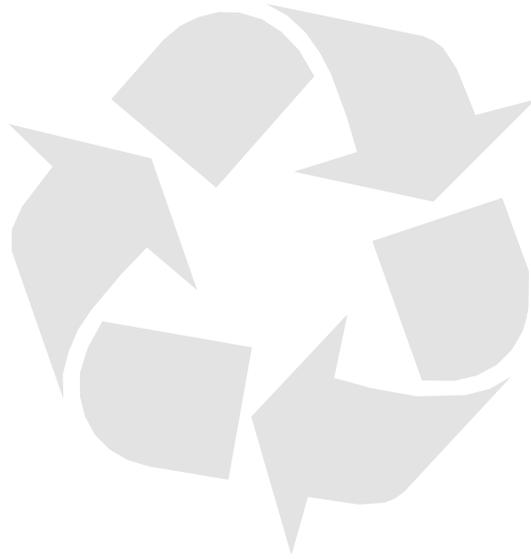
While a number of vendors are available for the recycling of fluorescent lighting wastes, businesses can choose to contract with the chosen vendor of the INFORM coalition. Businesses contract for the disposal of the lighting wastes by agreeing to a memorandum of understanding between said business and the recycling vendor.

Under the current memorandum of understanding, there is a per tube charge for the recycling of the lamps that is assessed according to the terms of the formal proposal dated May 14, 1996. Transportation and paper work are included in the cost, and it is the responsibility of the recycling vendor to inform the business regarding the transportation needs of the fluorescent lighting wastes.

Businesses that choose to use the recycling vendor chosen by the INFORM coalition receive a per bulb price break, making the costs of recycling considerably less than if a business were to contract with a vendor on its own. (The amount of the price break varies with market fluctuations.)



toner



TONER

CARTRIDGE

RECYCLING

cartridges



TONER CARTRIDGE RECYCLING INFORMATION

In 1998, a record 42 million toner cartridges will be sold in the United States alone—if you placed them end to end, they would stretch from Washington D.C. to California and back again. As the use of computer technology and information sources like the internet grows, the number of cartridges used is going to grow in the years ahead.

Toner cartridges are one of the most convenient products to recycle—it is a simple way to keep valuable materials out of landfills and expand your recycling program. Used cartridges that are returned to the original manufacturer, or to a recycler, are disassembled. Some of the existing parts are reconditioned to “like-new.” Parts, like some plastics, that cannot be reconditioned, are ground up and used for other products.

The typical toner cartridge weighs about three pounds. When broken down by material content, the average cartridge consists of about 40% plastic, 40% metal, and small percentages of foam, rubber, paper and toner. Roughly 97% of those components are recyclable. Over the course of a year in the United States alone, that equates to about 120 million

ASSESSING YOUR RECYCLING POTENTIAL

tons of recyclable material that can be diverted from landfills through the use of toner cartridge recycling venues.

Does your business use toner cartridges? Then you can recycle them—no matter the size or the volume of cartridges you use. A majority of the leading toner cartridge manufacturers are encouraging consumers, like you, to return their used cartridges for recycling, and they make the process easy. Local vendors and contracts are also available.

HANDLING YOUR TONER CARTRIDGES

The handling of spent toner cartridges is a simple, worry free process. When a cartridge is expired, simply remove it from your printer and either place it in the packaging you received it in, or in the packaging the new cartridge is removed from. Then, depending on your arrangement with the manufacturer/recycler, you either return the cartridge via mail, or wait for it to be picked up.



CONTRACTING FOR TONER CARTRIDGE RECYCLING

While a number of toner manufacturers offer recycling programs for their cartridges, and a variety of cartridge recyclers exist, businesses can choose to contract with the chosen vendor of the INFORM coalition for their toner cartridge recycling needs. Businesses contract for the recycling of their spent toner cartridges by agreeing to a memorandum of understanding between said business and the recycling vendor.

Under the current memorandum of understanding, all businesses contracted with the chosen vendor receive equal service and pricing for the cartridges, regardless of size or volume. Any assistance needed by the business, from replacement of damaged cartridges to technical assistance, is provided by the recycling vendor.

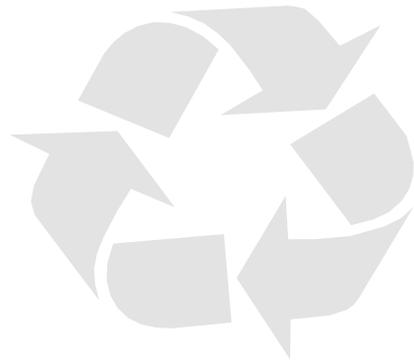
The recycler must meet strict standards regarding the quality and performance of the recycled cartridges. Packaging for the spent cartridges is provided by the recycler, as well as a monthly statement listing the number and type of cartridges purchased and recycled.



container

CONTAINER
LEASING
THROUGH
WASTECAP

leasing



CONTAINER LEASING INFORMATION

In response to concerns of local businesses that the cost of container rental through a local vendor was cost prohibitive, WasteCap began a Container Leasing Program. By using the program, local businesses are able to secure a recycling container through a "lease to own" agreement with WasteCap.

The Container Leasing Program allows businesses to avoid the flat rate incurred when renting a container from a local vendor and save money, and provides WasteCap with the first step towards a cooperative purchasing agreement with INFORM businesses.

ASSESSING YOUR CONTAINER LEASING POTENTIAL

If your business recycles relatively large amounts of office paper or cardboard, then you may want to consider leasing a container. Using the WasteCap Container Leasing Program, you will be able to select a recycling container that meets your recycling needs, at a cost that doesn't make the recycling process prohibitive.

The containers leased by WasteCap are available in two (2), four (4), six (6) and eight (8) yard sizes, and are either front or rear loading models. The containers are designed for outside use, to avoid taking up valuable inside storage space. In addition, WasteCap also offers 35-gallon and 95-gallon totes for indoor use.

Businesses who contract with WasteCap for a container are agreeing to a "lease to own" agreement. The length of the

CONTRACTING WITH WASTECAP OF LINCOLN

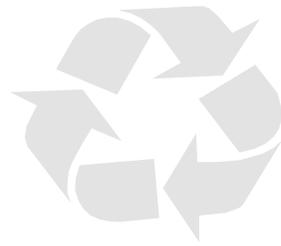
lease is one (1) year, and will be automatically renewed unless the business requests termination of the agreement. The maximum length of the lease is five (5) years for outside containers and three (3) years for indoor containers, at which time WasteCap will transfer the ownership of the container to the business.

Under the terms of the agreement, only recyclable material (either cardboard or office paper) may be placed in the container, and repair service (not including normal wear and tear) will be provided by WasteCap. For information on the Container Leasing Program, please contact WasteCap.



recycled

Recycled
Content
Products
Purchasing



purchasing



RECYCLED PURCHASING INFORMATION

Recycled products purchasing is a very important component of a successful recycling program. In order to achieve waste reduction goals, it is necessary to create a demand for recycled products and stronger markets for recycled materials need to be developed. By purchasing recycled products, your company will be "Closing the Loop". The closed loop concept is based on the assumption that a business would set up a program to collect recyclable materials and then buy back the recycled products made from those materials. The system guarantees markets for recyclable materials by stabilizing the demand for recycled products. *Closing the Loop* describes a conscious effort by business not only to reduce, reuse and recycle, but to buy recycled, bringing the process full circle and closing the loop.

ASSESSING YOUR RECYCLED PURCHASING POTENTIAL

WasteCap of Lincoln and INFORM have been working very hard to ensure that recycled purchasing can be made as simple as possible for businesses. WasteCap has developed a Guide for businesses, "Closing the Loop: Recycled Content Products" which is now in its second edition. INFORM has also been working with US Office Products to provide a "Buy Recycled, Cooperative Purchasing of Recyclables" program. This program offers a discount to INFORM members for purchasing recycled content products from a catalogue developed by US Office Products that has only those materials made with recycled content. The catalog, "Nature Friendly Office Supplies," contains over 1400 products made with recycled content.

With these programs in place, WasteCap of Lincoln and INFORM have made the process of *Closing the Loop* very simple for businesses. For more information or to obtain catalogs, call the WasteCap office.

DESIGNING YOUR RECYCLED PURCHASING PROGRAM

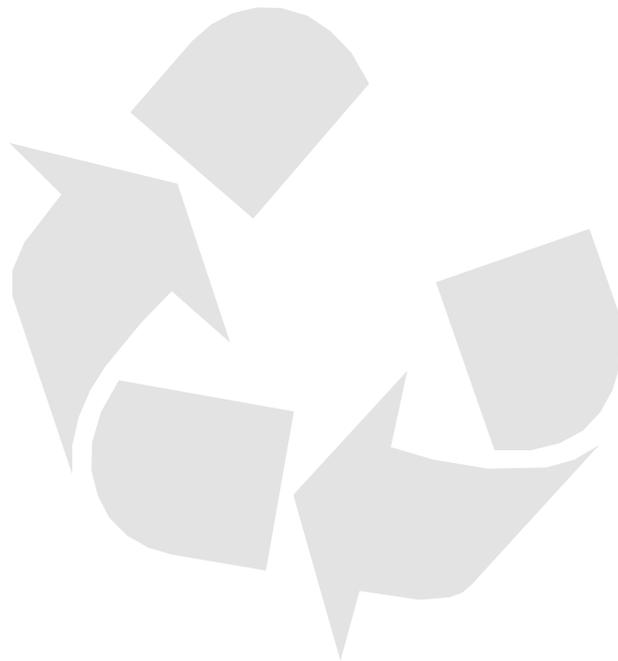
A successful buy-recycled program will begin with eight (8) simple steps. These steps, listed below, are outlined in greater detail in WasteCap's 1999 Edition of "Closing the Loop: Recycled Content Products, A Guide for Business".

1. **Get a Commitment** from management and establish a recycling committee.
2. **Become Educated About Recycled Products**
3. **Evaluate and Revise Purchasing Specifications, Policies, and Procedures**
4. **Set Goals and Monitor Progress**
5. **Look at Creative Cost Strategies:** conduct competitive bids, buy in bulk
6. **Work With Vendors:** let them know that you prefer high post-consumer recycled products
7. **Promote Your Program**



recycling

INDEX



MEMORANDUM OF UNDERSTANDING FOR COLLECTION/ PROCESSING SERVICES OF PAPER PRODUCTS

_____, hereinafter referred to as generator, and _____ hereinafter referred to as contractor, in consideration of their mutual interests in the collection and processing of recyclable materials agree to the following:

1. The Contractor agrees to follow the terms and conditions of the "Minimum Performance Standards Document" as well as those outlined in the "General Terms and Conditions" document.
2. The Generator located at _____, shall separate and store the recyclable material in the following manner (Check all that apply)

<u>Commodity</u>	<u>Barrel/Toter</u>	<u>Rear Loading</u>	<u>Roll Off</u>	<u>Baled</u>	<u>Semi Load</u>
Office Paper	_____	_____	_____	_____	_____
Magazines	_____	_____	_____	_____	_____
Newspaper	_____	_____	_____	_____	_____
OCC	_____	_____	_____	_____	_____

3. The Collection frequency for the waste paper shall be, by material:

<u>Commodity</u>	<u>Pick ups per week/month</u>
Office Paper	_____
Magazines	_____
Newspaper	_____
OCC	_____

4. In consideration for these collection services the generator agrees to pay the contractor the following collection fees: (Please indicate how pricing is determined: i.e. number of stops, volume, container size, monthly fee, etc.)

<u>Commodity</u>	<u>Barrel/Toter</u>	<u>Rear Loading</u>	<u>Roll Off</u>	<u>Baled</u>	<u>Semi Load</u>
Office Paper	_____	_____	_____	_____	_____
Magazines	_____	_____	_____	_____	_____
Newspaper	_____	_____	_____	_____	_____
OCC	_____	_____	_____	_____	_____

5. Rejection of loads shall be based on criteria provided by the Contractor (provide attachment)
6. Material deemed confidential, and to be shredded shall be marked in the following manner: _____
7. The term of this agreement shall be for 1 year, beginning _____ and is renewable for 2 one year periods if mutually agreeable.
8. If technologically feasible, Contractor will provide actual, verifiable quarterly totals of materials hauled for recycling. If this is not technologically feasible, an estimation will be provided quarterly to the INFORM office for materials hauled by INFORM members.
9. Profit sharing will be determined on a case by case basis between the Contractor and Generator. Revenue sharing must meet the guidelines of the Minimum Performance Standards for Paper Products. Revenue for commodity profit sharing will be based on Fibre Market News, First Edition for Sorted Office Paper and the Yellow Sheet, Second Edition for Old Corrugated Cardboard. Both publications based on the Chicago Region.

Dated this ____ of _____, 19__

INFORM Representative

Hauler Representative



**Memorandum of Understanding for the Collection and Processing of Fluorescent Lighting Wastes
Between _____ and Light Cycle, Inc.**

_____, hereinafter referred to as “seller,” and Light Cycle, Inc., hereinafter referred to as “contractor,” in consideration of their mutual interests in the collection and processing of fluorescent lighting wastes do agree to the following:

1. This Memorandum of Understanding is for the collection and processing services of fluorescent lighting wastes. The contractor agrees to provide for the transportation of fluorescent lighting wastes, a hazardous waste in Nebraska, to a licensed facility which will recycle the wastes in a manner acceptable to INFORM coalition members.

1.1 Only items related to the services listed below shall apply to this Memorandum of Understanding.

2. Collection and Processing Services

2.1 The seller shall accumulate fluorescent lighting wastes in a manner acceptable according to hazardous waste regulatory standards.

2.1.1 The contractor shall provide proper packaging and handling instructions and furnish adequate instruction on transportation standards. Contractor shall provide transportation containers to seller if requested.

2.1.2 The contractor shall fill out all hazardous waste manifests with the approval of the participating business.

2.1.3 The contractor shall provide a Certificate of Recycling to show the materials provided by the seller were recycled.

2.2 Collection services for the fluorescent lighting wastes will be arranged with individual participating businesses. Collection of the materials shall occur between the hours of _____ AM and _____ PM, Monday through Friday.

3. Payment

3.1 For a consideration of collection and processing services, the seller will pay Light Cycle according to the terms submitted in the formal proposal dated May 14, 1996. Attached is a summary of the charges submitted in said proposal.

3.2 Payment terms shall be net 30 days upon receipt of a certificate of recycling.



(FLUORESCENT LIGHT MEMORANDUM CONTINUED)

3.2 Payment terms shall be net 30 days upon receipt of a certificate of recycling.

4. General Condition of the Memorandum of Understanding

4.1 The seller agrees to comply with the following standards for fluorescent light waste recycling.

A. The seller shall make every reasonable attempt to minimize breakage of fluorescent lighting wastes.

B. No contaminants such as plastic shrink wrap, wood, paper or other products that constitute refuse will be placed in the containers which contain fluorescent lighting wastes.

4.2 In the event the contractor is unable to collect the fluorescent lighting wastes for a previously scheduled pickup, the contractor shall notify the seller. The seller will hold the fluorescent wastes for five (5) working days. If the lighting wastes are not collected by the contractor within the five (5) day working period, the seller may contract with another transportation firm to transport the fluorescent lighting wastes. The contractor shall reimburse the seller for any additional expenses incurred above the contract amount specified in the formal bid submitted on May 14, 1996.

4.3 The contractor agrees to provide the seller with an invoice including quantity of waste collected, and collection and processing costs of that shipment.

4.4 In the event that the contractor knowingly disposes of any fluorescent lighting wastes that meet the material specifications identified in item 1 above, in a sanitary landfill, the seller may terminate this agreement immediately with no written notice. Further, if the wastes are knowingly disposed of in a way which violates current disposal regulations or results in the need for arbitration or cleanup, the INFORM coalition shall be held harmless and exempt from such negotiations or court action.

4.5 While the INFORM coalition has taken all reasonable and prudent precautions to guarantee the quality of the contractor, the INFORM coalition shall not be held liable for the contractor's actions.

4.6 The term of this agreement shall be for twelve (12) months, from _____ to _____.

4.7 Either party may terminate this agreement after sixty (60) days written notification of termination.

4.8 If the contractor cannot meet the terms of this agreement, then the seller has the right to enter an agreement with other contractors until the contractor can meet the terms of this agreement.

4.9 This memorandum may be amended only through a written agreement, signed by both parties.

Seller

Light Cycle



**MEMORANDUM OF UNDERSTANDING FOR PURCHASE AND RECYCLING OF REMANUFACTURED
TONER CARTRIDGES BETWEEN
INFORM AND MEDIA RECOVERY, INC.**

The participating members of INFORM, hereinafter referred to as "buyer" and Media Recovery, Inc hereinafter referred to as "contractor", in consideration of their mutual interests for the purchase and recycling of remanufactured toner cartridges agree to the following:

- 1) The contractor agrees to follow the terms and conditions as outlined:
 - a) All participating INFORM members must receive equal service, and pricing structure regardless of size or volume.
 - b) Ordering and billing will be done through individual businesses.
 - c) All toner cartridges must meet original equipment manufacturer's (OEM) standards for quality and performance.
 - d) During remanufacture, cartridges must be disassembled, all parts cleaned, inspected, and replaced as necessary.
 - e) Replenishment of toner must meet OEM standards, and hopper must be filled to capacity.
 - f) Contractor must make delivery within two (2) working days of order. Contractor is also expected to provide collection of spent cartridges within 48 hours of notification.
 - g) The Contractor will provide exchanges or repairs on merchandise that is defective, and repair any damage occurring from use of faulty merchandise within 48 hours.
 - h) Packaging must be constructed to permit users to re-package spent cartridges for return.
 - i) Contractor must provide INFORM office with quarterly volume reports detailing each company's usage.
 - j) Contractor agrees to provide technical assistance workshops to any buyer who requests such assistance.
 - k) Contractor will provide all buyers with a trouble shooting guide in each toner cartridge package.
 - l) Contractor agrees to review pricing schedule after 180 days for trends and discount availability.
- 2) The Buyer agrees to follow the terms and conditions:
 - a) Although the contract is with INFORM, individual businesses retain the right to not participate.
 - b) If whole orders are not available, partial orders will be accepted.
 - c) The Buyer agrees to package spent cartridges in packaging provided by contractor.
 - d) The Buyer is responsible for payment to the Contractor within the time allotted by the Contractor.
- 3) At the time of billing, the Contractor agrees to provide the Buyer with a monthly statement listing the number and types of cartridges purchased, number and types of cartridges recycled, costs, credits, and total amount due by the Buyer.
- 4) Any amendments must be in writing, and acceptable to both parties.
- 5) Either party may terminate this agreement after 60 days written notification of termination.
- 6) The term of this agreement shall be for one year beginning March 1, 1998.

Dated this ____ day of _____, 1998

INFORM

Media Recovery, Inc.



**Container Lease Agreement Between
_____ and WasteCap of Lincoln**

_____, hereinafter known as the Lessee, and WasteCap of Lincoln, hereinafter known as the Lessor, do hereby agree to the following terms and conditions for the lease of recycling equipment.

- 1) The equipment to be leased is a(n) ____ yard brown rear loading container, equipped with plastic lids and no casters; _____ 95-gal. Tote(s); _____ 35-gal. Tote(s).
 - a) Lessee may not alter the appearance of equipment without Lessor approval.
- 2) Equipment is to be utilized for the collection of recyclable material. No other use is acceptable. Any other use of equipment is considered misuse.
 - a) Misuse of equipment will result in immediate forfeiture of equipment.
 - b) In the event of forfeiture of equipment, past lease payments are non refundable.
- 3) Length of lease is one year.
 - a) Lease will automatically renew unless Lessor or Lessee requests termination.
- 4) Maximum length of lease is five (5) consecutive years for dumpsters and three (3) consecutive years for totes.
 - a) After maximum length of leasing equipment, Lessor will transfer ownership of equipment to Lessee.
- 5) Lease cost is \$____ per month, for a maximum of 60 consecutive months.
 - a) Lessee agrees to pay Lessor (check one)
 - i) ____ Monthly
 - ii) ____ Quarterly
 - iii) ____ Semi-annually
 - iv) ____ Annually
- 6) Lessor agrees to provide repair service for equipment.
 - a) Repair service includes any sudden and accidental damage, vandalism, or other act of God that results in damage to the equipment. Routine wear and tear to equipment is not covered.
 - b) After ownership of equipment is transferred to Lessee, Lessor will no longer provide repair service.
- 7) Lessee agrees to make every reasonable effort to maintain appearance of area surrounding leased equipment. This includes keeping area unobstructed, and equipment accessible for collection service.
- 8) Lessee cannot transfer ownership of equipment to any other party in the first five (5) years of lease.
 - a) After Lessor has transferred ownership to Lessee, Lessee may transfer ownership to another party.
- 9) This agreement may be cancelled by either party after 30 days written notification.

Lessee

WasteCap of Lincoln



**Memorandum of Understanding between INFORM and US Office Products
For the Purchase of Recycled Content Products**

The participating members of INFORM (hereinafter referred to as "Buyer" not to include INFORM as the organization) and U. S. Office Products (hereinafter referred to as "Vendor"), in consideration of their mutual interest for the purchase of recycled products, agree to the following:

The Vendor agrees to follow the terms and conditions as outlined:

- 1) All ordering and billing will be done directly with each the individual business.
- 2) All products offered through this memorandum must have recycled content, or be made out of recycled materials and be of standard quality to be used in a business environment.
- 3) All participating INFORM members must receive equal service levels and have participation from the Vendor's sales representatives.
- 4) The Vendor will deliver to the Buyer's premises all materials ordered in a timely manner.
- 5) The Vendor will pick up any defective product and the Buyer will receive appropriate credit for that product.
- 6) The Vendor will provide the INFORM office with quarterly volume reports and total dollars generated through this program.
- 7) The Vendor sales representative will be available one day per week for specific appointments to be set up by INFORM members.
- 8) The Vendor will provide to each Buyer a Recycled Office Supply Catalog of all recycled products available
- 9) The Vendor will provide a minimum discount price from the manufacturer suggested retail price listed in the Recycled Office Supply Catalog.

The discount will be structured as follows:

20% discount to all INFORM members for the purchase of recycled products
Additional discount available for large purchases

The Buyer agrees to follow the terms and conditions as outlined:

- 1) Although the memorandum is with INFORM, individual businesses retain the right to not participate.
- 2) The Buyer is responsible for payment to the Vendor within the normal terms of the Vendor.
- 3) At the time of billing, the Vendor will provide to the Buyer listings of products purchased, associated cost of the individual items and total amount due by the Buyer.

Any amendments must be in writing, and acceptable to both parties.
Either party may terminate this agreement after 60 days written notification of termination.
The term of this agreement shall be for one year beginning February 1, 1999.
Dated this _____ day of _____, 1999.

_____	_____
INFORM (The Organization)	U. S. Office Products
INFORM Company Name _____	
INFORM Company Contact _____	
Signature _____	
Date _____	



RESOURCES

INFORM (Industrialized Nebraskans for Organized Recycling Management) is a coalition of local businesses interested in developing environmentally sound recycling and solid waste management programs.

The INFORM group offers businesses an opportunity to pool their resources and leverage improved recycling services which maximize the amount of waste diverted from the landfill and minimize the costs for participating businesses.

INFORM currently works with a local intermediate processor who collects recycled materials from participating firms. Individual businesses are then billed according to the type of service and collection necessary, and they are paid for the amount of material collected.

For more information about INFORM, call (402) 472-0888.

For more information on waste reduction and recycling programs, contact:

WASTECAP OF LINCOLN

1135 M Street, Suite 200
PO Box 83006
Lincoln NE 68501-3006
(402) 472-0888

CITY OF LINCOLN RECYCLING OFFICE

Public Works and Utilities
555 S 10th Street
Lincoln NE 68508
(402) 441-8215

LINCOLN/LANCASTER COUNTY HEALTH DEPARTMENT

7400 Theresa Street
Lincoln NE 68521
(402) 441-8022

NEBRASKA STATE RECYCLING ASSOCIATION

1941 S 42nd Street, Suite 512
Omaha NE 68105
(402) 444-4188 or (800) 248-7328 (Nebraska only)



NOTES

