



Understanding Recycling Markets

Sarah D. Kirby

Housing Specialist

Sue E. Williams

Family Policy and Energy Specialist

Recycling Markets

Recycling is an idea that is catching on nationwide and many communities in Oklahoma are starting recycling programs. In the U.S., recycling increased from 13 percent in 1988 to 17 percent in 1990. This publication will help you understand the supply and demand of recycling markets.

Recycling means using the same material again and again. First, used products, such as steel, aluminum cans, glass bottles, plastics, and newspapers, must be collected or recovered. Then, these used materials (recyclables) must be sorted, cleaned up, and reprocessed. Finally, the recovered materials are used to make new consumer goods. Unfortunately, many recycling programs fail because communities do not plan for the entire process of recycling, focusing too much on waste collection and not enough on development of market demand for products made from recycled materials.

As a consumer, you will determine the success of recycling programs as you make choices in the marketplace. For example, are you willing to pay more for recycled paper?

Markets are volatile. Prices fluctuate and there are usually quality standards related to the condition of materials. Understanding the supply and demand of marketing recycled material and how market factors work together will help any recycling program succeed.

The Supply Side of the Recycling Market

Recovery is the collection and separation of recyclable materials. Most materials are recovered through curbside collection, commercial and/or

industrial pickup, buy-back, and drop-off programs. When choosing a recovery program, it is important to assess the potential value the method has in yielding an abundant supply of high-quality materials.

Recyclable material must be processed into a "raw" material to be reused in making new products. The amount of processing required depends on buyer specifications, transportation distances, product value, and many other factors.

Common processing functions include sorting, cleaning, shredding, densification, and baling. Removal of contaminants that may alter the quality of the final product is a major concern for buyers. Failure to meet strict specifications for clean material often leads to rejection of an entire shipment of recyclables.

Materials recovered in a community's recycling program are dependent on available markets in that area. It is not cost efficient to collect material that must be shipped long distances in order to be recycled. A good example of this is polystyrene (styrofoam). Although the technology exists to recycle this material, there are few plants in the country that have the capability for processing and re-manufacturing it.



The Demand Components for Recycled Material

Unlike many businesses, recycling depends largely on the demands of the market rather than availability of the product. Identifying markets for recyclable materials is the most important part of a recycling program. Recyclable materials must be either sold or given to an outlet that can reuse them. Research for new markets is an exciting innovation found in today's business world. Market development works to create new uses for recyclable materials, thereby expanding the market base. Building networks among people involved in recycling and those capable of using recyclable material in their manufacturing processes is a crucial part of the business of recycling. Currently, Oklahoma is home to more than 24 end-use industries. The state's biggest problem is the lack of intermediate processing facilities and transportation systems.

Educating the consumer on how to recycle is a critical part of a successful recycling program. Consumers must prepare materials correctly for recycling to reduce contamination. Promotion is also important. Manufacturers need to feel confident that they will have a clean, reliable stream of recyclable material available if they are to use the material in their operations. Communication and promotion helps generate interest and explain the recycling program's goals.

A Market Overview

Paper and Paperboard

Nearly 73.3 million tons of paper and paperboard waste are created annually. In fact, paper and paperboard constitute the largest portion of municipal solid waste, representing 37.5 percent. Paper has an overall recycling rate of almost 30 percent, almost half of which is corrugated boxes. The other contributors to paper recycling are newspapers (42.5 percent), office paper (20.6 percent), magazines (10.7 percent), and books (10.3 percent).

Paper is recycled into paper products, paperboard products, and construction products. At times, market supply for some recovered paper products, such as newsprint, has exceeded the mill capacity to use the materials. However, markets for recycled paper products are generally stable and expanding as more mills build new deinking facilities to process waste paper and as the demand for recycled paper products grows.

With newspapers, the rate of paper recycling corresponds to the economy and currently to international opportunities to export the product. News-

paper must be kept clean, with no contamination by household waste. Inserts can be processed with paper, although they may lower the value.

Glass

Approximately 13.2 million tons of glass waste are generated annually. Food and beverage containers make up more than 90 percent of this amount. The remaining 10 percent comes from products such as cookware and glassware, home furnishings, and plate glass. Glass currently makes up less than seven percent of the municipal solid waste stream. About 22 percent of all glass beverage containers are recycled each year. Glass has an overall recovery rate of almost 20 percent. Glass manufacturers typically use 30 percent crushed glass (cullet) along with raw materials to make new glass. Other products made from recycled glass bottles include insulation, flooring tile, and road construction materials.

With glass, color separation is important for the manufacturer's maximum re-use. Most glass handlers do not want mixed cullet. Contamination is a critical factor in marketing glass. Glass should be sorted, with lids and metal rings removed. Paper labels can be left on containers without causing contamination problems; however polystyrene and foil labels must often be removed. Ceramic materials, crystal, pyrex, and plate glass are not acceptable in most recycling programs.

Aluminum

A total of 2.7 million tons of aluminum waste is generated yearly. Aluminum containers, such as soft drink and beer cans, make up more than half of this waste. Aluminum accounts for a little more than one percent of the municipal waste stream. Fifty-four percent of all aluminum containers and packaging are recycled, resulting in an overall recovery rate of 38.1 percent. The markets for scrap aluminum are strong. Aluminum has a high market value, and aluminum cans supply a large percentage of income for many municipal recycling programs. Almost all the aluminum collected is used to make new cans.

Aluminum recycling has high industry support. It is an economic advantage to manufacturers to support recycling because of the savings in extracting and processing raw ore.

Plastic

More than 16 million tons of plastic waste are generated each year. Plastics comprise 8.3 percent of the total municipal solid waste stream. A little more than two percent of all plastics are currently recycled, with plastic soda bottles being the most

commonly recycled product. Plastic's share of the waste stream is growing by weight and volume. Most plastics that end up in the waste stream are from packaging and containers. Plastics recycling has increased dramatically over the past two years. New markets for recycled plastics include such products as drainage pipes, toys, carpet, filler for pillows, garbage pails, car stops, manhole covers, park benches, plastic lumber, railroad ties, and cassette casings. While accounting for only about eight percent of municipal solid waste by weight, plastics make up more than 20 percent of the total by volume.

Plastic markets are varied. Industry is trying to build a market system to support recycled plastic. Contamination of plastics is a problem. Plastics need to be sorted by resin type. The coding system used on plastics helps identify resin types (various plastics) and reduces contamination. Plastic has a low price-for-product, so large amounts of plastic must be collected to make marketing economically practical. The Council for Solid Waste Solutions, a program of The Society of the Plastics Industry, Inc., has developed a handbook and educational information for those communities interested in implementing a plastics recycling program. For more information, write to The Council for Solid Waste Solutions, 1275 K Street N.W., Suite 400, Washington, D.C. 20005, or call 1-800-2-HELP-90 (1-800-243-5790).

Encouraging Recycling Markets

Developing markets for recyclables is a continuing challenge to states, communities, industries, governmental agencies, and consumers. Ideas for assisting in the creation of markets for recyclable materials are emerging. Legislation has been one approach used to encourage development of recycling markets. Some states have introduced minimum content laws that mandate the use of recycled materials in new products. Currently, Oklahoma does not have any minimum content laws.

The Oklahoma Recycling and Recycled Products Procurement Act mandates that all state agencies recycle and procure recycled products to the greatest extent economically possible. The legislative goal is that 40 percent of all paper products purchased by 1999 will have recycled content. A state clearinghouse of recycled products has been established by the Act, resulting in the publication of a catalog of recycled content products on Oklahoma state contracts.

In 1990, the Oklahoma Legislature created the Oklahoma Recycled Market Development Program, which is jointly sponsored by the Oklahoma De-

partment of Commerce and the Oklahoma State Department of Health. The mission of the program is to promote and strengthen Oklahoma's recycling industry through market development and business recruitment and assistance. The program maintains a database of recyclers, haulers, end-use manufacturers, and producers of solid waste. Market development specialists are available to help business owners who want to utilize solid waste in their process or to start other recycling-related businesses. Contact the Recycling Market Program manager by calling 405-841-5266 or 800-879-6552, ext. 266.

In an attempt to encourage recycling and a reduction in the amount of garbage requiring disposal, some municipalities have enacted pay-by-the-bag laws. Instead of one set fee for garbage disposal, citizen rates are based on the volume of trash they create. The more trash discarded, the higher the rate.

Recycling has been encouraged in some countries by requiring manufacturers to recover and recycle packaging used in their products. However, the problem with this solution is that appropriate recycling markets for these materials aren't fully developed.

Another way to encourage potential markets is through tax incentives for those investing in recycling markets. Additionally, greater emphasis on research and product development is needed.

What You Can Do

One of the most important actions you can take is to prepare your recyclables correctly. It only takes a single "contaminant" (unacceptable material) to ruin a whole load of recyclables or to reduce the price they bring. Community recycling centers vary in their requirements for preparation and in the variety of materials they accept. Check with your local center before turning in materials, especially if you are unsure about any item.

The second thing you can do is to support recycling efforts in your community. Turn in your materials to be recycled and buy products made of recycled materials. Work with local organizations, schools, churches, and officials to help get a recycling program started in your community. For information, *The Recyclers Handbook* recommends the following resources:

"Ten Steps to Organizing a Community Recycling Program"
Pennsylvania Resources Council
P.O. Box 88
Media, PA 19063

The National Recycling Coalition
1101 30th Street, N.W.
Washington, D.C. 20007

For more information about recycling in Oklahoma, contact:

Solid Waste Division
Department of Environmental Quality
1000 N.E. 10th St.
Oklahoma City, OK 74117-1299
Phone: 405-271-7159

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