

Acknowledgments

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INTRODUCTION

The Guide's Content

The goal of this guide is to describe the elements of formal, carefully written business plans specific to recycling post-consumer plastics, glass or rubber. The guide combines:

- a section on how to write a business plan (Section One);
- actual business plans that have been used to launch successful enterprises (Section Two); and
- a Resource Directory enabling you to identify the resources you will need to complete your own plan (Section Three)

Who Should Read This Guide?

This guide is for anyone seriously interested in starting or expanding a business that recycles plastics, rubber or glass. This could include:

- Someone new to the recycling industry but interested in the opportunities provided by an expanding industry sector.
- A recycling business currently dealing with other commodities (paper, metals).
- A business already engaged in one phase of the processing of recycled plastic, rubber or glass and now interested in expanding into the other phases.
- Anyone contemplating using recycled instead of virgin materials.
- Someone in local, state or federal government who wishes to understand the industry requirements for recycling these three major feedstocks.

The following generalizations should be kept in mind:

- Recycling is, for the most part, a manufacturing industry but it also contains elements of a service industry. The guide responds to both needs.
- Some recyclers are substantial companies but some are small businesses. All face similar problems, and the guide gives examples from small and large companies.
- The recycling industry contains four basic components:
 - Collectors
 - Handlers
 - Processors
 - End-users

Most recycling businesses include only one, two or three of these components.

- An end-user is any business which uses a recycled feedstock, typically in a manufacturing business, producing finished products made of recycled feedstock or using the feedstock in a direct application.
- This guide pays more attention to plastic than to glass or rubber, because for various reasons, it is the most complex of the three. At the end of most chapters, there is a section of comments directed at each feedstock separately.

Why Should You Write a Special Business Plan?

There are a number of reasons why you should write a business plan. First, a business plan is a document that describes your business and its goals. It is a tool that helps you to think through the details of your business and to make decisions about the future. A business plan is also a document that you can use to attract investors and to secure financing.

Poor planning and lack of management skills are the major reasons that four out of five small businesses fail within the first five years. Any source of financial backing wants to see that you know your business in detail. You show your knowledge in the business plan.

A knowledgeable business plan is especially necessary in the recycling industry because of certain characteristics of the industry itself. First, the industry experiences dramatic shifts in commodity prices for scrap and recycled feedstock. Shifts in supply of and demand for recycled material affect both revenues and the cost of final goods produced with recycled feedstock. In your business plan, you need to evaluate thoroughly the potential impact of these price-changes for recycled materials.

Second, the potential of the recycling industry to reduce the pressure on municipal landfills and to conserve resources has brought it support from all levels of government. It can be highly profitable. However, an individual recycling business can prosper only by

- offering special quality at a competitive price,
- adding value to materials recovered from the waste stream,
- negotiating careful, appropriate contracts,
- knowing the technology thoroughly,
- knowing the market thoroughly, and
- running the business well.

Further, the recycling industry is developing rapidly, especially in technology. It is also affected by changing regulations at the federal and local levels. In sum, you have to be savvy to make it work. Writing a business plan forces you to identify and acquire the knowledge you need.

Post-consumer plastics, glass and rubber differ in the business and technical problems they encounter. Your business plan must show that you understand the specifics for your chosen material, particularly in the areas of production and marketing.

Source of Important Resources

Several industry organizations are outstanding in providing publications and information:

- ✓ American Plastics Council
- ✓ Association of Post-Consumer Plastics Recyclers
- ✓ Glass Packaging Institute
- ✓ Scrap Tire Management Council
- ✓ National Recycling Coalition
- ✓ Institute of Scrap Recycling Industries, Inc.
- ✓ Recycler's World

Many of these organizations have regional or local affiliates. Each industry has its own periodicals.

The Resource Directory of the High Density Polyethylene Association is a valuable information source. In particular, we recommend the following:

American Plastics Council, *High Density Polyethylene Association*, P.O. Box 100, Washington, D.C. 20001, 1993. To obtain a copy, call the Council at 1-800-2-HELP-90.

American Plastics Council, *High Density Polyethylene Association*, P.O. Box 100, Washington, D.C. 20001, 1995. A companion video is also available.

Charles S. Hughes, for the National Asphalt Pavement Association, *Scrap Tire Utilization*, Washington, D.C., 1993.

T c , 1993. For a copy, call NAPA at (301) 731-4621.

National Solid Wastes Management Association, *T C . . . R c c a a M a a . R c . . . F a c . . .*, 1992. For a copy, call NSWMA at (202) 659-4613.

Warren Purdy, for Inc. magazine and the ASBDC, *T S . . c B P a . . . G . d*, 1996. For a copy, contact your local Small Business Development Center.

Resource Recycling Magazine, *T D*

Section I: Creating a Business Plan

This Section is divided into 14 chapters. They describe the components of a business plan for a recycling business and identify the type(s) of information to include in your plan. They do NOT represent a structure for your plan, simply because structures vary as writers adjust to their particular situations. However, a comprehensive plan for your business will require virtually all the information mentioned in these 14 chapters. W

. . . and Organizing the Final Document

To repeat, these 14 chapters do not represent a recommended structure for your business plan. You should choose your structure according to the nature of your particular business.

Your Business Plan will contain at least the following elements:

- I. Executive Summary
- II. Business Description
(Overview, Objectives, Product/Service Analysis,
Pricing Policies, Management and Or

C h a p t e r 11 : THE EXECUTIVE SUMMARY

The Executive Summary should appear first in your business plan. It is the first (and sometimes the last) thing potential lenders or investors read. It presents your vision for your business and it's your first and maybe only chance to sell that vision to a reader. It must be brief, clear, and to the point. It provides the minimum that enables lenders or investors to see the big picture in terms of your financial need—and to see that you can respond to their interests and needs.

We suggest that you first write a two- or three-page draft, then revise and correct it as you complete the body of your business plan. The final version cannot be written until you have completed all the rest of the plan.

THE BASICS

The challenges that a recycling business must face are the essence of the Executive Summary:

- (1) what is the source of my feedstock and are supplies adequate?
- (2) who are the customers for my eventual product?
- (3) how do I change raw material into profitable product?
- (4) what is the regulatory environment, present and future?
- (5) how can I insulate my company from price volatility?
- (6) how do I compete with virgin material and establish a market share?

The Executive Summary should answer the following in concise and unambiguous terms:

What are you planning to do?
(describe your business)

Why are you planning to do it?
(explain your business)

For whom are you planning to do it?
(identify your customers)

When are you planning to do it?
(timetable, schedules)

Where do you plan to do it?
(specific site selection)

Your Company's Role

The Executive Summary should carefully define where your business begins and ends. Every recycling industry contains four components: collecting, handling, processing, and producing an end-use product. Any one recycling company may undertake one or more of the components, and any of those components may be more or less complex. Especially, if there is a large overlap between handlers and processors.

Your Executive Summary should make clear that you know how to link all the components to produce quality materials for resale on the open market. No component of the recycling industry can function alone. It must work with all the other components. It must also compete with products made of virgin materials. The shared goal of all components is to give end-users what they want.

Management Team

The Executive Summary should describe briefly the backgrounds and experience of the owner/managers. If you plan to have a board of directors or advisers, or if you are using consultants, their backgrounds should also be highlighted in terms of their most relevant experience. (You may include complete résumés in an appendix.)

Objectives

The Executive Summary should discuss your funding needs in terms of both intermediate and longer-term goals. For example, you may plan at some point to have your plastics recycling plant also process aluminum (soda cans, bottle caps, etc.). In sum, you should demonstrate that you have specific objectives for the funds you want. Think about your business plan in terms of a “project” with objectives and milestones.

Finances

The Executive Summary must state the type(s) of capital and amounts you hope to raise, and how and when you will repay it.

You . . . include . . . a . . . d . . . a . . . c . . . a . . . c . . . , probably in the form of a 3-year balance sheet, income statement, and cash-flow statement. The lenders/investors want to know if and when they will get their money back, and their profit. Projections are critical.

You must specify how you intend to use the loan; that is, the part it plays in your overall plan. You should include a brief summary table showing the total project cost under such categories as Land Purchase, Building and Improvements, Equipment, Amortizable Fees/Expenses, Working Capital, or other appropriate headings. You should also include a table giving a three-year projection in dollars of your repayment schedule and/or the projected return on investment. This is your method for showing lenders when they will get back their investment and how great their profit will be. In essence, this is “the deal.”

If you already have equity investors or large potential customers committed to the business, they should also be mentioned, unless you have a compelling reason to keep the information confidential.

Lenders may well propose a different financial structure for your project. However, incorporating an intended structure of the type described allows you to emphasize the potential returns on investment. You can make adjustments later. You can also later change the interest rate or the term of the loan according to the lenders’ response. At this point, you give a realistic projection of the terms of the loan and the repayment conditions in order to answer the most obvious questions asked by any lender.

Linkages with Other Sections of the Plan

At this point, you cannot go into great detail. Instead, refer to other sections of the plan which present the details. For example, you may state in the Executive Summary that your operational plan is specifically designed “to overcome the many problems experienced in the XYZ industry.” Then, refer the reader to the sections describing your business or your marketing plan, etc. At this point, you acknowledge that there are problems and responses.

PITFALLS

The major problems with most Executive Summaries are that they are too long, lack focus, and fail to garner the enthusiasm of the reader.

An Executive Summary should occur on only one page. Remember, everything in this section will be explained in detail in some other part of the plan, so focus on the most important details that your business presents.

Too many Executive Summaries fail to present the information potential lenders or investors want to see at a glance. You may not yet have met the person who will read your plan, and it will be read by others who do not know you (e.g. financial analysts, loan committee members). Write the Executive Summary from their viewpoint. It is like a sales presentation.

SOME EXPERT ADVICE:

A ... d a ... a .P' a ... a . a a cI I. ... d , bad ... , a d ... c . a ... a dI E c S a ... a' ... a ... , a b b b . a a , .P' ad ... , a , b ... c a ... b . c ...

—Holly Thomas, Vice President, FirstUnion National Bank of Florida, Tampa, Fla.

Executive Summary: SPECIFICS FOR PLASTICS RECYCLERS

At this point, you need to tell the reader exactly what components of the recycling process your business will include, and also perhaps why you have chosen those components.

Plastic Collection

They collect plastics from consumers, industries, waste storage sites and other sources.

Do not ignore the local information about the industry. It needs to be incorporated into your business plan at various points. Each uniqueness in the glass industry represents a special problem to a local glass recycler. A problem, for instance, may lie in collection (these days emphasizing rural and small-town areas), or the proportion of colored glass (of less value than clear glass), or the transportation distance to a processor or end-user. Your business plan needs to show as it goes along that you see the problems and have anticipated solutions for them. tion,-33.043.8382 TD (c

EXECUTIVE SUMMARY: A REAL-WORLD EXAMPLE
(recycling post-consumer plastics)

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C a T : BUSINESS DESCRIPTION

To keep your Executive Summary brief, you will need to write an immediately subsequent chapter that gives an overview of your company. Be careful not to be repetitive and redundant.

If the products or services you plan to provide are unique or unusual, or if you are starting a business that has complex product or service offerings to multiple target markets, you must use a *D . c B* section to give readers a full understanding of your target markets.

Further, each recycling industry — plastics, glass and rubber — has some special pitfalls, discussed later in this section, which you need to address early in your business plan. You may wish to create a *D . c I d* sub-section which shows precisely how your business plan responds to the special issues in that industry.

The readers of your business plan may or may not understand the unique nature of your portion of the industry. If in doubt, ask someone experienced in the recycling industry or a prospective lender to comment on your clarity and completeness.

THE BASICS

Here are some of the situations in which you may find it useful to include one or more of the following sections:

Buying an Existing Business

If you are planning to purchase an existing business, this section is a good place to include its business history: when it was founded, how it was financed, how it was organized, how successful it has been, and why the current owners want to sell. You will need a separate Historical Financial Analysis. In addition, you should explain how you plan to carry out the transition from the current owner's management to yours in a way that maximizes customer goodwill. Often, the current owner provides services (such as working along with you) after you have purchased the business for a fixed length of time on a contract-for-services basis.

Expanding an Existing Business

You will need to present the same information as above if you are expanding your own business. This is your chance to highlight why the expansion will have a beneficial effect on operations. In the case of existing businesses, whether you own the business or acquired it, you may be frank about past errors or weaknesses, and you may boast about successes. You are in a much better position than the lender to explain historical results.

New Product or Service

If your type of product or service either is new to the marketplace or deviates significantly from the way products or services are being offered and/or distributed by competitors, you should provide additional detail to ensure that those evaluating your plan don't simply discard it as just "one more business doing the same old thing." For exafoll825 1 Tf 12 0 0 12 82 463.29 Tm 0 0 0 1 k 0 Tc 0.035 T

Business Description: SPECIFICS FOR PLASTICS RECYCLERS

There are long-term problems with recycling plastic, such as:

- lack of a mature infrastructure for collecting durable goods,
- lack of economical methods for dismantling durable goods,
- difficulties identifying plastics within durables,
- lack of economical technologies for sorting plastics,
- conflicts between product design objectives and recyclability,
- volatility of commodity markets; and
- competition with virgin resins.

Some forms of plastic (and some resins) are widely recycled, while others are rarely recycled. Since the situation is made unstable by the commodities market and by rapidly developing technologies, plastics recyclers need to show in their *D . c B* section that they are very well-

informed about the technical details and potential of the overall industry, rq 1 i 0 7924 0b.242 0 uu 612 -790etw
informed about the technical details and potential of the overall industry, rq 1 i 0 7924 0b.242 0 uu 612 -790etw

Business Description: A Real-World Example (recycling medical waste)

“[Our] proposal is to establish a facility in Utica, New York that would process red bag waste in a manner that would first sterilize the waste using microwave technology and then sort the waste using various sorting technologies.

These steps are explained below:

Sterilization - recently New York State approved the use of microwaves to sterilize medical waste - these microwave machines first shred the medical waste and then pass the waste through a series of microwaves to kill any infectious bacteria. These microwave machines are made by ABB Sanitec, a European firm that has offices in Connecticut. These machines cost approximately \$650,000 per machine and can process approximately 1,000 pounds per hour. Detailed information on this machine is available in Appendix 1.

Sorting - the discharge from the microwaves will then pass through a series of sorters.

- i. Magnetic sorting - the discharge from the microwave will first pass through

C a T : MARKETING PLAN

The Marketing Plan section of your business plan is extremely important. It comes early in a business plan. It describes the market and defines precisely how you intend to operate in it. It must convince potential lenders and investors that there is a demand to justify another business entering the marketplace.

The high failure rates of small businesses and recycling businesses are the basis for skepticism that lenders and investors often express. Your ability to describe your market and its potential for you is probably the most important tool you have to contest their skepticism.

Marketing is a comprehensive activity that includes determining:

- what

THE BASICS

The Marketing section of your business plan should include information about the following:

The Size of the Market

The first thing you must describe is your prospective market, including its size. You can assume that the reader of your business plan knows very little. Start with national and regional markets. Follow with information about your local market.

For instance, the computer recycling business in our earlier example knows that demand for their products and services will derive from advances in computer technology, the increasing obsolescence of older computers, and growth in the number of households that own computers. Therefore, the way to start the analysis would be to determine the precise predicted size of each of these factors, using sources identified in the Resource Directory.

In another example, the glass manufacturing industry is limited in the number of manufacturers and they are linked fairly tightly by contracts with recyclers, so that your local market must be shown as a very specific part of the national (and international) web of manufacturing and recycling businesses.

This national-market approach does not mean that your business has to be “big.” You can show, instead, that small businesses of your type have succeeded in other locations, then compare the size of your local market with their local markets.

Trend Analysis

Related to the size of the market are the industry’s growth trends. The future market potential for your business is an area that stakeholders evaluate very carefully. Recycling markets are volatile because of changes in:

- supply and demand
- prices for virgin material
- legislative initiatives
- price volatility on the commodity markets
- environmental concerns
- technical innovations.

Often you’ll find trend data in the same resources you used to establish market size, but you may have to investigate further. Your information must be based on growth projections from your state and local agencies. Your goal is to demonstrate a positive growth trend in your specific industry in your market-area as well as nationally. It is not enough to say that “a lot of these types of businesses are already out there” as justification for offering another one.

The best sources for trend data for specific businesses are

- periodical indices,
- industry trade associations,
- franchise literature,
- state and local economic development and marketing agencies; and
- the National Recycling Coalition.

Be aware that in all three industries — plastics, glass and especially rubber — scientific investigation into new uses is currently extensive. Some investigations may have to be long-running (i.e. the recycling of rubber asphalt, the development of uses for glass bead, etc.). Some may prove unsuccessful or the product is too costly. Others may represent very significant opportunities that have not yet been determined. One glass recycling company, for example, included in its business plan a series of overlapping phases extending over ten years. Each phase represented the company’s extension into a new application for cullet, with time allowed for research and market development as well as production. Thus, having researched trends, they included a response to these trends in their “marketing” section.

Many local governments develop their own recycling programs and Materials Recovery Facilities, and operate them independently or by contracting with outside vendors. To compete, a prospective recycler must offer a service with advantages over the existing system. You need to work with a community to provide cost-effective services that can be sustained through innovative contractual arrangements (i.e. user-fee based systems, enterprise zones, franchised agreements).

You bring plan hold emphasis.

The American Plastics Council points out that local governments and the plastics recycling industry have different goals. Local governments want to reduce the need for disposal facilities or landfills and to respond to public (political) demands. Recyclers add the desire to make a profit out of the business. These diverging interests can cause misunderstandings about the causes, costs and benefits of recycling. A prospective recycler should discuss the issues thoroughly and often with local government officials. In terms of marketing, you want to be seen as acting in the community's best interest.

The advantage of private recyclers is their ability to offer extended services in addition to collecting and handling services, which have long been municipal functions. The fact that you are part of a "community" gives you both a practical and a political advantage, suggests the American Plastics Council, displayed in terms of knowledge about markets, market specifications, commodity pricing, techniques and j 5.696 0 Tfe

For the collector, the market is the handler. Handlers increase the value of the material through sorting and densification, then market either to a reclaimer or an end-user. Reclaimers, with the task of transforming materials into feedstock, keep attention on the market of end-users manufacturing new products from post-consumer plastic or glass or rubber. End-users sell to manufacturers or retailers (depending on the product), and they must understand the markets for virgin feedstocks.

Ultimately, the customer buying from the end-user is the market for everyone. The task is to match the end-user's specifications back to the processing capability of the reclaimer which ultimately affects both the handler and the collector. In terms of the overall process, each component of the recycling industry markets all the other components, with the end-user as the ultimate arbiter. It is imperative that all components understand developments and markets for virgin feedstocks as well as recycled feedstocks. Changes in regulations, commodity prices and technology can impact your competitive advantage (or disadvantage).

To make matters more complex, the recycling industry is expanding as researchers find more uses for recycled products. A principal way for all functional components of the industry to expand is to market new uses. This may require the development of new methods and equipment by the reclaimer, the handler and the collector. In summary, you must pay constant attention to existing and new markets as well as new products when considering the recycling industry.

The Supply Problem

"Establishing and maintaining a reliable and consistent source of recycled 'raw materials' is a key step in ensuring the success of a recycled products manufacturing business." This advice comes from *A B . . . G. d . R c c Ma D .* by the Minnesota Office of Environmental Assistance, and it cannot be over-emphasized. It should also be considered in both local, national and international terms.

Although the recycling industry now exists throughout the country, its nature and quality vary from area to area, depending on many factors. This creates a need for you to examine the supply situation in your own area very carefully. Your aim is a stable supply of raw materials from known sources willing to respond to your needs, which may change according to factors over which you have no control.

Vermont, Connecticut, Minnesota and Wisconsin have already developed uses that consume most of the scrap tires generated within their own states. Another example is in the province of British Columbia where from 1990-1993, the percentage of scrap tires that were being recycled (or re-used) rose from 15% to 95%.

The State of Minnesota recommends the following: "Specific strategies to source recyclable materials should be a key component of your business plan. Many businesses designate a full-time staff member to source recycled feedstock."

PITFALLS

The most significant problems you can encounter while developing a case for your market probably fall into one of the following categories:

Unbridled Optimism

Don't overstate your case. Be sure that your market data reflects demand for your products or services as closely as possible. For example, if you're planning to open an injection molding business that makes home and garden watering jugs and plant pots, don't simply use data that establishes that the average household with a certain income level will spend X dollars on lawn and garden supplies each year. The issue here is plastic watering jugs and plant pots, and if you researched a little further you could find a breakout of garden supplies in your area by material type (This may cause you to find an altogether different market: consumers or businesses that want to recycle their existing plant pots but can find no collector).

Your knowledge of trends, both national and international, can be made an advantage as you show your preparations for what the next few years are likely to produce in terms of markets. Do not engage in wild-eyed optimism or generalizations. These trends must be real, not speculative.

Stale Data

Be sure that your references are as up-to-date as possible. For example, the U. S. Census is conducted only once every 10 years, so the farther removed you are from the first year in each decade, the less reliable the data becomes. However, portions of the census are updated more frequently, and you can update it yourself by combining it with state or municipal government's estimates of population changes over that period. Good sources for current information are state demographers and economic development authorities.

Your data needs to be the most recent available. In the cullet industry, for example, the number of processors, the volume of recycling and the organization of the industry has shifted from one year to the next—even from one quarter to the next. As another example, a few years ago it was thought that through the use of pyrolysis, scrap tires could become a source of oil. Thirty-four projects started up, proving the process feasible. No projects exist today, because the product was too expensive, and yet the situation might reverse itself if and when an increase in tipping fees is mandated.

Too Little Documentation

Provide very specific references to give the reader confidence that credible sources were used to support your findings. In some cases, you may rely on footnotes. In other cases, you may want to include as appendices specific pieces of information, such as trade association studies or articles from business periodicals.

Marketing Plan: SPECIFICS FOR PLASTICS RECYCLERS

General Information

In the plastics recycling industry, marketing is crucial:

- Recycled plastic is a commodity, and its price varies almost contract by contract.
15RS

P. (*PE*)

For example, one processor may require only mixed plastics baled by the handler. Another may have requirements for product purity of resin type and color with little or no contamination, which requires the handler to sort and bale.

The demand for different plastic materials differs according to contamination levels, material uniformity, and material characteristics such as heat color and tolerance. Clear PET has a greater value than green PET because it can be made into products of any color. Again, the value of a bale of natural HDPE will be affected by the degree of contamination. In all these matters, the handler must respond to the quality specifications of the processor.

Plastics Processors

According to the American Plastics Council, processed post-consumer plastics should be seen in terms of a spectrum of quality. "At the high-end of the spectrum, there are plastics that have been sorted, baled and/or custom-ground and are contaminant free. At the low-end of the spectrum, they are loose or baled mixed plastics with a relatively high level of contamination." Some reclaimers work with only one resin type. Others take many resins. Obviously, the processor's entire operation will be determined by the specifications of the end-user.

In transforming recycled plastic to match the end-users' specifications, the processor may use a variety of methods and equipment: washing and drying, custom-blending, extrusion, pelletizing, grinding, shredding and granulating (For further information, see *Handbook of Plastics Recycling*, C. B. ... *Plastics Handbook*, pp. 13-14).

The major difficulty here is the swift change of technology in the plastics recycling industry, which, together with changes in the end-user market, may require you to make large investments in machinery and equipment. It may even outdate your existing equipment!

A useful publication, though slightly outdated, is *Technical Recycling of Plastics* (National Solid Waste ...)

Plastics End-Users

The major marketing task of the end-user is to identify markets for finished goods which can utilize recycled plastic feedstock (typically by resin-type) that can be used as a substitute for virgin feedstock. The end-user must also constantly re-examine what is available through the handling and processing phases, so that they can evaluate markets for finished products.

In some cases, the end-user can sell the final recycled product back to the original manufacturer (Automobile batteries are a prime example). In other cases, the end-user will be a product manufacturer who is choosing between different materials for his product. Because of fluctuating commodity markets, this choice can be very difficult for a product-manufacturer as the prices of both recycled plastics and alternative materials fluctuate. Price instability creates difficulties for end-users. For example, is it advantageous or even possible to establish long-term supply contracts? Or is it better to rely on short-term agreements that allow price flexibility?

Marketing Plan: SPECIFICS FOR GLASS RECYCLERS

General Information

The glass recycling business primarily involves collecting and processing cullet for eventual re-use by the bottle-manufacturing industry, but more and more uses for processed cullet are appearing and many of them are already viable:

- 90 percent of the cullet used in the U. S. is consumed by container producers. There are fewer than 20 glass-container producers in the country, and the four largest producers control 80 percent of the market. Most container production facilities are located in five states: California, Illinois, Indiana, New Jersey and Pennsylvania.
- For some 15 years, the container production industry saw declines in profitability, changes in prices, consolidations and closures. In 1995, only 73 facilities remained in operation. Successful companies responded by modernization and increased efficiency, and the market they offer for cullet seems to have stabilized.
- Other uses for cullet include as a paving material (glasphalt, glass cement, trails and road base), as construction aggregate, as insulation in the form of fiberglass, in construction (tile, panels, bricks, synthetic marble), in paint (as glass beads), as blasting material, abrasives, etc. It should be noted that many of these uses have been developed by a single business or agency — this means that there is great opportunity for disseminating the product by developing markets in other geographical areas. A major source for information is the Glass Packaging Institute (Washington, D.C.).
- The market for cullet is increasingly international.
- In one project, researchers reported the main advantages of cullet to be as follows:
 - cullet compacts well, even in wet weather;
 - is an excellent additive to natural aggregate in static loading situations;
 - does not degrade under repeated loading;
 - is highly permeable; and
 - has no adverse environmental effects.
- Specifications for unpr

Glass End-Users

As we have said before, 90 percent of cullet goes to glass container manufacturers so most cullet producers will deal with the existing network within that industry. There is a general feeling in the industry, however, that various secondary markets for cullet have been insufficiently explored, and is now expanding. More than 70 non-container applications exist for cullet, though many are still in the experimentation stage (The Clean Washington Center has published a technical assessment of non-container applications. Call (206) 464-6282 for a copy).

In examining your market, it would be wise to explore these secondary markets, especially in alliance with your state and local authorities. They are particularly interested in the commingled or colored cullet which has less interest for the container industry. The regional offices of the Glass Packaging Institute can also provide invaluable information.

With an oversupply of some forms of cullet, legislators are also exploring new uses for cullet, and the overall trend in the United States is to follow the European trends, which show recovery rates as high as 70 percent — double the American rate.

Marketing Plan: SPECIFICS FOR SCRAP TIRE RECYCLERS

General Information

In 1991, scrap tire stockpiles contained 2 to 3 billion tires, and some 240 million tires each year were added to stockpiles, landfills or illegal dumps. During the years since, a whole series of new uses for scrap tires have been implemented. Government and private industry have cooperated closely. The result is that the Scrap Tire Management Council can now report that, "Legitimate markets for scrap tires are growing, and that, in a few years, concern over [stockpiled] scrap tires may be a thing of the past." In 1995, 69 percent of the scrap tires generated that year were recycled, an increase of 26 percent over 1994.

The main uses for scrap tires are:

- as an energy resource, burned especially in cement kilns and electric utilities or in special tires-to-energy facilities;
- in civil engineering uses, such as embankments, drainage layers, retaining walls and breakwaters;
- in rubber-modified asphalt.

In addition, many dozens of consumer products are now made from recycled scrap tires.

Two marketing problems in the rubber recycling industry need special mention:

- ✓ the situation determining supplies and markets varies very widely from state to state. In some states, almost all scrap tires have already found a market, whereas other states still allow their disposal in landfills.
- ✓ the legislative and regulatory environment varies considerably from state to state, and it is unclear in some matters at the federal level (e.g. mandates for rubber-modified asphalt).

The result is that the generally optimistic picture for scrap tire recycling may not be visible in your area. This could change your marketing strategy completely. Your description of The Market in your business plan must therefore be localized.

Scrap Tire Collectors

Nearly all states now regulate scrap tires, and some impose very strict laws and regulations. The usual pattern is for the purchaser of a new tire to leave the scrap tire with the tire retailer, paying a tipping fee (usually state- or local-mandated) to cover subsequent handling costs. Other tires come from auto-dismantles. In this way, 95% of tires are now collected through the commercial mainstream.

Scrap Tire Handlers

Many handlers sort and inspect scrap tires, with the goal of determining whether they have enough tread to be resold as used tires or whether they are sound enough to be retreaded. There is a large industry in retreads, which are not included in the category of “scrap tires.”

For further information on retreaded tires, contact the American Retreaders Association, the National Tire Dealers and Retreaders Association, The Retread Information Bureau, the Rubber Manufacturers Association, or the International Tire and Rubber Association, which are listed in the Resource Directory in this guide. Remember, also, the resources of Recycle 'n' World and the International Recycling Industry, Inc. on the internet.

The remaining tires are trucked either to a scrap tire processing plant or directly to an end-user. Tire haulers may often have to be permitted, and, according to state and local regulation, they may have to utilize manifests to move scrap tires.

The sorting process means that a handler is not simply a hauler. The prices a handler receives for used tires, tires for retreading and scrap tires varies considerably (and locally), so this is an area where a handler may spend profitable time examining his market in more detail. Sorting into these categories, however, will require a facility that includes a sorting floor and storage space.

Some end-users use whole rather than processed tires. Most civil engineering uses, for example, involve stacked whole tires, which are impermeable and or resistant to water corrosion. Some handlers therefore deal directly with the end-user — typically a contractor to a county or municipal engineer. Normally, this is an intermittent market as projects begin and are completed, but in some states, whole scrap tires are so widely used that the projects provide a steady flow of business. It is a worthwhile market for a handler to investigate both locally and statewide.

Scrap Tire Processors

Scrap tires may be subjected to many kinds of treatment (other than burning). They may be chipped, shredded, crumbed, dewired, cut, stamped, powdered, and/or blended physically or chemically with another material. The casing, the lining and the tubing may all be reused separately. The choice of process will depend on:

- contracts with different types of end-users;
- capital available for processing equipment.

Tire processors will vary widely in size, volume and nature of business, and this is an area where your analysis of the market can be particularly important. You may choose to supply only one end-user and therefore will purchase only the kind of equipment needed to process scrap tires for this end-user. You may also find that investment in different kinds of equipment enables you to service many end-users.

For this reason, your business plan should demonstrate that you have conducted a thorough analysis of the overall market, the share of the market you expect to gain, and the special segment or segments of the market you plan to occupy.

Scrap Tire End-Users

The market for scrap tires has developed with very rapidly, and it continues to change both nationwide and in any local area. A series of distinct and separate industries have grown-up using scrap tires, both whole and processed, as their feedstock. It is not appropriate for this guide to describe each of these in detail. The best sources of information are:

- Scrap Tire News, which includes stories about small end-users around the country as well as regular summary articles on the large industries that together make up the scrap tire market. Regular features include News Briefs, Legislative Updates and Company Profiles (call 203-668-5422 to subscribe).
- the *Scrap Tire Utilization Study*, published annually or biennially by the Scrap Tire Management Council, which discusses the component industries of the market for scrap tires in detail (Call 202-682-4880 for the most recent issue).

For example, the 1995 *Scrap Tire Utilization Study* discussed the following uses of scrap tires:

- as fuel in:
 - cement kilns
 - pulp and paper mill boilers
 - electricity-generating facilities
 - dedicated tires-to-energy facilities.
- size reduced-rubber in:
 - bound rubber products
 - new tire manufacturing
 - rubber-modified asphalt
 - athletic and recreational applications
 - friction material
 - molded and extruded plastics/rubber
- cut, stamped and punched rubber products
- civil engineering applications
- pyrolysis for product recovery
- exports of sound used tires
- then agriculture

Marketing Section: A Real-World Example (specialized plastics recycling)

The Market

Manufacturers of plastics' goods are dramatically increasing their use of reclaimed plastics in their production processes. They are demanding high quality reclaimed plastics for their consumer products. To date, manufacturers have only been able to obtain sufficient reclaimed plastic to replace 10 to 35% of virgin resins used in their products. They are actively encouraging local recycling efforts to increase the availability of reclaimed plastic. Manufacturers have four main interests in maximizing their use of reclaimed plastics:

- 1 Reclaimed plastics offer a way to reduce their manufacturing costs
- 2 Consumers are beginning to show a preference for environmentally-aware manufacturers.
- 3 Many states have mandated a timetable to eliminate plastic from the waste stream
- 4 Anticipation of a federal mandate to include recycled materials in their finished goods

The PET Market

The Center for Plastics Recycling Research indicates that last year 14.3 billion pounds of PET resin was used in the United States. The textile industry used 4.2 billion pounds and consumer packaging used 3.2 billion pounds. In 1987, 150 million pounds of reclaimed PET were used in place of virgin resins. That has grown to approximately 695 million pounds in 1993. In 1991, both PepsiCo Inc. and Coca-Cola Co. announced that they would begin to incorporate reclaimed PET in their bottles. This opened a market for an additional 750 million pounds of reclaimed PET. In 1992, Twinpak, Inc., Canada's largest PET bottle maker, announced plans to use reclaimed PET in their bottles in 1993. Textile manufacturers have increased the amount of reclaimed PET in their polyester carpets to more than 35%. The demand for reclaimed PET has driven today's prices to within 10% of the price of virgin resin. Research by the Council for Solid Waste Solutions indicates that PET's scrap value is only second to aluminum among container materials. The Center for Plastics Recycling Research projects that the market for reclaimed PET will grow between 11 and 17% annually. The Freedonia Group, a Cleveland-based research group, estimates that by the year 2000 the demand for reclaimed PET will have grown to 1.4 billion pounds annually.

The HDPE Market

The Center for Plastics Recycling Research at Rutgers University estimates that the United States will use 11.7 billion pounds of HDPE in 1993. Of this, 4 billion pounds will be used for blow-molded bottles and containers, 2.3 billion for extruded film and pipe, and 2.5 billion for injection molded caps, crates and pails. Of the total, 6.6 million pounds will be reclaimed HDPE. This has grown from 4.4 million pounds in 1987. This represents annual growth of 7%. The Freedonia Group estimates that the demand for reclaimed HDPE will grow to 3 billion pounds per year by the year 2000. Currently the demand for HDPE has pressured major bottle users, such as Lever Brothers, to include labels on their bottles encouraging recycling of HDPE. Injection molding uses the largest portion (38%) of reclaimed HDPE. This is followed by blow molding at 30% and extrusion at 25%.

Source: Missouri Small Business Development Center

customer needs your business expects to satisfy. You may find that you now need to add or delete some items.

Once you are focused on customer needs, you can begin the process of identifying your real competition. Put yourself in the position of a potential customer who is searching to satisfy a need. Take a simple example. Let's say a customer is looking for some new wood lawn furniture for their pool patio. They want the fur

The first step of your SWOT analysis is to make a list of what you consider to be all the relevant attributes of your business. This will bring you to a level of detail that you may not yet have considered. The attributes would include:

- What specific products or services will you provide?
- To whom will you provide these products or services?
- Where will you be located?
- What geographic area will you serve?
- How will you price your products or services?
- What will be your hours of operation?
- What will be your credit policy?
- How will you promote your product or service?
- What types of guarantees or assurances will you offer?
- What type of follow-up service will you provide?
- Other (to be added as you evaluate your competition).

At this point, you'll be ready to contact your competitors and compare what they say they do to what you plan to do. It is also important to ask these businesses to send you any promotional material they may have. Look for product or service features and opportunities you hadn't considered. For example, during its competitive analysis, Azure Recycling discovered a competitor who uses a new baling system allowing the company to increase the weight to volume ratio which reduces the cost of long-term storage and shipping. Azure Recycling decided it would also use this new baling system in order to become a viable competitor.

To facilitate this process, develop a grid comparing each competitor's attributes with those of your own. List your planned offerings at the bottom of the grid for comparison. Such a grid enables you to look at your competition, side-by-side, with your own business, and enhances your ability to identify gaps in service. Once you have gathered this information, you will be in a position to fine-tune your product or service offerings and begin to evaluate your potential market share. Time spent on this evaluation is well invested, because lack of thoroughness can have a compounding effect as you begin to forecast sales later on in your business plan.

The above process was used by one company, a producer of enzyme-based products and systems for cleaning wastewater, which was seeking capital to expand their customer-base greatly. Their business plan described their products and operations, in detail, by comparison with those of their competitors. Their SWOT analysis identified five principal competitors and described them according to sales volume, growth rate, degree of system integration, strengths and weaknesses.

Their section concluded: "In our industry, most of our competition markets a number of dissimilar and similar products. The range of their products is more limited than ours. They have very little specific knowledge of the different processes of a wastewater treatment facility, whereas our marketing is performed by a trained sales force with knowledge of wastewater treatment. Our product line is the only one gear

Underestimating the Competition

Failure to identify all relevant competitors will lead to false assumptions in market share and pricing, which could have devastating effects.

Overestimating Your Own Competitive Strength

Over-optimistic projections about your new product or service and customers' reaction to it, compared with that of your competition, can lead to the downfall of an otherwise great idea. Remember, intangibles such as customer "good will," brand fidelity, length of operation in an area, management experience and friendships. If you are trying to replace an existing contractor, you must be fully able to compete over the long term.

Failure to Modify Your Plan

If you neglect to make adequate changes to your initial plan based on findings in your SWOT analysis, your business may be doomed before you start. Your competition is likely to respond by introducing similar features to their own products or contracts, so you must emphasize in your plan features they cannot imitate — especially quality of product and service.

Potential problems can be avoided by being attentive to detail while remaining flexible as you conduct your analysis. On the one hand, be sure to identify and document your competition as it exists; on the other, look for opportunities and take advantage of them where possible.

SOME EXPERT ADVICE:

*P... a'... d. I... a d... , a d... , ... a'...
... a d c... a... Ca... d? Ca... a ? Ca... a a ad?
T... a... a... d b d a*

—Ken Hendricks, Founder and CEO, ABC Supply Co., Beloit, Wisc.

Competition: SPECIFICS FOR PLASTICS RECYCLERS

Plastics Collectors

At the time of writing (1997), capacity is excessive and supply of recyclable materials is the main problem. Your ongoing aim is therefore:

- first, to discover the sources that will provide recyclable material to you (e.g. a large manufacturer with considerable waste);
- to determine whether the existing handling and reclaiming infrastructure can absorb additional material which you could provide.

Your direct competition is other collectors, including other scrap/waste collectors or major corporations with their own recycling processes. You need also to determine whether existing contracts, including those between municipalities and existing collectors, cover recycled materials of the type you are considering. If not, you have an opportunity.

Most collectors of recyclable materials find that plastics represent a small portion of their total waste stream. Many do not find it cost-effective to invest in plastic-sorting equipment unless they already have an established market. In turn, most processors of post-consumer plastics do not want and cannot process commingled material. They concentrate on one (perhaps two) resin type(s). You therefore need to identify handling and processing facilities that deal with the type and volume of plastics you propose to collect and deliver. The key matter is whether you or a handler does the sorting of commingled materials. Remember also that certain types of plastic resins go only to regional processing facilities, which contract with collectors in local areas.

Assuming these problems are solved, you need to look for advantages you have over the competition from other collectors—such as a shorter hauling distance or different delivery specifications for the handler, or flexibility in the way you accept materials. You will also look carefully at the arrangement of your own plant and the manner of collecting/sorting you use in order to identify possible efficiencies. In sum, where competition exists, you should look for:

- holes and niches that you can fill, and
- methods that will make your charges lower.

Plastics Handlers

You should examine carefully the operations of other handlers in the area or region, which will be limited in number. Study whether you have advantages in terms of:

- geographical area
- transportation costs
- sources of scrap material
- types of plastic handled

Handlers can also ship to regional processing facilities which serve national and international markets, and you should determine whether such a facility needs the type of plastic you can provide.

Large quantities of commingled post-consumer plastics may be available, but they usually contain a high level of unmarketable material, contamination and trash. If you can identify a collector which can supply large quantities of high quality materials suited to the resin which a processor wants you to provide, then you should form a long-term contractual arrangement with them both. (Warning: many collectors and processors do not want to make contractual arrangements with start-ups because of their lack of payment history.)

It is one of the best ways to compete with other handlers. A handler must do everything within reason to minimize a collector's unloading time. Unloading delays can reduce a collector's profit. A collector is more likely to choose a handler that causes the

least off-route time rather than one that pays a higher price for the materials (One current handler, for instance, receives 85% of its feedstock from five collectors).

While writing your business plan, you should meet with private haulers and discuss with them the design of your handling facility. For instance, haulers typically want to deliver compacted materials in order to maximize payloads. Their truck body types, gross vehicle weights, unloading

✓ *Scrap Tire Recycling* (annual)

This will help you to locate processors, recycled rubber manufacturers and tire industry suppliers in your area. It lists more than 1,900 companies. It also includes a Market Study and a Stockpile Abatement Progress Report. It increasingly emphasizes the international market.

✓

Competition: A Real-World Example (a plastics collection company)

BASIS OF COMPETITION AND KEY SUCCESS FACTORS

Price: Env-Clean products are competitively priced in the marketplace. We have maintained a high quality product that is usually more economical to use than a less potent, inexpensive product.

Technology : We have been a leader in technology for wastewater treatment and bioremediation since our inception. Our products have been used as guidelines for municipal bidding formats and specifications. Our bacterial strains are the most effective in the market and are among the most potent.

Delivery Time: We ship our product on the same day as we receive a sales order if it is in-house by 3:00 P.M. Normal delivery time is two days, which has been applauded by our customers. Our Sales Representatives are trained, and required, to react to a customer inquiry the same day.

Quality : The seeds of the product are cultivated by different fermentation companies, each not knowing the full formulations. The different strains are shipped back to our plant where quality control and formulation occur. Our products are carefully maintained at a minimum of 5 billion bacteria/gram. The enzyme activity is also carefully monitored.

Reputation: Env-Clean has successfully provided the wastewater and bioremediation industries with the best available product in the marketplace. From this position it has accomplished and retained a reputation of being the best.

Location: Carmel, New York is situated in the Hudson Valley Region of New York State. This location is a benefit for sales in our current and immediate future selling territories.

Service: Our Sales Representatives are trained, and required, to react to customers inquiries the same day. We are one of the few companies in this market that maintains a direct sales force. Our competition uses less knowledgeable distribution networks. Our service is second to none.

Our customers are confident with our product because of our high quality and reputation in the industry. Our price is competitive and our technology, service and delivery time is exceptional.

Source: New York State Small Business Development Center

COMPETITOR PROFILE

COMPANY	SALES VOLUME	GROW	DEGREE OF	STRENGTHS	WEAKNESSES
BRONSY	130,000			Technology. Cash Reserve.	Use distributors.
Bio-Chem Division	5,000	Slow	Slow Forward	National.	Poor product knowledge. Less potent. Not very diverse.
Polychem Corp.	3,000	Slow	Slow Forward	Direct sales. Technology.	Foreign owned. Sales force is poorly trained. Not very diverse.
LabEco, Inc.	1,040,000			Known in restaurants for	Greasetrap market only.

Chapter 11 : IDENTIFYING MARKET SHARE

After describing your market and your competition, your business plan can now define the share of the market you expect to capture. The process described in this chapter is the positive side of the process described in Chapter Four—now you are aggressively designing how to capture your share of the overall market, either by taking business away from competitors or by identifying new opportunities.

Describing your market share is not a highly scientific process but an informed evaluation based on your research. Identifying your market share leads your business plan into the area of finances—essentially you begin to make sales projections at this point. This will form the basis of the cash-flow analysis you will present in a later section.

There are several methods for making reasonable sales projections. They are as follows:

Average Competitor Sales

Estimate the sales levels of your competitors. You can acquire this data from sales tax records, from a count of the number of competing establishments, and from industry associations. To project your own sales levels, use sales levels similar to, but lower than, the average of those of competitors. If there are no nearby competitors similar to you, then use the sale levels of similar businesses in other regions.

Average Customer Base

Estimate your customer base from information you have already acquired. Analyze the businesses with which you will do business—that is, those who will supply you with materials or accept materials from you.

National or Regional Demand Data

Use data supplied by industry associations and researchers to estimate the probable amount and type of recyclable material available to you and the probable amount you can sell. This is especially important in areas where recycling activities are recent.

For example, a new company sought to issue shares. It specialized in producing a line of outdoor equipment of all kinds that would be distinctively “green” (i.e. it would be environmentally and socially responsible). Its customers would be the 80+ million outdoor enthusiasts in the United States, plus those in Canada, Europe and Asia. They used two approaches in their business plan to estimate their market share.

First, they defined their primary target market as mountain bikers, cross-country skiers, climbers, and hikers/backpackers. They then used various published and industry sources to estimate that market share by dollar sales volume at \$3 billion per year. The data concerning the number of participants in each sport came from American Sports Data, Inc., multiplied by \$100, the amount each participant spent per year. More data came from competitors’ sales. Then they estimated the percentage of this primary market that the new company must capture in order to meet its sales forecasts for each of the next five years.

Their business plan described their research sources and its findings in detail and with frankness—resulting in a section that consisted of fifteen pages. Second, they followed immediately with an equally long chapter entitled “[Our] Advantages.” Here, the company took the data about the market and competition presented previously and identified exactly where the company intended to fit, how it intended to compete, what share of the market it intended to reach at what point in time, and how it had designed its operations to meet the national and international competition.

The result of these thirty pages is that any reader would agree that the company already (1) thoroughly knows the business it proposes to enter; and (2) knows how it can occupy a profitable share of the market.

International Opportunities

Currently, the international market is in a state of rapid growth, or at least flux, for all three feedstocks discussed in this guide. There have been numerous examples where exports to or imports from other countries have supported a recycling business which had only considered themselves "national players".

Too many factors are at work in too many different countries for detailed discussion in this guide. In some countries, the use of plastic, glass or rubber products is rapidly increasing, and American-produced recycled feedstock can compete well with virgin feedstock in terms of both price and quality. In other countries, there is a lack of recycling processors or end-users, so that these countries can supply your feedstock at lower prices. In most countries, wages for manual workers are lower, and you may be able to relocate part of your operations overseas, which may decrease costs of labor without overly increasing the costs of transportation.

Developed countries all have recycling industries of their own, but developing countries are producing increasing quantities of "waste" without the capital or knowledge for dealing with it. There is no obstacle to prevent the recycling industry, as a whole, from internationalizing. We recommend that you look for international customers when determining your market share, since many American companies do not think beyond our national borders. This advice applies to collectors as well as end-users.

PITFALLS

Unrealistic Market Share Projections

Make your sales and market share projections conservative. It is usually a good idea to make two projections: one at the level that you think you can reasonably achieve and the other at a level closer to your break-even point. Many business plans phase-in an increasingly large market share by projecting marketing and sales over a number of years (usually three to five), and they coordinate their financial needs with planned expansion.

Sales Projections Exceed Capacity

Be careful not to show sales levels that cannot be maintained with the resources indicated in your business plan. For example, make sure to plan for enough trucks and drivers to meet (e 1 i TDd-ee ent 38mus car

Market Share: SPECIFICS FOR PLASTICS RECYCLERS

In all phases of the business of recycling plastics, determining your market share is a process which begins with your first thoughts about the business: Is there an opportunity here? You are constantly looking at your market share in terms of:

- the available types and quantity of materials; and
- the type of service you will provide.

In some cases, calculating your market share is fairly simple and can be done by the methods described above. However, we repeat that the post-consumer plastics recycling industry is in a state of swift change.

Determining your market and market share is the essence of your business, and in your business plan you must be specific. Your sales projections should be time-limited. It should be clear that:

- you are writing for a certain set of circumstances;
- you are aware of the major changes that could occur; and
- you have a planned response to likely change.

Plastics Collectors

The sources for scrap plastic vary from large industrial waste-generators to common residential waste. One way to determine your market share is to decide to concentrate on specific sources (e.g. automobile parts, household appliances, bottle manufacturers). Your choice will affect the whole structure of your business.

You already have seen the effect of the size of your market on the nature of your business. To determine your market share, you need to know the size of the geographical area, the number of competitors, the rate at which scrap plastics are generated, the kind of plastics generated, and the legislative or regulatory requirements. By putting this information together, you will be able to specify both:

- the exact nature of your collection business, and
- your market share.

Several publications of the American Plastics Council illustrate how to determine the amount or generation rate of scrap plastic in your area. These publications are noted in the Resource Directory.

Plastics Handlers

Market demand for sorted scrap plastics and the competition determine your market share. Further, important factors are the demand for specific resins, quality specifications, and the types of resin you plan to reclaim.

Handling facilities are located in distinct geographic areas, so your market share will usually be determined by the type and amount of available scrap plastic in the region where your handling facility is located. However, if you recycle specific types of resin, that geographical region may extend over several states and you may deal with numerous collectors. Certain handlers, in fact, locate depots far from their handling facility where scrap is deposited by collectors.

Much of your market share will depend upon the competition from other handlers. Much will depend upon the proximity of reclaimers and end-users. Contracts with one or two major customers will define your market share in that manner and thus change the structure of your business.

Plastics Processors

Your market share is more easily determined than most. Any geographic region has a limited number of reclaiming and processing facilities. You need to know their number, the type of processing they undertake, and the nature of their product. Then you need to analyze the number

and location of end-users. On that basis, you can determine your own product or products and the share of the total market you can expect.

Plastics End-Users

Your market share depends on the types of products which can be made using your recycled product, and the cost and quality of your product when compared to products made with virgin feedstocks. For example, plastic lumber competes against virgin wood products. This is essentially a retailing problem—increasing your market share by finding the way to make customers choose a product made of recycled products.

Many businesses are interested in buying recycled products but do not know where to find them. Therefore, the end-user has to educate businesses about the availability, quality and cost of their recycled-content products, which means that your business plan should emphasize a sales plan defining how you will analyze and approach your customers in detail.

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A good potential market for recycled products is state and local government, and you should investigate whether regulations give some agencies a requirement or incentive to buy recycled products. Some states list interested agencies on the one hand and suppliers on the other. At the

Sources for this information are available within most states. The annual January issue of Modern Plastic (609-426-7070) provides annual figures on U. S. Sales of virgin resin and post-consumer plastic recycle. The American Plastics Exchange, Inc. maintains a database of resin and machinery for sale or wanted (612-544-1100). The magazine, Resource Recycling (503-227-1319), can provide a directory of plastics processors state by state and according to resin type along with a list of plastic recycling equipment and manufacturers.

Market Share: SPECIFICS FOR GLASS RECYCLERS

Once again, the advice provided above to plastics recyclers applies, for the most part, to cullet recyclers. In particular, we recommend your thoughtful attention to the questions posed on the previous page.

Your market share will depend primarily on the arrangements you are able to make with end-users and perhaps with competitors/allies. If you see yourself as a small supplier to the next component of the recycling process, then you must be able to describe your arrangement in detail.

In this section of your business plan, you should specify not so much the possibilities and the potentials but contingent arrangements, including contracts. In fact, your business — at least in part — already exists on paper before you seek the capital to make it a r

THE BASICS

Your business will probably be located at an industrial facility. Recycling businesses of all kinds must provide for:

- acceptance and storage of incoming goods;
- smooth flow of materials and traffic;
- efficient operations;
- ongoing maintenance and servicing of equipment;
- business administration; and
- value-added materials handling.

In thinking about a location, you should consult commercial real estate brokers who can provide you with information about alternative sites. Good brokers can help you improve your business and lower your costs by offering a variety of sites. They can also help substantiate your business plan by providing realistic figures concerning local r

Location: SPECIFICS FOR PLASTICS RECYCLERS

Plastics Collectors

Collection options include:

- various curbside collection programs;
- drop-off programs;
- collection bins; and
- large-customer servicing.

All these options r

Location: SPECIFICS FOR GLASS RECYCLERS

Glass Collectors

Most of the information provided to plastics recyclers also applies to glass recyclers. However, the critical glass collection and culling process often begins in the place:

- at curbside;
- in the collecting vehicle; and
- at the processing facility.

To understand this statement, you should read in detail a report summarized in Resource Recycling (July, 1995, available in reprint). The study showed that the manner in which cullet is collected is the beginning of its processing, and that different methods of collecting produced widely different recovery rates. The highest recovery rate came from curbside collection. Curbside-sorted collection produced recovery rates of more than 90 percent for all three colors of glass, whereas commingled collection produced rates of 50 to 70 percent. The key element in the difference often proved to be the availability of different equipment.

In one example, the glass was separated into three colors by the collector at curbside and placed in different bins inside the collection truck. In another example, the compartments of the collection trucks were altered by stringing a series of wire cables throughout. This proved the most effective and least expensive means of reducing glass breakage at the collection stage — modifying one truck costs only \$250.

Glass Handlers

In the same study, a handler experiencing high breakage rates (which makes the manual sorting of cullet very difficult) used five modifications of the collection and handling process and increased their recovery rate by 15 percent. The modifications included such matters as modifying the tipping angle at which commingled recyclables were dumped, constructing a ramp to reduce the fall of the glass, installing a rubber chute to break the two-foot fall between the in-feed belt and the trommel, and instructing the loader to work more slowly.⁴

Glass Processors

Clearly, your ability to receive and produce high-quality cullet begins with the collectors and handlers. Your "location" begins at the curbside. Accordingly, you should investigate contractual technical specifications with these businesses and assist them with information about equipment.

The effect of this cooperation is to raise the recovery rate by as much as a third.

Location: A Real World Example (a processing plant)

The basic facility would require approximately 40,000 square feet. Of the square footage, approximately 2,500 square feet will provide management office space. Additional elements of location and facility requirements include:

- Access: Proximity to a major roadway for transportation access. Ample shipping and receiving bays
- Ventilation: Appropriate ventilation for fumes and other airborne contaminants
- Electrical: Adequate electrical service (voltage)
- Structure: High ceilings, proper lighting
- Labor: Access to an unskilled labor force.

Limited spacing will be required for storage due to the just-in-time inventory control approach. This would enable us to devote a majority of facility resources to production while reserving some space for growth.

The financial projections provided within this plan allow for a \$3.50 per square foot price.

Source: Nevada Small Business Development Center

C a S : FACILITIES

We assume in this chapter that your facility is best described as a “manufacturing” facility, in that it accepts one kind of product, runs it through a production line, and generates another kind of product. In this section, your business plan should include a description of your building and your pr

Building Requirements⁵

You will have to build or alter an existing building to meet your requirements for the traffic flow and processing equipment. Things to consider are ceiling height, weight load supported by the floor, ventilation, etc. Most lenders are going to require preliminary site plans and improvement quotations. Any real estate purchase will r

Equipment now includes a large variety of machines, and, depending on your reason for seeking financial support, before completing your business plan you may need to explore equipment choices in detail. Your choices in this area reveal your knowledge of your business and create a crucial element of your business plan, especially since they represent capital or up-front expenditures.

Equipment requirements vary according to the material being processed, the product, the volume of materials, the size of the business and the money available. There is nowhere you can go and simply say, "Give me the plastics, or glass, or rubber recycling package." However, in all three feedstocks, it is possible to buy or lease a fully installed production line that will take care of your major requirements. Certain companies specialize in providing the equipment for customary processes. You can also purchase used equipment.

Resource Recycling publishes an annual *Equipment Directory*, an excellent source of information for recycling businesses (503-227-1319). Many of the trade associations and institutes listed in Section Two of this guide (i.e. the Institute of Recycling Industries and the National Association for Plastic Container Recyclers) provide expertise and technical assistance in the area of recycling equipment (Recycle World also offers good information about recycling equipment. It has a Helpline (519) 767-2913 and is on the Net at www.recycle.net).

Storage Requirements

Storage has proven more important to the success of recycling operations than was originally expected because delivery schedules, equipment breakdowns and changes in the market all cause increased demand for storage.

There are some rules of thumb. Storage includes materials awaiting processing and those awaiting shipment, and provisions for waste or rejects. On-site storage allows economies of scale by increasing the volume per shipment. Remote storage, however, may be more economical because it lowers transportation costs or simplifies scheduling. Insufficient storage can cause the entire process to become inefficient, unsafe and unprofitable. Enough storage must exist to allow for delays in processing caused by breakdowns or scheduled maintenance.

Health and Safety Requirements

Your business plan should outline your health and safety plan. All recycling businesses are labor intensive, and one of their highest costs is labor turnover. It may be wise to have an industrial hygienist and safety engineer prepare your plan, paying special attention to the well-being of employees.

Safety precautions include conveyor stop buttons, showers and chemical washes, guards on mechanical equipment, eye and ear protection, gloves, dust masks, protective footwear and hard hats. Fire suppression equipment is required, as is special ventilation. The control of dirt, odor and noise can make a great difference to employees, as can adequate break-rooms and plenty of surrounding work area. You must also anticipate work-related injuries—such as the explosion of a container of flammable liquid or the presence of a hazardous waste (ISRI distributes important safety materials, ranging from a 700-page *Safety Manual* to videos and posters for workers).

Federal Agencies

Two federal agencies have special responsibilities regarding manufacturing. They are:

- the Occupational Safety and Health Administration (OSHA), whose mission is to "assure, as far as possible, every working man and woman in the nation safe and healthful working conditions and to preserve our human resources."
- the Environmental Protection Agency (EPA), whose mission is to control and abate pollution in air, water and waste.

You should talk to both agencies well in advance of writing your business plan. First, you can learn the category to which your business belongs and therefore which regulations apply and which do not. Second, you can lower the cost of any regulations by building them into your business in the first place. The once-traditional antagonism between these agencies and small business has diminished during recent years. In this regard, three points need to be made:

- ✓ There is a general absence of federal standards and guidelines in the area of recycling facilities. The regulations governing solid waste management vary from state to state, and you will find your state environmental agency exercises more authority than the federal agencies. However, the federal agencies are often very helpful in advising you how to avoid problems and in supplying information and advice.
- ✓ Most disputes about regulations arise because of required changes to facilities opened without checking in advance with the agencies. In fact, most small businesses report not finding regulatory requirements burdensome when they know about them in advance.
- ✓ As knowledge increases, federal and state requirements and guidelines change. This means that “compliance” for a small business is an ongoing process rather than a one-time event. (The Institute for Scrap Recycling Industries has useful resources for understanding environmental compliance requirements, hazardous waste management, safe operations and OSHA compliance. Consult them in advance.)

PITFALLS

The Wrong Building

Choosing the right building is one of your most crucial choices. You can lease or buy an existing building, or you can build a new facility. Many factors will influence your choice. This is an area in which to seek expert help.

Failing to Match Facility and Equipment to Operations

Buying too much equipment or too little, not having enough space, paying too much for space or failing to allow for flexibility in your operations, can cause recycling business problems. You have to match your building and equipment very carefully to the nature and size of your operations.

Underestimating Costs

A pre-engineered building may cost as little as \$8.00 per square foot, and a custom-designed building 50 times that amount. The Plastics Council makes the following observation: “Excluding the cost of the land and equipment, a good rule of thumb for estimating facility costs is \$80 to \$100 per square foot.” The National Solid Wastes Management Association, in 1992, reported that recycling businesses spent an average of 16.7% of their costs on building rental/amortization but the range that created the average was large — from 7.5% to 34.4%.⁶

⁶ NSWMA, *The Cost of Recycling Materials Recovery Facility*, p. 9.

Facilities: SPECIFICS FOR PLASTICS RECYCLERS

Plastics Collectors

Your primary need is to arrange both delivery schedules and storage arrangements with the handling facility. Concerning delivery schedules, your main cost will be the time your vehicles are off-route. That is, you do not want them waiting in line at a handling facility, because this affects your need for storage. It may be to your advantage to have temporary storage facilities which act as holding-depots between your collection and your delivery schedules. Note that the sorting of plastics is increasingly done by collectors rather than handlers. That is, the handler accepts only selected kinds of plastic. This, of course, will change your facilities considerably.

Plastics Handlers

Your first choice is whether to receive mixed or sorted plastics. Your second choice is whether to aggregate and bale or to granulate your product for shipment. In both cases, you will have to examine the capabilities and requirements of the collectors and processors in your area to determine the best choice.

The choice will determine the nature of your facility. For example, will you handle one, two or more resins? Will you then use manual or automated sorting? Will you bale or granulate your product? Answering these questions will involve you in a series of other choices about equipment and the design of your facility.

Remember that a major cost in plastics recycling is the low weight-to-volume ratio of plastics. Your goal is to reduce the volume of plastics prior to shipping or long-term storage. The shipment of waste and rejects can also be a significant cost.

Plastics Processors

Your major decision concerns the type(s) of resin you will process. This decision will allow you to formulate choices of facility and equipment as well as your arrangements with handlers and end-users. Your primary concern will be the quality of both supplies and products because you will have strict standards for your end-products. There is a growing tendency for processors to require high-quality standards for incoming supplies concerning:

- contamination;
- bale characteristics; and
- degradation, especially due to ultra-violet exposure.

Concerning equipment, you will need to fit your investment to your operation, and we strongly recommend consultation with industry sources and printed materials mentioned previously. New technology is constantly being invented, and adaptations of old technology so as to meet particular needs are very frequent. In other words, this is an area where the deepest research will pay the best dividends.

You cannot trust any single government agency to provide you with all the information about permits you will need. State and municipal agencies often do not know each other's requirements, and some agencies do not know the requirements of other agencies at the same level of government.

Facilities: SPECIFICS FOR GLASS RECYCLERS

Your special need is to think of your facility as a “process” involving several “functions.” Processing begins at the curbside, continues during haulage, dominates the delivery process and then continues at the processing facility.

The major functions which you must perform include:

- collecting;
- sorting;
- avoiding breakage;
- reducing residue;
- removing contaminants;
- crushing; and
- dispersal of product and residue.

Resource Recycling magazine states that a typical cullet processing plant:

- occupies a 10,000 to 20,000 square feet building;
- produces 50,000 tons per year on a one-shift basis;
- requires as much as \$800,000 in equipment; and
- requires as much as another \$1 million for land, building, scales, loaders, etc.

Facilities: SPECIFICS FOR SCRAP TIRE RECYCLERS

The variety of technology and facilities that exists in the tire recycling business is too great for this guide to discuss in detail, and the nature of your facility depends entirely on the nature of your business. Information given in previous chapters, however, should enable you to discuss your facility needs knowledgeably with those who have experience in your chosen area. The Rubber Manufacturers Association, the International Tire and Rubber Association and the Scrap Tire Management Council will also give specific help. The Resource Directory in Section Three provides more information.

C a E, : PROMOTION

P^r

Again, remember that there may be two “customers” for you: your suppliers and the end-users for your finished product. Local and state government may form a third “customer.” You need different promotional strategies for each “customer.”

A comprehensive statement of your goals should also include the following.

1. Awareness

How does the proposed strategy ensure that potential customers will become aware of your product or service? How many new customers will be reached?

2. Differentiation

How does the promotional activity make your product or service look unique, different from that offered by your competitors? Emphasize factors such as price, hours of operation, and personalized customer service. Emphasize the use of 100% recycled content in your products. Use terms such as “green,” or “environmentally friendly.” Emphasize decreased cost if you can, since this is often the determinant of a customer’s choice.

3. Incentive

Does the promotional activity provide a specific, identifiable incentive for the prospective customer to purchase?

4. Goodwill

Does this promotional activity build your reputation as a good citizen and establish a positive image for your business? Contributions such as support of community fund-raising activities and buying Little League uniforms for local teams fall into this category. You also need to build goodwill with the other components of the recycling industry (ISRI publishes several items very useful in public relations, including leaflets, pamphlets, videos, materials for K-3 children, and spots designed for local television).

The Promotional Mix

Marketing decisions are made by either end-users marketing a finished product to the public and to sellers. The exception, of course, consists of end-users marketing a finished product to the public and to sellers. If you are an end-user, you should consult a professional. Most promotional efforts exploit a mixture of media and methods, and you need to know the advantages and disadvantages of the various methods, and you need to evaluate their degree of success.

In general, the promotional mix includes five basic ways to communicate about your products or services or company:

- ✓ advertising,
- ✓ sales promotion,
- ✓ personal selling,
- ✓ public relations.

The promotional mix is a blend of these options. Most recycling industries tend to emphasize personal selling and public relations. Your choice depends on factors such as available funds, competition, and stage of your business life cycle. Your strategy should not be created by happenstance. It should result from an analysis of your alternatives, weighed against your promotional goals. For details on how to use each of the above elements, see *The Service Business Planning Guide* (Inc. magazine, 1996).

Electronic Commerce

Selling products or services over the Internet, particularly the World Wide Web, is becoming a cost-effective way to reach a large number of potential clients. Any plans you make to use electronic methods should appear in your business plan. The Resource Directory of this guide will give you some idea of the electronic opportunities available. The Internet and Web are especially useful if you seek national and international customers or you specialize in a rare product or you generate a high volume of product.

Recycler's World has a Website directory of resources for recyclers (<http://www.recycle.net/recycle/index/html>) which combines industry information with advertising space for businesses involved in recycling. The Internet has given many companies such as Lakin General Corp., CRC, and Parma-Vinyl the ability to reach literally thousands of potential clients worldwide every day, around the clock, at low cost, and with little maintenance.

If you advertise on the Web, it is important to keep the customers' on-line time to a minimum—for instance, avoid graphics which take a lot of download time. Net customers can be very loyal if you provide them with a product or service which they can utilize for a small expenditure of time and money, such as a listing of products you offer, a price list for services, and hours of operation.

However, many effective Web pages are mainly educational in nature, with details of price-lists, etc. through hyperlinks. A Web page is an opportunity to teach the customer the benefits of using your products or allowing them to use their raw materials. Explain the benefits of your company in clear, pragmatic terms. And don't exaggerate—Web page readers are growing very skeptical about advertisers who claim too much.

Personal Selling

Customer solicitation via face-to-face sales calls or via telemarketing is the most powerful form of promotion. Its flexibility enables you to match the customer's needs to specific attributes of your product or service. For example, if your business customer is most interested in the way you package your processed plastics, you can focus your sales pitch on that feature, offering to refer him or her to other customers for references. You won't have to waste time describing product features that may not be important to that particular customer.

Personal selling is expensive since it includes the time you, the owner, spend on it. Good salespeople are expensive to hire, train, and retain. If you opt for personal selling, *b . . . b . d . . . a d c . d a . . . ca b . d* . If you need salespeople, consider providing them with results-based compensation, in the form of commissions or a share of the equity, to offset costs.

Much personal selling is done by senior management — dealing with major suppliers and customers, with government at all levels, and with trade or industry associations. Management should allocate time and acquire the skills needed for this task.

Sales Promotion

Sales promotion refers to activities such as displaying at trade shows. You should pay special attention to shows run for and by the recycling industry, but you may also identify or attract new customers by attending general industrial shows.

An invaluable resource is EPA's, *A F a c G . d R c c B I . . . F . . . M . . a d N . . .* . While this publication emphasizes entrepreneurial and investment meetings, it also identifies many other forums of general use.

PITFALLS

Common mistakes in developing and executing a promotional strategy include:

Underestimating Costs

Do not assume that you can leave promotional strategy at the bottom of your list in business planning. Make sure you have provided for an adequate budget allocation at the levels required to sustain your sales projections.

Lack of Differentiation

Use promotion to differentiate your products or services from those of your competitors. You do not want to stimulate a general need for this type of product or service with no compelling reason to purchase from you, thus creating a potential sale for your competitors.

SOME EXPERT ADVICE:

A... d... a... . W... a... c... a... a... ac... , b... a... a... ac... ac... add... c... c... d... I'... a... d... a... d... a... , a... d... a... d... a... c... S... ac... a... a... a... b... c... - c...

—Paul Stanfield, Operations Manager, ABCO Automation, Inc., Browns Summit, N.C.

Promotion: SPECIFICS FOR ALL RECYCLERS

All Collectors

Collectors should differentiate between the generators of solid waste — households, businesses, and municipalities — and then study each category separately. The goal is the same with all three: to promote environmental responsibility and the benefits of recycling, thus encouraging them to use collection systems. Advertising aimed at making the public aware of drop-off locations may also encourage more business, including the fact that various wastes — paper, plastics, glass and rubber — can be dropped off.

Note that good marketing already incorporates customers into the collecting process. Customers in many locations rinse and separate household recyclables. Experience has shown that collectors also need to advertise what can NOT be dropped off. Reinforcement by advertising may also increase the volume of materials provided by both residential and commercial customers, particularly if you can boast about the amounts collected and the community's savings in terms of both cost and landfill space.

New collection businesses need to mount a careful plan for reaching municipal governments and large corporations individually, emphasizing their differences from other collection businesses. This may be a matter of competitive bidding and contract negotiation, and if you plan to take this direction you should emphasize it in your business plan.

All Handlers

Handling facilities need to promote their capabilities to collectors and to the large generators of plastics, glass or rubber. This is individualized marketing. Handlers also need to seek out processing facilities and other users of the relevant feedstocks, identify all possible markets, then work with them as to quality, resin-type, glass-type, amounts, and cost. This is a crucial element in planning and operating your business, and it should be emphasized in your business plan. The American Plastics Council maintains a toll-free number (800-243-5790) to assist handlers in locating processors.

All Processors

Processors promote themselves on the one hand to collectors and on the other to end-users. This is often an individual matter, but they may also advertise their products in industry magazines and through trade associations and trade shows, depending on the geographical area they plan to serve. The Resource Directory lists several publications which identify the types of products and companies which use recycled feedstock.

All End-Users

Since the role of end-user is partly manufacturing and partly service, end-users are likely to use more forms of promotion than the other parts of the recycling industry. They should emphasize their use of recycled materials for environmental reasons, and they should promote comparisons in price and quality with products made of virgin feedstock. The use of recycled feedstock makes a business seem socially responsible, and if price and quality are comparable, then the recycler will become a more likely choice.

Chapter 10: FORMS OF OWNERSHIP

Your business plan should contain a clear statement of the legal form of ownership and, if there is anything unusual about the form you have chosen, the reason should be explained. Your legal form of ownership does not have to be presented in a separate section. The following table lists the most common forms of ownership.

Prospective lenders will pay close attention to your form of ownership, and before committing yourself in a formal business plan, you should consult your loan source for their advice. This is also a matter where legal and accounting advice are essential.

To determine the most appropriate legal structure for your business, consider issues such as:

- capital requirements,
- business succession,

Sole proprietorships have employees and some are quite large. Over 75% of all businesses operate as sole proprietorships, according to the U.S. Small Business Administration.

Advantages of Proprietorships

Cost . Start-up costs tend to be low. Once you've registered your name and secured any necessary licenses and permits, you'll be able to solicit your first customer.

Control . As a proprietor, you have complete control over all business decisions. You are free to hire and fire within the labor laws, and decisions can be made quickly.

Profit . The owner keeps all profits net of applicable federal, state, and local taxes.

Flexibility . You can decide to close your business as easily as you started it. There are no forms or costs other than to pay off your suppliers and any debt you may have incurred.

Disadvantages of Proprietorships

Unlimited liability . As a sole proprietor, you make all of your assets available to satisfy a creditor or a plaintiff in a legal action.

Limited availability of capital . All financing is based on your personal financial statement, business record, and character. You do not have the ability to raise equity.

Limited scope of management . As your business grows, it will probably need a professional management staff. It may be difficult to hire and retain this staff if, as a sole proprietor, you are unable to offer equity in lieu of salary.

Finite life . If you become disabled, retire, or die, usually the business will cease to exist unless it is inherited by someone who is ready and able to continue it. This disadvantage has many implications, not the least of which is its effect on your customers. The more they depend on your products or services, the less comfortable they may become with your status as sole proprietor.

Partnerships

A partnership is a form of organization in which two or more individuals conduct business as co-owners. Partnerships range from two to 2,000 partners. As with a proprietorship, a partnership does not exist as a legal entity separate from its owners. There are two types: **general partnership**, by far the most common form of partnership, and **limited partnership**. Partnerships can be formed by a simple handshake. However, a detailed partnership agreement, signed by all partners, is highly recommended.

Advantages of a General Partnership

Capital availability . Partners contribute capital to the business, providing for a potentially larger

Limited Partnership

Designed to attract investors, this type of partnership includes at least one general partner and a number of limited partners. The limited partners are passive investors. They have no say in management issues and no role in running the business. Their legal liability is limited to the amount they have invested in their partnership share. The laws regulating limited partnerships, including the number of limited partners you can have, vary from state to state, so you must check with your state attorney general's or secretary of state's office for the rules and regulations. Limited partners also get tax advantages, so consult with both your attorney and your accountant.

Corporations

A corporation is a state-chartered organization owned by shareholders. Shareholders elect a board of directors who are ultimately responsible for the management of the business. The corporation is a separate legal entity and, as such, it can make products and provide services to customers, own and sell property, sue, and be sued. The corporate form of ownership was developed to reduce the number of problems and disadvantages associated with partnerships and proprietorships.

To create a corporation, you must file a Certificate of Incorporation or Corporate Charter with the secretary of state's office. You can obtain information, including forms that may be required, by contacting that of

Cost . Paperwork and other initial costs, including legal and filing fees, can be significant. They can amount to thousands of dollars, depending on the complexity of the incorporation and the amount of work you ar

C h a p t e r 1 1 O w n e r s h i p S t r u c t u r e

Attribute	LLC	S Corp	C Corp	Partnership	Proprietorship
Liability protection	Yes	Yes	No	No	Yes
Member restrictions	Yes	No	No	Yes	No
Double taxation	No	Yes	No	No	No
Transfer of shares	Yes	Yes	No	No	No
High cost of start-up	Yes	Yes	No	No	Yes/No*
Easy access to capital	Yes	Yes	Yes/No	No	Yes

*Can be high, particularly in states that have only recently adopted LLC regulations.

Source: B. J. W., J. 18, 1994, and Inc. a a

PITFALLS

Lack of Adequate Analysis

The form of ownership you select is a critical decision. Take time to consider your alternatives carefully, to make sure that your decision will provide the best combination of flexibility, protection, and income at your business's current stage of development.

Lack of Professional Advice

The tax and liability consequences of your choice of ownership structure is potentially enormous. Many of the issues you have to evaluate to make your decision require the advice of both a lawyer and an accountant. Although there are costs associated with their services, in many cases they will provide these services on a fixed-fee basis. Good preparation prior to meeting with your advisers can reduce your costs significantly while saving time and money.

Failure to Review Legal Structure

As your business grows, you should evaluate your form of ownership on a periodic basis. You may find that the business you started five years ago as a partnership, which made sense at the time, would now be better off as a limited liability company.

C a T : MANAGEMENT AND PERSONNEL

The Management and Personnel section is vital to your business plan. It must make those evaluating your plan confident that you have the ability to hire and manage the team needed to make your business a success.

The section can be short and concise. The reader should already be well aware of what your business is trying to accomplish. The purpose here is to show how you expect to garner the human resources to do it. You must demonstrate that you will build a team, leverage all of the appropriate resources available to you, and that you have considered your staffing needs in detail. Additional information, such as complete résumés of your managers, should be presented in your appendices.

All lenders want to know how will you staff and manage your business. These are critical issues that require planning and creative thinking. Usually, in a start-up situation, you have limited resources available. Therefore, you have to be as creative as possible in order to attract the qualified personnel you need, at the salaries you can afford to pay.

From a management viewpoint, how you organize your business will also be important to your business success and employee job satisfaction. Carefully consider what your own contribution to the business will be in both the short term and long term, as well as the role that you may want external consultants and others to play.

Since the recycling business is very labor-intensive, your commitments concerning labor will profoundly affect your financial statement. Your labor estimates need to match your production schedules and cost analysis exactly.

THE BASICS

Although initially you may be relying on some people for . . . b . . . assistance or on others for “sweat equity,” you should fully evaluate the staffing needs of your business, as well as the management configuration you will use. The following areas relating to management and personnel should be covered in your plan:

Management

Short, one-paragraph profiles (“bios”) should be included for yourself, partners, and any others who will have management responsibility. The profiles should highlight experiences that are directly related to the work at hand. For example, if you are starting a plastics processing facility, you would certainly focus on your work experience as a foreman or supervisor of a similar facility, and on your educational background in chemical engineering. If none of your full-time management team has direct experience, be sure that other individuals closely associated with the business, such as consultants or advisers, do. Include a full résumé for end lonr examrs,9 Tf 10viserseid0nmd include a fu

Staff

Although you may have some ideas about particular individuals whom you'd like to hire, this section should include descriptions of the jobs that need to be performed, salary and benefit levels, and any special requirements or qualifications. The descriptions in this section should resemble well-written classified ads, and there should be descriptions for each position.

Consultants

If792 mcxt.xclude4-use cltants

Chain of Command

Employees, particularly in closely held or family-run businesses, need a clear understanding of whom they report to and what they are responsible for. Often employees find themselves answering to more than one boss, which can be very frustrating and lead to confusion and inefficiency. An Organization Chart will be of major help at this point.

Management

You want an adequate degree of supervision in your business, but not too much. Your employees should have a clear sense of their superior's duties and responsibilities. They should not feel that too many people are watching the work and not enough doing it.

SOME EXPERT ADVICE:

*T a . . . a . . . cc . . . b d Y. ca . . . a b . . . d c . . .
ab . . c . . da ' . . d . . c . . d a . . 'b . ' c . c . a d d*

—Steve Burkhart, Chairman of the Board

Chapter 11: COSTS AND PRICES

In terms of writing your business plan, you are about to create the draft budget and provide the financial information that any lender or investor will examine early and closely.

Costs and Prices

Your first task in tackling the financial pages is to determine the cost of and price for your product. In the simplest terms, the price you can charge for your product or service is the value the market places on it. You calculate the costs of producing the product or service and add profit margin to create the price. The product and service is then sold to customers willing to pay that price.

As with all commodities, there are fluctuations in market prices. Collectors, handlers, processors, and non-retail end-users have to respond to these fluctuations, as does any industry dealing with a commodity. Individual deals also differ from market prices. If your product differs significantly from that of other manufacturers (i.e. quality, delivery schedule, special specifications), then you can still get a better price for it (Recycle World maintains current information on commodity prices and material exchanges, including grades and specifications. See especially their Website at www.recycle.net).

Feedstock costs set by the market are the sole factor determining the cost of your product. All the components of the recycling industry will find themselves negotiating over the cost of their feedstock and having to negotiate over the price of their product. Each component will have different ways of decreasing costs and to keep prices competitive.

In the recycling industry, the areas which create some latitude in price are:

- the quality of the feedstock material;
- the shipping costs of the supplier;
- the available monthly supply;
- the mix of raw material;
- production costs; and
- sales price of finished goods.

Collectors, handlers, processors and end-users will all find themselves seeking price advantages in these areas by negotiation, efficiencies, market-knowledge or a combination of the three.

Further, prices vary regionally. As one example, taken from the NSWMA, top prices for a ton of PET from processors varied (in 1992) from \$100 in the South to \$140 in the Northeast to \$160 in the West and to \$200 in the East Central area (Commodity prices like this appear regularly in the Recycling Times, published by the National Solid Wastes Management Association). Other major factors that influence your profitability include:

- tipping fees;
- regulatory requirements;
- economic incentives;
- recycling zones; and
- legislation.

In other words, while the basic prices are determined by supply and demand, they can vary from time to time and region to region according to other factors.

In the event of a major change in the price of a commodity, you should consider the possibility of a deal in the region of local area in which you intend to operate, or elsewhere nationally.

Profit Margin

Calculating your costs is the first step in calculating your price. Next, you establish the return you want in quantitative terms. For start-ups, the return is most often expressed as the amount of salary you will require for yourself over the short term. As your business grows, you can expect earnings to increase as well, but in the formative years, when you are establishing yourself, plan to take a modest amount from the business. If you are more successful than you planned, all the better. This approach will help ensure a viable business and, potentially, more funds for advertising and promotion. As your business grows, you may expand your pricing objectives to include maintaining or improving market share, price stability, or preventing competition.

In any business, it is the profit mar

their former service providers. You may also lose customers who are new to the market when they realize they cannot afford to continue buying your products or services.

Second, your competitors have the ability to interfere with your plans in the short run, assuming they don't want to decrease their own prices over the long term. For example, they can temporarily discount their prices to match yours, thus taking away your advantage and keeping their existing customers, forcing you to either go out of business or to raise your prices to match theirs.

N b d a . . ac . . a . . c . . ca . . I . da c c a . . a a ab . . d c

Premium Pricing

Premium pricing, as the name suggests, is a strategy whereby you price your product or service at the high-end of the market. You are trying to attract customers who are willing to pay more for what they consider to be superior service. They assume that the higher price, by definition, means higher quality. They may also find some ego gratification from selecting your "green" product or service.

The upside of this strategy is more profitable sales. The downside is a mirror image of the penetration strategy. That is, if you are forced to lower prices because you misread consumer demand or increased competition continues to enter the market, you may find that a number of your customers switch back to their former service providers. In addition, at lower pricing levels, it may be impossible for you to maintain your former level of service due to the high costs associated with delivering it.

PITFALLS

A number of factors can have negative impacts on your overall pricing strategy. Any lender will scrutinize your business plan very carefully if it involves departure from normal pricing strategy.

Underestimating Costs

The failure to identify and estimate costs accurately can have a devastating effect on your business. If the reader of your business plan notes that you have underestimated or even omitted costs, your application for a loan could be rejected.

Competition

You need to identify all relevant competitors and their pricing policies. Failure to do so may result in both overestimating market share and/or pricing errors. Either way, it could prove fatal to your business.

Discounts and Allowances

If you intend to offer discounts, such as 15% off to preferred customers, be sure to include them in your pricing analysis. A 15% discount to the top 10% of your customers would have a significant effect on your bottom line.

SOME EXPERT ADVICE:

W I. a d . . , I d d ' a a d b . A I . . d d a da d a . . c d a . . c a c a ac a . . a d a . . d b a I a a d . A ab a c d N a I a a b c I' b ab b d c c

—Eileen Sutherland, Owner, Shake, Rattle, & Wrap, New Castle, N.H.

Pricing: SPECIFICS FOR PLASTICS RECYCLERS

The following table shows the major cost categories you need to consider when developing a recycling facility. Some do not apply equally to all components of the industry, but at least in terms of calculating your costs and prices, all should be addressed in your business plan.⁷

Capital Costs

Site acquisition
-Site selection process
-Purchase price

Permitting
-Consulting fees
-Permitting fees
-Taxes and other incentives

Building
-Site work
-Engineering
-Construction
-Utilities connections
-Paving
-Landscaping
-Construction management

Equipment
-Expected useful life
-Salvage value

Vehicles
-Expected useful life
-Salvage value

Operating Costs

Feedstock procurement

Labor

Utilities

Maintenance and Repair

Financing (interest)

Transportation

Process residue and reject disposal

Materials marketing

Insurance (property, liability)

Workers' compensation insurance

Administrative (accounting, payroll, etc.)

Federal, state and local taxes

All these costs apply to all recycled materials (This is a major reason why a Materials Recovery Facility which starts with, say, paper, will expand to processing glass, aluminum and plastics). However, the cost per ton of recovering and pr

These figures contain so much variation that they may not help you in making your decisions on costs and prices, but they do suggest opportunity for skillful business planning. As the NSWMA comments, there was an extraordinarily large variation between different facilities in some of the recycling components. By heading toward the lower-end of the scale in selected items, you are more likely to be successful in lowering both costs and prices (i.e. by locating your business on land used for other solid waste management activities).

Plastics Collectors

The best source for calculating and understanding the costs of the collection process is *Handbook of Plastics Recycling Costs: A Practical Guide*, published by the American Plastics Council. It dedicates a full chapter to the subject and, most importantly, it gives

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operations compared to those of other collectors. You can lower costs and prices by greater efficiencies in collecting and in cooperating with handlers to redesign your facilities and schedules.

Plastics Handlers

The best source of information concerning handling costs is *Handling Costs of a Variable Plastic*, published by the American Plastics Council. It provides a chapter and worksheets for estimating processing and operating costs (You won't find the details included in this guide. However, the following chapter of this guide provides samples of how to present this information and the worksheets to help you do so).

Your goal is to add value to the collected plastic by sorting, baling and perhaps pelletizing it. You must first be able to obtain a suf

The principal source of information for processors is *The Costs of Recycled Materials: Recycling Facilities*, published by the National Solid Wastes Management Association. It contains details on both costs and prices nationwide. Also very useful — though specific to Minnesota — is *A Business Guide to Recycling Materials Development*, produced by the Minnesota Office of Environmental Assistance.

The first need of processors is to identify the price, quality, type, and quantity of plastic required by various end-users. In other words, you need to project sales or demand. In the opposite direction, you need to identify the costs and availability of raw materials. Between these two figures lie your operations.

Published sources provide current prices for recycled feedstocks (see Resource Directory). The price of recycled feedstock will respond to the prices of virgin resins and of other alternative feedstocks (i.e. lumber). In some cases, however, the cost of resins may matter less than the demand for plastics made from recycled products. For certain types of resins, an end-user can realize significant cost-savings by using recycled materials.

In terms of operations, the efficiency and capacity of the design of your facilities will affect your costs. Labor and equipment are the two highest cost components of a processing operation, and you will have a difficult time comparing the cost of an automated plant versus the cost of a semi-automated plant.

Low-interest loans and tax and development incentives are available to processors who meet certain requirements (for information, see the Minnesota manual). Changes in regulations at the national, state and local levels can affect the price and the demand for recycled post-consumer plastics. It is crucial that you are aware of these changes in order to provide competitive advantages as a processor.

Plastics End-Users

End-users must carefully consider the cost of recycled feedstock versus virgin resin and, with the demand for recycled content steadily growing, consider the advantages in the market of a product with recycled content. However, research has determined that cost and quality are more important to most consumers than are recycled content. Therefore, you must compete in price and quality rather than relying on the “green” nature of your product.

The prices of all raw materials fluctuate. In the area of recycled plastics, a long-term contract will secure a fixed-price and known quantity of materials, reducing potential risks from fluctuations.

Your company image has a significant effect on the prices that you will be able to charge. Relying on company image, many corporations can conceivably charge more for their products than “Unknown Company, Inc.”, by attracting a large number of customers who are willing to pay a premium for something they believe to be of superior value.

Intangibles often create the biggest effect on your customers’ perception of value and on their purchasing decisions. The quality of your warranty, friendly service, and follow-up add value to your offering, and many people may be willing to pay extra for these services. The importance of these factors and their relationship to price cannot be overstated.

SPECIFICS FOR GLASS RECYCLERS

Prices for cullet have varied greatly over the last decade or so, though the glass manufacturing industry is developing strategies to overcome the worst of the fluctuations. In addition, the prices for the various kinds of cullet always differ, and the more high-quality cullet you can produce, the more profitable your operations become.

The effect of price variations has been to force the glass recycling industry to pay very close attention to costs.

Your best current source of information for the varied pricing practices in the cullet market is by contacting one of the regional offices of the Glass Packaging Institute.

Pricing: SPECIFICS FOR RUBBER RECYCLERS

Pricing of various kinds of rubber and of scrap tires varies considerably according to their intended use and your location. The best sources of information are the International Tire and Rubber Association, Inc., the North American Recycled Rubber Association and the Tire and Rubber Recycling Advisory Council. In periodicals, you can consult [Recycling Today](#), [Scrap Tire News](#), [Tire Business](#) and [Waste News](#). On the Web, [Recycle World](#) and [ISRI](#) can provide very recent information.

PRICING: A Real-World Example (a plastics processing company)

Feedstock Pricing

Our ability to obtain raw material at a very advantageous price is due to several factors, including:

- Most of the suppliers create the bulk of their revenues from charging a tipping fee to cover their production costs. As such, these companies are usually willing to accept a price on materials to just cover their cost of shipping the material to market.
- A minimal number of outlets for commingled post-consumer plastics exist.

We will engage the following criteria to establish a price for material acquired from that supplier:

- material quality; estimated shipping cost of supplier; consistent availability of supply; and material mix.

Our financial projections allow for the acquisition costs of \$.018 per pound or less for feedstock acquired in year one. This allowance increases to \$.02 per pound in year two.

Finished Good Pricing

Quality and quantity of our products will allow our finished goods pricing to be significantly higher than market average. Per pound market prices for year one are estimated to be:

Material	Baled Price	Good Price
PET-Clear	\$.12	\$.16
PET-Green	\$.12	\$.14
HDPE-N	\$.08	\$.13
HDPE-MC	\$.06	\$.08
PVC	\$.14	\$.16

Source: Nevada Small Business Development Center

Here is our “imagined” capital equipment list for Well Seated, Inc:

Start-up Costs

This statement estimates the amount of money you will need to launch and maintain your business until sales receipts can cover operating expenses and debt service. You need to project all monthly expenses such as utilities and salaries; prepaid expenses such as insurance; and one-time expenses such as a Grand Opening event. Once these have been calculated, you should add a contingency amount to provide for some margin of error if sales do not materialize as quickly as you expect. Often, this margin will be an amount equal to two or three times your monthly operating expenses, employees' salaries, and your salary.

Sources and Uses of Cash Statement

This statement indicates how you plan to secure funds to start your business and how you intend to spend them. Both your sources and uses should be categorized. For example, if you plan to borrow money to purchase a building, a truck or equipment, these loans should be listed as separate items because the interest rates and repayment terms will be different for each. For the purposes of this analysis, 25% owner equity/investment is assumed. Your sources of cash must always equal your uses. If they don't, you probably haven't calculated your equity properly.

WELL SEATED, INC. Sources & Uses of Cash January 1997

SOURCES	
Owner's Investment	10,995
Working capital loan	11,795
Capital equipment loan	2,445
Computer equipment loan	2,550
Vehicle loan	
Total Sources:	43,975
USES	

Balance Sheet

The balance sheet answers the question, "What is the financial condition of your company on a particular date?" It lists what your company owns (its assets) and what your business owes (its debts). The balance sheet also reflects net worth or owner's total equity, which is the amount left over after total debts are subtracted from total assets.

$$\text{Assets} = \text{Liabilities} + \text{Equity}$$

Assets are what your business owns (cash, supplies, accounts receivable, equipment, land, buildings). These are the investments your business has made to earn a profit. Liabilities are debts your business owes (accounts payable, loans, mortgages, installment debt, and so on). Owner's equity represents the claims against business assets by the owners of that business. This amount includes the owners' investments plus any profits that have been retained by the business (in the case of a corporation these are called "retained earnings"). If your business is incorporated, the owner's equity is referred to as "stockholders' equity." If you are in a start-up phase, your balance sheet will be constructed on a pro forma basis, meaning that you have to project what your assets and liabilities will look like on the day you open for business. These figures can be derived from your Sources and Uses of Cash statement. For example, if you are transferring ownership of a car to the business, it should be listed as an asset on your company's balance sheet. If your business is already in operation, gather the actual amounts for each category as of the day you plan to generate the statement.

WELL SEATED, INC.
Balance Sheet
January 1, 1997

ASSETS	LIABILITIES
<p>CURRENT ASSETS</p> <p>Cash 14,825.00</p> <hr/> <p>Accounts Receivable 0.00</p> <hr/> <p>Supplies 500.00</p> <p>Prepaid Expenses 400.00</p>	<p>CURRENT LIABILITIES</p> <p>Notes Payable 11,795.00</p> <hr/> <p>Accounts Payable 0.00</p> <hr/> <p>Accrued Expenses 0.00</p>

Income Statement

The income statement, also known as the profit and loss statement or simply the P&L, is the record of your business's financial activities over a period of time. The income statement, prepared monthly, documents your revenue and expenses and establishes whether a gain or loss has occurred during that period.

As with the balance sheet, a start-up business must project or estimate the numbers to be used on the pro forma income statement. All these figures, with the exception of depreciation, can be obtained from your cash flow projections, which will be covered in the next section of this chapter.

The amount of depreciation (i.e. the part of an asset's dollar-value written off as an expense over its useful life) to include on the income statement will be determined by the number of depreciable assets your business owns and the method you use to depreciate them. The IRS has a depreciation schedule for all property purchased for business use. Most businesses use straight line depreciation, which is simply the total cost of the item divided by the number of years in its useful life. For example, an automobile with a five-year life span and a \$10,000 initial price tag will be depreciated by 20% (or \$2,000) each year, starting in Year 1, until its value equals zero in Year 5. It is important to remember that depreciation is calculated for tax purposes, and while a vehicle may last more than five years, it is depreciated according to an average life-span for all vehicles.

Property is generally depreciated over a three-year, five-year, or seven-year period (with greater periods applying to longer-term assets such as real estate). Typically, computer equipment falls in the three-year category, vehicles the five-year category, and office furniture the seven-year category. Real estate is generally depreciated over 27.5 to 31.5 years. For specific depreciation guidelines, refer to "How to Depreciate Property" (IRS Publication #946).

In addition, most small businesses are allowed under IRS regulations to expense (write off) \$17,500 worth of depreciable assets (not including real estate) purchased in the current tax year. For more information on depreciation, consult IRS publication #946 or ask your accountant.

The formula used for Income is: $\text{Revenue} - \text{Operating Expenses} = \text{Income}$

Revenues are the total sales revenue less any sales returns, discounts, or allowances. Operating expenses include items such as rent, advertising, salaries, insurance, and other day-to-day operating costs. In the case of a C corporation, income taxes are an additional cost which are listed separately in the Income Statement.

Basic Structure of the Income Statement

It may be helpful to think of the Income Statement as a series of simple calculations:

Revenues–Operating expenses=Earnings before interest and taxes

Earnings before interest and taxes–Interest=Income Before Taxes

**WELL SEATED, INC.
Income Statement
for 1997**

NET SALES	\$154,625
OPERATING EXPENSES	
Salaries (owner)	\$18,000
Wages (employees)	36,000
Telephone & Utilities	750
Insurance	9,600
Advertising	3,000
Professional Fees	900
Office Administration	435
Depreciation	17,500
Travel & Entertainment	225
Miscellaneous	465
Non-Income Taxes	<u>895</u>
TOTAL OPERATING EXPENSES	<u> </u>

Cash Flow Statement

The cash flow statement is the most important financial management tool you have. It documents all cash transactions (income and expenses) that occur from month to month. It is like your personal checkbook where you post your deposits and draw checks against them. As with your checkbook, if you spend more than you take in, your check bounces. The reason this statement is so useful is that it forces you not only to analyze your sources of income and expenses but to do it on a cash basis. That is, you may sell a service such as environmental consulting but because your customer wants to be billed, you may not receive the payment (cash) for 30 to 45 days, or maybe longer. During this same period, you will probably have to pay your subcontractors on a weekly basis. Where does the money come from? Cash received from customers who have been billed for services in previous months? A working capital loan from the bank? Or money you may have to invest in the business?

What if your business has seasonal peaks and valleys? Your cash flow statement should reflect them and indicate the amount of cash reserve you must retain from the peak periods to enable you to survive the slow times. In other words, it enables you to project your cash needs and prepare in advance for times when you might need to borrow money, change your billing terms, or pay your suppliers.

Cash flow statements are developed on a 12-month basis, but should be adjusted each month to reflect the actual cash in and cash out during that period. The difference between your cash flow projection and what actually happened is called a variance. As you calculate these variances over time, you will notice trends which will enable you to adjust your cash flows more accurately in the future.

Layout of the Cash Flow Statement

PITFALLS

Failure to update records
It is critical to keep your financial recor

Income Statement

The Income Statement is a record of your business's financial activities over a period of

time, and is generally calculated on a quarterly basis. Fill out this Income Statement on a (*pro forma*) basis before you open. You may also complete this statement at various times throughout the year to obtain an idea of your current finances. Your particular business may require additional categories, and some of those listed below may not apply to you. Adjust

Company Name _____ Date _____

I N C O M E S T A T E M E N T

NET SALES (Revenues) \$ _____

OPERATING EXPENSES

Salaries	\$ _____
Fees	\$ _____
Rent	\$ _____
Telephone & Utilities	\$ _____
Insurance	\$ _____
Advertising	\$ _____
Professional Fees	\$ _____
Office Administration	\$ _____
Depreciation	\$ _____
Travel & Entertainment	\$ _____
Food Supplies	\$ _____
Miscellaneous	\$ _____
Nonincome Taxes	\$ _____
Food Supplies	\$ _____
Miscellaneous	\$ _____

Worksheet reproduced with permission from *I c.* magazine. ©1997

- Separate regular pay from overtime pay. Premiums are based on regular pay; overtime pay is excluded.
- Keep your work environment as safe as possible and maintain records of any claims made by your employees. Your rates will be adjusted on the basis of an “experience modification factor” which is computed each year based on your loss history over the three preceding years.

Vehicle insurance. You may be legally liable when employees or subcontractors use your vehicle or their own vehicle on your behalf. If you are using vehicles to deliver merchandise, make sure that they are covered under your policy. A rider may have to be added to the policy to cover merchandise and personal property. It is imperative to carry adequate coverage for both liability and property damage. Although insurance can be expensive, there are several ways to reduce premiums, such as increasing your deductibles and/or buying fleet coverage if you use several vehicles.

ESSENTIAL INSURANCE

Fire Insurance. Fire insurance is essential, unless you are renting or leasing a property that has coverage. In that case, you should check the policy carefully to make sure that the coverage is adequate. If there is a co-insurance clause in your policy, which may reduce the premium, be sure that you understand the implications. For example, if you insure your property for 75% of its value, in the event of a fire you will be responsible for covering 25% of the cost to rebuild.

You may also want to insure against perils such as vandalism, explosion, wind, and smoke. The need for, and costs of, factors use.2 TD (neent of)Tj 5.836e inEleare inElear

C a F : WHERE TO GO NEXT

After you have completed a satisfactory draft of your business plan, it's time to present it to a lender or investor. The particular approach we recommend at this point is:

- Read the EPA publication, *A Fact Guide to Recycling Businesses*, (September, 1996)
- Read "Financial Resources for Recycling and WA Financing Guide for Recycling Businesses"

Step 4: Respond rapidly to someone who has received a copy of the Executive Summary and has expressed positive interest. Keep the plan fresh in the lender's mind, perhaps by dropping it off in person and introducing yourself. If the lender or investor rejects your Executive Summary, they will generally explain why. If several sources indicate the same reasons, you may be able to alter the plan to remove whatever is perceived as being "negative."

Financing Sources: General

Debt financing and equity financing are the two main categories of financing.

Debt financing means borrowing money for a fee, generally from personal sources, commercial banks, or government-guaranteed sources. This is the form of financing most often used by start-up companies.

Equity financing means selling partial ownership of the company. Sources include friends and family, private investors, venture capital firms, etc. It is easier for established companies than for start-ups.

Any successful company will use both forms of financing according to need.

EPA's *Factbook* lists a wide range of both debt and equity sources available to entrepreneurial companies at both start-up and growth stages. It also includes other sources that are specifically geared to recycling businesses. In terms of categories, these sources are divided into:

- Self-funding
- Private resources
- Commercial funding
- Government financing programs

Factbook also reprints the primary sources of start-up capital for the 500 fastest growing companies described in "The 1995 Inc. 500 Almanac," (Inc. 500, 1995). These are:

Personal savings	54%
Family members	10%
Partners	9%
Angels and friends	6%
Bank loans	6%
Personal Charge cards	4%
Venture capital	4%
Mortgaged property	3%

The lesson is that personal resources (and "sweat equity") are the most likely source of capital at start-up. Even government-guaranteed loans require applicants to provide 30 percent of the loan amount themselves. Be prepared to mortgage your house as collateral for a personal guarantee. If you don't, banks will think you are not seriously dedicated to the project.

Commercial Sources

In terms of debt financing, *commercial banks* are the main source of loans for small businesses, though a prospective borrower should identify those financial institutions familiar with the recycling industry or at least with high technology companies. Many banks find these areas too risky, or they consider the specialized equipment to be illiquid collateral.

Both SBDCs and the U. S. Small Business Administration (SBA) can help you identify commercial lenders friendly to small businesses of this type. An article in the April 1996 issue of *Resource Recycling Magazine*, lists retail and investment banks which favor environmental loans (pp.3, 4) *Resource Recycling* also suggests that commercial mortgage brokers can assist with finding lenders for real estate, and that utility companies have an interest in this area.

In terms of equity financing, *seed capitalists* (“angels”) are better sources than venture capital firms. They invest as much as \$20 billion annually in 30,000 ventures, and they are, for the most part, owners or managers of businesses. They usually invest because of an affinity for a company, its founders, its technology or its business area. Individual investors can provide a great deal more than money—they can offer expertise, contacts, business partnerships, etc. EPA’s *Facilitating* describes how to identify and contact them.

Venture capitalists are more willing than traditional lenders to invest in high-risk operations, but they also look for an annual investment return of 20% or more. They currently manage about \$30 billion. Of the more than 500 venture capital firms in the U. S., some 20 to 30 have environmental interests and some 2 to 3% of venture capital funds go to environmental projects (see further, *Resource Recycling*, pp. 5-6). Remember, venture capitalists are looking for companies that will ultimately go public, and very few start-up recyclers have this potential.

For further information, read both documents we have recommended. The sources of private funds are endless, and there are many ways of locating them—networks, databases, listings, and forums, as well as the public stock exchanges. A number of recycling businesses have expanded by selling stock. *Resource Recycling* lists examples in plastic lumber, appliance recycling, composting, cellulose insulation, recycling equipment, plastics recycling and roofing recycling.

Finally, asset-based loans and leasing may be successful avenues for financing equipment. Ask your advisor.

Government Sources

A wide variety of government sources also exist, most of them administered through commercial banks in the form of loan guarantees. In particular, there are SBA-guaranteed loans intended specifically to foster small businesses at both start-up and growth stages.

You should contact your SBDC for current information about these sources since their preferences and programs change according to Federal priorities and vary from state to state.

Federal agencies that have provided loans, loan guarantees, and even grants in the area of recycling include the U. S. Department of Energy, the National Institute of Standards and Technology, the Small Business Administration, the Farmers Home Administration, the U. S. Department of Agriculture, and the U. S. Department of Housing and Urban Development. *Technical Assistance for Small Business*, a publication of the SBDC Center for Environmental Assistance, provides a list of these agencies.

In the last decade or so, federal funds have often mingled with state funds. For an example of the variety this creates, we recommend studying *ABE: A Guide to Recycling Materials*, from the Minnesota Office of Environmental Assistance. It thoroughly describes, in Minnesota, the agencies that may exist and who provide similar opportunities in your state. They include:

- Certified Development Companies;
- Community Development Corporations;
- Departments of Trade or Economic Development;
- Regional Development Commissions; and
- Departments of Environmental Assistance.

Do not expect these agencies to be direct sources of funds. Their task is to foster the development and growth of businesses such as yours, and they can identify special incentive programs that may be of assistance. A few states provide loans and grants specifically intended to foster recycling and the use of recycled products. You can obtain information from your state department of environmental protection and from your local or regional economic development agencies.

Recycling Investment Forums

In conjunction with the Recycling Advisory Council, the regional offices of the EPA sponsor a nationwide series of Recycling Investment Forums, which bring entrepreneurs together with investors, financiers and economic development agencies. They are described in detail in EPA's *Fact Guide*, Chap. Four.

The forums are a serious (and substantial) effort to bring investors and entrepreneurs into business, as communication. They are aimed at the recycling industry only, and at existing companies as well as start-ups.

Many other investor/entrepreneur meetings occur throughout the country. Chapter Five of their *Fact Guide* gives detailed information. They tend to be annual events, and they “typically select high-growth companies that may have appeal to professional venture capital, corporate or private individual investors (p. 37).”

The same chapter describes *Matchmakers*, which match investors' interests with companies seeking additional capital.

Financial Needs

Every business engages in the exercise of raising funds, regardless of size or business stage. Start-up funds are more difficult to acquire than expansion funds. Your sources for financing will change according to the stage of your business, and so will your financial needs.

Every financing guide warns that no single source of funds will suffice a business throughout its

Section 2:

Sample Business Plans

This Section contains three sample business plans, one for each feedstock. You should glance through all three plans to examine how they have

- approached the overall goal of securing financing;
- included any of the 14 individual elements covered in Section One.

DO NOT USE THE TEXT OF THESE PLANS SO AS TO MAKE IT YOUR OWN. THEY ARE PROPRIETARY MATERIALS.

Every business plan must be unique in order to respond to time and place. These plans are merely examples. Some of the information has been deleted. Some of the information is out of date. They were written at various times and places in the last five years. All have been edited to disguise the actual company that submitted them.

The three plans are as follows:

Plastic

Greenwave Recycling Systems, Inc.

Glass

Glasstek, Inc.

Rubber

Earthbound Tire Reclamation Company

Green Wave Recycling Systems, Inc. Plastic Reclamation Center

Sample Business Plan #1

Business Plan
July 1993

This Business Plan is the property of Green Wave Recycling Systems, Inc. Because it contains confidential information proprietary to Green Wave Recycling Systems, Inc., no copies may be made whatsoever of the contents herein nor any part thereof, nor should the contents be disclosed to any party not previously authorized to discuss said contents by Green Wave Recycling Systems, Inc. officers. This copy must be returned to Green Wave Recycling Systems, Inc. upon request.

Business Plan

Green Wave Recycling

Contents

Summary	
The Product	
The Market	
The Marketing Plan	
The Production Plan	
The Management Team	
The Financial Plan	
Capital Expenditure Plan	
Operating Capital Plan	
Potential Risks and Problems	
Appendix	
Management Resumes	
Bob Green	
Ron Wave	
Financial Statements	
Cash Flow – Year 1 Pro Forma	
Cash Flow – Year 2 Pro Forma	
Customers	

Summary

Green Wave Recycling Systems, Inc. is a company in the plastic's reclamation field that is responding to the need for plastic molders to increase recycled plastics in their products. The

The Product

The PET Market

The Center for Plastics Recycling Research indicates that last year 14.3 billion pounds of PET resin was used in the United States. The textile industry used 4.2 billion pounds and consumer packaging used 3.2 billion pounds. In 1987 150 million pounds of reclaimed PET were used in place of virgin resins. That has grown to approximately 695 million pounds in 1993. In 1991 both PepsiCo Inc. and Coca-Cola Co. announced that they would begin to incorporate reclaimed PET in their bottles. This opened a market for an additional 750 million pounds of reclaimed PET. In 1992 Twinpak, Inc., Canada's largest PET bottle maker, announced plans to use reclaimed PET in their bottles in 1993. Textile manufacturers have increased the amount of reclaimed PET in their polyester carpets to more than 35%. The demand for reclaimed PET has driven today's prices to within 10% of the price of virgin resin. Research by the Council for Solid Waste Solutions indicates that PET's scrap value is only second to aluminum among container materials. The Center for Plastics Recycling Research projects that the market for reclaimed PET will grow between 11 and 17 percent annually. The Freedonia Group, a Cleveland based research group, estimates that by the year 2000 the demand for reclaimed PET will have grown to 1.4 billion pounds annually.

The HDPE Market

The Center for Plastics Recycling Research at Rutgers University estimates that the United States will use 11.7 billion pounds of HDPE in 1993. Of this, 4 billion pounds will be used for blow-molded bottles and containers, 2.3 billion for extruded film and pipe, and 2.5 billion for injection molded caps, crates and pails. Of the total, 6.6 million pounds will be reclaimed HDPE. This has grown from 4.4 million pounds in 1987. This represents an annual growth of 7%. The Freedonia Group estimates that the demand for reclaimed HDPE will grow to 3 billion pounds per year by the year 2000. Currently the demand for reclaimed HDPE has pressured major bottle users such as Lever Brothers to run advertisements on their bottles encouraging recycling of HDPE. Injection molding uses the largest portion (38%) of reclaimed HDPE. This is followed by blow molding at 30% and extrusion at 25%.

The Marketing Plan

Green Wave Recycling Systems, Inc. will focus its marketing efforts on quality plastic flake produced at a reasonable cost and in reliable supply.

It is the intent of Green Wave Recycling Systems, Inc. to enter into long term supply contracts with major consumers of reclaimed PET and HDPE. The sales of the reclaimed flake will be conducted via personal sales efforts. American Plastics has agreed to process a sufficient quantity of material in the demonstration plant to be used as samples to provide prospective clients. Initially, brokers will be used while a customer base is built. Although this will reduce the product margins slightly, it will provide an immediate strong cash flow and exposure to prospective clients. The product will be offered at slightly below the market price to targeted potential clients to try the product. The primary product emphasis will be on the high quality and reliable volumes provided by Green Wave Recycling Systems, Inc.

The Production Plan

The production plan calls for the construction of a facility, installation of a processing line and training of employees. The construction of the facility is estimated to take three months to construct a 20,000 square

The Facility

The pr

The colored plastic separated from the line will be baled and sold as is. While the margins for clean flaked colored plastics ar

Green W

The Management Team

Resumes in Appendix A outline the details of Green Wave Recycling Systems, Inc. founding management team. Each member of the team brings unique and valuable expertise to the company.

Bob Green has eleven years experience in managing large projects. His positions with MonDale-Williams, Kal-Kan and Bullocks have involved the development and implementation of projects that have been national in scope. Bob has consistently delivered the projects on time and under budget. Bob has developed Green Wave Recycling Systems, Inc. business plan and will be responsible for managing the company to the plan. Brian will also be responsible for the implementation of the collection plan. Other responsibilities will include managing the logistics of the facility to ensure timely delivery to clients as well as maintaining an adequate supply of feedstock on hand.

Joe Wave brings his tremendous experience in process manufacturing at Pma2Gith MofMo 22.6dbt Pmlea .r r

The Capital Plan

Green Wave Recycling Systems, Inc. requires both capital for asset acquisition and operating capital to fund operations for the first year. Initial capital will be secured by the property acquired to locate the reclamation facility, the building constructed, the processing line and various office assets. The operating capital is to be guaranteed by the SBA. The asset capital loan is estimated to be paid off over a twenty year term. The operating capital is planned at a five year pay off. The company will have a positive cash flow by month ten. Once into the second year, sufficient cash flow will be available to repay the operating capital note on an accelerated schedule as well as fund expansion on a cash basis.

The Capital Plan

<u>Equipment</u>	\$900,000
American Plastics HDPE and PET Reclamation Line.	
<u>Building</u>	\$340,000
20,000 Sq. Ft. Building with 2,000 Sq. Ft. Office Space.	
<u>Property</u>	\$200,000
10 Acres on Workman Drive next to Lux Con.	
<u>Trucks</u>	\$30,000
1 Pickup Truck (used) 1 Flatbed (used)	
<u>Gaylord Shinning Containers</u>	\$5,000
<u>Fork Lifts</u>	\$37,000
2 Forklifts (used) 1 Bobcat (used)	
<u>Maintenance Tools</u>	\$25,000
<u>Bailer</u>	\$8,000
<u>Office equipment</u>	\$40,000
Copier	
5 Personal Computers	
Fax	
Telephones	
7 Pagers	
Cellular Phone	
4 Desks & Chairs	
4 File Cabinets	
3 White boards	
1 Conference Table	
8 Conference Room Chairs	
 Total	 \$1,585,000

The Operating Capital Plan

The following table outlines the operating capital requirements for the first eight months of business.

Cost of Sale Month 1 to 8		\$725,040
Operating Expenses Month 1 to 8		
Administration	\$8,400	
Advertising	\$1,920	
Fuel	\$2,000	
Insurance	\$20,000	
Maintenance	\$21,000	
Office	\$19,200	
<u>Payroll</u>		
Sorters l Fork Drivers	\$196,506	
Supervisor	\$18,333	
Shift Technicians	\$29,184	
Guards	\$78,797	
Management	\$194,503	
Employee Benefit	\$87,705	
<u>Debt Service</u>		
Operating Capital	\$137,014	
Equipment	\$112,142	
Building	\$74,354	
Chemical Supplies	\$60,000	
Utilities	\$80,344	
Promotion	\$7,000	
Total Operating Capital Month 1 to 8		\$1,856,163
Less Total Sale Month 1 to 7		\$817,380
Net Operating Capital		\$1,038,783

Assumptions

1. The Operating Capital will be funded by an SBA program.
2. Repayment is planned on a 5 year basis at 10%.
3. No payment will be required for the first six months.
4. Employee benefits are calculated at 20% of the salary base.
5. Maintenance dollars are funded on a monthly payment to a maintenance reserve. Actual maintenance
6. Expenditures will vary from month to month.
7. Debt servicing of the Asset Capital will be prorated based upon the monthly draw.

Assumptions

1. Capital Assets will be funded by the SBA 504 Program
2. Repayment will be over a 20 year term with an interest rate of 10%.
3. The building will be an insulated metal building with heating for winter and ventilation for summer.
4. Air conditioning will be installed for the offices and break rooms.
5. The break room will be supplied with a microwave oven, refrigerator, television, vending machines, dinette, and lounge chairs.
6. Cars will be used for sales efforts and establishment of collection programs.
7. Trucks will be used for maintenance efforts.
8. Grounds keeping equipment will be acquired for maintenance of the facility grounds.

A A - Ma a R

Bob Green
P.O. Box 123
Jonesdale, Montana 63627
(314) 987-5499

Qualification Summary Over twenty-five years of experience in technical and supervision of all phases of flat glass manufacturing fabrication and shipping. Successfully self-employed with Earth Stations of Missouri for two years.

Work History

1991 - 1993 Co-owner of John Place of Montana.
John Place of Montana is a retailer of high technology consumer electronics. Responsibilities include the installation and service of high technology consumer electronics.

1966 - 1991 RGJ Industries, Inc.
A manufacturer of flat glass products.

Production Supervisor (1990 - 1991)
Responsible for supervision of production teams involved in the cutting and packaging of finished glass products.

Senior Process Control Technician (1988 - 1990)
Responsible for maintaining production quality levels throughout the entire production process of several plants.

- Member of the PPG Research Division trouble shooting team.
- Team Leader of the research department.
- Analyzed installed/supervised a new manufacturing process at two plants.
- Manager of the Research Division's research work teams.
- Managed the PPG inter-plant technology transfer program.
- Supervisor of plant safety program.

with chemical testing laboratory

Process Control Technician (1972 - 1981)
Assisted in developing and implementing manufacturing and evaluation methods for new products.

- Trained all quality control technicians on new processes.
- Developed a process control which substantially reduced manufacturing costs.
- Member of the PPG Fire Brigade / Emergency Response team.

Quality Control Control Technician (1966 - 1972)
Supervised various teams in all areas of product manufacturing.

Education

Joe Wave
Pebble River Estates
Billings, MO 63028
(314) 987-6785

Current Position: Sr. Telecommunications Analyst

S mma of Eminence

Bullocks Department Store
(1990 to Present)

Project Manager
Project Manager
Project Manager
Project Manager

PC based Merchant's Workbench
National Telecommunications Consolidation
Remote Buying Meeting Order Entry Project

[REDACTED]

Brokers

Able Plastics
Barry Shemaria
4500 Ashburn Walk
Marietta, GA 30069
(404) 565-1522

Ace Trading Company
J.K. Kob
50-50 230th Street
Oakland Gardens, NY 11364
(718) 224-1666

Allied Deals, Inc.
Viren Rastogi
230-5th Avenue
New York, NY 10001
(212) 532-7644

Asian Export Material Supply Co.
John Wong
11 Suban Place
Newton, MA 02161
(617) 332-7929

Calbag Metals Company
Warren Rosenfeld
P.O. Box 10067
Portland, OR 97210
(503) 226-3441

Chemiplas
Howard Hackney
14950 Heathrow Forest Pkwy.
Houston, TX 77032
(713) 442-4728

Coren Mills
Herman Coren
P.O. Box 158
Gladwyne, PA 19035
(215) 525-4565

DLM American Plastics
Larry Markin
111 Pfingsten Road
Deerfield, IL 60015
(312) 776-0840

Acco Waste Paper
Chris Neal
314 Probandt Street
San Antonio, TX 78204
(210) 223-2618

Alaric Inc.
Peter C. Blythe
2110 N. 7th Street
Tampa, FL 33619
(813) 626-0458

Anderson Plastics, Inc.
Elmer Anderson
2211 6th Street
Miami, OK 74354
(918) 542-7614

Bridge Chemical Company
Scott Ho
2710 North Brompton
Pearland, TX 77581
(713) 436-1220

Capco
P.O. Box 4
Columbia, OH 44408
(216) 482-4686

Coast Polymers
Jerry Malcolm
9368 East Stewart/Gray Road
Downey, CA 90241
(310) 803-8781

D.S.P. Co., Inc.
Bud Arbo
P.O. Box 15
Leominster, MA 01453

Doyle Plastics
Tom Doyle
9720 Grandview
Overland Park, KS 66212
(913) 381-4229

Manufacturers

DuPont Canada Inc.
J.P. Crocker
201 South Blair Street
Whitby, ON LIN 5S6
(41) 430-5921

Embrace Systems Corp.
Bob Boryszewski
300 Pearl Street, Ste 200
Buffalo, NY 14202
(716) 842-6032

Federal Plastics Corp.
Peter N. Triano
715 South Avenue E.
Crawford, NJ 07016
(908) 272-5800

Free-Flow Packaging Corp.
James Jensen
1093 Charter Street
Redwood City, CA 94063
(415) 364-1145

Hancor Inc.
Sandy Simons
P.O. Box 1047
Findley, OH 458 J -1.575T01641 -8) 145P.O. B5555047P
908722-069 145eraarkwayker

GLASSTEKS, INC.

Sample Business Plan #2

Glasstek, Inc.

Location:	Sands, Oregon
Business Description:	Collection of waste glass for remanufacture into glass silica. New silica can be used as a substitute for sand in such applications as glass blasting, filler in non-skid mats, glass chips laid in concrete and pipe casting.
Founder:	William James LeDuc
Year Founded:	1994
Starting Capital:	Seeking \$2,800,000 in debt financing. Founder is contributing \$1,000,000 equity cash and collateral.
Sales 1st Year:	\$1,180,000
Sales 3rd Year:	\$6,348,800

Glasstek, Inc. is a unique market driven company formed to take advantage of an aggressive recycling effort in the state of Oregon. This document is designed to leverage commercial financing of \$2,800,000 for the company to reach its full potential as the dominate processor of waste glass feedstock in the region.

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RECYCLING GLASS FOR THE MANUFACTURE OF GLASS SILICA

Company Name: GLASSTEKS, INC.

Executive Summary

The State of Oregon made an early commitment to the collection of recyclable materials, long before markets for these materials were fully developed. Much progress has been made since the mid-1980s, and more markets for products made from some recovered recyclables, including glass are evolving. The recycling infrastructure is continuing to develop but some regions of the country, particularly rural regions,ry

As a private recycler, Glasstek is acutely aware of the difficulty in marketing the mounting supplies of green glass and in trying to follow stringent market specifications set by the beverage industry which require 0% contamination of ceramic glass. While labor costs for color-separating glass remain high, market prices for green and brown continue to drop, making it a greater challenge to recoup the costs of recycling the glass. This has led Glasstek to develop non-traditional approaches to develop local markets for glass that involve strategic partnerships with the county, state, and local university to help in two areas in particular.

Conducting Research

- **Collection**—Compile data concerning the methods used to collect material and quantity of materials marketed, including tonnage received and locations from which the glass originated.
- **Processing**—Report on method of processing material and all changes made to increase performance/output.
- **Testing**—Utilize test results to decide the course of new or continued testing, known as critical path analysis.
- **Marketing**—Analyze the viability of developing this local market—describe the successes and shortcomings.

Market specifications for glass containers:

Ideally, citizens should color-sort glass at the curb--that's the easiest and best place to separate glass by color and remove contaminants. Community recycling programs that allow for mixed glass pickup may, in reality, be trading convenience for marketability.

Even if color separation doesn't

virgin materials that are “mined” from the earth, cullet is “mined” from municipal solid waste. This “unprocessed cullet” is delivered to a processing or beneficiation facility where it is brought to virgin material standards before delivery to the glass plant.

Many curbside programs have abandoned source separation or recyclables, i.e., aluminum, PET, HDPE, and three colors of glass, in favor of commingled collection. Thus, large quantities of glass fail to meet criteria of being color sorted and contaminant free. Some commingled collection programs, with multiple handling stages and transfer stations, can generate as much as 50 to 70 percent unusable mixed-color cullet, compared to less than three percent with source separation systems.

The industry produces soda-lime containers for the food and beverage industries with small amounts for other end uses. The dominant color is clear (63 percent), followed by brown (28 percent), green (eight percent), and all other colors (one percent). The food industry is the largest end-use for baby food, sauces, pickles, fr

Glasstek and NOREX have investigated the potential hazard that glass dust may pose to employees, and has found no clear evidence that glass dust produced during the manufacturing process is hazardous. However, Glasstek intends to send silica samples to the Oregon Department of Labor and Industry, Department of Air Sampling Analysis, to be certain that any glass dust being produced is within acceptable levels. In addition, necessary protective clothing and gear will be worn by all employees to ensure their safety.

To further address the issue of air quality, the following passage was taken from the Clean Washington Center's report entitled, *Glass Dust: Environmental and Health Concerns*, February 1994.

"Air samples for silica tests were taken during the engineering test program of the glass cullet to assess the potential airborne risks from crystalline silica, which is a known carcinogen. Test results on these samples indicated crystalline silica concentrations of less than one percent, which is not considered hazardous by federal regulations. Therefore, cullet appears to have none of the health risks associated with silica sand.

Cullet is an abrasive material. Laboratory personnel experienced some skin irritation where very fine cullet fragments abraded the skin at shirt cuffs or collars. This irritation was prevented through the use of protective clothing which minimized bodily contact with cullet. Safety clothing normally used when working with natural aggregate should be worn when working with cullet."

Pricing

The company has calculated a price of 16 cents per pound for manufactured product. This price is considerably below market rate for silica manufactured from virgin materials and pricing meets the company's goals for profitability.

Promotion

Glasstek will work cooperatively with NOREX to research and approach prospective customers. Tapping into various resources, such as Oregon Technology, Glasstek plans to obtain additional assistance in marketing their product. Furthermore, Glasstek will utilize their metro sales representative to assist in identifying and contacting potential customers in the cities of Salem and Portland. Product specifications will be made available after Salem State University completes their research. After potential customers have experimented with the product, negotiations will begin to secure contracts for long-term purchase of the product. In an effort to further increase their exposure to potential customers, Glasstek will also participate in appropriate trade shows.

Form of Ownership

Glasstek, Inc. is a U.S. corporation formed in the State of Oregon.

Management/Personnel

The company has assembled an impressive management team that has amassed all necessary experience in engineering and environmental issues, plus sales and marketing, to make a success of this project.

William DeLuc, the President and Chief Engineer of the company has over 20 years' experience in the recycling industry, has degrees in management and psychology, and has taken a number of courses in materials engineering (See attached resume).

Ann Boland, the Vice President and Director of Human Resources has strong personnel management skills, as well as a degree in chemistry, and an advanced degree in psychology (See attached resume).

It becomes obvious having the right employees to identify acceptable condition of goods, fair market price of goods and their ultimate resale value is essential. In addition to President and Vice President, Glassteks will assemble a dedicated team of employees who will be charged with the following responsibilities:

Operations - Quality Management

Responsibilities: Inventory Control
Building Maintenance
Staff Scheduling
Shipping
Health and Safety Inspections

Reports to: President and Chief Financial Officer

Operations - Financial Management

Responsibilities: Material Pricing
Vendor Payments and Receipts
General Accounting
Contract Development
Bidding and Estimating
Operating Budgets
Payroll and Tax Remittance

Reports to: Vice President and Director of Human Resources

Operations - Equipment

Responsibilities: Equipment Purchases and Set-up
Shop Layout and Work Flow
Process Controls
Quality Control
Storage, Sorting and Cleaning of Materials
HVAC and Other Utility Maintenance

Reports to: Operations Manager

FINANCIAL FORECASTS

Financial Data

The purpose of this proposal is to secure \$3,800,000 in funding to develop and establish a facility to recycle glass feedstock to manufacture glass silica.

Funding will be in the form of \$1,000,000 in equity funding and \$2,800,000 in debt financing and will be utilized as follows:

Engineering studies, etc.

Salaries and Benefits

Annual salaries are projected for the following company personnel (year one only), moderate pay increases applied in years 2 and 3.

SHOP PERSONNEL

Staff #1 (\$6/hour)	\$12,480
Staff #2 (\$6/hour)	12,480
Staff #3 (\$8/hour)	16,640
Staff #4 (\$8/hour)	16,640
Staff #5 (\$8/hour)	16,640
Total Shop	\$74,880

SHOP BENEFITS \$6,840

MANAGEMENT

President	\$45,000
Vice President	40,000
Operations Manager	40,000
Financial Manager	25,000
Engineer	<u>16,000</u>
Total Management	\$166,000

MANAGEMENT BENEFITS \$27,240

Other Significant Assumptions

1. Loans

- A) Initial debt service of \$2,800,000 is financed over a five year term at 8.5% annual percentage rate.
- B) An additional \$1,500,00 is financed in month eight of year one, for the addition of three production lines; same terms of above. Equipment anticipated for purchase include:

Equipment (crushers)	\$1,300,000
Installation	50,000
Dust collectors	10,000
Lease hold improvements	<u>35,000</u>
Subtotal	\$1,395,000

Equipment shipping	\$45,000
Conveyor systems	<u>60,000</u>
Subtotal	\$105,000

C) An additional \$600,000 is financed in month four of year two, as partial financing for two additional production lines. Equipment anticipated for purchase include:

Equipment (crushers)	\$520,000
Installation	20,000
Dust collectors	4,000
Lease hold improvements	<u>14,000</u>
Subtotal	\$55,000
Equipment shipping	\$18,000
Conveyor systems	<u>24,000</u>
Subtotal	\$42,000

2. Corporate income tax liability is calculated at 35% of net profit before tax.
3. Gross wages constitute salaries & wages for management and production salaries (see salary schedule).
4. Payroll expense includes employee portion of Social Security contributions for all employees - management and production. Also included is Unemployment Benefit Insurance.
5. Fringe benefits are calculated at \$454.00 per month for all management personnel which constitutes payments for PHP Family Plan Health Insurance benefits.
6. First year operating expenses include startup costs for advertising, accounting and legal, utilities, insurance and engineering and licensing fees.
7. Insurance premiums cover buildings, vehicles, general liability and workers compensation. Liability coverage is

Ann K. Boland

EDUCATION

Southern Illinois University, Carbondale, IL
Master's in Business Administration, December 1983

University of Wisconsin, Eau Claire, Eau Claire, WI
Bachelor of Arts in Psychology with a minor in Chemistry, 1980

State of Minnesota
Licensed Social Worker

EXPERIENCE

GLASSTEKS, INC., 1991-PRESENT

Vice President for Development responsible for management of the recycling, training programs, employment department direction, and community outreach. Directs fund raising events, grant writing, marketing material, public relations, and the company safety program.

GLASSTEKS, INC., 1980-1991

Employment Manager responsible for hiring and expanding employment programs, orientation programs, scheduling, supervising, and evaluating staff. Develop and implement program evaluation, inform all staff on Department of Labor regulations. Develop employment sites, drafting bids and contracts. Responsible for educating the public on recycling priorities. Case management for consumers of the program.jm4627 0 T68km1.90ewnpawl,

William James LeDuc

PROFESSIONAL EXPERIENCE

GLASSTEKS, INC., 1983-PRESENT

President, responsible for overall management and operation of the corporation under the direction of the Board of Directors. Directs professional staff, business operations, program development, and fund raising. In July of 1983, Glasstek, Inc., was separated from Recycle Industries of Portland, Oregon. The corporation has shown a net gain in every fiscal year since that time, while more than doubling in size, both in annual budget and number of consumers served. Glasstek is an accredited recycling company with eight core programs, and is considered a leader in developing innovative and cost-effective recycling programs suited to the needs and priorities of the Pacific Northwest

RECYCLE INDUSTRIES, INC., 1977-1983.

General Manager responsible for the management of staff and administration of programs, client services and plant operations. Reported to the President of Recycle Industries in Seattle, Washington. Major achievements during this period include expansion of staff from six to twelve, first professional accreditation of facility, 50% increase in client load, and 32% increase in business income. A corporate and foundation fundraising effort resulted in the construction of a new \$345,000 facility.

RECYCLE INDUSTRIES, INC., 1976-1977

Placement counselor responsible for placing clients into competitive employment and providing follow-up counseling, teaching job skills and job awareness classes, establishing employer contacts and maintaining records of these contacts, public relations, and related duties.

ABILITY BUILDING CENTER, (FARGO, ND), 1970-1975

Coordinator of Vocational Evaluation r

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GLASSTE	STATEMENT	2	MONTH
	BEGINNING		\$ 282.5
	CASH FLOW		
	Cash Sale	\$	-
	Credit Ad	\$	307.2
	Loans	\$	-
	TOTAL CASH	\$	<u>307.2</u>
	TOTAL CASH	\$	<u>589.7</u>
	CASH PAID	\$	-
	Purchase	\$	19.5
	Gross W	\$	7.8
	Payroll B	\$	3.4
	Fringe Bt	\$	3
	Supplies	\$	1.2
	Repairs &	\$	2.5
	Advertisin	\$	-
	Car & Tre	\$	1.5
	Accounti	\$	10.8
	Lease	\$	5
	Telephone	\$	3.0
	Utilities	\$	1.0
	Insurance	\$	26.5
	Interest	\$	-
	Engineer	\$	78.2
	Subtotal	\$	<u>61.6</u>
	Loan Prin	\$	-
	Capital P	\$	-
	Deposits	\$	-
	Reserves	\$	-
	Corp Tax	\$	139.9
	CASH PAID	\$	<u>449.8</u>
	ENDING CASH	\$	<u>139.9</u>

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GLASSTEK	STATEMENT	MONTH
	BEGINNING	\$ 879.11
	CASH FLOW	
	Cash Sale	\$ 409.11
	Credit Acct	\$ -
	Loans	\$ 409.11
	TOTAL CASH	\$ 1,288.11
	CASH PAID	
	Purchases	\$ 19.50
	Gross Wage	\$ 8.40
	Payroll Ben	\$ 4.00
	Fringe Ben	\$ 3.00
	Supplies	\$ 1.20
	Repairs &	\$ 2.50
	Advertising	\$ -
	Car & Trav	\$ 1.50
	Accounting	\$ 10.80
	Lease	\$ 5.00
	Telephone	\$ 3.00
	Utilities	\$ 1.00
	Insurance	\$ 24.80
	Interest	\$ -
	Engineering	\$ 77.80
	Subtotal	\$ 75.70
	Loan Princ	\$ -
	Capital Pur	\$ 1,100.00
	Deposits	\$ -
	Reserves	\$ -
	Corp Tax	\$ -
	CASH PAID	\$ 1,253.52
	ENDING CASH	\$ 35.65

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STATEMENT OF CASH FLOWS

Year ended December 31, 2011

	2011	2010	2009	2008
BEGINNING BALANCE	\$ 1,000,000	\$ 505,000	\$ 282,534	\$ 879,580
CASH FLOW FROM OPERATIONS				
Cash Sales	\$ -	\$ -	\$ -	\$ -
Credit Accounts	\$ -	\$ 1,180,000	\$ 4,403,200	\$ 6,348,800
Loans	\$ 2,800,000	\$ 4,300,000	\$ 600,000	\$ -
NET CASH FLOW FROM OPERATIONS	\$ 2,800,000	\$ 5,480,000	\$ 5,003,700	\$ 6,348,800

GLASSTEKS INC.

BALANCE SHEET

**END OF
YEAR 1**

**END OF
YEAR 2**

**END OF
YEAR 3**

ASSETS

CURRENT ASSETS

Cash	\$	282,534	\$	879,580	\$	2,081,158
Accounts Receivable	\$	614,400	\$	921,600	\$	1,228,800
Inventory	\$	-	\$	-	\$	-
Other Current Assets	\$	-	\$	-	\$	-
TOTAL CURRENT ASSETS	\$	896,934	\$	1,801,180	\$	3,309,958

FIXED ASSETS

Land	\$	-	\$	-	\$	-
Building	\$	-	\$	-	\$	-
Equipment	\$	4,675,000	\$	7,275,000	\$	8,575,000

Vehicles	\$	-	\$	-	\$	-
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TOTAL FIXED ASSETS	\$	4,675,000	\$	7,275,000	\$	8,575,000
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LESS: Accumulated Depreciation	\$	735,000	\$	1,865,000	\$	3,406,667
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TOTAL ASSETS	\$	4,836,934	\$	7,211,180	\$	8,478,291
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LIABILITIES

CURRENT LIABILITIES

Subtotal	\$	-	\$	-	\$	-
Payroll	\$	7,829	\$	7,829	\$	6,022
Income Tax Payable	\$	27,974	\$	926,220	\$	1,485,367
Current Portion of Debt	\$	844,122	\$	944,683	\$	1,329,733
TOTAL CURRENT LIABILITIES	\$	879,925	\$	1,878,732	\$	2,821,122

Earthbound Tire Reclamation Company

Sample Business Plan #3

Location:	Carbondale, Pennsylvania
Business Description:	Manufacturer and wholesaler of equipment to compact spent tires
Founder:	James Bryant
Year Founded:	1994
Starting Capital:	Seeking \$200,000 of debt financing
Sales 1st Quarter	N/A
Owners' Equity:	N/A
Employees:	7
Educational Background:	N/A

Earthbound Tire Reclamation Company was established to manufacture and market apparatus used to compact 'surplus' tires so resultant volume of material is significantly less. Compacted material can be disposed of in a manner that requires less landfill space or, when combined with traditional construction aggregate, can be used as a residential/commercial building component.

The company is seeking external financing of \$200,000 to achieve its goal of introducing its technology to the marketplace. With this modest initial investment, the company projects significant sales and profit levels

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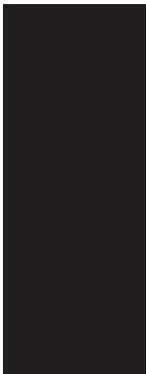
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Earthbound Tire

RECYCLING USED TIRES FOR CONSTRUCTION BLOCK

COMPANY NAME: Earthbound Tire Reclamation Company

Executive Summary

Industry:	Automobile and truck tire reclamation and compaction.
Product:	Apparatus and ancillary products to compact tires and combine with conventional construction aggregate for building blocks.
Recycling Level:	Primary
Waste Generated:	None.
Management Team:	A capable and aggressive management team has been assembled which combines many years of experience in engineering, manufacturing, marketing and sales.
Projected Financing Results :	The company's three year projections include sales ranging from \$1.264 million in the first year to over \$ 3.163 in the third year. Projected earnings will grow to an estimated \$2.448 million in year three.
Capital Requirements:	Initial capital requirements are \$200,000 including \$9,900 for capital purchases, \$17,000 for capital improvements and \$173,000 for working capital.
Processing Overview:	The company has developed a proprietary, patented technology for its compaction and construction block process. Additional information may be obtained by potential investors once a binding nondisclosure statement has been signed and a \$5,000 retainer has been issued.
Raw Material Supply:	The company believes an unlimited quantity of feedstocks available.
Competition:	Recycling is a very young industry and post consumer rubber compaction is a highly specialized niche within the industry. As a result, competition is non-existent in all but a very few U.S. markets.
Customers:	There are a variety of customers that would be interested in licensing or purchasing the company's technology. Public and private landscape operators, general contractors engaged in medium to large scale construction projects and enterprises which collect waste tires for re-sale are ideal candidates for tire compaction technology. Invariably this market will expand as additional refinements and applications of the compacted tires are devised.
Facility Requirements:	The company is a full service machining and fabrication company which rents a 28,600 square foot building situated on a 1.69 acre parcel of land.



TIRE COMPACTION EQUIPMENT

In response to the previously-mentioned concerns with scrap tires, the company has developed a high density tire compactor to provide safe, economical and efficient volume reduction. The equipment can accommodate up to 20 tires per cycle with a reduction in total volume of approximately 85% in a matter of minutes. This unique, highly specialized piece of equipment provides the most efficient and practical method for the storage, handling, disposal and control of scrap tires.

After compaction, the compressed bundle is held together by four equally spaced stainless steel or coated and waxed carbon steel wires, supplied by the company. After the bundle has been banded, the machine returns to its original position ready to begin another cycle. The compressed and banded tire bundle is removed, and simultaneously the loading sequence can begin. Equipped with emergency stop buttons and fully guarded, the equipment has been designed with the operator's safety in mind. The concept, design and engineering of the machine has focused on basic operation without detracting from production output. Operation of the machine is geared for the general laborer. The equipment is easily transportable for the remedial site work and/or for general regular route pick-ups.

In the event servicing is needed, the equipment, through design modification has made potential problem areas easily accessible. The customer is able to easily remove any part and return it to a service department for replacement or repair. Removal instructions are provided with the machines, but may be reinforced through a telephone call to the company, virtually eliminating the use of service technicians. The tire densification equipment does not require intervention from any third party to start or operate the machine, once delivery is made.

The compaction provides a long-awaited answer to another problem of the scrap tires by significantly reducing the costs of transportation. Normally, a tractor trailer with 900 to 1,000 tires is considered a full load. However, tires compacted with this equipment would allow up to 2,400 tires as the maximum amount of tonnage the trailer is legally allowed to haul. Currently the average cost for disposal is running approximately \$1.35 per tire. With 1,000 tires, the load would be worth \$1,350 less operating costs. With the company's products, the same size trailer picking up tires at \$1.35 each would realize revenues of \$3,250 minus operating costs.

Building Block Technology

The equipment can compact tires to save space, reduce shipping costs, and reduce fire hazards. The question then is, what to do with the bundles of tires?

The answer to that question is a construction block product being developed in conjunction with the company's compaction equipment. A compacted bundle of tires is put into a compaction mold. The mold is then filled with concrete and 12 hours later a 3' x 3' x 3' reinforced building cube with an R factor of between 34 and 38 is produced. This cube can be used for a variety of building and preservation projects.

One such product is the tire bunker. This is a building to store the tire bales for future use. By starting with a minimal size building and continuing to expand as tires are received and building blocks are manufactured, the building can be expanded as needed. Once the building is complete it can be completely sealed to eliminate fire hazards and the eyesore of scrap tire piles within the community.

Other potential uses for the building blocks include retaining walls along roadways, bin walls for keeping material such as different grades of sand or stone separate, storage facilities to be partitioned off and rented as self store units, or to make artificial reefs to attract bait fish which in turn will attract game fish for the local resident and tourist to catch and enjoy.

A major factor to be considered in the assumption of a project such as building blocks is the cost of production and income benefits derived by the manufacture of the blocks. As with our compaction equipment, the company is confident the building blocks will prove to be a major income generator for those customers with the potential to produce the blocks.

With the compaction of 20 scrap tires into a 26" to 28" bale, assume that a disposal fee of at least \$1 has been collected for each tire, generating an income of \$20 per bale and assume that the bale will be used as the core for reinforcing the building blocks. By molding a cube with the addition of approximately 1/2 yard (\$12) of concrete, a final product is produced with a worth in excess of \$25. Thus, the blocks become an add-on product which increases net revenues to any company producing the cubes. By using the company's equipment, \$12 of material (concrete) can generate \$45 income. Blocks can be produced with weather-proof and aesthetically pleasing exterior surfaces.

The company's objective is to develop and market tire densification equipment and resultant products utilizing bundled tir

Landfill Operations

Approximately 13,600 landfills exist where tires are stored

Tire Recyclers

The New York State Office of Recycling Market Development estimates that approximately 32 consumers of waste tires are operational in the Northeast United States

Federal, State, Local and Foreign Governments

Current public projects undertaken involve soil erosion breakwalls and underwater reefs. Banded scrap tires are being used in all of these projects. As environmental concerns are addressed to a greater extent, additional uses will be found for the mounting number of scrap tires in the world.

Waste Haulers

The reduction in transportation costs – in excess of one-half of previous amounts – presents an incentive for transportation firms to purchase the company's equipment with the expectation of increased profits.

Tire Manufacturers

The major tire manufacturers in the United States include Cooper Tire, Dunlop, Firestone, General Tire, B.F. Goodrich, Goodyear, Kelly Springfield, Michelin, Mohawk Rubber, Pirelli, Sumitomo Tire, and Uniroyal, in addition to a significant number of smaller manufacturers. These plants generate a significant amount of scrap tires on a yearly basis.

T

COMPETITION

The tire reuse industry is divided into three markets: fuel substitute or supplement in coal-fired boilers, civil engineering applications and remanufacture to other commercial rubber products. Companies active in the markets are not direct competitors in Earthbound's market niche (i.e. tire compaction). However, they are competitors for the feedstocks necessary for each to prosper.

Earthbound research confirms that suitable stockpiles of surplus tires exist in most regions of the country, at prices considerably less than the concrete aggregate material it replaces, to support the application of Earthbound construction technology.

Currently there are no direct competitors to Earthbound's construction block technology. The company has contacted the scrap tire management council and other trade entities and they have confirmed the exclusivity of this market.

MARKET SHARE

Tire compaction technology is a new to market concept and currently there are no competitors to the company's tire compaction and construction block technology. Earthbound is seeking patent protection for its technology. The company has no knowledge of other enterprises marketing a process or device of this nature.

The introduction of Earthbound technology in any region of the country will position that firm as the 'first in' and should give it preferential access to tire supplies and a receptive construction industry interested in reducing its bottom line through the use of cheaper materials.

LOCATION

The company rents a 28,600 square foot building which consists of 27,800 square feet of manufacturing and 800 square feet of office space. This building sits on 1.67 acres of land and the building is situated to allow for easy future expansion.

The company is a full service machining and fabrication company with a wide variety of equipment for turning, milling, drilling, welding and fabrication. A complete facilities list is included in the financial forecasts. The present equipment is sufficient to manufacturer the tire compactor and the molds for the future cube. However, the production efficiency could be improved with the addition of a horizontal boring mill and a plasma cutter. All necessary tooling and fixtures can be manufactured in-house.

PRICING

The company has applied for patents on the tire densification equipment and building block compaction technology. Patents are pending and due to the competitive nature of the industry, confidentiality and security of patent details is of paramount importance.

PROMOTION

Sales of the compaction products produced by the company will be accomplished through a subsidiary company.

The personnel of the parent company have an intimate knowledge of the scrap tire industry. The marketing of the tire densification equipment has been significantly successful due to the expertise of the principals in the firm. Their knowledge of the tire and waste management industry has saved valuable time and effort in the identification of prospective customers.

The subsidiary company will attend conferences and trade shows to present the tire densification equipment and products to potential customers and to be constantly apprised of the latest environmental concerns and legislation involving the disposal of scrap tires.

- The American Retreaders Association
- The Institute of Scrap Recycling Industries Convention
- Exhibition of Equipment, Products and Technologies for the Recovery and Recycling of Raw and Reworked Materials
- North American Building Material Distribution Convention
- Atlantic Building Supply Dealers Association Industry Show

Advertising in select trade magazines and industry journals will be utilized to maximize geographical coverage throughout the country. Magazines and journals targeted for advertising or articles include:

- **BioCycle** - A journal for municipal and industrial managers of solid waste and biosolids, focusing on recycling techniques- from collection and processing to materials and marketing.
- **Recycling Time** - Produced by the Environmental Industry Associations, this journal covers commercial and municipal solid waste recycling and is geared toward public interest organizations, producers and distributors of recyclable material, buyers and sellers of recyclable wastes and private and municipal waste professionals.
- **Recycling Today** - A journal which covers issues pertaining to the traditional scrap recycling market.
- **Resource Recycling** - A journal which focuses on multi-material, post consumer recycling and composting including spent rubber.
- **Waste Handling Equipment** - A publication for professionals in the solid and liquid hazardous waste management industry.

To remain apprised of the overall industry, Newsletters and Association Bulletins published by the United Gasoline Dealers and Retail Association will be utilized for current data on local, national and international collection and recovery operations.

FORM OF OWNERSHIP

Earthbound is a limited liability company formed in Pennsylvania in 1994. The LLC form of ownership was established to protect ownership from debts incurred by the company and to tax shareholder profits at individual tax rates.

MANAGEMENT

The company has assembled a strong management team that encompasses the engineering, sales and manufacturing expertise needed for the company to be a viable enterprise.

James Bryant, Chairman and President, of the company has over 35 years of experience in machining and manufacturing. He started his current enterprise in 1980, manufacturing parts for numerous manufacturing applications for a variety of industries. He has designed and manufactured commercial apparatus for several industries and has received over 60 patents.

William Wright, General Manager of Manufacturing at the parent company, has over 34 years of experience in manufacturing and consulting ventur

WILLIAM WRIGHT

RESUME

EMPLOYMENT

1989 - Present General Manager
Earthbound Tire Reclamation Company
Carbondale, Pennsylvania

Earthbound Tire Reclamation Company is a manufacturer of tire compaction equipment. Responsibilities include directing/coordinating all plant operations and company policies and goals. Coordinates activities among operations, engineering, sales and maintenance functions.

1975 - 1989 Production Supervisor
Coastal Steel Fabricators
Edgecomb, Pennsylvania

Coastal Steel Fabricators is a machine shop that fabricates steel for the commercial construction trades with annual sales in excess of \$5.8 million. Responsibilities included reviewing production orders and schedules, reviewing quantities and specifications of products, scheduling delivery dates, preparing operational schedules, inspecting machines and equipment, developing standard operating procedures and working practices.

1971 - 1989 Private Consulting Engineer

Acted as independent engineer for several manufacturing operations specializing in factory layout and process contr

ANNETE COFFEY

RESUME

EMPLOYMENT

1995 to date

Vice President of Sales
Earthbound Tire Reclamation Company
Carbondale, Pennsylvania

Earthbound Tire Reclamation Company is a manufacturer of tire compaction equipment. Responsibilities include preparing sales projections and analyzing sales statistics to formulate sales and marketing strategies, reviews market analysis to determine customer needs, volume potential, price schedules and discount rates. Advise V.P. of Marketing of customer and industry data and trends that impact the company's marketing strategy.

1989 - 1995

Export Manager
Johnson Sporting Goods
Wilson, Pennsylvania

Johnson Sporting Goods Produces a broad range of sporting goods for hunting, fishing and camping enthusiasts. Responsibilities included directing \$21 million of foreign sales, negotiating contracts with sales and distribution centers, researching import-export tariffs, licenses and restrictions. Arranged for shipping details such as export licenses, customs declarations, packing and shipping and routing of products.

1981 - 1989

Buyer
Goodman Department Stores
Philadelphia, Pennsylvania

Goodman Department Stores is a full service retailer of apparel, household items and sporting goods. Responsibilities included purchasing annual inventory of \$2 million in houseware items, negotiated sales with manufacturing representatives, assessing demand for specific merchandise and authorized invoices or return of merchandise.

1978 - 1981

Assistant Buyer
Goodman Department Stores
Philadelphia, Pennsylvania

Assisted Principal Buyer of Housewares, verified quantity and quality of stock received from manufacturers, authorized payments or returns of shipments, and issued marketing information with respect to pricing, seasonal codes and style numbering.

EDUCATION

B.A. Economics
Kent State University
Canton, Ohio

NED NIELSON

RESUME

EMPLOYMENT

1995 - Present
Vice President of Marketing
Earthbound Tire Reclamation Company
Carbondale, Pennsylvania

Earthbound Tire Reclamation Company is a manufacturer of tire compaction equipment. Responsibilities include researching and developing market analysis by determining customer needs and volume potential, coordinating all media advertising and trade shows.

1990 - 1995
Assistant Manufacturing Manager
Belco Industries
Chicago, Illinois

Belco Industries produces men's and women's suits and accessories sold under private label in over 175 department stores in the United States. Responsible for preparing production schedules for one of three production shifts, including reviewing sales forecasts and quotas to meet shipping dates, determining appropriate manufacturing processes, tools and personnel requirements for specific production runs, prepared lists of required materials, tools and equipment for new product lines.

1980 - Present
Licensed Real Estate Broker

Independent real estate broker with specialization in commercial properties. Assist clients in buying and selling of land and facilities, prepare lease/sell contracts, escort clients to properties and act as facilitator/mediator between buyer, seller, lenders and attorneys.

1982 - 1990
Purchasing Agent
State of New Jersey
Trenton, New Jersey

Procured goods and services on behalf of several state agencies. Negotiated with vendors to obtain specifications, prices, availability, delivery and service contracts, prepared purchase orders and bid requests, reviewed bid proposals and awarded contracts. Revised computerized procurement records which monitored items purchased, costs, delivery, product quality and current inventory.

EDUCATION

B.A. Economics
St. John's University
New York, New York

A TIRE COLLECTION AND PROCESSING SITE CONTAINING IN EXCESS OF 1,500 SCRAP TIRES OUTSIDE:

Physical/Environmental

- Tires may only be accumulated in designated areas.
- Piles to be no more than 20' high, 50' wide, 250' long.
- Minimum separation of 60' between piles.
- Piles to be at least 100' from perimeter of property and 100' from any buildings.
- Piles to be maintained (i.e., under a roof or processed) to limit mosquito breeding.
- Piles to be accessible to fire fighting equipment
- Site operator should provide acceptable financial security to cover cost of ultimate disposition and final closure.
- Tire storage areas must be kept completely contained within fences that limit access.
- Rows between tire piles must be kept free of weeds and other vegetation.
- Each facility must display its emergency procedures plan and inspection approval by local fire enforcement agencies
- Establish dirt berm at the perimeter.
- Approach road to be maintained in good condition and passable by fire fighting equipment.
- Install lightening rods at highest point by piles.
- Tires should not be stored on an asphalt base.
- Adequate fire fighting equipment should be kept on site.
- All personnel should be trained on all fire related equipment.

Emergency Procedures

- A list of names and telephone numbers of individuals to contact in case of fire, flood or other emergencies.
- A list of emergency response equipment, maintained in proper operating conditions, and how it should be used during an emergency.
- A description of procedures to follow at the facility during an emergency.
- All tire disposal sites should be in compliance with all storage permitting requirements approved by the National Fire Prevention Association and local fire enforcement agencies.

FINANCIAL FORECASTS

Financial Data

This business plan was developed to introduce the company to prospective investors in order to obtain financing to facilitate the growth of this company. It is hoped the growth and profitability of the tire densification product line and the construction building block system as outlined in the attached financial projections will interest investors who want to help finance these exciting opportunities.

The financial forecasts for Earthbound present a conservative, yet realistic, estimation of the financial health of the company based on solid projections with respect to sales, expenses and profitability.

The financial forecasts are presented in 3 year phases, cash flow statements, present monthly projections of sales, expenses and cash reserves.

Currency and Rounding

The U.S. dollar is used throughout this document. The yearly financial forecasts are rounded to thousands of U.S. dollars. Some of the line items are affected by rounding errors.

Note to the Forecasts and Assumptions

These financial forecasts, as well as the underlying assumptions, present, to the best of the management's knowledge and belief, the expected financial position, results of operations and cash flows for the forecasted period. The forecasts reflect management's judgment, as of the date of this document, of the expected conditions and the expected course of action of NatureTrail. The assumptions described herein are those that management believes are significant to the forecast. There will frequently be differences between the forecasted and actual results, because events and circumstances do not occur as expected. Accordingly, the financial forecasts and assumptions should be used with caution as actual results may differ materially from those shown in these forecasts.

Sources and Uses of Funds

In these projections, Earthbound is planning to obtain a business loan or other form of investment totalling \$200,000. Terms of this note include 12% interest over three years, payable quarterly from the initiation of the loan.

Sources and Uses of Funds Table

The following table shows forecasted sources of funds described in the Memorandum and the uses of funds during the initial two-year start-up phase.

<u>Sources</u>	
Stock of Loan(s)	<u>\$200,000</u>
Total sources:	200,000
 <u>Uses</u>	
Capital Purchases	9,900
Capital Improvements	17,000
Working Capital	<u>173,000</u>
Total Uses	\$200,000

Accounts Payable

Accounts payable balances are calculated based on selling, administrative and research and
a5ults, bet

Other Current Assets

This category includes deposits on manufacturing as well as other miscellaneous deposits. It is assumed that 50% deposits on manufacturing are required, although in reality, as the company develops operating history, this requirement would lessen.

Fixed Assets

Milling

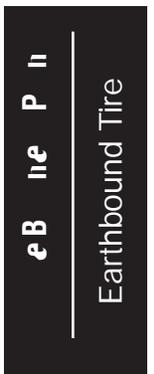
1- Kerney Tracker #2 Horizontal Mill

Unit Sales and Costs

The build-up of unit sales by category is provided in greater detail than net sales or manufacturing costs. As noted above, detailed unit sales forecast by product are available upon request. The units sales figures provide a concise picture of the growth of the business and the periods in which new product categories are introduced.

The most significant increase in terms of the scale-up factor is from year 1 to year 2. The most significant increase in terms of real units is the scale-up in volume between year 2 and year 3. The financing that this offering memorandum describes is designed to provide the resources to successfully manage both these transitions. The \$200,000 of equity financing will seed this expansion and provide the funds to hire the personnel and develop the infrastructure that can take the company from a start-up to a well-coordinated operating company in the first 2 years.

<u>Unit</u>	<u>Number of Units Sold</u>		
	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>



	11	MONTH 12	TOTAL
			YEAR 2
728	\$	1,195,725	\$ 299,298
000	\$	140,000	\$ 1,400,000
000	\$	80,000	\$ 800,000
000	\$	4,000	\$ 40,000
-	\$	-	\$ -
000	\$	224,000	\$ 2,240,000
728	\$	1,419,725	\$ 2,539,298
000	\$	54,000	\$ 486,000
891	\$	28,891	\$ 386,500
833	\$	834	\$ 10,000
181	\$	181	\$ 2,172
350	\$	350	\$ 4,200
575	\$	1,575	\$ 18,900
313	\$	1,313	\$ 15,756
200	\$	4,200	\$ 50,400
890	\$	1,890	\$ 22,680
349	\$	349	\$ 4,188
100	\$	2,100	\$ 25,200
281	\$	1,281	\$ 15,372
358	\$	852	\$ 10,862
150	\$	1,450	\$ 25,965
130	\$	430	\$ 5,160
701	\$	99,696	\$ 1,083,155
162	\$	1,369	\$ 15,983
-	\$	-	\$ -
140	\$	14,188	\$ 135,888
-	\$	-	\$ -
103	\$	115,253	\$ 1,234,826
725	\$	1,304,472	\$ 1,304,472

EARTH BOUND TIRE RECLAMATION COMPANY

STATEMENTS OF CASH FLOWS - YEAR 3

	MONTH 1	MONTH 2	MON
BEGINNING BALANCE	\$ 1,304,472	\$ 1,400,796	\$ 1,511,111
CASH FLOW FROM OPERATIONS			
Compaction Unit Sales	\$ 140,000	\$ 140,000	\$ 140,000
Mold Sales	\$ 80,000	\$ 80,000	\$ 80,000
License Fees	\$ 4,000	\$ 4,000	\$ 4,000
Stock and Loans	\$ -	\$ -	\$ -
NET CASH FROM OPERATIONS	\$ 224,000	\$ 224,000	\$ 224,000
TOTAL CASH AVAILABLE	\$ 1,528,472	\$ 1,624,796	\$ 1,735,111
CASH PAID OUT			
Materials and Overhead	\$ 54,000	\$ 54,000	\$ 54,000
Salaries and Wages	\$ 40,407	\$ 30,395	\$ 30,395
Legal Services	\$ 833	\$ 833	\$ 833
Supplies	\$ 190	\$ 190	\$ 190
Accounting Services	\$ 367	\$ 367	\$ 367
Advertising	\$ 1,654	\$ 1,654	\$ 1,654
Trade Shows	\$ 1,378	\$ 1,378	\$ 1,378
Travel	\$ 4,410	\$ 4,410	\$ 4,410
Rent	\$ 1,985	\$ 1,985	\$ 1,985
Commissions	\$ 366	\$ 366	\$ 366
Insurance	\$ 2,205	\$ 2,205	\$ 2,205
Utilities	\$ 1,345	\$ 1,345	\$ 1,345
Interest	\$ 845	\$ 838	\$ 838
Real Estate Taxes/loans	\$ 1,450	\$ 1,450	\$ 1,450
Leases	\$ 430	\$ 430	\$ 430
Subtotal	\$ 111,865	\$ 101,786	\$ 101,786
Loan Principle	\$ 1,376	\$ 1,382	\$ 1,382
Capital Purchase	\$ -	\$ -	\$ -
Capital Improvements	\$ -	\$ -	\$ -
Reserves	\$ 14,435	\$ 14,683	\$ 14,683
Owners Draw	\$ -	\$ -	\$ -
CASH PAID OUT	\$ 127,676	\$ 117,851	\$ 117,851
ENDING CASH BALANCE	\$ 1,400,796	\$ 1,506,945	\$ 1,617,260

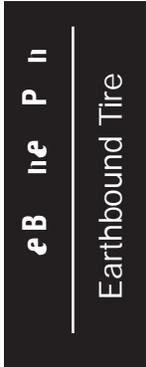
THIS DOCUMENT IS STRICTLY CONFIDENTIAL AND PROPRIETARY. IT IS B

EARTH BOUND TIRE RECLAMATION
COMPANY

[REDACTED]

	YEAR 1	YEAR 2	YEAR 3
ASSETS			
CURRENT ASSETS			
Cash	\$ 299,298	\$ 1,046,675	\$ 2,434,564
Accounts Receivable	\$ -	\$ -	\$ -
Inventory	\$ 92,751	\$ 175,525	\$ 277,777
Other Current Assets	\$ 56,000	\$ 191,688	\$ 383,768
TOTAL CURRENT ASSETS	\$ 448,049	\$ 1,413,888	\$ 3,096,109
FIXED ASSETS			
Land	\$ -	\$ -	\$ -
Building	\$ 21,600	\$ 21,600	\$ 21,600
Equipment	\$ 89,985	\$ 89,985	\$ 89,985
Vehicles	\$ 8,000	\$ 8,000	\$ 8,000
TOTAL FIXED ASSETS	\$ 119,585	\$ 119,585	\$ 119,585
LESS: Accumulated Depreciation	\$ 29,954	\$ 45,770	\$ 61,586

[REDACTED]



COMPANY

STATEMENTS OF CASH FLOWS

	START UP	YEAR 1	YEAR 2	YEAR 3
BEGINNING BALANCE	\$	\$ -	\$ 299,298	\$ 1,304,472
CASH FLOW FROM OPERATIONS				
<i>Composition Unit Sales</i>				
<i>Mold Sales</i>	\$ -	\$ 380,000	\$ 800,000	\$ 1,120,000
<i>License Fees</i>	\$ -	\$ 19,000	\$ 40,000	\$ 56,000
<i>Stock and Loans</i>	\$ 200,000	\$ 200,000	\$ -	\$ -
NET CASH FLOW FROM OPERATIONS	\$ 200,000	\$ 1,264,000	\$ 2,240,000	\$ 3,136,000

TOTAL CASH AVAILABLE \$ 200,000 \$ 1,264,000 \$ 2,539,298 \$ 4,440,472

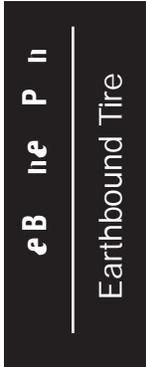
CASH PAID OUT

<i>Materials and Overhead</i>	\$ -	\$ 297,000	\$ 486,000	\$ 729,000
<i>Salaries and Wages</i>				

EARTH BOUND TIRE RECLAMATION
COMPANY

STATEMENTS OF CASH FLOWS

	START UP	YEAR 1	YEAR 2	YEAR 3
BEGINNING BALANCE	\$	\$ -	\$ 299,298	\$ 1,304,472
CASH FLOW FROM OPERATIONS				
<i>Compaction Unit Sales</i>	\$ -	\$ 665,000	\$ 1,400,000	\$ 1,960,000
<i>Materials</i>				
<i>Salaries</i>				
<i>Utilities</i>				
<i>Travel</i>				
<i>Insurance</i>				
<i>Depreciation</i>				
<i>Interest</i>				
<i>Stock and Loans</i>	\$ 200,000	\$ 200,000		
NET CASH FLOW FROM OPERATIONS	\$ 200,000	\$ 1,264,000	\$ 2,240,000	\$ 3,136,000
TOTAL CASH AVAILABLE	\$ 200,000	\$ 1,264,000	\$ 2,539,298	\$ 4,440,472
CASH PAID OUT				
<i>Materials and Overhead</i>		\$ 207,000	\$ 400,000	\$ 700,000
<i>Salaries</i>				
<i>Utilities</i>				
<i>Travel</i>				
<i>Insurance</i>				
<i>Depreciation</i>				
<i>Interest</i>				



Section 3: The Resource Directory

This Section contains resources for researching and writing your business plan—not all the available resources, but a good start. The directory covers all three feedstocks. You may also find helpful information from a source not exclusively related to your feed stock.

General Resources181

These are standard business resources that will assist you as you write your plan and in the day to day operations of your business. Most are readily available at your local public, college, or university library. Some are also available on-line, and they include their Internet or World Wide Web address. The material also organized to cover the entire region of business plan.

Recycling Resources185

These are directories, lists, and other written information about companies currently in the recycling industry. Often these resources provide good contacts for sources of supply, sales outlets, and general information.

Helpful Resources and Trade Associations & I191

These are people and organizations to help you find information and/or develop your business plan. It is a good idea to see how much of a financial assistance is available at no cost. Also included is a listing of major trade associations for the recycling industry. Trade associations can provide a wealth of assistance from informative publications to contacts in your particular area.

National and Professional200

Some pertain exclusively to plastics, glass or rubber. Many provide information on recycling in general and on small business.

Financial Resources and Professionals204

This list contains those targeted toward small business and/or recyclers. Once you have started your plan and understand your potential financing requirements, you should review this section. After studying this section, contact local bankers to apprise them of your situation and seek their input regarding what they need to see in your plan to consider you a good candidate for financing.

G a B R i M a a



Business Periodicals Index

Publisher:

H.W. Wilson Company
950 University Ave.
Bronx, NY 10452
(718)588-8400
<http://www.hwwilson.com/>

Type of information available:

Index of articles appearing in general business and trade periodicals, organized alphabetically by subject.

How to use it:

Obtain information on

- general industry trends
- news
- competitive information
- advances in technology

Business-to-Business Directory

Publisher:

Your local telephone company

Type of information available:

A listing of businesses in your local area that sell goods and services principally to other businesses.

How to use it:

Obtain information on:

- potential suppliers, customers, and competitors

County Business Patterns

Publisher:

U.S. Department of Commerce
Bureau of the Census
Data Use Services Div.
Washington, DC 20233
(301)457-4100
<http://www.lib.virginia.edu/socsci/cbp/cbp.html>

Type of information available:

State and county employment, payroll figures and numbers of establishments of various industries according to size. This resource is similar in content to the Census of the Service Industries, however County Business Patterns breaks down the total number of establishments by number of employees, but does not contain information on form of organization.

How to use it:

Obtain information on

- how many businesses in a particular industry are located in a county
- estimates of market size
- supply and demand potential

Encyclopedia of Associations

Publisher:

Gale Research, Inc.
835 Penobscot Bldg.
Detroit, MI 48226-4094
(800)877-GALE (877-4253)
(800)762-4058 fax
<http://www.gale.com>

Type of information available:

Lists of trade associations and other groups.

How to use it:

Obtain information on:

- Trade Associations
- Trade associations are potentially rich sources of information for both start-ups and those already in business. Trade associations may be able to provide you with industry information, consumer demographics, publications, and listings of trade shows, as well as other information.

The Internet

Type of information available:

The Internet is a system that integrates literally millions of computers, from major university mainframes to small PCs. Virtually any information that can be found in a library can be accessed on-line through File Transfer Protocol (FTP) sites. In addition, the government maintains information — from census bureau files, labor statistics, and law documents, to the hours the White House is available for tours — in huge libraries located on “the ‘Net.” Universities maintain research documents, academic and industrial studies, course descriptions, and library card catalogs. The importance the Internet plays in the research process can not be overstated. For example, a large portion of the research for this book was done on the ‘Net, and practically all of the text traveled on the information superhighway from author to editor and back again.

Marketing on the Inter

The Sourcebook of Zip Code Demographics

Publisher:

CACI Marketing Systems

1100 N. Glebe Rd.

Arlington, VA 22201

(800)292-CACI (2224)

(703)841-2916

(703)522-6376 fax

<http://www.caci.com/> or

<http://demographics.caci.com/>

Type of information available:

Provides demographic information such as population, income, race, age, and purchase potential, from the national to the local level, arranged by zip code.

How to use it:

Obtain information on

- determining the demographic characteristics of inhabitants of a certain geographic area(s)

Thomas Register

Publisher:

Thomas Publishing Company

Five Penn Plaza

New York, NY 10001

(212)695-0500

(212)290-7206 fax

<http://thomaspublishing.com>

Type of information available:

Lists companies and the products that they produce. Information is organized by both product type and company name.

How to use it:

Obtain information on

- customers

R _____ **R** _____ **Ma** _____ **a**

Annual Directory/Reference Material

Publisher:

American Recycling Market

PO Box 577

Ogdensburg, NY 13669

(315)471-0707

Glass Recycling Sourcebook

Publisher:

Glass Packaging Institute
1627 K St. NW, Suite 800
Washington, DC 20006
(202)887-4850
<http://www.gpi.org/>

A compilation of interesting glass container recycling facts and a bibliography on glass recycling sources.

Green Product Directories

Guide of Resource Efficient Building Elements

Publisher:

Center for Resourceful Building Technology
PO Box 3866
Missoula, MT 59806
(405)549-7678
<http://www.montana.com/CRBT/>

Excellent source of information. Guide also has national listings of recycled products, including over 400 manufacturers. \$25.00 per copy

Recyclers, Waste & Recycling Equipment, Internet Services Information, ON-LINE Market Prices, Grades & Specifications, Brokerage Group Services, RecycleNet (Agent Opportunities), Recycling Investment Opportunities, The Creator of Recycler's World, and other Recycling Sites on the Internet.

Visit the web site for the following menu items:

Automotive Recycling; Battery Recycling; Computer Recycling; Iron & Steel Recycling; Non-Ferrous Metal Recycling; Precious Metals Recycling; Exotic Metals Recycling; Tire & Rubber Recycling; Plastics Recycling; Paper Recycling; Wood Recycling; Textile & Leather Recycling; Glass & Fiberglass Recycling; Mineral Recycling; Liquids, Oils & Chemicals Recycling; Composting & Food Waste Recycling; Multi-Material Recycling; Waste Collection & Disposal; Used Building Materials, Used Equipment; Used Commercial Items; Used Consumer Items; and Collectible Items.

Recycled Products Guide

Publisher:

US General Services Administration

GSA Schedule Information Center

Washington, DC 20406

(703)305-6477

Most recent publication date is April 1994.

Or

Recycled Product Directory

Publisher:

Clean Washington Center
2001 Sixth Avenue Suite 700
Seattle, Washington 98121
(206)464-7040

Contains a listing of over 400 recycled content products ranging from office supplies to automotive parts.

Recycled Content Building and Construction Products

Publisher:

Clean Washington Center
2001 Sixth Avenue Suite 700
Seattle, Washington 98121
(206)464-7040

<http://www.cws.org/>

Contains nearly 500 construction and building products, classified according to Construction Specification Institute's master format system.

Resources for Recycling and Waste Management Entrepreneurs

Publisher:

Resource Recycling
PO Box 10540
Portland, OR 97210-0540
(503)227-1319
email: RESRECYCLE@aol.com

Directory of U.S. & Canadian Scrap Plastics Processors & Buyers

A listing of nearly 375 North American firms that purchase plastics scrap - including buyers of plastic containers, film, sheet and mixed thermoplastics. This resource will help you assess market opportunities in the fastest-growing sector of the recycling industry. Detailed information is provided for each company: grades of scrap purchased; form desired; preferred supply sources; desired shipping methods; and company contact information. The book also includes an extensive directory of plastics recycling equipment manufacturers. \$40.00 per annual issue.

Directory of Key Recycling Contacts

This guide provides 60 pages of contact information for all the key players in recycling. Over 700 listings for: state and federal recycling officials; recycling market development programs; state and provincial recycling associations; university recycling institutes; congr

Directory of U.S. & Canadian Plastic Lumber Producers

Nearly five dozen plastic lumber producers are listed in this directory. Two lists are provided. The first provides a geographical listing of firms by state and province. The second section is an alphabetical listing of lumber producers and, for many firms, a listing of the products they produce. \$4.95.

Recycling Market Profile: Glass Containers

A detailed, comprehensive assessment of the past, present and future markets for bottles and jars. Extensive data on supply, demand and pricing of cullet. All known buyers of cullet in the U.S. \$19.95. Back issues available.

The Directory of U.S. and Canadian Buyers of Scrap Cans and Bottles

This directory provides all the necessary information for collectors and processors of cans and bottles. Extensive details are provided for every U.S. and Canadian firm that buys glass and metal packaging. The directory is indexed by state and province, thus allowing the user to locate local markets. \$24.95.

The Directory of On-line Resources in Recycling and Composting

This comprehensive directory features World Wide Web pages; bulletin board systems in solid waste management; E-mail addresses for hundreds of recycling, composting and solid waste resources; database and government resources; and mailing lists. \$12.95.

State Recycling Laws Update

Publisher:
Raymond Communications Inc.
6429 Auburn Avenue
Riverdale, MD 20737-1614
(301)345-4237
(301)345-4768 fax
<http://www.raymond.com/recycle/>

Bi-monthly newsletter and yearly 140-page reference report on North American recycling laws and legislation. Covers 32 issues, including recycled content mandates, deposits, landfill bans, commercial mandates, flow control, tax credits, purchasing preferences. Each issue has a state bill summary, free E-mail service in between issues. Year-End Edition covers all issues, summarizes 500 laws, including Canadian policies, gives political outlook by state, indexed, 12 tables of laws, free wall charts.

H a R
(T a A a &I)

The Clean Washington Center

999 3rd Avenue, Suite 1080
Seattle, WA 98104
(206)464-6282
(206)464-5868 fax
<http://www.cwc.org/>

The Clean Washington Center was established to facilitate the development of viable, sustainable markets for recycled materials as an alternative to disposal. Without stable markets for the materials collected, the local investment made in collection systems cannot be sustained. A Glass Markets Information Systems has been developed by the Clean Washington Center as an aid for interested parties to identify some potential uses for post-consumer glass. The system records technical and economic information on existing and potential uses for recovered glass in an applications database.

Council on Packaging in the Environment

1255 23rd St. N.W.
Washington DC 20037
(202)331-0099

COPE is a national coalition of consumer product companies, packaging producers, material suppliers, retailers, trade associations and recyclers formed to help resolve environmental packaging concerns.

Kirkworks

PO Box 15062
Durham, NC 27704-0062
(919)220-8065
(919)220-9720
<http://www.kirkworks.com/>

Kirkworks is an economic development firm based in Durham, North Carolina. The firm provides services and develops initiatives to foster successful entrepreneurship in the recycling and environmental industries.

National Recycling Coalition (NRC)

1727 King Street, Suite 105
Alexandria, Virginia 22314-2720

The Environmental Council of the States

444 North Capitol St., NW
Suite 305
Washington, DC 20001
(202)624-3660
(202)624-3666 fax
email: eco@sso.org
<http://sso.org/ecos/ecosweb.htm>

The Environmental Council of the States (ECOS) is the non-profit, non-partisan organization representing environmental commissioners in the states, territories and the District of Columbia. The mission of ECOS is to improve the environment of the United States by providing for the exchange of ideas, views and experiences among the states, fostering cooperation and coordination in environmental management, and articulating state positions to Congress and EPA on environmental issues.

Environmental Protection Agency Regional Offices

The EPA can provide a vast array of information for the recycler. Before you begin operations, you must check with your regional EPA office to ensure proper compliance with environmental laws and statutes. Following is a list of each Regional office, the states under its jurisdiction, and contact numbers.

Region 1

(Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut)
John F. Kennedy Federal Building
One Congress Street
Boston, MA 02203
(617)565-3420

Region 2

(New York, New Jersey, Puerto Rico, Virgin Islands)
Jacob K. Javitz Federal Building
26 Federal Plaza
New York, NY 10278
(212)264-2657

Region 3

(Pennsylvania, Maryland, W. Virginia, Virginia, Washington DC, Delaware)
841 Chestnut Building
Philadelphia, PA 19107
(215)597-9800

Region 4

(Kentucky, Tennessee, N. Carolina, S. Carolina, Mississippi, Alabama, Georgia, Florida)
345 Courtland Street NE
Atlanta, GA 30365
(404)347-4724

Region 5

(Wisconsin, Michigan, Minnesota, Ohio, Illinois, Indiana)
77 West Jackson Blvd.
Chicago, IL 60604-3507
(312)353-2000

Region 6

(New Mexico, Texas, Oklahoma, Arkansas, Louisiana)
First Interstate Bank Tower
at Fountain Place
1445 Ross Avenue, Suite 1200
Dallas, TX 75202-2733
(214)655-6444

Region 7

(Nebraska, Iowa, Kansas, Missouri)
726 Minnesota Avenue
Kansas City, KS 66101
(913)551-7000

Region 8

(Montana, Wyoming, Utah, Colorado, N. Dakota, S. Dakota)
999 18th Street, Suite 500
Denver, CO 80202-2466
(303)293-1603

Region 9

(California, Nevada, Arizona, Hawaii, American Samoa, Guam)
75 Hawthorne Street
San Francisco, CA 94105
(415)744-1305

Region 10

(Washington, Oregon, Idaho, Alaska)
1200 Sixth Avenue
Seattle, WA 98101
(206)553-4973

Association of Small Business Development Centers (ASBDC)

A Small Business Development Center (SBDC) counsels, conducts research, and trains business people in a wide variety of business topics and provides comprehensive information services and access to experts in many fields. Each SBDC encourages unique local efforts, region to region, state to state, and community to community, to meet small business needs in its area. SBDCs develop and maintain partnerships among community organizations and local, state, and federal agencies, providing a focal point for broad networks of public and private resources at the community level. SBDC partnership programs and activities serving small businesses have contributed significantly to economic growth in each state.

For the location of the SBDCs in your state, contact:
Association of Small Business Development Centers
(ASBDC).

3108 Columbia Pike, Ste. 300
Arlington, VA 22204
(703)27-8700
(703)27-8701 fax

State Economic Development Agencies

Every state has some form of economic development agency which provides services ranging from management assistance to financing. The types of services provided will vary from state to state. As you develop your business plan, it is important to contact your state economic development agency to determine what types of help may be available. Many states offer investment tax credits, incentive programs, and recycling grant and loan programs. Contact your state government of

American Plastics Council (APC)

1275 K Street, NW, Suite 400
Washington, DC 20005
(800)243-5790
<http://www2.plasticsresource.com/>

The APC is publishing *Source Recycled! A Consumer's Guide to Recycled Plastics*. The products listed in this guide are just a sampling of the many quality items now made with recycled plastics. A user can obtain information on ideas for manufacturing and processing post-consumer plastic products, discovering current markets for plastic products, and evaluating competitor offerings.

Alliance of Foam Packaging Recyclers

2124 Priest Bridge Dr.
Crofton, MD 21114
(410)451-8340
(410)451-8343 fax
<http://www.presstar.com/afpr/>

AFRP's members, including manufacturers of EPS foam, their raw material suppliers and other companies, work to ensure that post-consumer foam packaging is recovered and recycled.

Appliance Recycling Information Centre

701 Pennsylvania Ave, NW, Suite 900
Washington, DC 20004
(202)434-7492
(202)434-7400 fax
<http://www.appliance-recycler.com/>

The ARIC aims to be the authoritative source of information on the environmentally responsible disposal and recycling of appliances and to improve the recycling rate for appliances.

Asphalt Recycling & Reclaiming Association

Chicago Board of Trade
Recyclables Exchange
141 W. Jackson
Chicago, IL 60604-2994
(312)341-7955
<http://www.cbot.com/>

The Chicago Board of Trade (CBOT) Recyclables

Southwest Public Recycling Association

PO Box 27210
Tucson, AZ 85726
(520)791-4069

SPRA is a non-profit organization based out of

N & P a

American Glass Review

Publisher:

Doctorow Communications Inc.

PO Box 2147

Clifton, NJ 07015

(201)779-1600

Plastics World

PTN Publishing Corporation
445 Broad Hollow Road, Suite 21
Melville, NY 11747-4722
(516)845-2700

For processors and designers involved in buying and specifying plastics materials, additives, and processing equipment

Recycling Times

4301 Connecticut Ave. NW, #300
Washington, DC 20008
(800)829-5443

Current Recycling market trends and prices
Provides a rundown of municipal recycling markets. Cost is \$99 for 26 issues.

Recycling Today

4012 Bridge Avenue
Cleveland, Ohio 44113-3320
(800)456-0707
(216)961-0364 fax

Recycling Today is a business magazine for recycling professionals providing the latest information on market development, equipment, waste recovery efforts, and
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features a special commodity and has regular departments including news on equipment, recycling and composting programs, association and state activities, and more. Resource Recycling also has five special editions: the Recycling and Composting Equipment Directory in July, supplements on compost, recovered paper and recovered plastics and, in December, an analysis of the year in review. \$47.00/year.

Rubber World

Publisher:

Job Lippincott

PO Box 5485

1867 Market St.

Akron, OH 44334-0485

(330)864-2122

(330)864-5298 fax

<http://www.rubberworld.com>

Today's news, classified ads, technical forums, bulletin board, supplier index, etc. for rubber manufacturers, distributors, etc.

Scrap Tire News

Publisher:

Recycled Research Institute

PO Box 714

133 Mountain Road

Suffield, CT 06078

(860)668-5422

(860)668-5651 fax

Contact: Mary Sikora

Scrap Tire News is a monthly newsletter covering the news and developments in the scrap tire recycling industry. Regular features of Scrap Tire News include news briefs on industry activity, legislative updates, and company profiles. Special articles on new equipment, crumb rubber, tire derived fuels, asphalt rubber, and other markets.

WPublisher:

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Venture Capital Databases and Networks

A1 Research Corp	(415) 852-9140
American Venture	
Capital Exchange	(503) 221-9981
Business Capital Sourcing	(805) 564-3620
Business Opportunities Online	(800) 872-8710
DataMerge	(303) 320-8361
Environmental Capital Network	(313) 996-8387
Technology Capital Network	(617) 253-6173
Venture Economics	
Investor Serv. Group	(617) 345-2504

Venture Capital: Where to Find It; The NASBIC

Membership Directory

National Association of Small Business
Investment Companies
1199 N. Fairfax St., Suite 200
Alexandria, VA 22314
(703)683-1601

US Department of Energy, NICE3

(303)275-4728

There are numerous regional, state, and local funding sources which may be available throughout the United States. Contact your State Department of Conservation or Environmental Quality to see what programs are available in your state. These divisions of the government can give you information on:

- Market development zones;
- Funding corporations;
- Local Economic Development Agencies;
- State agencies (such as the Department of Conservation);
- Local government programs; and
- Private grant programs.

In addition, they can also provide assistance in the following areas:

- Letters of credit;
- Surety bonds;
- Grants and loans;
- Leasehold agreements;
- Interest rate buydowns;
- Technical assistance; and
- Tax incentives.

US SMALL BUSINESS ADMINISTRATION

Main Office
1441 L St., NW
Washington, DC 20416
(800)827-5722 Answer Desk
(202)205-7717 General Question and Answer
Number
(800)697-4636 Computer Access (9600 baud)
http://www.sbaonline.sba.gov/business_finances/pollute/all.html

The US Small Business Administration (USSBA, or SBA) has a variety of loan programs. Most notable to recyclers is the Pollution Control Loan Program. Pollution Control loans are intended to provide loan guarantees to eligible small businesses for the financing of the planning, design, or installation of a pollution control facility. This facility must prevent, reduce, abate, or control any for

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