

BUY RECYCLED

TRAINING MANUAL

SIXTH EDITION

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MARYLAND ENVIRONMENTAL SERVICE

BUY RECYCLED

TRAINING MANUAL

SIXTH EDITION

The Maryland Environmental Service (MES) was created in 1970. MES is a state agency and a non-profit corporation, uniquely equipped to provide a wide range of environmental programs to public and private agencies. We provide innovative, cost-effective services in such areas as drinking water, waste water and storm water treatment, solid and hazardous waste management, recycling, composting and co-generation plants. MES combines the public sector's commitment to environmental protection with the private sector's efficiencies, flexibility and responsiveness.

In recycling, MES operates materials recovery facilities (MRFs), markets recyclables, designs new recycling programs and conducts buy recycled training. MES has received awards for its recycling programs from the Maryland Recyclers Coalition, the National Recycling Coalition and the Solid Waste Association of North America.

The Buy Recycled Training Manual provides information on existing buy recycled efforts, available recycled products and techniques to improve buy recycled programs in public and private organizations.

Richard Keller, Chief of Recycling for MES was the principal author of the manual. MES thanks the countless individuals and organizations that have advanced buy recycled.

This manual is the sixth edition of the original publication. It was published in September 2000. **It cannot be reprinted in part or in whole without permission from the publisher.** Please contact MES with questions, suggestions and comments:

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**MARYLAND
ENVIRONMENTAL
SERVICE**

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Introduction

Successful recycling is a full circle, three-step process. It begins with collecting and separating recyclable materials. Manufacturers then convert these raw materials into new products. Finally, the recycled products return to the marketplace as new consumer goods. As recyclers have discovered, however, the process often halts at step two.

The marketplace drives manufacturing. If demand exists for a recycled product, manufacturers will produce products to meet the demand. Without sufficient incentive, however, manufacturers will not invest in recycling, even if it is the “right thing to do.”

The marketplace potential for recycled goods is expanding rapidly. More and more products made from recycled materials are available. The most immediate recycling challenge is to change consumer buying habits, especially those of large government, institutional and business buyers.

The Maryland Environmental Service meets this challenge with the Buy Recycled Training Manual. The publication is a companion to a buy recycled training program, but can also be used independently. MES has designed the manual for both public and private agencies. The manual explains the process of routinely buying recycled products in place of products traditionally made from virgin materials. The manual discusses current programs, available products and purchasing options that will help you establish a buy recycled program or expand an existing one.

The manual also includes sources of information on recycled content products.

How Buy Recycled Fits Into the Recycling Equation

Buying Recycled Products

As represented by the three arrows in the recycling symbol, recycling involves three elements: collection, manufacturing and reuse. The three elements must be in balance to fully realize the potential of recycling. Merely collecting recyclables is not recycling. Recycling does not occur until recovered materials return to the economic mainstream as new raw materials or products, and a consumer uses those recycled products. Therefore, unless businesses, governments and consumers buy recycled products, materials collected for recycling will continue to require disposal.

The term “recycled product” means a product made in whole or in part from secondary material recovered from converting or post-consumer sources. (There is more information on definitions of recycled products later in this Chapter.) “Recycled product” may also mean a product that is reused, rebuilt or remanufactured, such as reused equipment, a rebuilt engine or a remanufactured laser toner cartridge.

In addition to looking at recycled products, this manual will discuss buying habits that contribute to waste prevention. This includes buying only those products that we need, buying products that reduce the volume of waste (such as double-sided copying) and buying recyclable products. Buying for waste prevention involves similar techniques to those needed to buy recycled products. The manual will also discuss “green purchasing” or environmentally preferable purchasing, which considers not only recycled content, but other environmental features such as less toxic and energy conserving products.

CHAPTER 1

Buying Recycled Products

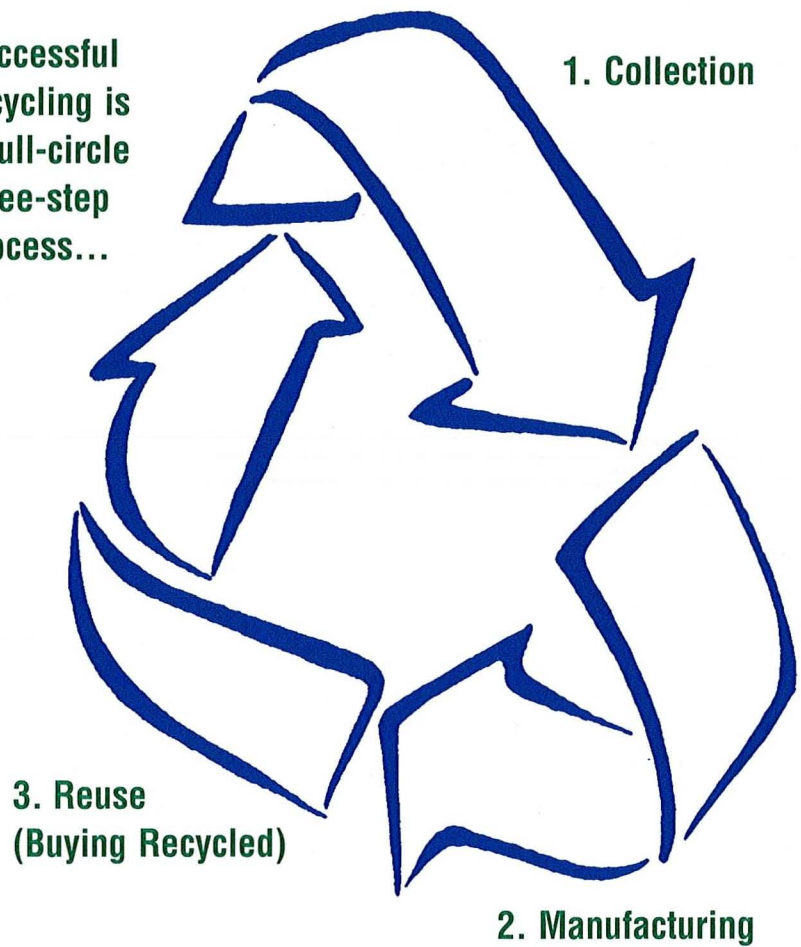
Legislation and Standards

Making a Commitment to Buy Recycled

What is a Recycled Product?

1. a product made in whole or in part from secondary material recovered from converting or from post-consumer sources.
2. a commodity that has been rebuilt or remanufactured, such as a rebuilt engine or a remanufactured laser toner cartridge.

Successful recycling is a full-circle three-step process...

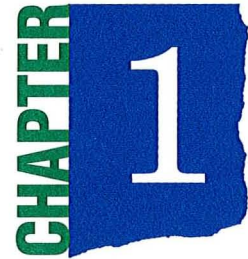


Benefits of Buying Recycled Products

There are several reasons that organizations should buy recycled products:

1. **Creates New Markets** - Buying recycled products helps create long term, stable markets for recyclable materials, and helps improve revenues from recycling programs.
2. **Reduces disposal of recyclables** - By creating markets, recycled products help increase recycling and decrease the amount of waste needing disposal.
3. **Convinces manufacturers to increase use of recycled materials** - In order to use recycled materials, manufacturers must invest millions of dollars in processing and other equipment. To justify the investments, there must be demand for the finished recycled products. Buying recycled products helps create the demand.

4. **Conserves resources and energy** - Buying recycled products reduces our dependence on virgin raw materials. Using recycled feedstocks often saves energy over virgin manufacturing processes. It can also reduce pollution.
5. **Creates jobs and economic development opportunities** - Buying recycled products helps create markets so that recycling businesses can expand and increase jobs and local economic development.
6. **Meets Organizational Goals and Requirements** - As we will see later in this chapter, there are federal, state, local and private policies on buying recycled products. Buyers and using agencies can meet these requirements by establishing quality programs to buy recycled products.
7. **Leadership by Example** - Public and private agencies that establish quality buy recycled programs can set an example for employees, customers and other organizations.
8. **Provides a Proactive Approach Rather than a Reactive Approach** - Establishing buy recycled programs now allows organizations to design programs to meet their specific needs, rather than reacting to more restrictive rules in the future.
9. **Public relations** - Buying recycled products can foster goodwill among your employees, customers and citizens.
10. **Cost savings** - In the long run, buying recycled, recyclable, and waste reduced products can reduce agency costs. Many recycled products are already less expensive than their virgin counterparts.

A graphic for Chapter 1. The word "CHAPTER" is written vertically in green, bold, sans-serif font on the left. To its right is a blue square with a white number "1" in the center. The square has a slightly distressed, torn-edge appearance.

CHAPTER 1

How Buy Recycled Fits Into the Recycling Equation

LEGISLATION AND STANDARDS

Federal, state, local and private agencies have developed programs to increase purchases of recycled products. This portion of the manual summarizes those efforts.

FEDERAL PROGRAM

EPA GUIDELINES

The U.S. Environmental Protection Agency has established procurement guidelines to assist “procuring agencies” (federal agencies, state and local agencies using appropriated federal funds and government contractors) in buying recycled products. The guidelines apply to procurements costing more than \$10,000. Even if state and local governments and private companies are not required to comply, they can use the minimum content standards to help design their own programs.

All “procuring agencies” must establish an Affirmative Procurement Program that includes the following components:

1. **Preference Program** - Agencies must institute practices and procedures that prefer the procurement of recycled products. Procurement methods may include using minimum content standards (identifying the minimum recovered content that an item should contain), a case-by-case procurement (an open competition where an agency provides a preference for products with recovered materials), or an equivalent approach.
2. **Promotion Program** - Agencies must actively promote their desire to buy recycled products, including information in bid documents, pre-bid conferences, general announcements and in recycling statements or logos on official documents.
3. **Estimation, Certification and Verification** - When submitting bids, vendors must estimate the percentage of recovered materials that will be delivered under a subsequent contract. Then, they must certify the actual content of recycled materials in the products delivered under a contract. To verify the validity of the contractor’s certification, agencies must confirm that the amount of recycled content in the products delivered under the contract equals the amount certified by the contractor. Vendors must obtain this information from manufacturers. *Get from manufacturer*

54 products →

carpet?

4. **Annual Review and Monitoring** - Agencies should review the estimates and certifications to determine if they are using the highest percentage of recovered materials. Agencies should adjust minimum content standards if market conditions warrant a change.

Procuring agencies may choose not to buy a recycled product if the price is unreasonable, there is inadequate competition, the products are unavailable in a reasonable period of time, or the product does not meet reasonable performance standards.

EPA developed guidelines for five products in the 1980s - paper and paper products, rerefined oil, retreaded tires, building insulation and cement and concrete containing fly ash. As of January 2000, EPA had designated 54 recycled content products for a purchasing preference under the program.

EPA has added to the list of designated items through Comprehensive Procurement Guidelines (CPG), that designate items that are or can be made from recovered materials. At the same time, EPA recommends procurement practices and minimum content standards for each item through a Recovered Materials Advisory Notice (RMAN).

CPG I (May 1, 1995) established eight new product categories and designated 19 new items. CPG II (November 13, 1997) designated an additional 12 items. CPG III (January 19, 2000) designated 18 new items. Each of the CPGs was accompanied by an RMAN, providing new content standards for each item.

The current list of EPA guideline items is shown below:

Paper and Paper Products

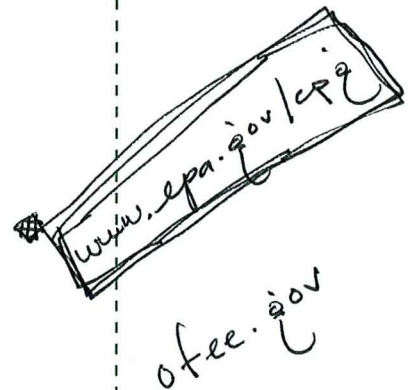
- Commercial and Industrial Sanitary Tissue Products
- Miscellaneous Papers
- Newsprint
- Paperboard and Packaging Products
- Printing and Writing Papers

Vehicular Products

- Engine coolants
- Re-refined Lubricating Oils
- Retread Tires



How Buy Recycled Fits Into the Recycling Equation



Construction Products

Building Insulation Products

Carpet

Cement and Concrete Containing Fly Ash

Cement and Concrete Containing Ground Granulated Blast Furnace Slag

Consolidated and Reprocessed Latex Paints

Floor Tiles

Laminated Paperboard

Patio Blocks

Shower and Restroom Dividers/Partitions

Structural Fiberboard

Carpet Cushion

Flowable Fill

Railroad Grade Crossing Surfaces

Transportation Products

Channelizers

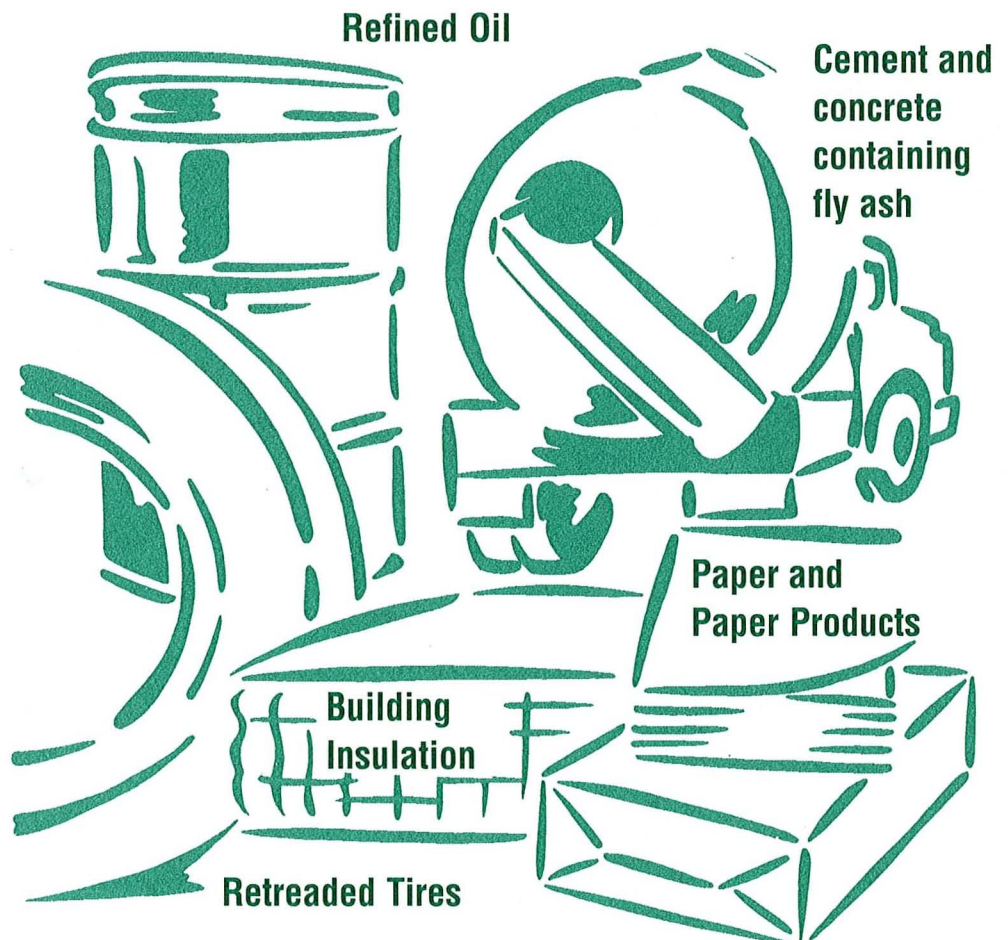
Delineators

Flexible Delineators

Parking Stops

Traffic Barricades

Traffic Cones



Park and Recreation Products

- Plastic Fencing
- Playground Surfaces
- Running Tracks
- Park Benches and Picnic Tables
- Playground Equipment

Landscaping Products

- Garden and Soaker Hoses
- Hydraulic Mulch
- Lawn and Garden Edging
- Yard Trimmings and Food Waste Compost
- Plastic Lumber Landscaping Timbers and Posts

Non-paper Office Products

- Binders
- Office Recycling Containers
- Office Waste Receptacles
- Plastic Desktop Accessories
- Plastic Envelopes
- Plastic Trash Bags
- Printer Ribbons
- Toner Cartridges
- Solid Plastic Binders
- Plastic Clipboards
- Plastic Clip Portfolios
- Plastic File Folders
- Plastic Presentation Folders

Miscellaneous Products

- Pallets
- Sorbents
- Awards and Plaques
- Industrial Drums
- Mats
- Signage
- Strapping

Information on the EPA guidelines, including fact sheets on each product category, and lists of potential suppliers can be found on the Internet at www.epa.gov/cpg

CHAPTER 1

How Buy Recycled Fits Into the Recycling Equation

*State or local org.
Fall under these
regs if spend
over \$10,000/year on
the indiv. product.*

EXECUTIVE ORDER 13101

On September 14, 1998, President Clinton signed Executive Order 13101, "Greening the Government Through Waste Prevention, Recycling, and Federal Acquisition." The Executive Order was designed to further expand and strengthen the Federal government's commitment to recycling and buying recycled content and environmentally preferable products (including biobased products). The Executive Order includes the following features:

- ▶ Elevates implementation of waste prevention and recycling activities to a new, White House-level Task Force;
- ▶ Discontinues federal purchases of printing and writing papers not containing 30 percent post-consumer fiber by the end of 1998;
- ▶ Provides programs for the Federal government to build markets for environmentally preferable products and services;
- ▶ Increases government purchases of bio-based products;
- ▶ Requires a "Greening the Government" Report that clarifies progress toward waste prevention and recycling goals;
- ▶ Requires federal facilities to comply with recycling and buy recycled requirements under the Federal Facility Compliance Act; and
- ▶ Requires agencies to establish long-term goals for waste prevention, recycling and buying recycled and environmentally preferable products.

For more information on the Executive Order and federal buy recycled activities, and the document, "Greening the Government: A Guide to Implementing Executive Order 13101", visit the Office of the Federal Environmental Executive web site at www.ofee.gov.

The order was designed to reduce solid waste, build markets for recycled products, encourage new technologies and protect the environment by requiring federal agencies to use recycled paper and other recycled products.

Additional information on federal programs can be obtained from EPA and the Federal Environmental Executive.



State and Local Government Programs

In 1996, Recycling Times conducted a survey of state recycling programs, including the most recent report on buy recycled efforts. While only 14 states reported actual purchases, the purchases exceeded \$120 million. (Recycling Times, June 25, 1996, reported with permission from the Environmental Industries Association).

State and local governments in the United States have developed a wide variety of buy recycled programs. Some of the requirements are specific to certain products, such as paper. Others apply to all recycled products. The three most common types are:

1. **General Policies Favoring Recycled Products** - Many agencies have language that generally favors recycled products, such as buying products “where feasible.” This general language is rarely enough to ensure a sustainable, long-term program.
2. **Price Preference** - The organization is willing to pay a premium (usually up to 5 or 10 percent more, if needed) for a recycled product. Many organizations are prohibited by statute from using such a preference. Other organizations simply include recycled content as a requirement in the specification.
3. **Set Asides or Goals** - A certain percentage of total purchases must include recycled content.


State and local agencies have also used some of the following in their programs:

- ▶ Hiring buyers in the purchasing agency who focus only on recycled and environmentally preferable products;
- ▶ Purchasing a wide variety of recycled products, including paper, rerefined oil, retread tires, insulation, plastic products, vehicle products, and recycled products for road and building construction, etc.;
- ▶ Establishing a preference for recyclable and reusable products;
- ▶ Developing cooperative purchasing with other jurisdictions; providing state contracts to local governments; and cooperative purchasing by multi-state organizations;
- ▶ Reviewing purchasing specifications to eliminate prohibitions against recycled, recyclable and reusable products;



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How Buy Recycled Fits Into the Recycling Equation

- 
- ▶ Providing technical assistance to private agencies and consumers;
 - ▶ Delivering seminars on buying recycled products, including trade shows with recycled product vendors;
 - ▶ Requiring contractors and printers to use recycled products; and
 - ▶ Publishing detailed annual reports on the program.

Successful state and local efforts require a commitment from recycling, purchasing and using agency staff. See the discussion on Making a Commitment to Buy Recycled later in this chapter. Additionally, Appendix 1 includes information on some of these efforts.

Private Sector Programs

Much of the early effort in buy recycled focused on establishing programs at the federal, state and local government level. While these efforts are important, government purchases represent only about 20-21 percent of the Gross National Product. In order for buy recycled efforts to expand, we need to get businesses and consumers involved in buying recycled.



Buy Recycled Business Alliance

The Buy Recycled Business Alliance (BRBA), a partnership of the National Recycling Coalition, Inc., is committed to increasing the procurement of recycled content products through education and leadership by example.

The Alliance was created in 1992 by a founding group of 25 member companies committed to increasing their purchases of recycled content products. There are now more than 20 Steering Committee companies that guide and fund the Alliance workplan, 35 State Partners who promote buying recycled on the state level and more than 3,500 general members committed to increasing the purchase of recycled content products.

The Alliance and the Recycled Paper Coalition (see page 13) have recently published a fact sheet, “Buy Recycled: Recycled Paper.” It describes how buying recycled paper saves money and protects the environment.

Members of the Alliance demonstrate their commitment to buying recycled by purchasing more than \$10 billion of recycled content products annually. To find out how you can become a member of this dynamic organization, visit the Alliance website at <http://brba.nrc-recycle.org>, e-mail BRBAInfo@nrc-recycle.org or call 703-683-9025.

Environmental Defense

Environmental Defense (formerly the Environmental Defense Fund) joined with six organizations to establish the Paper Task Force, which recommended ways to increase use of environmentally preferable paper. The Task Force included Duke University, Johnson & Johnson, McDonald's, NationsBank, The Prudential Insurance Company of America and Time, Inc.

The Task Force made five (5) recommendations for purchasing environmentally preferable paper:

1. Know your paper use - understand how your organization purchases, uses, distributes and discards paper.
2. Look for opportunities to reduce paper use.
3. Look for opportunities to recycle your paper and work with others to do the same, and to buy paper with postconsumer recycled content.
4. Look for opportunities to buy paper made by suppliers that employ environmentally preferable forest management practices to produce virgin fiber.
5. Look for opportunities to buy paper made by suppliers that employ environmentally preferable pulp and paper manufacturing technologies and practices.

Environmental Defense also produces information on buying recycled for consumers. Their web site is www.edf.org. Information on the Paper Task Force can be found at www.edf.org/pubs/reports/ptf

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How Buy Recycle Fits Into the Recycling Equation

National Office Paper Recycling Project

The National Office Paper Recycling Project is a non-profit partnership of public and private sector organizations that are committed to maximizing office paper recycling and minimizing waste.

Formed in 1990, the Project is a collaborative effort by corporations that manufacture paper, produce office machines that put images on paper, and those that collect office waste paper. In addition, the Project includes public interest groups that represent state and local governments that must respond daily to the nation's solid waste issues. Organizations supportive of environmental initiatives such as The National League of Cities, The U.S. Environmental Protection Agency, The U.S. Postal Service, and National Association of Counties are active members of the Project.

Together, these organizations have developed a National Strategy on Office Paper Recycling. Managed under the auspices of the US Conference of Mayors, this unique public/private partnership has set a goal, endorsed by the President, to recycle 65% of all office paper by the year 2000. Currently, about 47% of office paper is being recycled. Since offices purchase most of the nation's paper, the increase from 47% to 65% can make a significant contribution toward changing the environment at work.

The Project's primary emphasis is the Recycling At Work Campaign designed to not only increase office paper recycling rates, but to encompass all forms of office recycling. Recycling at Work includes Clean Your Files Day, an event designed to improve the quality of paper recycled at work and an awards program to honor businesses and local governments that have made outstanding efforts in recycling

Another important project of Recycling At Work is the Buy Recycled Training Institute. This project trains public and private officials on how to buy recycled products. The United States Environmental Protection Agency has provided funding for the program. Private support has also come from the National Association for PET Container Resources, the Steel Recycling Institute and Safety Kleen. The one-day training program discusses the topics included in this manual and uses the manual as the training guide.

Website: www.usmayors.org/USCM/recycle

pre-consumer
trim / converting
after manufacture

post-consumer
recycling bins
purchased & disposed

items from Gen.
Service Association
under Nixon in
1971

Recycled Paper Coalition

The Recycled Paper Coalition (RPC) is an innovative group of major organizations representing a unique effort to rethink traditional business practices regarding office paper purchase and use.

The RPC's National Board of Directors includes major paper users such as Bank of America, Kaiser Permanente, George Lithograph, the Natural Resources Defense Council, the California Integrated Waste Management Board, Hewlett-Packard, Gap Inc., The City of Chicago, Kinko's, RR Donnelley & Sons Company, Environmental Law & Policy Center, the Alameda County Waste Management Authority and Source Reduction and Recycling Board, and Corporate Express Document & Print Management.

The Coalition drew up its charter in June 1992, and today there are over 260 members, including such corporations as Warner Bros., Texas Instruments, Levi-Strauss (The Americas), and Xerox.

The Coalition works to purchase "environmentally-preferred" paper products and maximize the efficient use of paper. The Coalition focuses on purchases of paper containing post-consumer content. This helps strengthen the market for recycled paper products.

Coalition members reported a total purchase of over 356,000 tons of environmentally preferred paper at year-end 1998, with an average post-consumer content of 30 percent. This calculates to nearly 204,000 tons of post-consumer wastepaper diverted from landfills and reused. In addition, members reported having recycled over 26,000 tons of wastepaper. This means over 230,000 tons of paper were diverted from landfills. These 230,000 tons would fill an area the size of a football field to a depth of 428 feet!

For further information, contact:

Recycled Paper Coalition
Peninsula Conservation Center Foundation
3921 East Bayshore Road
Palo Alto, CA 94303
email: rpc@econet.org
hotline: 650-985-5568
www.papercoalition.org

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How Buy Recycled Fits Into the Recycling Equation

Recycled Products Purchasing Cooperative

The main goal of the Recycled Products Purchasing Cooperative (RPPC) is to increase the use of recycled paper in the public and private sectors. The RPPC is accomplishing this goal by providing high quality recycled office copy paper at prices that meet or beat what many businesses and public agencies pay for virgin fiber paper. RPPC offers products such as legal paper and colored paper with a minimum of 30% postconsumer material.

The Recycled Products Purchasing Cooperative (RPPC) is sponsored in part by the U.S. EPA Region IX, and is coordinated by Solana Recyclers Inc., a non-profit environmental organization located in San Diego, California. Organizations such as Union Bank of California, The San Diego Foundation and the McCarthy Foundation have sponsored the project. **For further information, contact:**

Solana Recyclers

137 N. El Camino Real

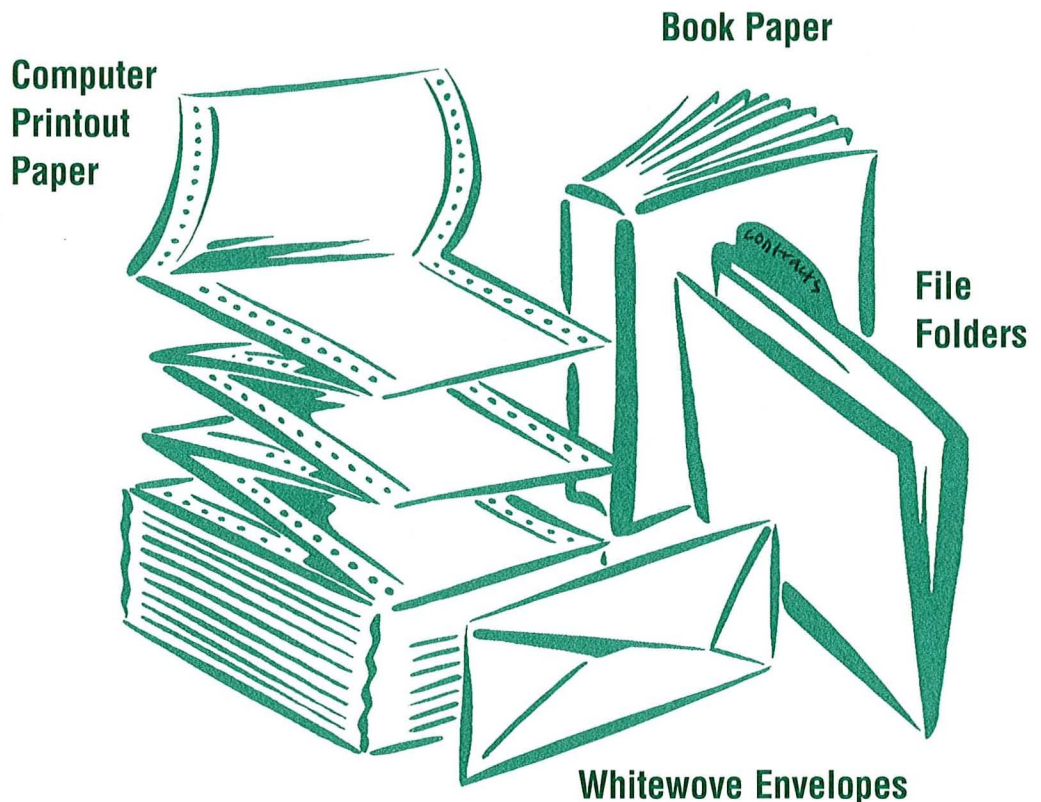
Encinitas, CA 92024

voice: 800-694-8355

fax: 760-436-8263

tmiller@recycledproducts.org

www.recycledproducts.org



Definitions and Percentages

The definition of “recycled” varies widely. There are different definitions for categories of recyclable materials and different minimum content standards for recycled products. The lack of standardization and consensus has made it more difficult for recycled product manufacturers to compete with manufacturers of virgin products.

There are two key categories of recyclable materials - pre-consumer and post-consumer. Together, these categories encompass “recovered materials.” The Federal Executive Order defines the terms as follows:

“Recovered materials” means waste materials and by-products that have been recovered or diverted from solid waste, but such term does not include those materials and by-products generated from, and commonly reused within, an original manufacturing process.

“Postconsumer material” means a material or finished product that has served its intended use and has been discarded for disposal or recovery, having completed its life as a consumer item. “Postconsumer material” is a part of the broader category of “recovered material.”

What standards should buyers and using agencies follow?

Manufacturers generally have an economic incentive to use pre-consumer materials, since they are easier to collect, cleaner, more consistent, and therefore have a higher value. Economic incentives are necessary, however, to establish collection programs for post-consumer materials. Additionally, most recycled products sold in the marketplace make distinctions based on pre-consumer and post-consumer content. Most state and local laws on buying recycled products also make these distinctions.

Buyers and using agencies should use standards with a total recycled content and a percentage of post-consumer material, or a standard specifying pre-consumer and post-consumer material.

Making a Commitment to Buy Recycled

When businesses and governments make a commitment to buy recycled products, they convince manufacturers that a consistent, long-term demand exists for recycled products. This encourages industry to invest in recycling equipment. Organizations make commitments by establishing a buy recycled law or policy through legislation, executive orders and formal changes to administrative policies.

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How Buy Recycled Fits Into the Recycling Equation

The policy can include all or some of the following elements:

- ▶ a general preference for recycled products;
- ▶ a price preference - where an organization is willing to pay a higher price (such as 5 or 10 percent) for recycled paper or recycled products;
- ▶ a set-aside or goal where a certain percentage of total purchases must have recycled content.

Each agency within your organization has a critical role to play in making buy recycled programs successful:

- ▶ **Executives, Councils and Boards of Directors** establish the policy for the program and make any needed changes as the program proceeds;
- ▶ **Purchasing Agents and Buyers** must integrate the program into procurement policies and procedures, research recycled products, write specifications and solicitations, determine successful bidders, and monitor the program;
- ▶ **Solid Waste and Recycling Agencies** can provide information on recyclable materials needing market assistance, identify potential recycled product suppliers, coordinate recycling and buy recycled efforts, and assist with publicity;
- ▶ **Using Agencies** specify recycled products in their bid documents, ask existing suppliers for recycled products, use the recycled products and provide information on successes (and failures) of recycled products for annual reports. It is important that organizations give these agencies some ownership of the program and that everyone listens to their concerns about recycled products.

All agencies must commit to make buy recycled programs successful. Some organizations have successfully used buy recycled committees (composed of representatives from various agencies) to expand buy recycled programs. It is important to make buy recycled, recycling and waste prevention part of your employees' day-to-day activities. You should consider including buy recycled and environmentally preferable purchasing in the following:

- ▶ employee handbooks
- ▶ job descriptions
- ▶ new employee orientation
- ▶ employee evaluations

Agencies must also work closely with potential suppliers of recycled products to expand purchases of these products.

Sample Letter to Agencies

A sample letter to encourage agencies to participate in a Buy Recycled effort is shown below.

Montgomery County has taken a leadership role in Maryland and in the nation by enacting Bill 32-90, which requires the County to purchase, where practicable, products and supplies containing recycled content.

The new law, which became effective July 1, 1991, will help create markets for recycled materials collected in the County, and provide government leadership to encourage similar efforts in County businesses.

The provisions of the law include a price preference of up to 10 percent for recycled products, a goal of at least 50 percent of the dollar volume of paper and paper products being recycled paper, and requires purchases of recycled products (such as paper, oil, plastics, compost, concrete, insulation, solvents, and rubber products) wherever practicable.

The Office of Procurement needs the assistance of all agencies in changing specifications to allow the use of recycled products, requiring recycled products when they are available, asking bidders to supply recycled products, and providing information on actual purchases. If recycled products are available and you are not requiring them in your bid, the Office of Procurement will require a written justification on why you are requesting virgin products.

CHAPTER 1

How Buy Recycled Fits Into the Recycling Equation

CHAPTER 2

Beyond Paper

Market Research and Product Education

Getting to Know the Products

Available Recycled Products

The first three steps toward establishing a buy recycled program involve an analysis of current purchasing practices:

- STEP 1. Review current purchases to determine what recycled products are already being purchased;
- STEP 2. Examine product specifications to determine if the maximum amount of recycled material (including post-consumer material) is being used; and
- STEP 3. Examine product and contract lists to determine where you can substitute recycled products for virgin products or include them in future bids.

Early buy recycled programs focused primarily on purchasing recycled paper and paper products, especially printing and writing papers. Now the list of products made from recycled materials includes automobile supplies, construction goods, transportation products, packaging and many other commodities commonly used by public and private agencies. The list of recycled products below illustrates the wide variety of goods available

List of Recycled Products

Vehicle Fleets

- Rerefined oil
- Recycled antifreeze
- Retread tires
- Auto parts
- Solvents

Office Products

Printing and writing papers (photocopy paper, fax paper, pads, letterhead, envelopes and paper for publications)

Tissue and towel products

Cardboard containers

Office supplies (binders, bulletin boards, calendars, folders, letter openers, note holders and trays, pens (plastic and rubber), pencils, push pins, rulers, scissors, steel products, etc.)

Trash and recycling containers (steel and plastic)

Trash can liners

Carpet

Remanufactured office equipment (computers, fax machines, etc.)

Toner cartridges

Furniture

Paper and plastic pallets

Packaging material

Computer disks

Work gloves

Drums

Construction Products

Building insulation

Steel framing and building products

Cement and concrete containing fly ash

Plastics (partitions, decking, fences/posts, parking stops, and drain pipe)

Recycled timber and bricks

Wallboard

Compost and mulch

Transportation Products

Plastics (A-frames, delineators, speed bumps, fences, guardrails, posts, traffic cones, etc.)

Aggregate and concrete

Compost and mulch along roads

Asphalt (rubberized asphalt and glassphalt)

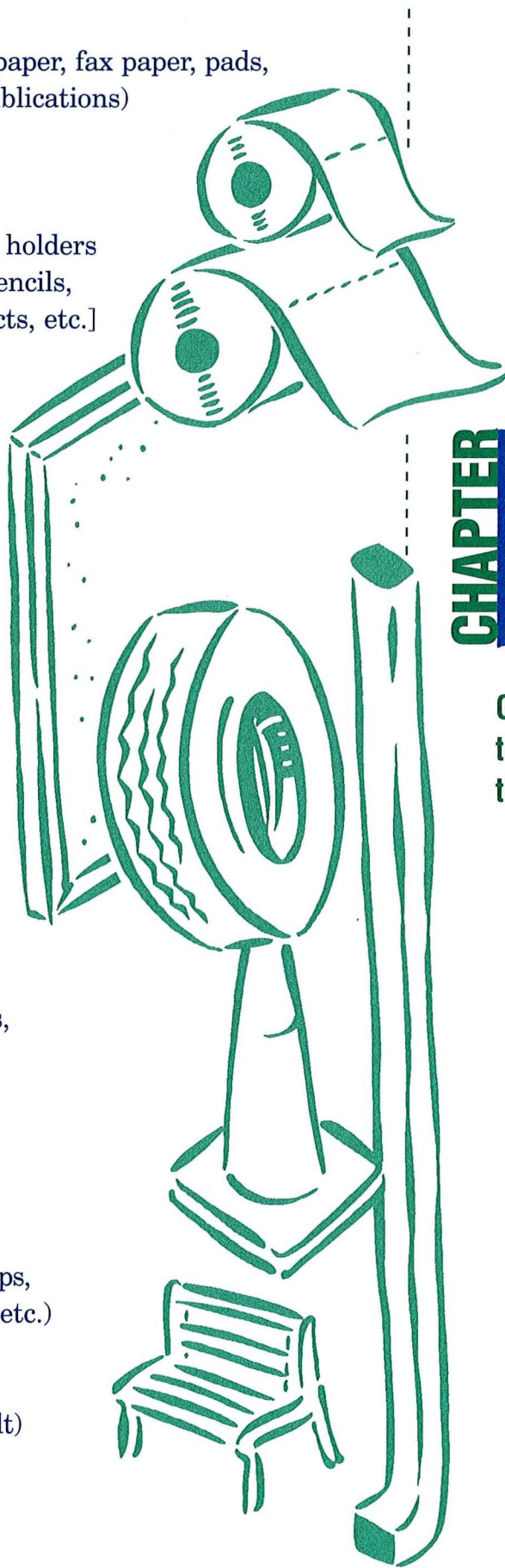
Benches (bus stops, etc.)

Recreation and Parks

Plastic lumber (benches, picnic tables)

Playground equipment

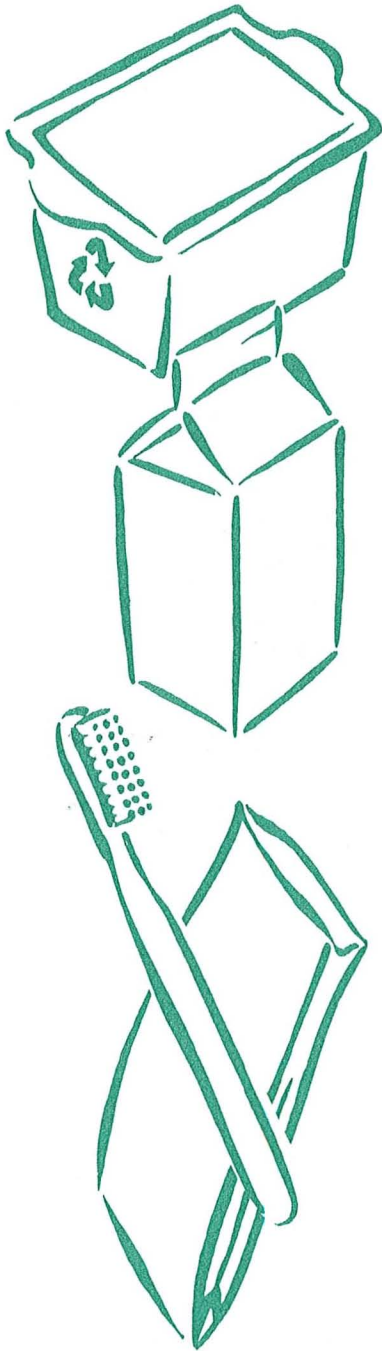
Compost and mulch



CHAPTER 2

Getting to Know the Products





Other

Absorbents
Bags (paper and plastic)
Clothing (T-shirts, golf shirts, uniforms, safety vests)
Craft materials (timber)
Outdoor furniture
Reusable cloth diapers
Yard waste containers
Curbside collection containers
Reusable toothbrush heads
Flooring
Food service containers (paper and plastic)
Mats (plastic and rubber)
Cat litter
Packaging materials
Shower dividers/toilet partitions/wall panels
Industrial wipers (paper and cloth)

Source: *Official Recycled Products Guide*, 2000 edition. Published by Recycling Data Management Corporation.

Market Research and Product Education

There are three considerations to keep in mind when buying recycled products - availability, quality and cost. Buyers and using agencies should examine these issues before making a purchase.

Availability

There has been a dramatic growth in the availability of recycled products. As shown above, there are a wide variety of products available for many end uses.

While some recycled products are available throughout the country, others are only available in certain regions. Because demand for products varies, manufacturers and vendors need sufficient lead time to fill an order.

There are a wide variety of sources for information on recycled products. They include:

- ▶ The Official Recycled Products Guide
- ▶ Trade associations for various products
- ▶ Trade shows and exhibits
- ▶ Existing vendors and manufacturers

- ▶ Buyers in other jurisdictions
- ▶ Regional, state and local purchasing and solid waste agencies

Appendix 1 includes web sites of many organizations who can assist you in your buy recycled efforts.

Quality

Don't be put off by the misconception that recycled products are necessarily inferior. In the past, some recycled products did compare unfavorably to new products. Increased demand and major changes in technology have resulted in improved products that are competitive with new products. To ensure that manufacturers continue to produce quality recycled products, buyers and using agencies should regularly test recycled products for quality and performance. There is additional information on testing in Chapter 3.

Cost

Recycled products are not always more expensive than the equivalent virgin product. Some recycled products are always less expensive than their virgin counterparts. Pricing for recycled products is usually based on economies of scale, not on the basic cost of virgin and recycled products. As demand increases, recycled products move from specialty items to shelf items and prices become competitive.

Prices for both virgin and recycled products depend on the specific product, the economy, geographic considerations, and many other factors. Specifications reflecting only real performance needs, comparison shopping, bulk purchases, competitive bidding and using life-cycle costing are the best ways to control costs.

Increasing the number of bidders and the number of departments that participate in the bid can help reduce the unit prices for recycled products. You can find more bidders using the resources listed above. Ask bidders to identify the percentage of recycled content, including post-consumer content. This will help identify new bidders for recycled products. Cooperative purchases among agencies can increase the number of participants and volumes purchased and can reduce unit prices.

Unit prices for some recycled products (such as printing and writing paper and mixed plastic lumber) can be more expensive because manufacturers of recycled products often have smaller production capabilities than virgin manufacturers. Thus, the economies of scale favor the virgin products. When the demand for recycled products rises, manufacturers will be able to increase their capacity and unit prices will fall.

CHAPTER 2

Getting to Know the Products

Some recycled products are already less expensive than their virgin counterparts.

However, do not be too quick to conclude that the unit price is the only method for cost comparison. Another factor to consider is life-cycle cost. Recycled products can often save on maintenance or replacement costs, reduce the cost of disposal, and increase prices for the recyclable materials you collect. In a life-cycle cost analysis, these ancillary savings and revenue sources are factored into the unit price. An example is shown below.

Car Stop

Life-cycle Cost Example Traditional Concrete Stop

Costs associated with ownership	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Total
Original purchase cost	14.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.00
Installation	4.00	0.00	0.00	0.00			0.00			0.00	4.00
Painting	0.00	3.00	3.12	3.24	3.37	3.51	3.65	3.80	3.95	4.11	31.75
Replacement Cost	0.00			16.86			18.88			21.15	56.89
Replacement Labor	0.00			5.00	0.00	0.00	5.60			6.27	16.87
	Total Cost of Ownership										123.51
	Total Cost of 100 space Parking Lot										12,351.00

what about shipping & disposal

Recycled Plastic Car Stop

Costs associated with ownership	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Total
Original purchase cost	25.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.50
Installation	3.00	0.00	0.00	0.00			0.00			0.00	3.00
	Total Cost of Ownership										28.50
	Total Cost of 100 space Parking Lot										2,850.00
	TOTAL COST SAVINGS										9,501.00

Assumptions:

1. Life of concrete stop is 3 years in northern climates.
2. Inflation is projected to be 4% per year.
3. Minimum wage labor is used for painting and installation.
4. Retail price for 100 quantity purchase.
5. Cost of hardware is included in the original purchase cost.

Example developed by Hammer's Plastic Recycling Corporation.
Used with permission.

Another method of minimizing the long-term costs of recycled products is to establish a waste prevention program. Waste prevention programs will save far more money than any additional expense of buying and using recycled products. See Chapter 5 for information on waste prevention techniques.

IN SUMMARY

Buyers have the power to influence the cost of recycled products through the following activities:

- ▶ **Shop Around** - Take the time to compare prices.
- ▶ **Buy in Bulk** - Buy in larger quantities and participate in cooperative purchasing programs where they are available.
- ▶ **Conduct Competitive Bids** - Find as many potential vendors as possible for each bid. Use the resources described in Chapter 2 to identify bidders.
- ▶ **Figure Life-Cycle Cost** - Add maintenance, replacement and disposal costs to the unit cost of an item to calculate the long-term costs to your organization.
- ▶ **Start a Waste Prevention Program** - Institute waste prevention programs that will prolong the life of the products you buy, reduce disposal costs and help defray any additional cost of recycled products.

CHAPTER 2

Getting
to Know
the Products

you

Recycled Bags
Calico Industries
Calico, MD

Creating a Demand for Recycled Products

CHAPTER 3

Requesting Recycled Products

Writing Specifications

Product Testing

Requesting Recycled Products

Don't be afraid to ask manufacturers and suppliers for a recycled product. Even if it is not available now, it may be available in the future. Consistent demand can provide incentive for manufacturers to produce recycled products. In addition to demanding recycled products from regular bidders, buyers and using agencies should actively seek out new manufacturers and bidders of recycled products. "Seek and ye shall find," is the best approach for fueling the supply and demand cycle for recycled goods. Include language in your letters to bidders and bid documents indicating your interest in buying recycled products. Discuss the buy recycled program at pre-bid conferences.

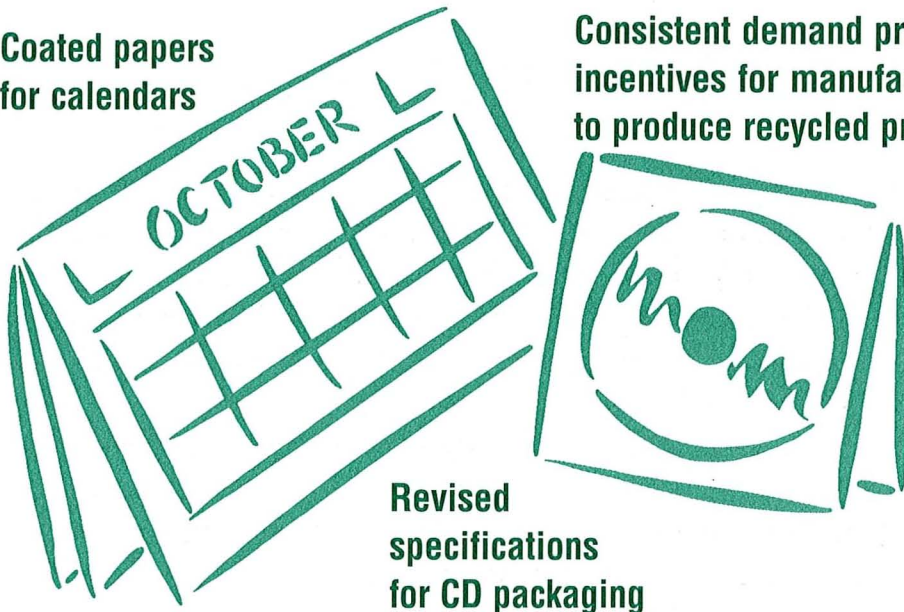
Here's an example of how supply and demand dynamics work in today's rapidly changing marketplace. Several years ago, no coated recycled papers were available (for products such as calendars or annual reports) in the marketplace. Industry experts indicated that it would be several years before such products would be available. Demand for coated papers continued, and in less than a year, the product was available.

Similarly, compact discs (CDs) were packaged in long boxes, which were twice as long as the CD itself. Pressure from consumers and recording artists forced CD manufacturers to cut the packaging in half and to include additional recycled content in the packaging material.

Some bidders supply both new and recycled products. If you do not specifically ask for recycled products, bidders may automatically supply you with new products as they have done in the past. It is important to help break old habits by consistently requesting recycled products. If your current supplier is unable or unwilling to supply recycled products, look for another supplier. Most suppliers are eager to meet your needs in order to protect their market share.

**Coated papers
for calendars**

**Consistent demand provides
incentives for manufacturers
to produce recycled products**



**Revised
specifications
for CD packaging**

Buyers and using agencies should review renewable contracts (at the end of each base period or option period) to determine the availability of recycled substitutes. If necessary, modify the contract or reissue it for competitive bidding to obtain the maximum amount of recycled products. If agencies simply extend existing contracts for virgin products, there will be no opportunity for recycled products to compete. Additionally, expand bidders lists to include recycled product manufacturers for all bids where you may use recycled products. Widely advertise new bid opportunities.

Be sure to train employees to look for opportunities to use recycled products and to request recycled products whenever possible.

Writing Specifications

It is not necessary to start from scratch when writing specifications for recycled products. Simply modify existing specifications, but do some homework first.

Start by talking to the using agencies and representatives from the supplier industry (bidders and trade groups) so that you can develop realistic standards for recycled content. Talking to both sides will help you avoid hidden pitfalls in the specifications that may prevent recycled products from competing.

Include a paragraph in the bid document (see sample on page 26) emphasizing your interest in buying recycled products made from post-consumer materials (if applicable for the product). Pre-bid conferences provide an opportunity to remind bidders that you want recycled products.

CHAPTER 3

**Creating a
Demand for
Recycled
Products**

Sample Language - Bid Documents

The City/County has recently adopted a policy for buying and using recycled and recyclable products. The City/County strongly encourages vendors to supply products with recycled content, especially those products containing post-consumer materials. Each contractor shall specify the percentage of total recycled content and post-consumer materials.

All bids and proposals shall be submitted on recycled and recyclable paper printed on both sides, with removable or reusable bindings or staples. Contractors and printers shall also use recycled products containing the maximum level of post-consumer materials where practical. A contractor may request a waiver from this rule if compliance would be economically or technically infeasible.

Any contractor producing reports for the City/County shall use recycled and recyclable paper printed on both sides, with removable or reusable bindings or staples. A contractor may request a waiver from this rule if compliance would be economically or technically infeasible.

(For those bids with minimum content requirements)

In order for your bid to be considered responsive and responsible, the products being requested in this bid must contain at least _____ percent pre-consumer materials and _____ percent post consumer materials.

PRE-CONSUMER MATERIAL is waste generated during production which can not be returned to the same production process, nor used by another company to make a product similar to the original product, nor used by the same parent company to manufacturer a different product, and includes all wastes generated during the intermediate steps in producing an end product by succeeding companies.

POST-CONSUMER MATERIAL means end products that have been separated or diverted from the solid waste stream. An “end product” is an item that has completed the manufacturing and converting process and has been distributed or sold to a consumer. A “consumer” is any person or other entity that uses goods for its own needs and not for resale, to package other goods, or to manufacturer other goods.

(For those bids using a price preference)

For the purpose of this bid, offers meeting the minimum content standard above shall be given a _____ percent price preference.

Use existing standards, definitions and percentages wherever possible. If all states, local governments and businesses establish their own standards, manufacturers must produce specialty items to fill each order, instead of making a single product (at a more competitive price). Use the existing definitions discussed in Chapter 1.

Minimum content standards should contain percentages high enough to increase use of recycled products (especially post-consumer materials), but not so high that they exceed the capabilities of existing technology or limit competition.

Require bidders to certify the percentages of pre-consumer and post-consumer material (even if the percentage is zero). Ask bidders to provide a letter from the manufacturer verifying that the product meets any minimum requirement, and what the minimum percentage is (if it is above or below the standard). This will allow you to track changes in the marketplace and adjust minimum content standards to meet these changes.

Amend your bids and specifications to remove obstacles to using recycled material. Eliminate obvious phrases, such as a “virgin only” or “no recycled material allowed.” Less obvious requirements, such as requiring a certain color, awarding bids on an all or none basis (recycled product vendors may be able to supply some, but not all of your products); unreasonable quantity requirements; and unrealistic response and delivery times, also need to be altered to open the market to recycled products. Find out what bidders, manufacturers, industry sources, and other buyers need to allow recycled products to compete. Use pre-bid conferences to discuss the specifications, and give industry representatives and using agencies the opportunity to amend the specification to allow recycled products to compete.

Emphasize performance specifications over design specifications. The important factor is how a recycled product will perform for a particular end use. Consider using the following requirement from Napa County, California.

“Performance standards must be reasonable and related to function, and shall not be designed to exclude the purchase of recycled-content products.”



CHAPTER 3

Creating a Demand for Recycled Products



Methods of Structuring Bids

There are several ways to include recycled products in your bids:

1. Request recycled products with no preference - You may allow both virgin and recycled products to compete, but ask bidders to supply recycled products (without providing any preference for recycled products). While this method opens up the marketplace for recycled products, it may not provide the maximum use of those products.
2. Price preference - If your legislation or regulations allow a price preference, the bids should show a) the definition and minimum content required for a product to be considered “recycled,” and b) a determination of the price preference for the product.
3. Recycled only - If adequate competition exists for a recycled product, the bid can require only recycled content. In other words, if the product does not meet the minimum content requirement, the bid is considered non-responsive. Requiring recycled content can be used independently (to buy the maximum amount of recycled products), or can be used to meet the requirements of a goal or set aside program.

TESTING

Before buying recycled products in large quantities, develop a testing program for product performance. Conduct tests and demonstration projects as well as cost analyses for a variety of products, including:

- ▶ glassphalt and glass beads for paint and pavement markings;
- ▶ plastic lumber for traffic barricades, fences, posts, guardrails, barriers and traffic cones in transportation projects;
- ▶ rubber for rubberized asphalt, embankments, retaining walls, and concrete;
- ▶ compost and mulch for roadside and park uses;
- ▶ plastic lumber for park benches, picnic tables, decking, and fence posts; and
- ▶ construction products for new and renovated buildings.

It is important to test recycled products to make users comfortable in using the recycled product.

Test results from other organizations and testing labs are available for many products. Since your conditions may vary, make sure that the test is applicable to your situation. In some instances, you may need to test recycled products on your own equipment under your own conditions.

Consider blind tests for recycled products. Some users, jaded by a poor experience with recycled products in the past, may automatically think that recycled products are inferior. Give the products a fair test. Do not expect superior performance; only require that they perform as well as a virgin product.

If the recycled product fails, do not assume that the failure was due to recycled content. The failure was more likely the result of some manufacturing problem. Resolve the issue with the manufacturer using the same techniques you would use with a new product.

Be sure that you buy the recycled product designed for the intended end use. For example, buy reprographic paper to use in the copying machine.

Finally, keep copies of test results on file. This will help resolve disputes and provide information to using agencies or other public or private agencies interested in using the product.

Develop a testing program for product performance



CHAPTER **3**

Creating a Demand for Recycled Products

Purchasing Options

Requiring Contractors and Grantees to Use Recycled Products

Public and private agencies obtain many products and services through contracts and grant agreements. The recent trend toward privatization could result in an increase in these types of procurement activities. Organizations have an excellent opportunity to expand their buying power by encouraging outside contractors to use recycled products when serving the agency. You can require printers, for example, to use recycled paper (with post-consumer content), double side all materials and use non-toxic inks for your printing job.

Ask any organization doing business with you to use recycled, recyclable and waste reduced (such as double-sided copied) products. Items such as utility invoices, bank statements, legal documents from outside attorneys, accounting statements, insurance information, proposals and bids, permit applications and zoning requests are just a few of the routine business documents that can easily be prepared on recycled paper. Ask contractors to double side all written reports.

Legislative bodies generate enough paper work to have a substantial effect on the sale of recycled office products and on waste prevention efforts. They can print copies of bills, summaries, reports and ordinances double sided on recycled and recyclable paper. This allows these bodies to demonstrate recycling and market development leadership beyond passing legislation.

Court systems should also require legal documents to be printed on recycled paper and to be double-sided. Many court systems in the US have already developed such requirements. As an example, the Florida Supreme Court has adopted an amendment to the Florida Rules of Judicial Administration to require that “all pleadings, motions, petitions, decrees, opinions and other papers and official documents filed in any court shall be filed on recycled paper measuring 8 1/2 by 11 inches. For purposes of this rule, paper is recycled if it contains a minimum content of 50 percent waste paper. “

CHAPTER 4

Requiring
Contractors and
Grantees to Use
Recycled
Products

Sample Language
on Purchase
Requirements
for Contractors
and Grantees

Cooperative
Purchasing

Closed Loop
Systems

Sample Language on Purchase Requirements for Contractors and Grantees

Baltimore, Maryland

Contractors doing business with the City shall be advised of the City's policies regarding recycled and recyclable materials. All bids and proposals shall be submitted on recycled and recyclable paper printed on both sides, where practicable, with removable bindings or staples.

Any consultant producing reports for the City shall use recycled and recyclable paper printed on both sides, where practicable.

Berkeley, CA

Building insulation - All designing architects and planners shall include in design consideration the use of recovered materials as a practical alternative to virgin materials in insulation use of structures...

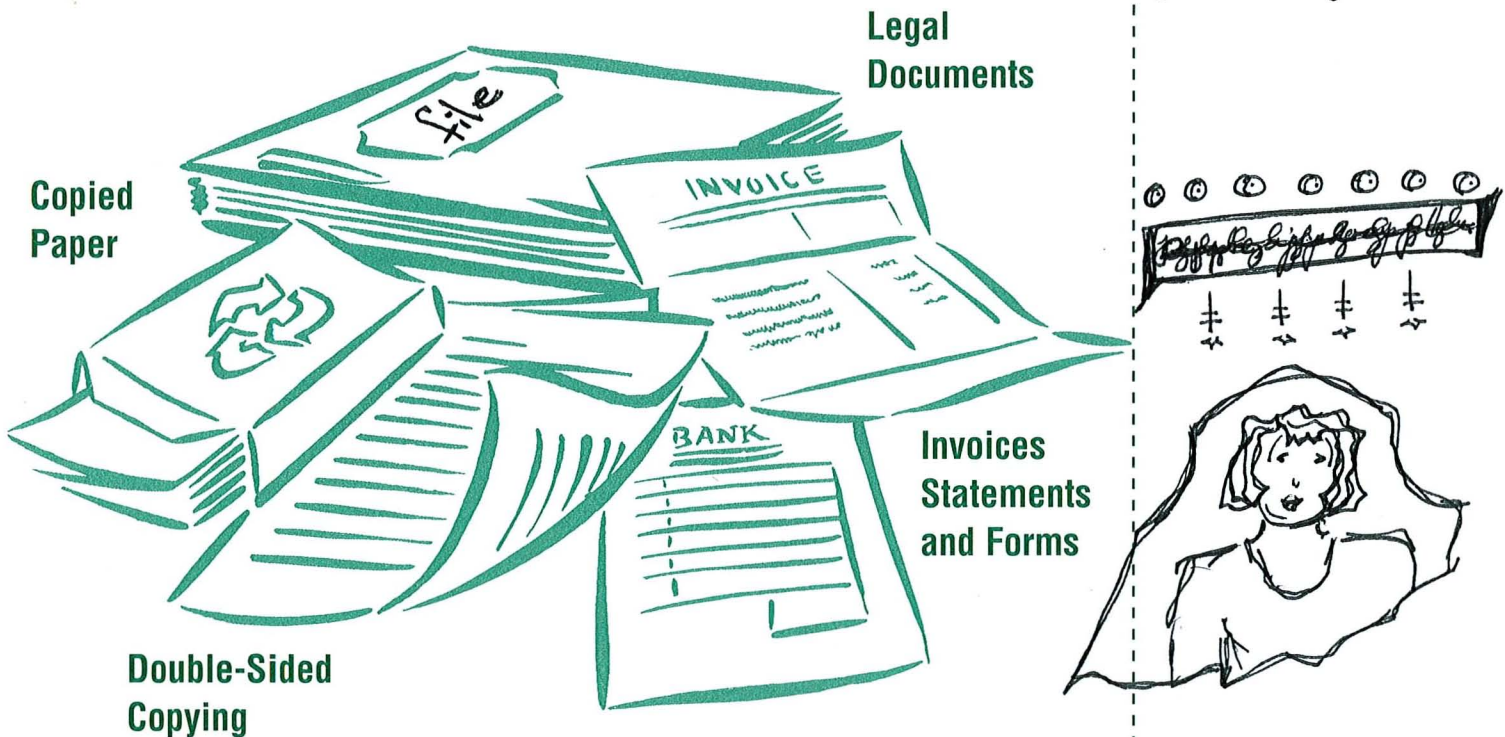
Cement or cement concrete - The Department that administers construction contracts is responsible for ensuring that all invitations for bid contain specifications that allow for Cement or Cement Concrete with fly ash...

Capital improvements and construction - Specifications for construction materials ... shall encourage the use of recycled or environmentally sound materials in construction contracts wherever practical. If the recycled products cannot be procured, the reasons for this must be submitted in writing to the Purchasing Manager.

CHAPTER 4

Purchasing Options

- Contracts*
Commodity
1. requirement.
 2. incentive %
 3. ask for it



Kentucky

The Finance and Administration Cabinet shall require, to the extent practicable, every person entering into a contract with a state agency for building, altering, repairing, improving, or demolishing any public structures or buildings or other improvement to any public real property to use goods, supplies equipment, materials, and printing necessary to fulfill the contract which meet the requirements for recycled material content.

Mountain View, CA

“Recycled paper shall be specified in all contracts for bond paper forms, business cards, and all other materials obtained through outside printers.”

Napa County, CA

“All County contractors and grantees shall be encouraged to conform to this source reduction and recycled content procurement policy. A statement to this effect shall be included in all agreements with contractors and grantees in procuring materials or products to perform contractual services for the County, to produce or provide a work product to the County or on the County’s behalf, or to conduct work funded by a grant from the County.”

Cooperative Purchasing

Cooperative purchasing is a system where organizations with similar purchasing needs pool their purchases into a single bid instead of buying products individually. It is a system that offers many benefits to participating organizations, but involves advance planning, cooperation, and sacrificing some purchasing autonomy. Cooperative purchasing is an old concept, with a new application to buying recycled products.

Cooperative purchasing can be done among a variety of agencies, including state government, local governments, schools, colleges, libraries, and other public agencies. Private agencies can also pool their purchases. Here are some of the advantages of cooperative purchasing:

Cooperative Purchasing



- ▶ **Lowers Unit Costs** - By combining purchases and buying in bulk, unit prices will be lower than if each agency purchased individually;
- ▶ **Lowers Administrative Costs** - By combining purchases, only one agency (the lead agency) has the administrative costs of preparing, advertising, and analyzing the bid, and administering the contract;
- ▶ **Increases Volume of Recycled Purchases** - Because more agencies are involved, more recycled products will be purchased;
- ▶ **Encourages More Organizations to Participate in the Buy Recycled Effort** - Cooperative purchasing encourages participating agencies to buy other recycled products;
- ▶ **Increases Availability of Recycled Products** - In some cases, manufacturers may require a minimum order before shipping recycled products. Cooperative purchasing may help meet the minimum requirements.
- ▶ **Establishes Common Definitions, Percentages, and Standards** - When various agencies buy off the same contract, the definitions, percentages and standards are the same. This allows manufacturers to produce stock items instead of specialty items.

Before starting a cooperative purchasing program outside your agency, make sure that all internal purchases are being made on a cooperative basis. Various departments should buy products at the same time to enjoy the benefits of cooperative purchasing.

There are obstacles to overcome before setting up a successful cooperative purchasing arrangement. Each participating organization must be willing to give up its purchasing authority to become part of the cooperative agreement. One organization must function as the lead agency for the procurement (although organizations can share the responsibility on bids for various recycled products). The participants may have different legal or purchasing requirements - such as minority, small business, price preferences, or other requirements - but they can address those items in the cooperative agreement.

If participants normally buy products on a varying schedule, they will have to plan ahead to make sure supplies last until they complete the next cooperative bid.

Do internal cooperative purchasing first - get everyone to do same thing.

CHAPTER 4



#1.

Finally, cooperative purchasing may change an agency's relationship with local vendors. Cooperative agreements often involve new vendors from outside the region. Sometimes cooperative purchasing eliminates small bidders because they are unable to fill large orders.

Despite these obstacles, cooperative purchasing can increase recycled product purchases and reduce costs.

Ten Steps to Completing a Cooperative Purchase Agreement for Recycled Products

- 1.** Be sure that each participant has the legal authority to buy cooperatively.
- 2.** Select a lead agency, which will prepare the specification, obtain and evaluate bids, and monitor implementation.
- 3.** Survey potential participants to determine who will be included in the bid. It is important that participants fully participate, since bidders will offer a lower price based on anticipated quantities.
- 4.** Obtain information from agencies, such as quantities needed, purchasing schedules and delivery points.
- 5.** Research the appropriate industry to obtain information on potential recycled product bidders and appropriate definitions, standards, and specifications.
- 6.** Prepare and advertise the bid. Consider whether bidders must respond to all or part of the bid, and whether you will award one or multiple contracts.
- 7.** Obtain and evaluate the bids.
- 8.** Resolve disputes and any other implementation difficulties.
- 9.** Publicize the results!
- 10.** Analyze the successes and failures to prepare for the next bid.

Closed Loop Systems *- compost!*

The closed loop concept is based on the assumption that a public or private group (individually or in cooperation with other organizations) 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 recycled materials by stabilizing the demand for recycled products. Organizations that institute closed loop systems create a direct link between purchasing recycled products and reducing the volume of waste.

The organizations pioneering the closed loop concept are already helping to solve the problem of weak markets. The Chicago Park District developed the Plastics on Parks Program where they collect plastic milk, water, and soda bottles in city parks and send them to a plastics manufacturer who returns them as railroad ties for park landscaping.

The City of New York Department of Transportation operates a glassphalt plant, where they convert glass supplied by the City Department of Sanitation into glassphalt for street paving needs. Many organizations have arrangements with recyclers of laser toner cartridges, who pick up the cartridges, remanufacture them and resell them at a discount.

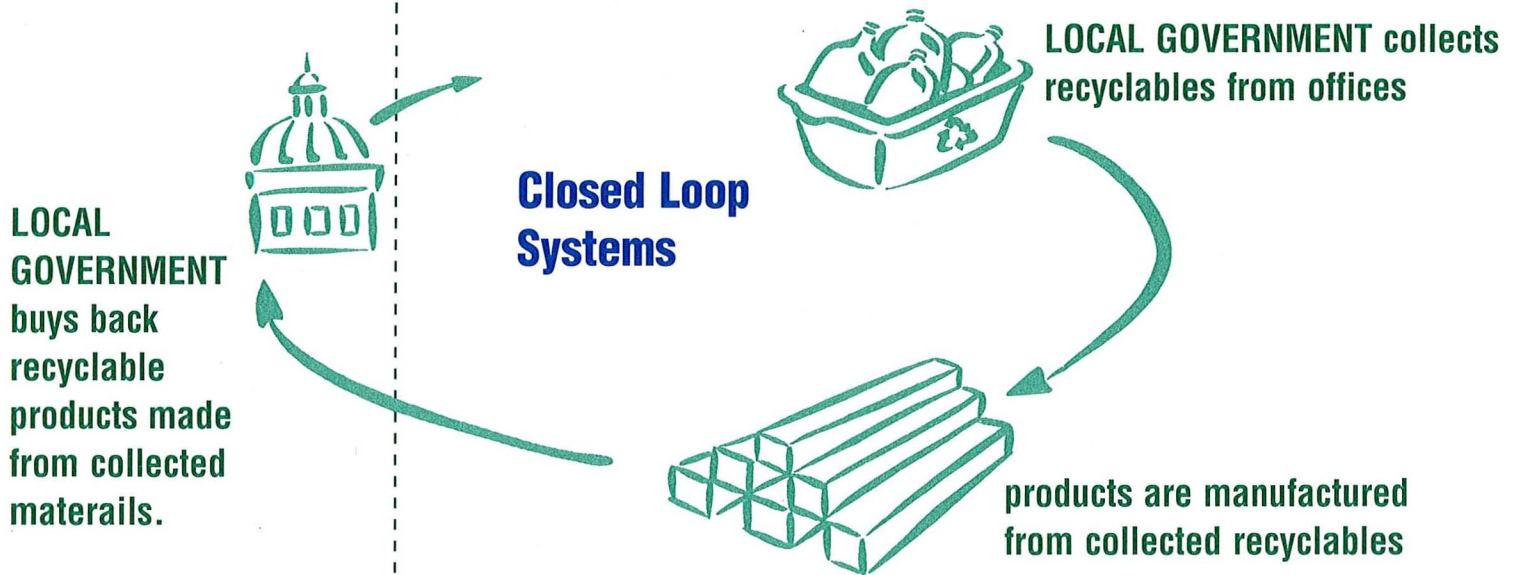
Closed loop programs also exist in the private sector. Home Box Office (HBO), the cable programming division of Time Warner Entertainment in New York, has developed a closed loop system for paper. HBO negotiated the system with its waste hauler, a paper processing company, a paper manufacturer, and a printing company. HBO's mixed office paper is converted into HBO's letterhead (which contains 35 percent pre-consumer material, 25 percent recovered cotton fiber, and 40 percent HBO post-consumer material). The manufacturer has agreed to increase the post-consumer content over time. The program allowed the hauler to get a better price for wastepaper; the manufacturer secured a guaranteed long-term sale; HBO reduced the cost of recycled stationery by 20 percent; and 15,000 pounds of office waste were recycled.

Cross Pointe Paper Corporation (St. Paul, MN) offers companies the opportunity to convert their used waste paper into company documents; Dow Chemical and McDonald's have produced annual reports from their own recyclable paper, while the Royal Bank of Canada in Toronto has used its own recyclable paper to produce loan application forms. Ashdun Industries (Englewood, NJ) is also taking wastepaper, converting it into new products and selling it back to the same company.

CHAPTER 4

Purchasing Options

The closed loop concept offers great potential for state and local governments. A state system could entice a recycled paper mill or other manufacturer of recycled products to locate in the state, creating jobs and helping the local economy. Closed loop systems also require close working relationships among solid waste, purchasing, building management, and economic development agencies.



Before establishing a closed loop system in the public sector, you should answer several key questions:

1. Who will be the key players in ensuring the supply of materials? Who are the key players in buying the recycled products? How will the two groups interact? If the project involves state and local agencies, are cooperative marketing and cooperative purchasing agreements available? If not, can the state and local agencies establish such agreements?
2. What is the available supply of materials (by type of waste - paper, metal, glass, plastic, other; and by grade - newsprint, high grades, OCC, and mixed for paper, or HDPE, PET, and mixed for plastics)? What level of control do governments have over the materials? (They usually have more control over residential recyclables than commercial recyclables.)
3. What volume of products (by dollar volume and weight, if available) do participating agencies buy in the above categories?
4. Are there specification or procurement impediments to using recycled products? Do you need legislative remedies?

5. What agreements currently exist to collect and process recyclables? What agreements exist to buy recyclable materials? What are the length and terms of those agreements? Can you establish long term agreements to collect and process materials? Will procurement rules allow long term agreements for buying recycled products?
6. How will you identify potential haulers, processors, manufacturers, and vendors? Will it simply be an open bid situation? What are the incentives for these organizations to establish agreements to recycle materials into new products? Do state and local governments have control over enough recyclables and buy enough products to make the program worthwhile?
7. What recyclables and products will you select? What are the criteria for the selection? Who will the state and local governments contract with — the hauler, processor, manufacturer, or product vendor? How will prices fluctuate with the market? Is a local manufacturing facility a requirement for participating? Will the closed loop system be enough of an incentive, or should you use it in conjunction with other incentives?
8. If the closed loop system is designed to entice a new manufacturing facility to locate in a state or local government, how will the contract be structured to be enough of an incentive to locate a facility, but timed so that collection and purchasing are on line for the facility?
9. How long should the contract be? How can you guarantee the supply and demand contracts so that other processors will not offer a higher price, or suppliers offer a lower price for the recycled products?

One caution on closed loop systems - do not expect the recycled material vendor to separately track each load of recyclables through the process. Such tracking systems may be very costly and can eliminate any savings from the closed loop system.

These questions require a great deal of research and study prior to establishing closed loop agreements. The opportunities for closed loop recycling, however, make establishing such agreements an attractive purchasing option.

CHAPTER 4

Purchasing Options

Bug
Janitors
~~Janitors~~
Janitors

CHAPTER 5

Reducing
Paper Waste

Compatibility
with Recycling

Inventory Control

Influence
Manufacturers

Remanufacturing

Reuse

Computer and
Electronics
Recycling

Green Purchasing

Green Building

Other Techniques

Buying for Waste Prevention

In addition to buying recycled products, buyers and using agencies should review their purchasing practices to increase purchases of products that are recyclable and promote waste prevention, including:

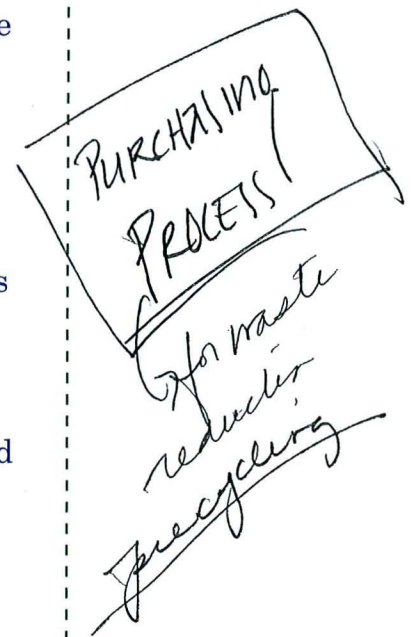
- ▶ Recyclable products;
- ▶ Products that can be repaired, reused, rebuilt, or remanufactured;
- ▶ Items with a longer life; and
- ▶ Materials with little or no packaging.

The City of Berkeley, California calls the process precycling - thinking about the recycling and making correct buying choices before we buy a product.

Reducing Paper Waste

- ▶ Use double-sided copying whenever possible;
- ▶ Use lighter weight papers whenever possible;
- ▶ Reduce the number of copies of documents by establishing a centralized filing system;
- ▶ Use obsolete forms and scrap paper for drafts and to make memo pads. If no sensitive material is involved, the paper can be donated as drawing paper for childcare or similar facilities;
- ▶ Reuse interoffice envelopes, file folders, and corrugated boxes. Use a rubber address stamp and reuse larger mailing envelopes;
- ▶ Eliminate needless forms;

- ▶ Eliminate blank spaces and reduce the print size in documents where appropriate;
- ▶ Use routing slips or bulletin boards instead of sending individual memos to each employee;
- ▶ For interoffice mail, purchase reusable envelopes with spaces to cross out names. Instruct interoffice couriers not to collect and distribute non-reusable envelopes;
- ▶ Prune mailing and distribution lists and reevaluate quantities needed for reports and publications;
- ▶ Share documents or publications with staff and other agencies;
- ▶ Remove your name from mailing lists for materials you no longer need or share with others; and
- ▶ Use electronic or computer mail.



Compatibility with Recycling

Purchasing officials should work closely with recycling coordinators to be sure that the products they purchase can be recycled in existing recycling programs.

Agencies can buy a variety of paper products that they can recycle in their office recycling programs. Switching to white ledger and legal pads, for example, will increase the value of your wastepaper. You can replace plastic window envelopes, which are difficult to recycle, with open or glassine windows. Mailing labels and other sticky products should be water soluble to permit recycling. Print reports on recyclable paper (generally non-glossy without glue bindings). These techniques and others can improve the value of your wastepaper by eliminating contaminants.

There is one situation where buying recycled and recyclability may conflict. Recycled computer paper with high recycled content (as much as 100 percent post-consumer material) is available at costs often lower than virgin or other recycled papers. The computer paper has high groundwood content, which means that agencies can not recycle the paper with high grade, white office paper recycling programs. (Agencies can recycle the groundwood paper with mixed paper.) Agencies with high grade recycling programs must be aware that the groundwood paper cannot be recycled in their white program. They must make a

decision between higher recycled content and recyclability of their paper, unless they have the option of establishing separate collections of high grade and mixed paper or a mixed paper only program.

Inventory Control

To avoid wasteful duplication, consider establishing an inventory control system (computerized, if feasible). Various locations in the same organization can share materials and buy in bulk quantities to reduce unit costs and use less packaging.

Purchasing and salvage officials should cooperate in establishing the inventory control system. Salvage officials know which products they can reuse or recycle. They can inform you of available products or suggest products that are easier to recycle. Salvage officials can sell or donate usable equipment to other agencies, governments, citizens (through auctions), rebuilders, recyclers, and nonprofit organizations.

Influence Manufacturers

Large organizations can use their purchasing power and specifications to influence suppliers to reduce waste volume and toxicity. A specification for packaging can require manufacturers to provide recyclable paper or prohibit using inks that contain toxic metals such as lead or cadmium. You can also require manufacturers of automobile or truck batteries to accept used batteries for recycling before buying replacements.

Remanufacturing

Remanufacturing is an industrial activity that collects discarded or non-functioning durable parts, disassembles and refurbishes reusable parts, cleans the parts, replaces other parts, and reassembles the parts into usable products. Examples of products that can be remanufactured include:

- ▶ vehicles
- ▶ vehicle parts
- ▶ office furniture
- ▶ toner cartridges
- ▶ transformers
- ▶ medical equipment
- ▶ computers
- ▶ phones
- ▶ vending machines
- ▶ tires (retreading)

Remanufacturing is a \$53 billion industry that includes 73,000 companies employing more than 500,000 people. You can buy remanufactured products and reduce waste. For more information on remanufacturing, contact the Remanufacturing Institute at www.rici.org.

Reuse

There are many companies that reuse materials. These include:

- ▶ thrift stores and charitable drop-off centers
- ▶ programs to supply charities, low income people, food banks and schools with reusable equipment and materials
- ▶ drop and swap locations at landfills
- ▶ used equipment stores and salvage yards
- ▶ local and regional materials exchanges

The list of reusable items includes the following:

- ▶ office furniture and supplies
- ▶ computers and electronics
- ▶ medical equipment and supplies
- ▶ surplus food items and equipment
- ▶ building materials
- ▶ art materials

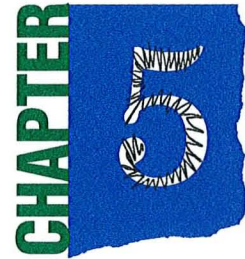
Public and private organizations should examine opportunities to donate no longer needed items to local reuse organizations and to purchase used items at reduced rates.

For further information on reuse, see the Reuse Development Organization web site at www.redo.org.

Computer and Electronics Recycling

In May 1999, the National Safety Council released “Electronic Product Recovery and Recycling Baseline Report: Recycling of Selected Electronic Products in the United States.” The report provided the following sobering statistics:

- ▶ 20 million personal computers became obsolete in 1998;
- ▶ 16 million computer monitors and 11 million printers and scanners also became obsolete;
- ▶ due to technology changes, the number of obsolete computer products was expected to rise to 60 million units by 2005; and
- ▶ from 1997 - 2007, approximately 500 million PCs will become obsolete, totalling approximately 7.5 million tons.



Buying for Waste Prevention

As a result, public and private organizations are examining options to prevent computers from entering landfills and municipal waste-to-energy facilities. These options include:

- ▶ donating usable computers to schools, non-profits and employees;
- ▶ refurbishing the computers for resale; and
- ▶ dismantling and recycling computers, monitors and peripherals (especially for precious metals).

Organizations should donate, remanufacture or recycle obsolete computers and consider whether they can obtain usable computers (for internal use or for telecommuters) from local computer companies.

Green Purchasing

Public and private agencies are often held to strict standards of environmental performance. These standards can include waste disposal, health and safety concerns (for employees and public health) and overall environmental regulations. As a result, organizations are establishing programs to purchase products that have a lesser effect on the environment.

Executive Order 13101 defines “environmentally preferable products and services” as products and services that have a lesser or reduced effect on human health and the environment when compared to competing products and services that serve the same purpose. This applies to raw material acquisition, as well as product manufacturing, distribution, use, maintenance and disposal.”

Some of the products being purchased include:

- ▶ recycled content products
- ▶ products that reduce waste or use less material
- ▶ biobased (agricultural) products
- ▶ less toxic or less hazardous products
- ▶ products that require less energy in the manufacturing process or use less energy in daily use
- ▶ integrated pest management
- ▶ wood products not made from rainforest hard wood or tropical wood
- ▶ products manufactured locally

For more information on green purchasing, see the National Association of Counties Environmental Purchasing Project at www.naco.org/programs/environ/purchase.cfm. and EPA’s Environmentally Preferable Purchasing Home Page at www.epa.gov/opptintr/epp.

Green Building

Green building is a strategy that incorporates environmental features into the siting, design and construction of new and renovated buildings. Green building not only includes using recycled content products, but also the following features:

- ▶ Energy efficiency and using renewable energy
- ▶ Minimizing materials use
- ▶ Water efficiency
- ▶ Designing for storing and processing recyclables
- ▶ Sustainable materials (less toxic, fewer resources, etc.)
- ▶ Environmentally sensitive site design

There is a vast amount of information on green building available through the Internet and other sources. Here are some sites to get you started:

U.S. Green Building Council - www.usgbc.org

Energy Efficient Building Association - www.eeba.org

Center of Excellence for Sustainable Development -
www.sustainable.doe.gov

Maryland Green Building Program -
www.dnr.state.md.us/programs/greenbuilding

Other Techniques

- ▶ Use life-cycle costing formulas that include product life and disposal costs to encourage the purchase and use of recyclable, reusable and durable products;
- ▶ Conduct routine maintenance on products and equipment. For example, rotating and properly inflating tires will extend their life. Vacuuming and cleaning will make carpets last longer.
- ▶ Reuse materials before discarding them;
- ▶ Use backhauling, where the vehicle making a shipment of finished products takes recyclable materials back to the manufacturer instead of returning empty;
- ▶ Ask manufacturers and vendors to ship materials in recyclable, recycled content packages.

Preventing waste can lower agency costs, even if the agency pays additional funds for recycled products.

CHAPTER 5

Buying for Waste Prevention

CHAPTER 6

Record Keeping

Buy Recycled Worksheet

Evaluation

Monitoring Progress

Record Keeping

As you implement your program to buy recycled products, it is important to establish a record keeping and evaluation system. A record keeping and evaluation system will allow you to:

- ▶ justify the program to supervisors, executives and the public;
- ▶ evaluate the program, correct problems, and make changes and improvements; and
- ▶ share information with others.

Set up a system to designate recycled products and purchases in your system (a separate code number or other distinction will suffice). The worksheet on page 45 outlines the information you will need for your records.



Worksheet for Recycled Product Purchases

Product or Service Purchased _____

Number of Units Requested _____

Contract Number _____ Duration of Contract _____

Buyer _____

Using Agency or Agencies _____

Percentage and definition of recycled content requested in bid

Preconsumer _____ %

Postconsumer _____ %

Total Recycled Content _____ %

Bidders (Circle Successful Bidder)

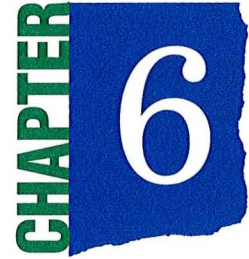
Bidder	Preconsumer	Postconsumer	Total	Price

Price Preference Paid (if any). _____

Was this a cooperative purchase? _____ If yes, list participants below:

Total Dollars/Units Purchased (vendors of requirements contracts should be required to provide information on actual usage)

Was there any good or bad feedback from users?



**Monitoring
Progress**

Evaluation

Evaluate your buy-recycled program on a regular basis (at least annually).

Remember to give yourself credit. Agencies often forget to tell anyone that they have started a buy recycled program. Mention it in reports and send out news releases about how many recycled products you purchased, how much money you spent on recycled products, any savings in using recycled products, and what products you purchased. The publicity is good for your agency and will encourage other organizations to develop similar programs.

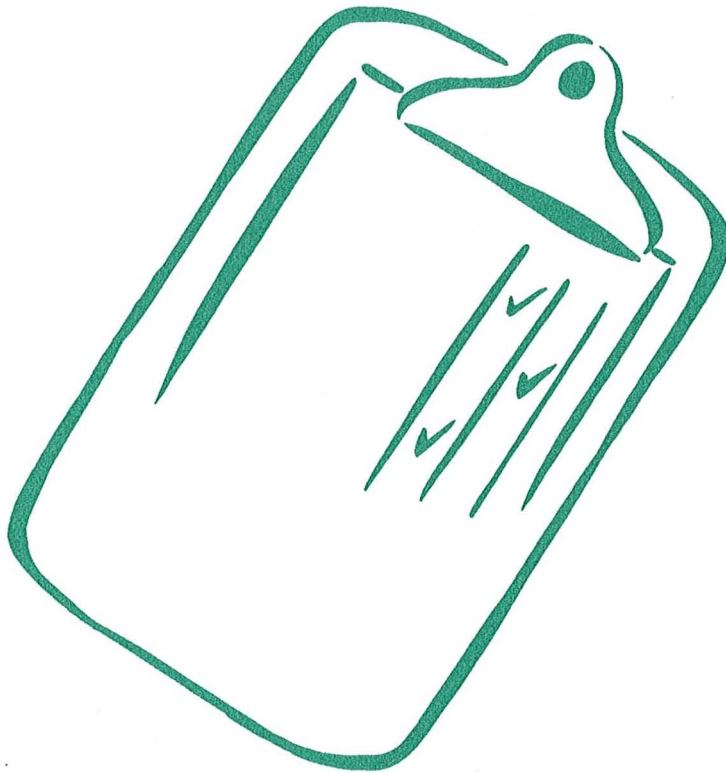
The report should include the following information:

1. Total purchases of recycled products [Breakdown by product area (office paper, janitorial papers, plastics, rubber, oil, etc.)].
2. Total purchases of products and services (virgin and recycled).
3. Percentage of recycled product use
By total purchases
Product by Product

(Note: Track items 1-3 by dollars and quantities. The purchasing and recycling departments should establish methods to determine the tons of recycled material used to produce the products purchased, so you can report on how much waste you diverted from landfill disposal).

4. Price preferences or additional prices paid for recycled products and cost savings from using recycled products
5. Major specification reviews (number and general description, generated by purchasing office or agency).
6. A description of testing programs, including product tested, test methods, and results.
7. Cooperative purchases of recycled products (including cost savings) and planned cooperative purchases of recycled products.
8. Breakdown of recycled purchases and use by each agency.
9. Listing of recycled product vendors servicing the jurisdiction.

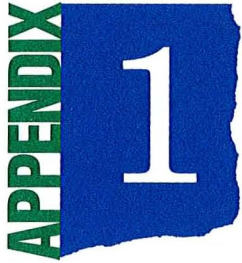
10. Status of efforts by printers, contractors and grantees to use recycled products.
11. Barriers to using recycled products.
12. Success stories and failures (learn from failures).
13. Summary of user experience in using products.
14. Any changes in federal, state or local legislation that affect the program.
15. Recommended changes to improve the program.



CHAPTER 6

Monitoring Progress

Appendix 1



Buy Recycled Web Sites

Buy Recycled Web Sites

The Maryland Environmental Service (MES) has designed this list to provide additional information on buying recycled and green purchasing. Please note that many of the sites have links to other buy recycled and green purchasing sites. Because of the rapid changes in the Internet, it is not complete. If you know of other sites to add to this list, please contact MES at 410-974-7254.

MES has buy recycled information at
www.menv.com/content/recycling.htm

You can click on “information on buying recycled and green purchasing” or the Buy Recycled listing on the left

America Recycles Day

www.americarecyclesday.org

Information on buying recycled products

American Plastics Council Sourcebook

sourcebook.plasticsresource.com

Recycled Plastics Product Directory

Buy Recycled Business Alliance

brba.nrc-recycle.org

Information on the National Recycling Coalition project to promote buy recycled programs for businesses, including case studies of successful business buy recycled efforts and information on state programs for businesses

Buy Recycled Training Institute

www.usmayors.org/uscm/uscm_projects_services/buy_recycled/contents.htm

Information on the U.S. Conference of Mayors’ training program and information on implementing a buy recycled program

California Recycled Content Product Database

www.ciwmb.ca.gov/RCP

Information on manufacturers and vendors of recycled products

Chlorine Free Products Association

www.chlorinefreeproducts.org

Information on totally chlorine free and processed chlorine free papers

Conservatree

www.conservatree.com

Information on recycled, tree free and chlorine free papers

Defense Logistics Agency

www.dscr.dla.mil/products/epa/eppcat.htm

Information on recycled and green products

Ecologo Certified Products and Services (Canada)

www.environmentalchoice.com

List of products meeting Canadian environmental standards

EPA Comprehensive Procurement Guidelines

www.epa.gov/cpg

Information on the 54 guidelines, including product fact sheets

General Services Administration/Federal Supply Service

www.fss.gsa.gov/environ

Information on environmental products available from GSA

Green Seal

www.greenseal.org

Standards for environmentally responsible consumer products

Harris Directory

www.harrisdirectory.com

Database of recycled and pollution preventing green building products

King County, Washington

www.metrokc.gov/procure/green

Information on County experience with recycled products, updates on buy recycled and green purchasing and annual reports



**Buy Recycled
Web Sites**

Massachusetts

www.magnet.state.ma.us/osd/enviro/enviro.htm

Environmentally Preferable Product Procurement Program of the State of Massachusetts. Includes product guide, state contracts and green building information

Minnesota

www.moea.state.mn.us/lc/env_purc.cfm

Information on recycled products and environmental purchasing

Missouri

www.oa.state.mo.us/purch/recypro.html

Information on recycled and environmentally preferable products and services

NAPCOR (National Association for PET Container Resources)

www.napcor.com

Information on PET recycling and products made from recycled PET

NASPO (National Association of State Purchasing Officials)

www.fc.state.fl.us/bpsr/drc_notice.html

Information on recycled content products and contracts

North Carolina

www.p2pays.org/ *buy recycled*

Information on state programs, contracts and suppliers

Northeast Recycling Council

www.nerc.org/eppnet.html

Information on the Environmentally Preferable Products Procurement Listserv, which links public and private officials working on buy recycled and environmentally preferable product issues

Office Furniture Dealers Alliance

www.ofdanet.org

Information on furniture recycling

Office of the Federal Environmental Executive

www.ofee.gov

Information on federal buy recycled efforts, including the latest executive order

Official Recycled Products Guide

www.recyclingdata.com

Information on how to subscribe to this products directory

The Remanufacturing Institute

www.rici.org

Information on the \$53 billion remanufacturing industry

Reuse Development Organization

www.redo.org

Information on reusing materials

Scientific Certification Systems

www.scs1.com

Certification of environmental claims

Scrap Tire Management Council

www.rma.org/recycledcatalogn.html

The Recycled Rubber Products Catalog

Steel Recycling Institute

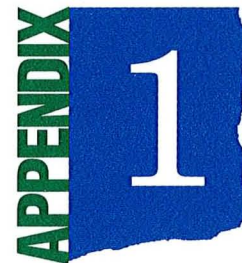
www.recycle-steel.org

Information on steel recycling and products from recycled steel

Tire Retread Information Bureau

www.retread.org

Information on retread tires



**Buy Recycled
Web Sites**

Notes