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Regardless of how recyclables are collected, if you don't have a market for your materials, your recycling program is literally going nowhere. Recycling simply cannot and does not happen without markets. In fact, without willing buyers for recyclables, you're essentially still collecting garbage.

A willing buyer, however, may not translate to a positive sale price. Markets for recycled materials are notoriously volatile, and prices often turn negative. Paying to "sell" your materials does not mean recycling is no longer costeffective. After all, the average New Jersey generator still pays more than \$50 per ton to "sell" its garbage to a transfer station, landfill or incinerator. In both strong and weak markets, however, it always pays to be a smart seller. Therefore, the purpose of this chapter is to help recycling coordinators find the best price and the best terms for sale of their recycled materials.

Requirements under the law

Amendments in 1993 to the "New Jersey Statewide Mandatory Source Separation and Recycling Act" included important changes that directly affect the economics of recycling.

- 1. Recycling targets were increased from 25% to 50% of municipal solid waste, and to 60% of the total solid waste stream.
- 2. The amendment dropped a provision that required municipalities to recycle a designated material only if the cost of recycling it did not exceed the cost of disposing of it as garbage. That rule had helped protect recycling programs against drastic declines in market prices for recyclables. With that change, New Jersey's recycling policy acknowledges that sometimes recycling may indeed be more expensive than garbage disposal. The state adopted this policy change to acknowledge that the full economic and environmental benefits of recycling – and the corresponding full costs of landfilling or incineration – may not be factored into current market prices.

Marketing by the book

What exactly is a market? In New Jersey, the legal definition of a market, for recycling purposes, is "the disposition of designated recyclable materials." And disposition is legally defined as "the transportation, placement, re-use, sale, donation, transfer or temporary storage for a period not exceeding six months of designated recyclable materials for all possible uses except for disposal as solid waste." Both definitions are included in N.J.S.A. 13:1E-99.12, which governs mandatory recycling in New Jersey.

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Forces that drive markets

Coordinators deal with recyclables at the same level a miner digs for ore; both the coordinator and the miner are generating raw materials for an end user. This end user might be a paper mill, a glass manufacturer, an aluminum maker or any other manufacturer who needs the materials you are collecting.

As noted in Chapter 1, recycling markets are driven by the law of supply and demand, and the paper, glass and metals markets provide useful illustrations of those laws at work.

The rise and fall of paper prices

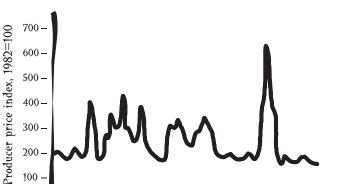
In hindsight, most observers consider the peak paper prices of 1994-95 to be an anomaly. Yet, price cycles themselves are no aberration. Paper prices tend to fluctuate seasonally, and they tend to follow swings in the condition of the economy. Over the past 30 years, paper prices have bottomed out around recessions in 1974-76, 1981-82 and 1991-92.

In 1994 and 1995, several factors combined to cause unusually drastic price swings in market prices for paper. Weather was a big one. Winter hit the Northeast especially hard in the winter of 1994, causing two disruptions. First, during heavy snowfalls fewer residents put their materials at the curb on a regular basis. This reduced the supply of raw materials available to the "miners" of recyclables. Second, the weather made it more difficult to transport materials to the markets that needed them.

At the same time that the weather was restricting supply regionally, demand was growing globally as foreign economies enjoyed strong economic growth. And demand in South Korea can affect prices paid in South Brunswick. In fact, the U.S. is the largest recycled paper supplier to the Far East, according to recycling dealer Allan Zozzaro.¹

Growing demand from overseas markets competed with growing demand from domestic markets. Demand in the U.S. was driven in part by new paper mill capacity that could handle a greater mix of paper. As the domestic economy expanded, demand also increased from mills that produced higher grades of paper.

As demand grew and supply decreased, buyers began to compete more fiercely to secure enough raw materials to meet current and future orders. This led to a "panic" among some buyers, according to Jerry Lobosco of Lobosco Recycling.² Buyers soon began accepting lower-quality paper while paying even higher prices. At the same time, buyers for overseas markets began to bid aggressively to secure paper for their current boom markets and projected increases in demand.



1985

1990

Source: Bureau of Labor Statistics

1995

1999

Price index for old newspaper

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100

0

1970

1975

1980

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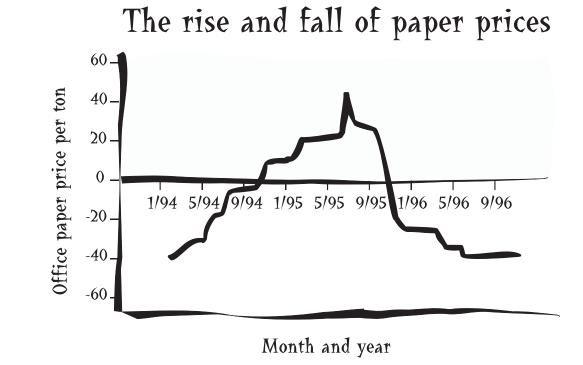
All these factors pushed prices higher. Rapidly increasing paper prices attracted many new players into the market, and some chose to attract business by offering higher prices than many sellers, both public and private, were being paid at the time. These new buyers further fueled the price frenzy.

The bubble bursts

As with most markets, when prices are spiraling out of control, the bubble bursts. When the weather improved, so did the available supply of paper. At the same time, some mills found they required higher-quality recycled paper to meet the quality standards required for their products.

Prices dropped as demand began to fall and supply increased. As prices fell, sellers who had been warehousing materials started to dump those materials into the market to cash in before prices dropped further. This increased supply even more. Finally, some buyers could no longer honor commitments they had made based on high prices. As a result, the sellers with whom they had contracts were forced to find new buyers – at lower prices.

The results were predictable and disastrous. Prices paid for paper continued on a downward spiral and eventually dropped to lows not seen since the early 1990s. The market saw a long overdue correction. Vendors who were unprepared for this downturn, or were unable to adapt, simply disappeared. Perhaps the best description of the 1995 market came from John Mulligan of Zozzaro Brothers: "The 1994-95 market was a Halley's Comet, its occurrence is rare and its length of stay is brief."³



Source: Giordano Recycling Corporation

Long-term vs. short-term

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The glass is greener on the other side of the border: A case of oversupply

Green glass provides an example of the supply curve at work. According to a 1993 study by the Northeast Recycling Council, the sale of green glass posed a large problem for many municipal and county programs. NERC, at the request of several of its member states, found that the cause was relatively simple, even though finding a solution has been a bit more complicated.

The problem stems from a "regional imbalance between the supply of green glass containers recovered from the waste stream and the demand for green cullet from domestic glass manufacturers," according to the NERC study.⁴ Green glass is most heavily used in the production of beer and wine from Western Europe and Canada. Therefore, the U.S. imports more green bottles than domestic glass producers want to buy here. This historical oversupply keeps constant downward price pressure on that particular commodity.

The Iron Curtain falls and takes aluminum prices with it

Metal recycling, too, has suffered from oversupply. For example, primary aluminum is made from alumina extracted from bauxite ore, and some of the largest concentrations of bauxite are found in the republics of the former Soviet Union. Since the early 1990s, some former Soviet republics, in dire need of hard currency to shore up their troubled economies, have sold large supplies of bauxite in international metals markets. As bauxite prices fell, it became cheaper to manufacture primary aluminum. And since primary aluminum competes with recycled aluminum, falling prices for primary materials caused falling prices for used beverage containers.



The paper, green glass and aluminum examples show the diverse forces that drive markets for recyclable materials. Those forces include the overall state of the national, regional and global economies, weather, number of buyers and sellers, technology, as well as some less tangible variables, such as current and future expectations of players in the market.

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Long-term vs. short-term markets

The primary difference between a long-term and a short-term market is, not surprisingly, time. A long-term market agreement is generally one that lasts at least a year and involves the use of a single vendor or a single group of vendors. A short-term market is generally a market agreement that lasts less than a year, and it involves more frequent movement between vendors, according to Bruce Logan of Giordano Recycling Corporation.⁵

The advantages of "playing" the short-term market are not much different than they would be if you actively manage any of your personal investments. In a short-term market, you maintain the ability to move between multiple brokers or market outlets. If one buyer is unable to accept your material, you can switch to another buyer. (This is similar to having a diversified investment portfolio). In order to play the short-term market to its best advantage, you must be able to continually track the market forces and trends affecting your commodity. That is one of the crucial roles commodity brokers play in the marketplace.

Market players

Whether using a long or short-term market, remember that successful marketing means recyclables can be moved to the end user in both good times and bad.

In developing a market, you may be developing a relationship with one or more of these key players:

- end users (mill, foundry, glass or plastic plant, etc.)
- intermediate markets (companies that consolidate the material and "upgrade" or "improve" it for use by the end user)
- brokers (companies that usually act as liaisons and set up deals between the producers of the material and the end users)

With all three groups, you are attempting to develop a partnership that achieves three primary objectives:

- maximizing the price received for material, along with any valueadded services the buyer might provide, such as report writing, training or storage equipment
- guaranteeing that the material can be moved to market in good and bad economic times
- moving material to market at the lowest possible cost



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Going direct: Selling to end users

If you are dealing directly with an end user, such as a mill or foundry, you may be affected by facility shutdowns for routine maintenance or seasonal production schedules. In addition, your product may be held to a higher standard for purity. You may also be required to develop your own trucking arrangements because the mill may rely on you for transportation.

Providing transportation can be both time-consuming and troublesome, according to Brian Lefke, director of solid waste for the Atlantic County Utilities Authority, who markets a wide range of ACUA recyclables. Truckers often work for multiple mills, so they may have incentives to "spy" on your market arrangements, including the prices you receive and the terms of your deal.⁶ That information is highly valuable to buyers in any market, so guard it closely. Before you decide to sell "mill direct," be sure to research the history of the firm, its financial stability and its reputation in the industry. (See the checklist on page 100 of Chapter 5 on how to research a company).

Brokers and intermediate markets

If you choose to sell to an intermediate market or a broker, you're going to rely on their research to buffer you from rapid changes in the markets. You will also rely on their relationships with various end users to help you maximize your product pricing and to move material in depressed markets.

Brokers and intermediate markets provide some similar functions. For example, both usually arrange for the transportation of your material, saving you from developing separate relationships with trucking companies.

But there are important differences. An intermediate market usually takes ownership of the material (a.k.a. "takes title") and often upgrades its quality to standards demanded by a broader range of end users. Because intermediate markets can combine recyclables with materials from other programs, they may be more flexible about the level of contamination they will permit. By providing more flexibility with quality standards, these markets give you the greatest level of protection in bad economic times.

Brokers typically do not take title to materials. Instead, they usually find buyers willing to take it in the form you provide.

Should you go direct?

The advantages in dealing with an end-user directly generally include:

- receiving the highest price possible for the material
- avoiding the need for multiple contracts with multiple parties

The disadvantages include:

- typically having to arrange shipping on your own
- being subject to facility downtimes
- being tied to the fortunes of a single mill or company
- risk of industrial spying from transportation firms used by competing mills

Source: Brian Lefke



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Before considering the type of market to use, or whether to serve as your own broker, first identify how much material you can supply. A small community generating a limited amount of recyclables should expect to have less flexibility than a large generator.

Most municipalities don't generate enough material to have much impact on the markets. For example, according to the NJDEP, slightly more than 42% of the 7.85 million tons of municipal solid waste generated in the state each year is being recycled. This means that some 3.3 million tons of raw material are being returned to the market. A program that produces 5,000 tons of material annually accounts for only .15% of the material being returned for remanufacture.

Working with brokers or intermediate markets

Advantages to using an intermediate market or broker are:

- the ability to blend materials with others of higher quality, thus avoiding rejection of your load
- developing a series of outlets that helps to mitigate against downturns in the economy or mill shutdowns
- providing transportation

Disadvantages include:

- lower prices paid for your materials
- relying on the relationships of the broker with the end user rather than your own direct relationship with the ultimate buyer of your materials

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Cooperative marketing

The issue of selling power in the market is a prime motivator for cooperative marketing. Similar to the concept of group purchasing agreements, cooperative marketing combines material collected in neighboring communities to create one larger supplier that commands the collective selling power of its member communities.

The best examples of cooperative marketing are in counties where marketing responsibility is borne at the same level. At the time of this publication, these counties included:

- Atlantic (for most municipalities)
- Cumberland (all)
- Mercer (some)
- Morris (some)
- Union (some)

• Somerset (all)

• Burlington (all)

• Hunterdon (some)

• Middlesex (some)

• Sussex (some)

To successfully implement a cooperative marketing program, municipalities need a high degree of coordination.

• Collection programs and material quality

Members must agree on materials to be collected as well as quality standards and market specifications.

• Storage

Where there is a need for temporary storage of material, members need to coordinate logistics to minimize transportation impacts to the final destination.

• Transportation

A coordinated collection and transportation schedule needs to be developed.

• Markets

A coordinated contract needs to be developed between the municipalities and the markets selected.

• Revenue sharing

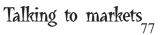
An equitable formula for revenue sharing (and cost sharing in negative markets) needs to be developed.

• Coordinator

There should be a single party responsible for the administration of the terms of the coordinated agreement.



Market indicators



Market indicators

All smart sellers need to know the going price for their wares. For recycled materials, specific prices for various commodities and market specifications are listed in trade publications. The greatest number of indicators are published about paper, but many publications deal with the other commodities as well. The following are some of the most common resources:

The Yellow Sheet, Official Board Markets (paper only) The Fibre Market News (paper only) Waste News (all commodities) The Paper Stock Report (paper only) Recycling Markets (all commodities)

Translating book numbers to street prices

The primary problem with market indicators is just that: they are only indicators. Publications are not intended to provide an absolute price list for the commodity covered. Because of the varied nature of these publications, translating a market indicator price into a fair market price can be confusing.

To better understand how these pricing indicators work, examine the excerpt from *The Paper Stock Report*. The sheet lists the common grades of paper and the prices currently being paid for that grade. The two primary questions then are:

What do the grades of paper mean?

What price is being paid to whom?

The grade of paper is the most important factor used to determine price. The grades of paper are defined in excerpts from the PSI specifications in Appendix B.

Once you determine the grade of paper, volume becomes the next important variable affecting price. As a seller of recyclables, you are a supplier of raw materials. The more raw material any seller can provide, the fewer suppliers an end user or an intermediate market will require to meet its raw material needs. If you have enough material to provide directly to a mill, you are more likely to be paid at a rate closer to the full mill buying price.

Therefore, successful marketing starts by understanding exactly what you have to sell and then determining how much you can offer to buyers. Working with that information, sources like *The Paper Stock Report* can be useful pricing guides. They can reflect either the full retail price that a mill is willing to pay for each grade of paper or dealer prices, or both. To be considered "mill ready," the paper must meet the quality standards of the mill for the grade of paper (the raw material) for sale can be added directly into the paper making process as it is received at the mill, without requiring further processing. Mill-ready paper

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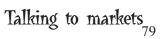
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Market players

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Market indicators





must contain few contaminants, or prohibitives. Because mill-ready paper must meet tight quality standards, buyers usually are willing to pay the "highest" available price for this "pure" raw material.

Given these variables affecting the final selling price, market indicators are best used as a baseline for contracts to sell recyclables. The actual price you receive may be lower than the published price, but your price will move up or down as a percentage of that market indicator price.

Market standards

Selling recyclables isn't just about price and quantity. Quality is just as critical. There are a number of ways that material can be rendered useless. By far the most common is to deliver recyclables with contaminant levels that make material uneconomical, or unfeasible, for use in the manufacturing process.

To research quality specifications for your materials, you can consult the PSI specification book, also known as the ISRI Scrap Specifications Circular, from the Institute of Scrap Recycling Industries. This publication includes a description of each material as well as detail on applicable quality standards. (See *Appendix A* for information on obtaining this circular.)

Why not go direct?

If you generate enough material and you have the cash to invest in processing equipment, why not simply bypass the intermediate processor and sell upgraded materials directly to end users?

Selling directly to end-users is not just a question of quality grades and volume. Selling direct requires that you study markets constantly, and it requires pockets deep enough to keep your processing operation afloat when markets head south.

Negative markets are typically short-term events, according to veteran buyers Allan Zozzaro and Jerry Lobasco, whose companies have seen 96 years of price movements. Neither buyer recalls a negative market lasting for more than three years since their companies have been in business. Nonetheless, as a processor, you still need to be able to survive for three years.

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Talking to markets: A checklist

The following checklist for surveying potential buyers of recyclables is adapted from The International City/County Management Association's report *Marketing Recyclables*.⁷

- □ contact information (name of buyer and firm, location, phone, fax, e-mail and website)
- type of market (broker, processor or end-user)
- □ types of material purchased
- □ specifications for each material, including listing of contaminants, acceptable contamination levels, and the physical form required (baled, loose, compacted)
- □ shipping requirements, including minimum and maximum size of loads, method of delivery, capacity, and any distance restrictions
- □ availability of transportation assistance
- D procedures for determining weights and contamination levels
- price and payment schedules, including any pricing tied to a market indicator
- □ availability of long-term contract
- \Box number of years in business
- □ references

Notes:

