
EXPANDING
SCRAP-BASED MANUFACTURING
THROUGH THE
COMMUNITY JOINT-VENTURE
PROCESS

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INSTITUTE FOR LOCAL SELF-RELIANCE
Environmentally Sound Economic Development

EXPANDING SCRAP-BASED MANUFACTURING THROUGH THE COMMUNITY JOINT-VENTURE PROCESS

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INSTITUTE FOR LOCAL SELF-RELIANCE

The Institute for Local Self-Reliance (ILSR) is a nonprofit research and educational organization that provides technical assistance and information to government, citizen organizations, and industry. Since 1974, ILSR has researched the technical feasibility and commercial viability of environmentally sound, state-of-the-art technologies with a view to strengthening local economies. ILSR works to involve citizens, government, and private enterprise in the development of a comprehensive materials policy oriented towards efficiency, recycling, and maximum utilization of renewable energy sources.

This document is one in a series of manuals prepared for the National Capital Area Project. The five manuals listed below are available from the Institute for Local Self-Reliance's (ILSR's) National Office:

Recycling Economic Development through Scrap-Based Manufacturing

Minimizing Waste, Maximizing Recycling

Creating Local Recycling Markets

Expanding Scrap-Based Manufacturing through the Community Joint-Venture Process

Preparing a Business Plan for a Small-Scale Recycling-Related Venture

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INTRODUCTION

The solid waste bill for the country has skyrocketed from \$2 billion in 1970 to \$30 billion in 1990, and is expected to rise to \$45 billion in 1995 and \$75 billion in 2000. Ninety-nine percent of these expenditures come from local budgets. Our local governments need to reduce their outlays if they are to cope with these increases. This requires that the billions now spent on disposal be invested in processing and manufacturing. The 200 million tons of municipal solid waste generated annually in the U.S. can be translated into a half-million jobs and \$200 billion in annual revenue.

Further, using these materials efficiently will create a cascade of environmental benefits. While the annual municipal solid waste generation total is 200 million tons, there are actually closer to 12 billion tons of total waste produced annually when mining wastes, industrial wastes, agricultural wastes, and sewage are included. Municipal solid waste is merely the tip of the iceberg. As we recycle and reuse those materials, our dependence on mining and logging will also be reduced, and the hidden wastes produced through those activities will likewise decline.

ABOUT THE MANUAL

The purpose of this manual is to outline one method for cities, states, and regions to use to attract and expand scrap-based manufacturing firms (businesses that utilize collected recyclables as their primary feedstocks). By doing so, these areas can trigger a cascade of economic and environmental benefits for citizens,

businesses, and local governments. The information contained in the booklet is drawn from direct experience in the field. Literary and personal references are included to facilitate further exploration of strategies and contacts that will be useful for replicating businesses and plants throughout the United States.

The information should be helpful to community economic development organizations seeking to create jobs and entrepreneurial opportunities for their constituents. The information presented is also relevant to entrepreneurs, investors, and manufacturers interested in initiating or expanding their activities by locating new plants and/or by incorporating locally-generated materials in their existing operations. Government economic development and solid waste agency officials should also become familiar with state-of-the-art recycling and scrap-based manufacturing so that they can accelerate the process of building a diverse scrap sector for their local economies.

THE IMPORTANCE OF SCRAP-BASED MANUFACTURING

The environmental movement has played a key role in convincing citizens, businesses, industry and governments to create new rules for solid waste management. It has done so by demonstrating that our current accounting system is biased in favor of the inefficient and wasteful use of material and energy resources. Indeed, an enduring legacy of the environmental movement in the United States is the recognition of the distinction between price and cost.

Price is what the individual pays. Cost is what the community as a whole pays. A free market system functions effectively only when it relies on accurate price signals. Yet it is evident that the prices we pay for goods and services do not comply with the full costs of extracting raw materials; the processing, manufacturing, and distribution of final products to the consumer; nor disposal of the products themselves and the wastes generated along the way. When, as in the late 1970s and early 1980s, businesses and cities could put solid waste in a landfill for \$3 per ton, it was virtually impossible to implement large-scale recycling. But as the environmental impacts of waste generation and disposal were internalized (incorporated into the accounting system) in some states, the cost at landfills soared to up to \$125 per ton.

By bringing these costs into the economic accounting system, strong environmental protection has stimulated a massive investment in technologies and enterprises that use materials recovered from the waste stream to produce new products. This process has been a gateway for creating wealth within our cities and counties through value-added processing and manufacturing.

Recycling creates jobs, and the manufacturing link in the recycling chain creates the greatest number and highest skill-level jobs in the entire system. For example, a worker in a scrap-based manufacturing facility in Maine earns an average hourly wage of \$10. This compares favorably to the

average \$9.50 hourly wage for all workers in that state.

Scrap-based manufacturing can contribute substantially to the local revenue stream. For example, one maker of plastic curbside recycling bins reports revenues of \$1,900 per ton of product produced. Paper products made from the various grades of scrap garner different levels of revenue: at the low end, one cellulose building insulation maker grosses \$170 per ton, while a maker of tissue products grosses \$1,000 per ton. Such revenues, in turn, contribute to the local economy's tax base.

In addition to supplying jobs, revenue, and products to the immediate region, scrap-based manufacturers create demand for local goods and services. The demand for goods (such as feedstock materials, replacement parts, and office supplies) and services (such as uniforms, food and entertainment services for its employees, administrative services, insurance, and cleaning and maintenance) can add significantly to the local economy. The number of indirect jobs related to scrap-based manufacturing usually results in between 1.2 and 3.2 times the number of jobs created directly from scrap-based manufacturing.

Recycling added nearly \$300 million and over 2,000 jobs to Maine's economy in 1992. The scrap-based manufacturing component of this field contributed \$140 million in value to feedstocks and employed 600 workers. Another 770 workers found employment at companies that support the scrap-based

manufacturers, adding an additional \$100 million in value.

In Pennsylvania, more than 70 scrap-based manufacturers, and 300 to 400 companies that sell and distribute recycled products, contribute significantly to the state's economy. An estimated 10,000 jobs are currently sustained by recycling-related businesses. New Jersey recognized 9,000 employees working for scrap-based manufacturers in 1991. Massachusetts calculated that, in 1991, more than 200 recycling-related facilities in the state added nearly \$600 million of value to scrap, employing nearly 9,500 workers, more than half of whom worked in the manufacturing sector.

The Institute for Local Self-Reliance (ILSR) developed an economic model showing that a city of one million people could sustain 30 facilities on secondary resources that would otherwise be burned, buried, or exported. (This assumes a comprehensive recovery and source reduction program, and a waste stream similar to national characteristics.) In addition to diverting more than 635,000 tons of solid waste annually from local landfills and incinerators, thereby saving nearly \$10 million in disposal costs (assuming a moderate \$15 per ton tipping fee), the 30 facilities would add an average value of \$470 to each ton of previously discarded material. In the process, they would bring three-quarters of a billion dollars and almost 2,000 manufacturing jobs to the community. An additional 2,550 jobs would be created as a result of these manufacturing enterprises.

MANUFACTURERS

Many successful entrepreneurs are hoping to site new scrap-based manufacturing facilities across the United States, bringing with them the myriad of economic benefits discussed above. Their plants generally require a relatively small radius to support their supply of materials and market needs. For example, Aluminum Waste Technology of Cleveland, Ohio, recycles dross and salt cake from secondary aluminum smelting. Company executives recognize that the 200 million pounds of dross dumped each year can support twenty similar plants throughout the United States. As feedstocks for this industry are generated, primarily in the Midwest, Southeast, and in southern California, the company is focusing its expansion efforts on these areas.

Webform, Inc., of Easton, Pennsylvania, processes newsprint and phone books into industrial paper products. Company officials have developed markets to satisfy five plants in the Mid-Atlantic region alone; long-term plans call for expansion into the Midwest, and then throughout other sections of the United States.

Coon Manufacturing, located in Spickard, Missouri, has identified the need for dozens of multifaceted plants to manufacture plastic products. Coon uses extrusion and rotational molding technologies to produce high-value products from recycled plastics. "The only limiting factors are capital, and the number of local entrepreneurs who want to replicate what we have already done and expand into their

own local markets," says inventor and entrepreneur Bill Coon.

RECYCLING-BASED DEVELOPMENT AND THE COMMUNITY

As scrap-based manufacturing is still in its early stages of development, a great opportunity exists to shape the new industry to maximize its benefit for communities. Recycling provides a new source of raw materials to localities that are otherwise without substantial resources. To extract the maximum benefits from these materials, the community must develop its capacity to collect, process, remanufacture, and sell the materials locally. The best way to assure the community-building promise of this new industry is to establish working relationships between businesses and the community.

This manual provides a step-by-step guide to the joint venture process, a process which can be used to unite interests of the community and business in developing sustainable models for industry.

LAYING THE GROUNDWORK

CREATING A MARKET DEVELOPMENT TASK FORCE

Government directly controls residential waste and indirectly controls private sector waste through regulations, permitting, and pricing. Without a supportive government policy, it can be difficult to attract scrap-based manufacturers to an area. To gain the attention of their

executives and city and county councils, advocates of scrap-based economic development may need to form an advisory committee or task force to investigate and publicize the opportunities for attracting recycling businesses to the area. Citizens, business people, and government officials should be represented on the task force. Their initial work should be to conduct or commission a study to obtain preliminary information on:

- successful market development policy models from around the country;
- existing and potential types and quantities of scrap material;
- businesses using recycled materials that are currently operating in the area;
- new types of businesses that could be attracted; and
- existing and potential tools for attracting businesses.

This preliminary information can help enlist the interest of the community, the local government, and the private sector.

ESTABLISHING A RECYCLING-BASED ECONOMIC DEVELOPMENT POLICY/PLAN

Any serious market development effort requires a declaration of support from the local government. The city council and/or the mayor can show their support by establishing a policy for attracting recycling-based businesses to the area. This policy can indicate a general willingness to support recycling-based economic development, or, more helpfully, it

can provide detailed steps of action that the government will take to attract or expand businesses and how funds are to be allocated towards this purpose. Features of this policy may include the establishment of:

- an office (or coordinator) of recycling market development;
- financial and other incentives to attract businesses;
- a recycling market development zone;
- a Buy Recycled program.

For more detailed explanations of these items, see the "Local Incentives Package" section below, and the companion booklet *Creating Local Recycling Markets* (ILSR).

CREATING COMMUNITY-BASED RECYCLING ENTERPRISES THROUGH JOINT VENTURES

WHO IS INVOLVED?

A joint-venture arrangement is a way of creating a partnership between private and/or public sector interests. In the recycling field, joint ventures can include many combinations of appropriate parties:

- local or national hauling companies;
- local or non-local processors;
- local or non-local manufacturers;
- non-profit recycling operations;

- other local business interests/entrepreneurs;
- community groups;
- local governments.

WHY JOINT VENTURES?

The combination of for-profit and non-profit interests strikes a balance between economic success and community development. On one hand, companies can derive certain benefits from joint venture arrangements. Local government or non-profit partners can assist them in a number of ways, such as:

- identifying available sites and infrastructure (see sidebar);
- securing sources of capital (see sidebar);

BETHEL NEW LIFE, INC.

Bethel New Life, Inc., a church-based community development corporation (CDC) in Chicago, controls a six-acre site in West Chicago. It plans to make the land available to a manufacturer in exchange for equity in the plant. Bethel is also hoping to acquire a 30-acre site which will be made available to a number of scrap-based manufacturing firms. In exchange for making the land available at below market rates, Bethel New Life will receive equity shares for each business locating at the site, and will maintain a seat on the board of each new enterprise. By foregoing immediate payments of rent for the land, the community group is positioning itself for long-term growth as partners in the businesses.

Source: Institute for Local Self-Reliance, 1994.

FUNDING SOURCES

Community groups can also bring low-cost capital to a project through their relationships with corporate sponsors or foundations. Grants and Program Related Investments (PRIs, discussed later in more detail) are such avenues. The Community Reinvestment Act (CRA), through which funds are reserved for community-oriented projects, is another source made accessible through community involvement in the joint venture process (see below).

Source: Institute for Local Self-Reliance, 1994.

ONE ENTREPRENEUR'S VIEW OF RECYCLING-BASED JOINT VENTURES

Webform, Inc., of Easton, Pennsylvania, has developed a number of joint venture proposals which are currently being considered in a number of states. Webform's manufacture of non-woven textile fiber products requires no de-inking, and increases the value of old newsprint and phone books by 50 to 100 times. One proposal is structured as follows: Webform will provide machinery and management to the company that is being created. A public entity and a private investment source that has a strong interest in recycling will provide financing for the venture, with each partner holding a one-third interest. Webform will operate the facility, paying a recycling program directly for its feedstock of old newsprint and phone books. The business will create an estimated 40 jobs, and will establish a fund that will contribute to further scrap-based manufacturing development. The fund will be managed by Webform and members of the local government or community.

According to John Prescott, Vice President of Webform, a joint venture must exhibit certain traits to succeed:

- The company involved needs to produce a financially viable product that will live on its merits without relying on subsidies. The company should be able to pay for its supply of raw materials; if the company currently receives for free or accepts payment for the materials it uses as its feedstock supply, it should be prepared to make the transition to paying for these materials when markets for them become firmly established. The business must also be based on competitive technology and an understanding of the market dynamics surrounding its particular product. If scrap-based manufacturing does not become fundamentally market driven, it will fail, according to Prescott.
- The investment source should be some type of established business for whom the project makes financial sense. This partner should demonstrate its commitment to the project by supplying funds or technology. With this backing, the public sector can be more assured of the financial viability of the project, and should only then offer its own resources to the project.
- The public sector should be prepared to commit as much money to the establishment of the recycling infrastructure as is necessary to make recycling viable. When the infrastructure is established, the public should expect that the money paid for these materials covers the cost of collection efforts. Businesses subsidized by the taxpayer through collection programs will not survive indefinitely. Returns from the investment should be provided through royalty fees, or, if supported by taxpayers' dollars, into programs that perpetuate recycling.

Sources: Institute for Local Self-Reliance, 1994; John Prescott, President, Webform, personal communication, June 8, 1994.

- establishing strong supply and market links;
- securing a competent work force through a labor pool and training program;
- facilitating permitting requirements and other government red tape;
- invoking support of the community.

On the other hand, the community can be the recipient of:

- new, viable businesses that inject money into the community;
- direct financial assistance paid to community groups or government;
- jobs at livable wages for a variety of underserved constituencies;
- local markets for collected recyclable materials.

JOINT VENTURE OPTIONS

While many hybrid arrangements can be made, the following list reflects the main types of community-based joint venture arrangements:

- *Stock transfer.* A company provides a participating community group or the city government with a share of stock in the existing company.
- *New stock equity.* The company forms a subsidiary where it is locating a new facility, and provides the community stock ownership in the new entity.
- *Host community fee.* The company provides a per-ton-of-feedstock-delivered fee to a community group partner.
- *Fixed set-aside of profits.* Under this arrangement, the company provides a community group with a fixed portion of the profits generated from the new venture.

A TIP FOR COMMUNITY GROUPS AND LOCAL GOVERNMENTS

Enhancing the Financial Viability of the Projects Can Earn You More Equity

Many companies have their financing established because they have operated successful businesses in the past. But many investments need credit enhancements, such as letters of credit or bonding. Community Development Corporations (CDCs) may approach major corporate sponsors to provide letters of credit for the enterprise. Instead of taking the two percent fee normally charged for the letter of credit, a lending institution can apply this amount toward equity shares for the CDC.

It is important to remember that, in some cases, equity partners want limited involvement. A manufacturer investing in a plant with a community group may want to be taken out of the deal within three to five years, to pursue similar projects in other cities.

Source: Institute for Local Self-Reliance, 1994.

STEPS IN THE JOINT-VENTURE PROCESS

The myriad of possibilities involved with joint-venture arrangements makes a generic description of the process problematic, because the shape the joint venture takes depends largely on the types of partners in the project, and whether the arrangement is initiated by a business interest, a community group, or a local government official. In defining the steps of the joint venture process for the purpose of this manual, we have developed a model that is most easily initiated by local government, simply because such entities have the greatest capacity for establishing the process as a policy, thereby creating the greatest opportunity for replication.

Experience shows that assigning a city government official to attract scrap-based manufacturers is extremely helpful to the process. This individual serves as a magnet for company inquiries, and can coordinate business retention/attraction/expansion efforts to assure nothing falls through the cracks. This individual should maintain information regarding financial and technical assistance of public and quasi-public agencies; zoning and permitting regulations and the contacts in pertinent agencies; and regional demographics. This information will be useful in a city's overall business retention/attraction/expansion program. To this end, the recycling market development contact may want to share information with other economic development officials to develop a consolidated approach for the city.

Indeed, economic development officials often have general information on business retention and expansion that can be useful to those more closely focused on scrap-based businesses. Jim Robinson, of the Montgomery County, Pennsylvania, Commerce Department, has developed an impressive system that enables him to spark the interest of many businesses looking to locate in the area. The resources he has compiled include demographic profiles of the different sectors of the county, and lists of available government and non-government sources of support, including an inventory of university technical assistance providers. Robinson also provides summaries of information tailored to the specific concerns of different inquiring businesses.

Information from non-governmental organizations focused on business development is also helpful. The Montgomery County Industrial Development Corporation (MCIDC) provides hands-on assistance to specific businesses that have chosen to locate in the area. The MCIDC has also developed a database to help identify sites that fit particular business needs.

The Regional Jobs Corporation of the Steel Valley Authority in Homestead, Pennsylvania, has developed a database system called the Manufacturing Basic Analysis System (MBAS) that could aid economic development efforts, particularly in regard to scrap-based manufacturing. A geographically-based system, MBAS can identify and describe businesses in a particular area, supply demographic

information about the region, and display transportation routes and other infrastructure information. This database can be very useful for agencies needing to assemble information for queries by scrap-based manufacturers.¹

A. DETERMINE THE MATERIALS AND MARKETS NEEDED TO SUSTAIN NEW ENTERPRISES

A study should be conducted to determine the quantity and quality of the materials available for recovery from the local waste stream. Coordination and training of economic and solid waste management officials, and other leaders from the study area, should begin during this stage of the process, and should be maintained throughout. The study should include:

- the actual and projected amount of recyclable materials diverted annually;
- the actual and projected types and number of plants using locally-generated recyclables as feedstocks;
- the actual and projected number of related jobs;
- the actual and projected value added to the local economy;
- the projected amount of new annual tax revenues;
- the actual and projected avoided annual disposal costs.²

San Jose, California, commissioned a study based on these criteria, and found that substantial benefits to the local economy would result from the

use of recycled materials. The study found that 775 new jobs would be created, nearly \$9.4 million in landfill costs would be avoided annually, and that the city would receive about \$2.7 million in annual tax revenues.³

Identifying the local businesses that are already using recycled materials in their processes is important for two reasons. First, identifying and evaluating these businesses can show how and to what extent certain feedstocks are being used locally. This information will preclude unnecessary duplication of efforts. Secondly, by surveying the businesses in the area as to their use of recycled feedstocks, initiators may identify local businesses interested in participating in a joint venture.

B. IDENTIFY COMMUNITY-BASED ORGANIZATIONS WITH WHICH TO WORK

A community group participating in a venture should have adequate business knowledge and experience, as well as a stable financial position. As with any venture, a partner that is financially unstable puts the enterprise at risk. Failure of a community group could precipitate the failure of the enterprise itself. Moreover, in the event of a community group's dissolution, the community itself could lose the equity share derived from the community group's participation in the venture.

In Flint, Michigan, a community group and a recycling company successfully raised funds from state, private, and foundation sources to build and operate a multi-material processing plant. Due to internal

funding and leadership difficulties, the community group that had received equity in the venture eventually dissolved. The recycling company was left with sole ownership of the new enterprise, and no joint venture partner through which it could channel funds back to the city.

Had higher equity levels been established in the development of that venture, the community group may have been able to survive. Indeed, other community groups have also sold themselves short in negotiating equity levels. In one project in Indiana, a local enterprise development agency was negotiating for 15 percent equity in the project. Upon investigation by ILSR and a private analyst, it was pointed out that grant funds, land, and development assistance contributed by the public sector were enough to warrant a much higher equity share. The final negotiations called for a 40 percent share for the public entity.

C. DEVELOP LOCAL INCENTIVES PACKAGE

The market development task force should prepare a list of incentives that they can provide to scrap-based manufacturers willing to locate in the city or county. Many of these items will have been established under the recycling market development policy of the city or county. A list of potential offerings includes:

- tax breaks;
- low-interest loans;
- tax-exempt bonds;
- siting and permitting facilitation;

- market guarantees;
- infrastructure incentives;
- labor access/training;
- low cost feedstock or quantity assurances;
- creation of recycling market development zones (see the companion booklet, *Creating Local Recycling Markets*).

Cities or counties chosen for the enterprise/empowerment zone program of the U.S. Department of Housing and Urban Development will receive an additional incentive package from the federal government. This program creates tax breaks, low-interest loans, and other incentives for businesses willing to locate in targeted sections of chosen cities and counties. To qualify, cities are required to submit applications to the program, which are then judged in part on the city's ability to provide a leading role for community development organizations in determining the strategy for and the management of initiatives within the zones. Bethel New Life, Inc., in Chicago, and the Marshall Heights Community Development Corporation, in Washington, DC, both submitted plans that explain how scrap-based manufacturing can serve their community and economic development goals. These plans serve as excellent examples of community input into the overall economic development plan of the particular cities. Cities such as Los Angeles, Philadelphia, and Baltimore have also identified scrap-based manufacturing as a top priority in their applications,

and have named specific companies that have been recruited for their particular locales.

D. IDENTIFY POTENTIAL SOURCES OF FINANCING

Other tools to attract businesses may be developed outside of the incentive package prepared by the local government. These tools are ones that

A MODEL JOINT VENTURE IN THE WORKS

The Natural Resources Defense Council, the Banana Kelly Community Improvement Association, the Scott Paper Company, and the Modo Paper Company recently formed a venture to create the Bronx Community Paper Company. The business, to be located on a 19-acre site in the South Bronx, will produce recycled paper from New York City's used paper. The Paper Company is expected to create 180 to 200 jobs at the plant, and 100 additional jobs for a variety of social services, including day care and health facilities, housing, and education. Banana Kelly will be an equity partner in the project as well. The paper companies have contributed a total of \$550,000 towards the \$100 million project, and another \$3.15 million has been secured through foundation and government sources.

A JOINT VENTURE BETWEEN FOR- AND NOT-FOR-PROFIT RECYCLERS

TriCed, Inc., a non-profit recycling company based in Union City, California, and Waste Management of Alameda County (WMAC, a division of Waste Management, Inc.) currently operate a joint venture enterprise in Hayward, California. The 50/50 partnership for the collection and processing of recyclable materials services 41,200 households in the city. TriCed, an established recycling operation, did not have the equipment to process the cardboard, mixed paper, and motor oil which the city wanted recycled. Under the terms of the venture, WMAC and TriCed each collect recyclables from the city, which are then processed at WMAC's MRF.

According to Richard Valle of TriCed, "To serve households in Hayward, we needed WMAC's processing center capacity." In turn, WMAC representative Adam Davis said, "The city expressed a desire for non-profit and local involvement in the service. TriCed's willingness to propose with us was instrumental in the success of our bid."

By creating a 50/50 partnership, the two companies were able to land a five-year service contract for Hayward. The monthly fee per household for the service is \$2.19. Based on the award of the contract, TriCed independently negotiated with the Irvine Foundation and the San Francisco Foundation for two Program Related Investments totaling \$650,000. These five-year loans were established at five percent interest.

Soon after these two very different groups joined forces in Hayward, they again pooled their resources to form another venture. In Union City, California, WMAC, which holds the contract for the city's garbage hauling, subcontracted with TriCed to separately collect yard debris from 15,000 homes. TriCed also collects the recyclables from Union County's curbsides; interestingly, this curbside collection contract was won in a direct competition with WMAC.

TriCed is currently negotiating with commercial banks for a \$1.8 million loan to finance a new processing facility for the company. The new facility will allow TriCed to significantly lower the cost of processing the materials it handles.

Sources: Institute for Local Self-Reliance, 1994; John Holusha, "Pioneering Bronx Plant to Recycle City's Paper," *New York Times*, Friday May 6, 1994, page D1; Richard Valle, TriCed, personal communication, June 8, 1994.

are provided for the specific purpose of revitalizing communities. With the increasing realization that the recycling economy is a prime catalyst for change, these tools are being applied with greater frequency to community development initiatives that include the attraction of scrap-based manufacturing businesses.

1. State and Federal Funds

State economic development programs may provide financing options for scrap-based manufacturing projects. Companies may be able to take advantage of traditional economic development assistance provided by the state, as well as moneys provided by emerging programs geared specifically toward recycling and scrap-based manufacturing companies. New York State's Department of Economic Development created the Office of Recycling Market Development (NY ORMD) to help businesses and local governments expand the recycling economy. NY ORMD provides technical assistance to businesses looking to expand their use of recycled materials, and provides funds to research and develop new techniques in scrap-based production.

In Washington State, the Clean Washington Center has received \$1.2 million in federal funds to help 700 firms increase their use of recycled materials. Thirty states now provide some sort of tax exemption to recycling businesses,⁴ and loan guarantees, loans, and grants are available in a number of states as well.

Hawaii is the latest state to take up the market development challenge. Pending approval from the governor, the Clean Hawaii Center will be able to

provide low-interest loans and grants to scrap-based manufacturing businesses by the end of the calendar year.⁵

Obtaining a bond issue from the state is another possibility for funding, as scrap-based manufacturing businesses fill an environmental need. Normally, a bond issue of at least \$3 million, accompanied by a credit enhancement, is needed to make this type of debt financing feasible.

At the federal level, the United States Environmental Protection Agency (U.S. EPA) has recently developed a program entitled "Recycling Means Business" to encourage the commercial/industrial use of recycled materials. As a component of the program, the U.S. EPA will establish Recycling/Reuse Business Assistance Centers (RBACs) in several states and tribal jurisdictions. The RBACs will provide technical, business, financial, and marketing assistance to new and existing businesses that use recycled materials. Functions of the RBACs will include expediting permit processes, finding low-cost testing options for recycled products manufacturers, establishing support from existing loan and grant programs, and helping to disseminate recycling technology information. The RBACs will be established with the cooperation of state/tribal economic development and recycling agencies, and are intended to survive beyond the point that EPA funds are exhausted.⁶

The U.S. EPA will also fund Recycling Economic Development Advocates (REDAs) within state or

tribal economic development agencies. These individuals will focus on retention, expansion, and attraction of recycling-based manufacturers by developing advisory councils, compiling information on financial and technical assistance, and identifying how recycling-based businesses can take advantage of traditional economic development tools.⁷

On November 15, 1993, the administrators of the U.S. Small Business Administration (SBA) and the U.S. EPA signed a memo of understanding to promote the development and commercialization of environmental technologies.⁸ As community-oriented scrap-based manufacturing operations meet this criteria, the SBA may soon become a good source of loans for such projects. The two agencies have had preliminary discussions on the possibility of transferring funds to SBA to explore the capability of a partnership between EPA and SBA to fund environmentally sound businesses, and to study the feasibility of establishing a loan program for the development of environmental technologies.⁹

2. The Community Reinvestment Act

The Community Reinvestment Act (CRA) was passed in 1977 to stimulate banks to invest in the communities where they do business. CRA gave particular emphasis to low- and moderate-income neighborhoods. According to CRA, banks should give high priority to businesses locating in these neighborhoods.

Citizen coalitions have been formed in a number of communities

around the country to ensure that the dictates of CRA are followed by banking institutions. Citizens can write CRA challenges and object to license renewals or bank mergers if they feel the banks have not been responsive. The banking community is in turn supposed to demonstrate how they have reacted to the communities' priorities. If citizens and community groups simultaneously facilitate specific deals for the banks to consider, the CRA process can be very useful. By registering support for scrap-based manufacturing with a local CRA coalition through formal letters and meetings, citizens can help to make this industry a priority of CRA lending.

Community groups can obtain copies of a bank's CRA rating, and a narrative to justify that rating, from any particular bank. These documents are useful in determining the strengths and weaknesses of the lending institutions in their areas, and the potential for securing CRA financing from a particular bank.¹⁰

3. Program Related Investments (PRIs)

Loans of low- or no-interest are sometimes made by foundations and corporations to non-profit organizations involved in community development. These loans, called Program Related Investments (PRIs), can be an important part of the joint-venture process. PRIs allow non-profit groups to buy equity in for-profit manufacturing plants that are located in their area. Because PRIs are structured as high-risk, low-return loans, they allow PRI lenders to take a more subordinate position than other

lenders in a project. PRIs are especially relevant to projects that are attempting to create jobs and equity for low-income residents served by the community organizations involved.

The John D. and Catherine T. MacArthur Foundation has recently introduced a PRI program exclusively for recycling and scrap-based manufacturing ventures. The Materials for the Future Foundation also funnels capital to community-based recycling enterprises in the form of PRIs.¹¹

4. Other Foundation and Corporate Money

While PRIs are one method by which foundations and corporations can help fund joint ventures, they may also provide direct grant assistance for the projects. Most foundations have strict guidelines and categories for funding; joint venture projects may fall into environmental, community development, or economic development program areas. If the project promises employment opportunities for special populations, such as people with disabilities, the projects may be relevant to other program areas.

In some cases, corporate sponsors are also willing to provide grants. The Orange Grove Center in Chattanooga, Tennessee, raised \$6 million in corporate and foundation moneys to build a modern intermediate processing plant and to build on-site housing for handicapped employees.

5. Local Investors

Community groups may also be able to locate investors in their area

who may be willing to provide start-up capital or other assistance for new scrap-based manufacturing operations. In fact, many CDCs have a strong support base of local business people. These supporters should be apprised of any plans for joint venture development, and queried regarding their interest in becoming financially involved with the projects.

6. Revolving Loan Funds

Revolving loan funds may also aid the start-up of community-oriented, recycling-based manufacturing operations. Established to stimulate local economic development, a revolving loan fund can be targeted to a recycling-based project if the fund managers can be convinced of the viability of and community need for such a project. Criteria for consideration by a local, regional, or national revolving loan fund may include: number of jobs created for low-income or special needs populations; impact on the community in which the enterprise will be located; length of time for which the loan is needed; collateral available to secure the loan; and ability to repay the loan.¹² For more information on revolving loan funds, please see the companion booklet *Creating Local Recycling Markets*.

7. Conduct a Net Return on Investment Analysis

To assess the viability of the incentives available from the local government and other sources, venture participants may want to conduct a net return on investment analysis. By incorporating the benefits available from traditional and specialty incentive programs into the

anticipated net return on investment, venture participants can more clearly assess the value of such programs. The analysis inevitably illustrates how the initial net return on investment is augmented by such programs. By showing the enhancement, companies may determine that their return on investment will be considerably higher if they locate in a particular city to take advantage of specialty programs.

E. IDENTIFY POTENTIAL RECYCLING-BASED ENTERPRISES

1. Survey Existing Enterprises to Assess Their Market Share and Interest in Expansion

Careful attention must be paid to existing recycling businesses and scrap-based manufacturers, as well as those manufacturers that want to expand into recycling fields. Existing enterprises must be respected as valuable players in the local economy. It is not advisable to attempt to bring in a business that will directly compete with an existing company. Communication between new and existing companies can result in the development of new product lines that fill independent market niches. Dick Ernst of Wood Fiber International states that he always determines if wood manufacturing companies are already present in a city before he tries to start a new wood recycling/manufacturing operation. "These companies have the technology, skilled labor, sense of the market, contacts in the financial community, etc. Rather than start from scratch, it is far easier to work with a company to expand its use of recycled wood fiber and its product

line." A questionnaire requesting information on operations and future plans should be sent to those local businesses identified as existing or potential scrap-based manufacturers. For a sample questionnaire, see Appendix A.

2. Trade Journals and Associations

By reviewing recent back issues of trade journals, individuals can familiarize themselves with the businesses that offer recycling economic development opportunities. The review should include such journals as *BioCycle*, *Resource Recycling*, *Recycling Today*, and *Recycling Times*. Other sources of information include the ILSR's specialized database of several hundred firms, which is made available to qualified community development groups. The U.S. EPA will soon release an ILSR report, entitled *Recycling Economic Development: 25 Case Studies of Select Manufacturers*, that includes information on a number of businesses interested in joint venture arrangements.

3. Contact State and Local Recycling Economic Development Officials

Offices of recycling and/or economic development are also good sources for identifying viable scrap-based manufacturing businesses. Contacts at the state level can be found in the National Recycling Coalition's *1993 Market Development Directory*. Also, the Mid-America Council of Recycling Officials publishes *Resources: A Guide to Technical and Financial Assistance for Recycling Business Development in the 14*

MACRO States, which provides contact names.

4. Hire Consultants

Hiring consultants may also greatly facilitate the search for viable scrap-based manufacturers willing to engage in joint ventures.

5. Issue a Request for Proposal (RFP)

The RFP process is a valuable way for local governments to identify companies interested in locating in their area (see sidebar). If community-based joint ventures are a mechanism to be used in establishing the businesses, language to that effect should be included in the RFP. This can be done as a matter of policy; in Los Angeles, for example, the city altered its contracting procedures to favor recycling firms that establish joint ventures with community development corporations. Details of

the investment package being offered should also be included in the RFP as a further enticement to businesses. During the latter stages of the RFP process, after companies have been selected (see sidebar), actual venture agreements should be planned and signed before awarding the support package.

F. PREPARE PROMOTIONAL AND OUTREACH MATERIALS AND PROGRAM

At this point, communities are ready to disseminate the information they have gathered in a comprehensive package that discusses the details of their program, including market assessments, incentives, and financing options. The information compiled in the package should be advertised through brochures, advertisements in trade journals, and through trade associations, as well as

ISSUING AN RFP TO IDENTIFY SCRAP-BASED MANUFACTURERS

With the assistance of a grant from the U.S. EPA, Denver issued an RFP to identify businesses that could use recycled materials to manufacture new products. The RFP was announced at a conference in downtown Denver, and was advertised through trade journals, environmental magazines, and other local and national press.

As an incentive, a previously established revolving loan fund was made available to scrap-based manufacturers. The loan fund, capitalized by the city with community development block grants, provides qualifying businesses with 30 to 50 percent of start-up costs. The fund also helps to secure the backing of other financing sources, such as banks, entrepreneurs, or other businesses.

According to Bill Lysaught, Deputy Director of the Mayor's Office of Economic Development, response to the RFP was exceptional. In the project's first year, two companies developed by local residents were approved, sited, and are currently operating. One company creates rubber products from old tires, for use as playground material and in other applications. The other business produces packaging material from used paper. Within two years, the businesses are expected to create a total of 50 jobs for Denver residents. The city plans to assist with the development of other business discovered through the RFP process in the coming years.

Sources: Institute for Local Self-Reliance, 1994; Bill Lysaught, Deputy Director of the Mayor's Office of Economic Development, personal communication, June 9, 1994.

to the companies identified in the previous step. Initiators may want to peddle their ideas directly to local industries through site visits or phone interviews as well. A questionnaire requesting details about the scrap-based manufacturer and any plans for expansion should be included with the package (see Appendix A).

A marketing plan should be built on the specific needs of your community, as well as the plans that other communities have already developed. Newark, New Jersey; San Jose, California; Ventura County, California; Sacramento County, California; Long Beach, California; and Philadelphia, Pennsylvania have all developed excellent model programs to attract recycling-based businesses. Arcata, California's program is an excellent model for small towns.

G. SELECT COMPANIES

With the assistance of technical consultants, or on their own, community development groups or local governments should identify those companies they would select for the joint venture process. Venture initiators may want to prepare profiles of the firms based on the information they have assembled to better assess their possibilities.

1. Establish Selection Criteria

Those selecting the businesses should establish criteria for selection. Although the desired characteristics will vary from community to community, criteria might include the following:

a. Stability of Company

Does the company have a proven track record in this type of enterprise? If it is a new company, does management have a successful track record? Does the company have ready capital to invest in the project? Is the company prepared with a business plan?

b. High-Value Products

Does the business provide high-value products that will help to create wealth in the community? Do these products serve a viable market within the community?

c. Interest in Equity Arrangements

What equity arrangements is the business willing to provide to the community?

d. Job Impacts

How many jobs will the business bring to the community? Will the jobs provide livable wages? Do the facilities provide a reasonable and healthy environment for workers? Will the company provide job training and skill development for workers?

e. Environmental Impacts

Is the operation environmentally sound? What environmental impacts will the new business create? What are the company's plans to cope with any adverse environmental impacts to the community?

f. Handles Critical Component of Waste Stream

Does the business provide a use for a problematic component of the waste stream? Will the business divert a

significant amount of material from the waste stream? Will the business create a market for collected recyclables that are difficult for recycling operations to market?

2. Interview Companies

To answer some of these questions, evaluators should hold initial interviews with interested companies to assess their qualifications, their requirements, and their willingness to negotiate.

3. Face-to-Face Meetings with Finalists

A preliminary review should then be conducted to rule out companies that do not meet the basic requirements of the community. Evaluators should then hold face-to-face meetings with finalists to discuss plans in greater detail.

4. Finalize Selection, and Sign Nondisclosure Form and Memorandum of Understanding

The community should now be able to determine which company it will choose as its joint venture partner. If no viable candidates exist, then the community must determine whether a) its requirements were too stringent, b) the package it offered to attract businesses was not sufficient, or c) its marketing strategy was not effective enough in reaching willing partners.

Should a selected business, however, indicate its willingness to pursue the venture, the parties involved should hold a formal meeting to clear up any details regarding site requirements, equity goals, labor pools, training and investment options, etc. A

memorandum of understanding should then be prepared and signed by both parties (see Appendix B for a sample memorandum of understanding). Community groups should also be prepared to sign non-disclosure agreements to reassure the prospective company that information about the project will remain confidential.

5. Follow-Up Steps

The following steps, if not already completed, should be handled in quick succession:

- determine a specific site for the plant
- identify specific sources of feedstocks and the price at which they will be made available
- identify any specific markets for the resulting products that might be arranged beforehand. These may include arrangements with local industries or closed-loop procurement arrangements whereby the government agrees to buy back products manufactured by a company using waste from the local waste stream (see companion booklet, *Creating Local Recycling Markets*)
- review financing options, as described above.
- interview funding sources—private, public, and foundation—to introduce the concept and the details learned from the initial exploration. As financial sources usually require extensive information before making investment decisions, venture partners should be prepared to

deliver very detailed presentations at these meetings—including the specifics of prices, costs, market contacts, and site location.

H. DEVELOP BUSINESS PLAN AND CONCEPTUAL FINANCING STRATEGY

The venture partners are now prepared to draft two critical documents—the business plan and the conceptual financing strategy. Much of the research and contacts previously assembled will be included in these plans. The documents will identify any information deemed relevant to the project's success that will help to attract investors.

The business plan should include information on how active a role investors will play in the venture; where legal and financial services will come from; the exact nature of the work force; and the wages and benefits that will be provided to workers. For a more detailed discussion of the business plan, see the companion manual entitled *Preparing A Business Plan for a Small-Scale Recycling-Related Venture*.

The Conceptual Financing Strategy should identify possible and likely sources of investment, and should present a conceptual yet specific mix of investment sources. Equity positions of each player should be clearly defined in the strategy.

I. SHOP PLANS TO INVESTORS

The business plan and financial strategy are then shopped to investors. These may include city and government agencies, foundation PRI programs, individual investors, and even workers, if worker cooperatives are a goal of the project. When agreements are reached and documents are signed, groundbreaking on the venture can begin.

CONCLUSIONS

The economic and environmental benefits of scrap-based manufacturing, coupled with the need to create jobs that pay livable wages to workers, can become the pot of gold at the end of the solid waste rainbow for our cities and towns. Community involvement in such economic development projects is the best way to ensure that the benefits actually go to the community. For this reason, ILSR recommends the joint venture process, whereby business, government, and community goals come together for the betterment of the recycling industry and the community in general.

APPENDIX A: SCRAP-BASED MANUFACTURING PLANT SURVEY

Please complete the following survey for your *existing* facility. Then, where appropriate, please record data in parentheses regarding any plant you are planning to locate in the area, after the data for the existing plant.

Name: _____ Date: _____
Title: _____ Company name: _____
Street address: _____
City/State/Zip: _____
Telephone: _____ Fax: _____

Plant start-up date: _____ Date plant began using scrap material: _____

Plant land requirement (acres): *existing*: _____ *proposed*: (_____)

Plant size (square feet): _____ (_____) Warehouse size (square feet): _____ (_____)

Scheduled operation (days per year): _____ (_____) Shifts per day: _____ (_____)

Total number of full-time employees working at the plant: _____ (_____)

Total number of part-time employees working at the plant: _____ (_____)

Total number of skilled workers: _____ (_____) Unskilled workers: _____ (_____)

Average hourly wage: _____ (_____)

Initial capital cost of facility: _____ (_____)

Capital cost of any major modifications: _____ (_____)

Annual operating costs: _____ (_____)

Plant production design capacity (tons per day of product): _____ (_____)

Type of energy used to fuel operations: _____ (_____)

Amount of energy used by facility per year: _____ (_____)

Amount of water used by facility (gallons per day): _____ (_____)

Please describe your manufacturing process and attach any available descriptive literature.

Expanding Scrap-Based Manufacturing through the Community Joint-Venture Process

Virgin Feedstock Materials	End Products that Contain this Virgin Material	Consumption Rate (TPD)	Price Paid (\$/ton)
Total (existing plant)			
Total (proposed plant)			

Scrap Feedstock Materials	End Products that Contain this Scrap Material	Consumption Rate (TPD)	Estimated % by Wt. that is Post-consumer	Price Paid (\$/ton)
Total (existing plant)				
Total (proposed plant)				

Products Manufactured	Production Rate (TPY)	Post-consumer Recycled Content (%)	Total Scrap Content (%)	Annual Sales (\$)	Market Area (local, national, etc.)
Total (existing plant)					
Total (proposed plant)					

Comments: _____

Thank you for your cooperation.

APPENDIX B: DRAFT MEMORANDUM OF UNDERSTANDING

(DATE)

(COMMUNITY GROUP), a (COMMUNITY)-based community development organization, and (COMPANY) hereby agree to work together to plan, finance, and implement a (PROPOSED BUSINESS), to be sited in (SITE LOCATION), to produce (NAME OF PRODUCT).

(COMMUNITY GROUP) agrees to provide the following elements towards this project (e.g.):

- six acres of industrially zoned land;
- a financing strategy to provide low-cost capital, designed by (COMMUNITY GROUP) with assistance from (NAME OF CONSULTANT);
- assistance in identifying sources of feedstock and markets for products; and
- project support from the (CITY/STATE) government.

(BUSINESS) agrees to provide the following elements (e.g.):

- patented technology for (PROCESS);
- equity investment; formula based on funding approvals of all parties;
- a site specific business plan and development criteria;
- a 50 percent license credit to joint venture on first phase of project.

Based on a mutually agreed upon formula, a joint venture corporation will be formed with at least 25 percent equity for (COMMUNITY GROUP), which will also be represented on the Board of Directors. The corporation will provide first right of refusal for jobs in the enterprise to residents of (COMMUNITY).

Agreed to and signed by:

(BUSINESS)

(COMMUNITY GROUP)

APPENDIX C: CHECKLIST FOR THE JOINT VENTURE PROCESS

	Yes	No	Planned
1. Create market development task force	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Create recycled market development policy/plan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Study materials and markets	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Identify community groups	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Develop local incentives package	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Identify financing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CRA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PRIs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
other foundation money	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
corporate money	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
local investors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
revolving loan funds	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Identify enterprises	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
survey existing businesses	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
review trade journals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
contact officials	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
hire consultants	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
issue RFP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Prepare promotional materials	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Select companies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Interview companies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Meet with finalists	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Finalize selection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Sign nondisclosure form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Develop business plan and financing strategy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. Shop plans to investors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Optional:

Your Name: _____

City: _____

GLOSSARY

CDC

Community development corporation.

cellulose insulation

Blow-in insulation produced from shredded and chemically treated old newspapers.

closed-loop procurement arrangement

An arrangement whereby a party's waste items are sold or donated for collection and processing. The waste is recycled into new products which are then sold to the original party. The materials may go through a number of intermediate handlers or processors before being bought back by the original party.

composting

The microbial degradation of organic matter into a useful product.

CRA

Community Reinvestment Act.

end user

Mills and other industrial facilities where secondary materials are converted into new materials. Paper mills, steel mills and glass container production plants are examples of end users.

enterprise zone

A delineated geographic area for which certain financial or technical assistance services are offered to attract outside investment. A recycling market development zone is an enterprise zone where assistance is provided exclusively to recycling-related businesses.

equity

A risk interest or ownership right in a property.

feedstock

Raw material input into a process.

host community fee

A fee provided to a community-based organization by a business looking to locate in that community.

ILSR

Institute for Local Self-Reliance.

incinerator

A device or facility designed to reduce waste volume by combustion.

joint venture

A collaborative business arrangement involving a number of parties working together on a particular project; the parties can include any combination of businesses, governments, community groups, and financiers.

landfill

A site where waste is designated for burial.

MACRO

Mid-America Council of Recycling Officials.

MBAS

Manufacturing Basic Analysis System.

MCIDC

Montgomery County Industrial Development Corporation.

MD DEED

Maryland Department of Employment and Economic Development

municipal solid waste

Includes residential, commercial, and institutional non-hazardous solid wastes.

NY ORMD

New York Office of Recycling Market Development.

PRI

Program-related investment; a form of social investment by corporations or private foundations that includes a wide range of investment structures, from simple and complex loans to equity investments and loan guarantees.

RBAC

Recycling/Reuse Business Assistance Centers.

recycling

Commonly, the use of secondary materials in the production of new items. Recycling by definition often includes materials reuse.

recycling-based economic development

Using recycling businesses as the basis of an economic development strategy.

recycling market development

Increasing the financial viability of recycling collection programs and the remanufacture of products using recycled materials through promotion, business conversion, and economic development strategies.

REDA

Recycling Economic Development Advocate.

reuse operation

A business that segregates useful material from waste for sale.

RMDZ

An enterprise zone where assistance is provided exclusively to recycling-related businesses.

SBA

Small Business Administration.

scrap

A waste material which is usually segregated and suitable for recycling or reuse.

scrap-based manufacturing

Production of new products using recycled feedstock.

solid waste

Waste materials produced by residents, businesses, institutions and industry, not including liquids, hazardous wastes and other non-solid materials.

source reduction

Any action that avoids the creation of waste by reducing waste at the source, including redesigning of products or packaging so that less material is used; making voluntary or imposed behavioral changes in the use of materials; or increasing the durability or re-useability of materials.

tipping fee

The charge assessed for unloading solid waste at a disposal or transfer site.

U.S. EPA

United States Environmental Protection Agency.

VA DED

Virginia Department of Economic Development.

value added

Dollar amount added to a ton of material by a manufacturing process.

waste stream

The waste material output of a community, region, or facility.

WMAC

Waste Management of Alameda County.

NOTES

1. For more information on MBAS, contact Tom Kroft, Executive Director of the Steel Valley Authority, at 120 East Ninth Avenue, Homestead, Pennsylvania 15120, 412-462-8408.
2. Sara Brown, *Encouraging Recycling Market Development*, The Global Cities Project, 1992, page 6.
3. Ibid.
4. Robert Steuteville, "All Aboard the Economic Development Bandwagon," *BioCycle*, March/April 1994, page 39.
5. Kathleen M. White, "'Clean Hawaii Center' Expected to Be the Catalyst for Market Development Efforts in the Aloha State," *Recycling Times*, May 17, 1994, page 11.
6. Kivi Leroux and Kim Carr, "Recycling Means Business at EPA," *Resource Recycling*, May 1994, page 40.
7. Ibid.
8. Recycling Advisory Council Market Development Committee, compiled by David Kirkpatrick for the "Economically Targeted Investment: Rebuilding America's Communities Conference, Materials: Solid Waste and Recycling Roundtable," February 9-11, 1994; reprinted in flyer of Kirkworks, Durham, North Carolina, February 1994.
9. U.S. Environmental Protection Agency's Office of Research and Development and the Small Business Administration's Small Business Development Center Program, Interagency agreement entitled "Multi-Media Pollution Prevention Technical and Financial Assistance to Small Business," August 13, 1993.
10. For further discussion of the possible interconnections between the Community Reinvestment Act (CRA) and recycling, see "Can CRA Be the Community Recycling Act?" *The Neighborhood Works*, December 1993/January 1994; or contact Edgar Miller, National Recycling Coalition, Washington, DC, 202-625-6406.
11. For information on foundations that have developed PRI programs, contact The Foundation Center, 79 Fifth Avenue, New York, New York 10003-3076.
12. For more information on revolving loan funds, contact the National Association of Community Development Loan Funds at 924 Cherry Street, Philadelphia, Pennsylvania 19107.