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# **CREATING LOCAL RECYCLING MARKETS**

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**INSTITUTE FOR LOCAL SELF-RELIANCE**  
**Environmentally Sound Economic Development**

# **CREATING LOCAL RECYCLING MARKETS**

Prepared for:

National Capital Area Project  
Tri-City Working Groups from  
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Richmond, Virginia,  
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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*

*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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# TABLE OF CONTENTS

<b>Introduction</b> .....	1
<b>Collection &amp; Processing Systems—The Prerequisites</b> .....	2
The Importance of Quality Control .....	2
Access to Local Businesses .....	3
<b>What a Scrap-Based Business Wants from the Community</b> .....	4
<b>What A Community Wants from the Scrap-Based Manufacturer</b> .....	4
Jobs Providing Livable Wages .....	4
A Market for a Problem Material .....	5
A Maker of a High-Value Product or a User of a High-Volume of Material .....	5
Clean Facilities and Safe Workplaces .....	6
Companies Willing to Tie Their Fates to that of the Community .....	6
<b>How to Create the Necessary Linkages</b> .....	6
Study the Current and Future Local Markets .....	6
Set up Market Development Task Force .....	6
Set up Market Development Office/Officer in Local Government .....	7
Identify Existing or Develop New Financial Incentives .....	8
The Recycling Market Development Zone .....	12
Other Possibilities .....	12
<b>Creating Markets for End-Products</b> .....	15
Steps to Increase Government Procurement of Recycled Products .....	16
Disseminating Procurement Information to Businesses .....	19
Disseminating Procurement Information to the Public .....	20
Utilizing Developments in National or State Policies.....	20
<b>Conclusions</b> .....	21
<b>Appendix A: Resources on Recycling Econ. Development &amp; Scrap-Based Mnfg.</b> ...	22
<b>Appendix B: Checklist of Recycling Market Development Actions</b> .....	28
<b>Glossary</b> .....	29
<b>Notes</b> .....	31

## INTRODUCTION

This manual provides information for communities seeking to develop their local recycling markets by using recycled material as feedstocks for production. Local market development creates the unique opportunity for a community to optimize its resource management to benefit the community. In an ideal recycling market development scenario, businesses that use recycled materials in their production processes (i.e., scrap-based manufacturers) provide equity or other financial support to community development groups; jobs and job training are provided to low-income communities; and the products of recycling-based industries are sold locally, minimizing transportation and related energy costs. By developing businesses under local ownership, a community's financial and material resources remain in that community, revitalizing neighborhoods while also providing an alternative to landfill disposal and incineration.

Establishing local markets for recycled materials is important for a number of reasons, including:

- expansion of the local tax base;
- reduced need to transport collected materials over long distances;
- reduced need to import raw materials and end products;
- expansion of the local manufacturing sector;
- creation of employment opportunities;
- preservation of natural resources.

Key to understanding why *local* market development is important is understanding the concept of "value added." Value added is the increase in value that takes place when a raw material is refined and then made into a new product. For example, a recycling processor might pay \$0 to \$20 per ton of unsorted glass. After it is processed, however, and remanufactured into new products, the glass can sell for \$200 to \$2,000 per ton. The value added, therefore can be anywhere from \$180 to \$2,000 per ton.

A leap in value takes place through each stage of the materials' improvement: from collection to processing to remanufacture. Each one of these operations creates jobs. If collection programs sell their material to buyers outside of their jurisdictions, they give away jobs, industries, and local revenue while wastefully expending time, energy, and money to transport these raw goods.

While high value-added uses for collected materials are important to develop, communities should also develop methods to make sure that ample quantities of materials can be reutilized. These high-volume uses are important for dispensing with collected materials during economic downturns, when production of high-value materials is down.

Local markets can be improved not only by siting new enterprises, but also by expanding existing recycling businesses and retooling existing manufacturers to substitute recycled materials for non-recycled materials. Each one of these approaches reinforces "closed-loop" economics in which recyclables are collected,

remanufactured, and returned for sale in the same community.

If recycling businesses are developed in ways that help them live up to their promise as socially responsible companies, additional benefits are added. This burgeoning field is the perfect vehicle for establishing a more community-oriented approach to business. Just as recycling recognizes the mutual responsibility shared between consumer and producer in preserving resources, recycling-based industries can manifest the interdependence of community and business in economic terms. Through cooperative arrangements, businesses can provide strength to their host communities. Equity shares, joint ownership arrangements, and job training programs for community groups indicate a business' willingness to invest in a community, to take on some of the responsibility of a community's well-being as its own. In turn, communities will be more likely to support such businesses, will take a stronger interest in developing their job skills, and will help ensure the overall financial success of the business.

This manual contains information that is useful for recycling officials, policy makers, and advocates of recycling and local economic development. Communities seeking to build home markets for recyclable materials do best to put their shoulders to a number of wheels, each bearing one portion of a comprehensive development strategy. By implementing the following mechanisms in ways that are appropriate to the community they serve, these individuals can help to maximize the benefits of recycling for

the community—jobs, taxable revenues, avoided disposal costs, resources for manufacturing, and reduced environmental impact.

## **COLLECTION & PROCESSING SYSTEMS— THE PREREQUISITES**

The economic success of recycling depends largely on how collection and processing systems are set up. If recycling is viewed mainly as a public service, a modification of garbage collection systems for the purpose of saving landfill space, it will not be able to achieve its potential as an economic development tool.

Recycling is more than landfill diversion; it is also a way for communities to tap a resource vein and create valuable products, jobs, and income for the community. Urban waste streams are local mines from which minerals and other materials can be harvested; these materials are often easier to recover and process than their non-recycled counterparts. To realize these opportunities, the collection and processing systems established by a community must reflect these goals.

### **THE IMPORTANCE OF QUALITY CONTROL**

The manner in which collection and processing systems are developed greatly determines the net benefits that recycling will have on economic development goals. Collection and processing systems must result in clean, usable materials suitable for industrial use. A rushed collection or processing

strategy, resulting in dirty or contaminated material, can destroy the credibility of recycling among potential users of the materials. A thorough review of potential systems (i.e., co-collection, source-separation, curbside, drop-off, etc.) to determine which can best meet a particular community's needs is strongly advised. For more information on appropriate collection and processing systems, see the companion booklet entitled *Minimizing Waste, Maximizing Recycling*.

#### ACCESS TO LOCAL BUSINESSES

Another important consideration in choosing collection and processing systems is the issue of control. By relinquishing control of the materials to companies with no local ties, communities increase the risk of losing their collected materials to distant markets. With these unprocessed materials goes the economic benefits of recycling-based production.

One way to counteract this is to create provisions in contracts or requests for proposals (RFPs) that favor small businesses. By awarding a preference to local small businesses or non-profits, municipalities ensure that local recycling operations are given a competitive toe-hold against the larger, absentee-owned corporations that often undercut bids. Language can also be added that favors contractors who have identified local markets for their processed materials, or who enter joint ventures with community partners.

In 1991, the city of Los Angeles revised its RFP procedures to ensure that companies wishing to engage in equity arrangements with community development corporations were given

preference in recycling contracts. "It is the City's preference that local business and nonprofit community organizations be involved as participants in the development and operation of MRFs [materials recovery facilities]. Businesses providing job opportunities for local residents and/or nonprofit organizations that place homeless or handicapped individuals are also preferred."<sup>1</sup> As a result, a national recycling company and a community-based recycling enterprise established a joint venture that provides transfer and recycling services in two districts, creating 43 new jobs for Los Angeles residents. In addition, a \$1.5 million revolving loan fund was established to aid a local African-American business development organization in its efforts to build an industrial park for scrap-based manufacturers.

To encourage local control of recyclables, large municipalities might consider developing several community-owned MRFs rather than one centralized facility. This will increase community control over the materials, opportunities for direct community ownership, and job opportunities for the municipality as a whole. Again, Los Angeles has led the way in preferring "to contract for a number of MRFs strategically located throughout the City."<sup>2</sup> While a number of facilities may be more difficult to site than just one MRF, community development goals stand more chance of success through wider dispersion of capital investment.

The best way to ensure that municipal recyclables go to worthy industries within their jurisdictions is through publicly-owned and -financed facilities. Through public ownership,



the municipality can direct recyclable material flow to markets within the jurisdiction at their discretion. By developing agreements to pool resources and establish regional processing and marketing programs, communities can dissipate the financial burden that comes with public ownership.

The so-called "flow control" issue is a rather controversial one, prompting legal challenges over who has the authority over the flow of privately controlled recyclable materials and solid waste. Recent flow control disputes have focused on privately collected recyclables and solid waste, yet cities still remain in control of where and how residential recyclables and solid waste are processed or disposed. In locations where flow control has faced significant opposition, local governments may want to consider economic rather than legislative means of assuring that investments in publicly-owned facilities do not fail. These incentives include the subsidization of prices or tipping fees at publicly owned facilities.

## **WHAT A SCRAP-BASED BUSINESS WANTS FROM THE COMMUNITY**

To develop markets for recycled materials, communities must be amenable to the concerns of the businesses that can help create those markets. These markets can be developed in three basic ways:

- by attracting outside manufacturers willing to invest in the community;

- by converting or expanding existing businesses to take more recycled materials;
- by starting new businesses run by entrepreneurs in the community.

Industry will want certain assurances from the community before they make such investments:

- a guaranteed supply of materials that meet technical specifications;
- assistance with siting or permitting processes;
- markets for their products;
- a competent work force.

Additionally, most businesses may require financial or technical assistance before locating in a community.

## **WHAT A COMMUNITY WANTS FROM THE SCRAP-BASED MANUFACTURER**

The community, in return, can ask for some things from the business it wishes to attract, develop, expand, or convert:

### **JOBS PROVIDING LIVABLE WAGES**

Companies manufacturing high-value products should be expected to provide livable wages to workers in the community. Indeed, many scrap-based manufacturers provide industrial wages to their work forces. In Maine, for example, where 1990 earnings for retail workers averaged \$11,463, the jobs available in scrap-based manufacturing averaged \$20,813.<sup>3</sup> Furthermore,

recycling can provide ideal jobs for special populations (see sidebar).

#### A MARKET FOR A PROBLEM MATERIAL

The company will consume a previously wasted resource that burdened the community with disposal costs.

#### A MAKER OF A HIGH-VALUE PRODUCT OR A USER OF A HIGH-VOLUME OF MATERIAL

The ideal scrap-based manufacturer will make products that have high value-added, so that they can maximize

the generation of wealth in the community while offering a viable market for collected and processed material. However, in times of economic decline, these businesses may tend to downsize their operations, thereby reducing demand for the materials collected by the community. As a contingency plan, municipalities may develop markets that require high volumes of collected materials but tend to produce low-value goods (such as roadfill made from cullet or animal bedding made from shredded newsprint). As these markets will only be necessary to the community on a periodic basis, they should be developed

#### EMPLOYING HANDICAPPED PERSONS IN THE RECYCLING INDUSTRY

With proper time and attention, highly-efficient operations can be designed to employ handicapped workers. Special investment programs are available to businesses providing jobs to handicapped individuals, and state or federal labor subsidies, that can help business start-ups, are also available. In many states, businesses employing people with disabilities also receive favored status in contracts for products or services. Many existing recycling-based businesses employ handicapped labor:

- The Orange Grove Center in Chattanooga, Tennessee processes the city's collected recyclables. The Center employs between 40 and 45 handicapped workers through the recycling program (and over 600 through its other programs), and has received more than \$6 million in corporate and foundation grants to add new equipment and on-site employee housing for the Center's neediest workers. A major bottling company has guaranteed to pay top regional market prices for the Center's processed glass.
- The Garten Foundation's recycling center in Salem, Oregon, employs 45-50 people with disabilities. Due to its status as a qualified rehabilitation facility, the center is given a slight edge over other firms in providing some services to the state. Support to people with disabilities is provided through state funding.
- The Madison County Chapter/NYSARC in Oneida, New York owns and operates a materials recovery facility that processes all recyclables collected by the county. It employs about 40 disabled persons, and takes advantage of a state law giving preference to businesses employing people with disabilities. Additional state and federal funds help to support the program.

Sources: Institute for Local Self-Reliance, 1994; For other examples of recycling ventures employing people with disabilities see the *Elwyn Recycling Venture Study: Interim Report and Recycling Work Group Orientation Guide*, prepared for the United States Environmental Protection Agency Region III by the Institute for Local Self-Reliance, April 1993. The Elwyn Institute in Media, Pennsylvania, with over 100 years of experience in designing workplaces for workers with various disabilities, is a valuable resource for information on how to design businesses utilizing handicapped labor.

as side-lines to other manufacturing operations.

### **CLEAN FACILITIES AND SAFE WORKPLACES**

In keeping with the promise of recycling as a means of improving quality of life and protecting resources, companies should provide assurances of the environmental soundness of their operations, and the safety of their operations for workers.

### **COMPANIES WILLING TO TIE THEIR FATES TO THAT OF THE COMMUNITY**

Recycling-based companies willing to enter joint ventures with community groups for the operation of businesses are the most desirable for communities. Cooperative agreements can provide a number of positive benefits for the community, including job training programs for targeted populations, and equity shares to community groups. (See the companion booklet *Expanding Scrap-based Manufacturing through the Community Joint-Venture Process*.

## **HOW TO CREATE THE NECESSARY LINKAGES**

### **STUDY THE CURRENT AND FUTURE LOCAL MARKETS**

A study should be conducted to determine the types and amounts of materials that are presently being diverted from the waste stream, and the types of materials that will be easy to divert in the near future. A survey of local businesses should follow to determine those already using recycled

materials in their processes, and the amount of materials being used.

This information will provide a clearer picture of the collected-material markets that need to be developed, and what conversions to existing businesses can provide new markets. The researchers should then determine the types of businesses that can create high-value products from those materials within the local jurisdiction, and can then develop plans to attract those businesses. The plan should address the infrastructure needed to bring about expansion, including transportation, feasibility of grid hook-ups, etc. Modifications of zoning laws to provide easier means of siting these businesses should be explored, and sources of technical and economic assistance must also be identified.

### **SET UP MARKET DEVELOPMENT TASK FORCE**

To assemble the above information, a market development task force must be formed. The task force should have the business and community planning expertise necessary to produce an accurate picture of the market development needs of the jurisdiction. This task force, composed of individuals representing city government (particularly the offices of the mayor, recycling, economic development/commerce, and the city council), businesses, and citizen groups, can conduct or commission the necessary study. Studies or recommendations of the task force should be forwarded to the mayor and city council, and disseminated through the local press. The task force should then use the information as the basis for further market development efforts,

such as business conversion, business attraction, and deal creation.

### **SET UP MARKET DEVELOPMENT OFFICE/OFFICER IN LOCAL GOVERNMENT**

An individual, or, if sufficient funding is available, an office within the local government should be set up as the hub of local recycling market development activity. The cities that use such contacts establish them in various locations in city government. In San Diego, an individual in the Office of Environmental Management is responsible for attracting recycling manufacturers to the city. In Philadelphia, there are two points of contact on recycled market development efforts—a Deputy Director in the Department of Commerce, and a Director of Market and Economic

Development in the Office of Recycling. Regardless of where the individual/office is housed, it should be a central clearinghouse for information on all aspects of recycling market development. As a liaison between the community, city, and business worlds, the individual/office should “speak the language” of both economic development and recycling.

As a liaison between business and city government, this individual/office should:

- provide information on the supply of recyclable materials available to businesses;
- identify financial assistance available from local, state, and federal sources;
- evaluate the appropriate amount of time and resources the city should

### **A TIP FOR COMMUNITY GROUPS AND LOCAL GOVERNMENTS**

#### **Be Aggressive in Promoting Your Community**

It is important to remember that, in attracting businesses to an area, there must be a compatibility between the interests of the business and the interests of the community. While the community must select a business, the business must also select a community. Aggressive promotion of what the community has to offer, as defined by its incentive package and investment opportunities (see below), should greatly influence a company's willingness to locate in a specific community. Businesses must be assured that the city or community is serious about its commitment to participate in the project.

A recent experience illustrates this point dramatically. Louisiana-Pacific Corporation, of Portland, Oregon, wanted to locate a cellulose insulation plant in a particular Californian city, and called the city's economic development agencies to discuss its intentions. No one from the city, however, returned the company's calls. Receiving news of Louisiana-Pacific's interests, Jerry D'Inofrio of San Diego's economic development office contacted the company to inquire if they would be interested in locating in San Diego instead. As a former employee of a paper stock company, D'Inofrio was able to supply the company with information pertinent to its operations. He also served as liaison to the company through the grueling bureaucratic process needed to finalize the project. The end result was a plant that used 3,000 tons per month of old newsprint, located in San Diego.

Sources: Institute for Local Self-Reliance, 1994; Jerry D'Inofrio, San Diego Office of Economic Development, personal communication, May 1994.

- devote to developing or expanding a particular business or market;
  - assist with the siting, zoning, and permitting requirements of a desired company;
  - assist with the identification of new technologies that existing businesses can incorporate into their processes to enable greater use of recycled materials;
  - administer enterprise zones for recycling businesses (see below);
  - assist with the development of markets for remanufactured products.
- tax credits for the purchase of recycling equipment;
  - tax rebates for users of recycled materials;
  - loan or grant programs for the research and development of recycling technologies;
  - tax free industrial development bonds;
  - low-interest loans to pay for start-up costs; and
  - loan guarantees for recycling-related industries.

Furthermore, this individual/office should act as a liaison with community groups interested in developing joint ventures with businesses, to assure that the community is not overlooked in the process. Outreach to both businesses and communities is vital to fulfilling the office's objectives.

#### **IDENTIFY EXISTING OR DEVELOP NEW FINANCIAL INCENTIVES**

Financial assistance may be available to scrap-based businesses through the recycling business development office or other agencies/offices in the local government. A number of local governments offer at least one of the following incentives to manufacturers of scrap-based products:

In some areas, these forms of assistance may be available from the state government (see sidebar). If a local recycling market development office has been established, it should also be able to apprise businesses of the opportunities that exist on the state as well as the local level, and should provide information on useful national programs, such as loans provided through the Small Business Administration.

## THE METROPOLITAN SERVICE DISTRICT'S RECYCLING MARKET DEVELOPMENT PROGRAM

A Recycling Market Development Section has existed within the Metropolitan Service District (Metro) of the Portland, Oregon area since 1988. Currently, staff focus on four main areas:

**Compost:** Section personnel work on all aspects of the composting process, from conducting home composting workshops to working with commercial composting businesses on various market development projects. One staff member has convened a consensus-building process to develop product standards for compost; the standards have been published and will be administered locally.

**Buy Recycled:** The staff member in charge of the buy-recycled program presents and gathers information on recycled products at trade shows; maintains a recycled products database; and helps government officials and the private sector with their Buy Recycled efforts.

**Construction Recycling:** Another staff member coordinates efforts with the construction industry to collect recyclables at construction sites and to encourage the use of recycled products. A directory has been published to provide the construction industry with information on useful recycled products.

**Business Assistance:** The business assistance program surveys local recycling levels to determine the amounts of materials being used, then combines this data with data on disposal and waste composition to produce an annual report on the status of recycled materials use in the area. The data provides the basis for a series of material-specific, four-page market profiles, which list local companies that recycle the subject material, how it is being recycled, the quantities being recycled, and the market factors affecting supply and demand. The office also refers businesses to other business assistance services. The office has also developed a database containing information about 160 options for financial and technical assistance to meet specific business needs.

Metro's Recycling Market Development Section is concluding a program entitled "One Percent for Recycling", whereby one percent of the solid waste budget is set aside for innovative recycling programs. Throughout the course of the program, \$200,000 to \$225,000 in grants were made available annually for waste reduction and recycling promotion and market development programs. Funds provided included a \$44,350 grant to the Environmental Learning Center in Oregon City to buy equipment to produce recycled plastic lumber, and \$110,000 to Northwest Quality Innovations for production and marketing of the "DejaShoe", a women's walking shoe made almost entirely from recycled materials. In 1992, projects included a bottle washer, a manufacturer of "wood string" from construction/demolition waste, and a plastic lumber producer.

Projects funded by the One Percent Program were required to be "environmentally sound, non-polluting and publicly acceptable;" to result in "measurable waste reduction with little residue, and target materials that are a significant part of the waste stream." Projects were also evaluated on their self-sustainability, the amount of materials recovered and recycled, and the extent to which information regarding the project would be disseminated.

Funding for the One Percent program was recently discontinued. However, Metro is developing a new program to help jump-start emerging recycling businesses. The new program will enlist a local private nonprofit enterprise forum to review business plans. Further financial and technical review will be conducted by Metro's Recycling Market Development Section.

(For more information on Metro's market development program, contact Andy Sloop of the Metropolitan Service District Recycling Market Development Section at 503-797-1700.)

Sources: Institute for Local Self-Reliance, 1994; Andy Sloop, Metropolitan Service District Recycling Market Development Section, personal communication, May 31 and June 3, 1994; *Plastics Recycling Update*, March 1992, page 3; Metropolitan Service District, Solid Waste Department, Portland, Oregon, "Report on Recommendations of the One Percent for Recycling Advisory Committee for Fiscal Year 1991-92," February 10, 1992; *Status of Recycling in Oregon*, Oregon Department of Environmental Quality, January 1991, pages 7-8; Andy Sloop, Metropolitan Service District Recycling Market Development Section, personal communication, May 31 and June 3, 1994.

### EXAMPLES OF STATE ASSISTANCE: Loan and Grant Programs

- Within its five-year existence, the New York State Office of Recycling Market Development (NY ORMD) has provided \$1.9 million for 43 grants, mostly focused on development of recycling-related technologies. The Department of Economic Development, where the NY ORMD is housed, has made \$37.6 million in loans to 21 recycling businesses, leveraging \$253 million in private investment and providing 889 jobs. (For more information, contact NY ORMD at 518-486-6291.)
- Minnesota's Office of Waste Management (MN OWM) provides funds for market development through three programs—the County Grant & Loan Program, the Directed Research and Feasibility Study Grants Program, and the Private Sector Capital Loan Program. (These programs are in the process of being revised. While funds will still be available through the MN OWM, the programs will be different.) The businesses receiving loans through these funds include the following: (For more information, contact Chris Cloutier at 612-649-5493.)
  - Envirosys received a \$780,000 loan from the state to develop a molded pulp packaging facility in Moorehead, Minnesota. The plant, which is currently operating, utilizes 9,000 tons of wastepaper a year. According to Chris Cloutier of the MN OWM, the State's loan provided the leverage necessary to attract other funders to the project.
  - Recycled Plastics, Inc., received a \$150,000 loan to develop its business. The company uses 2,000 tons of pre- and post consumer plastics per year to make plastic sheets for agricultural and other applications.
  - Avon Products received a loan of \$87,000 to modify its existing plastics reclamation system, and to increase the capacity and efficiency of its recycling operation.
  - Henderson Hardwood, received a \$76,500 loan to purchase equipment used to manufacture cut parts for the pallet industry from urban tree waste.
- Michigan, which has devoted \$150 million of an \$800 million bond to its Solid Waste Alternatives Program, is probably the state that has the most money targeted towards the building of a recycling infrastructure. Since 1988, the state has awarded \$49.1 million in grants and loans to 30 businesses for purposes of market development. Grant awards include a \$4,325,300 grant to Abitibi-Price Corporation for equipment used to divert an estimated 39,913 tons of old corrugated cardboard (OCC) to the manufacture of hardboard products. Another grant, totaling \$1,640,750, was awarded to the Packaging Corporation of America, enabling them to increase their use of OCC—from 48,000 tons/year to 152,000 tons/year—to produce corrugating medium.
- One grant/loan program in Wisconsin is noteworthy in that it marries minority economic development with recycling economic development. The Minority Business Recycling Program provides loans or grants of up to \$250,000 to minority-owned recycling operations. Guidelines for this program specify that manufacturers using post-consumer materials are eligible for the funds, as are cloth diaper services. (For more information, contact Robert Wynn, Director of the Wisconsin Minority Business Development Bureau, at 608-266-8380.)

Loan and/or grant programs have been initiated in a number of other states, including California, Illinois, New Jersey, Pennsylvania, and Vermont.

Sources: Institute for Local Self-Reliance, 1994; Robert Steuteville, "All Aboard the Economic Development Bandwagon," *BioCycle*, March/April 1994, page 40; Chris Cloutier of the Recycling Market Development Program of the Minnesota Office of Waste Management, personal communication, June 1, 1994; Sharon Edgar, Michigan Department of Natural Resources, personal communication, June 1, 1994.; Michigan Department of Natural Resources, Waste Management Division, *Protecting Michigan's Future Bond: Fiscal Year 1991/92 Solid Waste Alternatives Program Grants*, April 1992; Wisconsin Department of Development, "Recycling Loan and Rebate Programs."

## MORE EXAMPLES OF STATE ASSISTANCE

### Loan Guarantees

Loan guarantees from a state government can be useful for companies that are just starting out and do not have the proven track record necessary to acquire financing. Wisconsin's recycling law stipulates that the principal of all loans guaranteed not exceed \$10 million, at which point the program will expire.

Two projects funded were Earthcare Paper in Madison, and Envigro, Inc. in Menomonee Falls. John McGee of Earthcare, a producer of stationary from recycled paper products, said that the guarantee was "very helpful in expanding our borrowing base." Paul Lindsey, president of Envigro, said, "The loan guarantee was certainly an important step in securing a loan from the bank." Envigro, Inc. will remanufacture pallets from scrap materials, reusing about 3,000 tons of wood fiber per month.

The New Jersey loan guarantee program, run by the New Jersey Economic Development Authority, is not exclusively devoted to recycling businesses, although recycling businesses are encouraged to apply.

### Rebates

Wisconsin's 1990 recycling law established a recycling rebate program to counteract the competitive edge enjoyed by manufacturers using non-recycled feedstocks. The state gives an annual rebate to new or expanding businesses that make products from waste, at least 50 percent of which must be derived from Wisconsin's waste stream. There are two categories of rebates: one for purchases of equipment used in recycling-based manufacturing, the other to offset the cost differential between a recycling-based manufacturers' products and the competition. Among the few projects that have received a rebate thus far are Green Bay Packaging, which will use approximately 217,000 tons of OCC for container board production, and Fort Howard, which will use its \$300,000 rebate to expand its capacity for the use of wastepaper in tissue products by 70,000 tons per year. (For more information on Wisconsin's Rebate Program or other market development initiatives, contact William Lehman at 608-266-7068.)

### Tax Breaks

Investment tax credits and deductions allow organizations that invest in recycling equipment, facilities, or land to apply some percentage of their investment against income or corporate taxes. According to an Oregon survey of recycling tax credit recipients, these have indeed been influential in many investment decisions: 70 percent of the respondents said that tax credits gave their plans a significant push. Fifty-five percent of publishers surveyed by the League of Women Voters Education Fund said that tax credits would encourage their use of recycled materials. Thirty states currently provide some sort of tax incentive for recycling businesses.

Sources: Institute for Local Self-Reliance, 1994; John McGee, Earthcare Paper, personal communication, March 3, 1993; Paul Lindsay, president, Envigro, Inc., personal communication, March 4, 1993; New Jersey Department of Environmental Protection, "State Incentives for the New Jersey Recycling Industry: A Guide for the Business Community;" Wisconsin Department of Development, "Recycling Loan and Rebate Programs;" Wisconsin Department of Development, "Department of Development Recycling Awards," December 10, 1992; Office of Technology Assessment, *Economic Incentives and Disincentives for Recycling of Municipal Solid Waste*, Washington, DC, October 1988, page 105; League of Women Voters Education Fund, *Recycling is More Than Collections*, 1991, page 11; Robert Steuteville, "All Aboard the Economic Development Bandwagon," *BioCycle*, March/April 1994, page 40.



## THE RECYCLING MARKET DEVELOPMENT ZONE

To concentrate efforts on attracting scrap-based manufacturing operations, a community might consider the location of a development zone slated specifically for recycling businesses. This allows a government to concentrate on areas of the community most in need of economic revitalization. Packages that contain some of the financial

incentives mentioned above can be offered to businesses locating in the zone (see sidebar).

## OTHER POSSIBILITIES

### Revolving Loan Funds

Revolving loan funds can also be good funding sources for community-oriented, recycling-based manufacturing operations. Established for local

## STATE RECYCLING MARKET DEVELOPMENT ZONES

The Recycling Market Development Zone (RMDZ) is a concept that was first implemented by the State of California, and has since taken root in Texas and Illinois. In order to improve the efficiency in developing recycling-based businesses, the RMDZ concept offers special incentive packages for businesses willing to locate in specially-zoned areas. These zones tend to be located in areas where economic development is most urgently needed.

In California, local governments must apply to the state for such designation, and are judged on such factors as the availability of materials and real estate, plans to attract and expand recycling businesses, and local tax incentives. If a local community is identified as an eligible zone, the state will provide low-interest loans of up to \$1 million to finance recycling-based projects. Businesses receiving the loan and other zone benefits must use recycled solid waste as an industrial feedstock.

Twenty-nine zones have been designated in California since 1992. In Texas, RMDZs will be located in some of the more than 100 existing enterprise zones located in economically depressed cities and rural areas. Illinois is now accepting proposals from recycling businesses wanting to locate in economically disadvantaged areas.

To date, many positive results have come from California's zone program, and many companies are taking advantage of the program. In San Diego alone, the city's enterprise zone houses at least six businesses, including a major composting facility, a reuse operation, and a plastics processor.

Proposals to the California Integrated Solid Waste Management Board for the zone designations have also provided valuable documentation of how cities and counties are planning to attract businesses. Successful zone applicants have developed brochures and reference material that can help planning efforts in other locales as well. Particularly relevant are programs in Los Angeles and Ventura County which have successfully established the entire city and county as RMDZs. As a result, any recycling or scrap-based manufacturing company that locates in their jurisdiction can receive the benefits of the program.

A variation of the recycling market development zone has been initiated by Maywood, a village in Illinois with a population of about 30,000. The town issued an RFP in September 1991 to privately develop a "Recycling Industrial Park" on a 19-acre site abandoned long ago by the American Can Company. The developer's task included securing tenants for the park whose businesses were based on recycling. In May of 1993, Resource Conversion Systems, Inc., of Houston, Texas, won the RFP. Maywood wants to create 275 jobs in the first phase of the park's development, which will include a processing center, a mini-pulp mill, a co-generation facility, and an ethanol plant.

Sources: Institute for Local Self-Reliance, 1994; Robert Steuteville, "All Aboard the Economic Development Bandwagon," *BioCycle*, March/April 1994, p. 40; Rick Anthony, Dept. of Public Works, San Diego County, personal communication, June 2, 1994; Tom Polk, "Meeting of Minds, Private & Public," *Recycling Today*, March 1994.

economic development purposes, a revolving loan fund can be targeted to a recycling-based project if the community groups that manage the funds can be convinced of the worthiness of such a project. To increase the viability of receiving a loan from community-managed funds, it is advisable to create employment opportunities for populations with special needs, such as low-income or physically- or mentally-challenged people.

The New Haven Community Investment Corporation has managed such a fund since 1973. It was originally funded through the sale of bonds to local institutions, and currently has a net worth of almost \$3 million. The Corporation is also certified to package, service, and monitor Small Business Administration loans that can cover up to 40 percent of a project's costs. In 1990, the Interstate Pallet Company applied for a loan to expand its pallet recycling operation, and to create sidelines in wood fuel and animal bedding made from recycled material. Employing primarily low-income, unskilled workers from inner-city New Haven, a loan from the revolving fund enabled Interstate Pallet Company to secure an SBA loan guarantee and proceed with the project.<sup>4</sup>

### **Regulatory Revisions**

In order to create a more conducive environment for businesses, changes in local ordinances and zoning codes may be required. The Public Works Department in San Diego, California, recommended changes in the County's zoning ordinance to facilitate the location of recycling operations. Four categories of recycling facilities were

recognized: small collection, large collection, light processing, and heavy processing. Requirements to meet certain zoning regulations were thereby waived for recycling facilities, thus making siting of the facilities much easier.<sup>5</sup>

### **Cooperation Among Communities: Addressing Economies of Scale**

Smaller communities may have difficulty in developing the critical mass of recovered materials necessary to operate a lucrative scrap-based business. In these instances, communities may want to pool their resources to develop cooperative, cross-community ventures. These may be created as agreements between government waste management agencies, or may be established as extra-governmental structures, by community groups or entrepreneurs. Five Minnesota counties were able to pool their resources to attract a detinning mill to their area. Together, the communities were able to guarantee a steady supply of collected cans to the facility, assist with permitting, and provide the necessary contacts for the interested company.<sup>6</sup> For a regional approach to succeed, communities must coordinate their incentive programs, working together rather than in competition with one another.

These cooperative problem-solving approaches are also useful for developing markets for the recycled end-products manufactured by businesses. By developing cooperative purchasing agreements, governments, businesses, and other institutions can combine purchasing power to get bulk rate prices for their purchases. By doing so, purchasers can negotiate for higher-

priced recycled goods, making them competitive with non-recycled products.

For example, New Jersey was involved in a joint venture with New York and Vermont for the purchase of glass beads. According to a speech delivered by Giulio Mazzone, Chief of Procurement and Contracting for the New Jersey Department of the Treasury, Vermont was paying 80 cents per pound for glass beads, while New York and New Jersey were paying 21 cents. After the cooperative purchase was formed, the states were able to pay 12.3 cents per pound.<sup>7</sup>

### **MARKET DEVELOPMENT IN VIRGINIA AND THE DISTRICT OF COLUMBIA**

In the National Capital Area, the state governments of Maryland and Virginia, and the government of the District of Columbia, have each taken strides towards establishing market development assistance. The highlights of their efforts thus far are given below.

#### **Virginia**

Since 1990, the Department of Economic Development (VA DED) has worked with the Department of Environmental Quality to encourage the development of industrial markets for recycled materials, including assistance to recycling-related firms in choosing Virginia sites, the development of Virginia's Strategic Recycling Action Plan (1991), and participation in various task forces for policy development. The VA DED is engaged in a program of industrial expansion and attraction, and provides assistance to small businesses and entrepreneurial ventures through the Virginia Small Business Development Center. A Virginia Recycling Markets Development Council was established in House Bill 1605 (1993) to develop a plan to improve supply and quantity of recyclables; expand collection, processing and manufacturing capacities; and increase the use of specific materials. The state also offers an income tax credit for the purchase of machinery and equipment used in manufacturing facilities to produce recycled materials, and allows property tax exemptions for manufacturers' recycling equipment. (For more information on Virginia's Market Development program, call Paddy Katzen at 804-762-4488.)

#### **District of Columbia**

The District of Columbia Office of Recycling recently completed a campaign with the US Conference of Mayors to promote office recycling programs and Buy Recycled programs to businesses in the District. Officials in the Office of Economic Development are currently working with private investment sources to obtain financing for a recycling-based manufacturing facility to be located in the District. (For more information, contact Ermon Green at the DC Office of Recycling at 202-727-5887.)

Sources: Institute for Local Self-Reliance, 1994; Institute for Local Self-Reliance, *Status of Recycling Market Development in the Mid-Atlantic Region*, Washington, DC, 1994, pages 21-25; Ermon Green, DC Office of Recycling, personal communication, August 3, 1994.

## CREATING MARKETS FOR END-PRODUCTS

To develop a locally-based recycling economy, it is important to establish final markets for recycled products. Yet biases against recycled products still exist, making a stable market for

products difficult to foster. To overcome these biases, active steps need to be taken to encourage government, business, and individual consumer purchases of recycled products.

### MARKET DEVELOPMENT IN MARYLAND

Currently, no recycling specific business attraction programs are run by the state of Maryland, although the government has used more traditional sources of support from the Maryland Department of Employment and Economic Development (MD DEED) and the associated Maryland Energy Financing Agency to help establish recycling-related businesses. The Business Recycling Forum, an advisory group to the Northeast Maryland Waste Disposal Authority, sponsored a market development summit with 12 representatives each from government, business, and environmental communities, and provided assistance to MD DEED in the development of a survey to determine the scope of manufacturing in Maryland and its use and involvement in recycling.

Maryland also has one of the most successful Buy Recycled programs of any state in the country. In 1992, Maryland received an award from Conservatree Paper Company and the National Association of State Purchasing Officials for buying the largest quantity of recycled printing and writing papers in the U.S. In addition to the \$7 million worth of recycled paper products the Department of General Services bought for state agencies in FY 1993, \$1.2 million in miscellaneous recycled products were purchased, including desk trays, file folders, note pads, easels, trash cans and liners, remanufactured laser cartridges, mailing bags, and reflective glass beads. The Northeast Maryland Waste Disposal Authority, a regional solid waste organization working with the City of Baltimore and surrounding counties, has made notable efforts in providing training and information on the procurement of recycled products. (For more information, contact Richard Keller at the Northeast Maryland Waste Disposal Authority at 410-333-2730.)

Maryland has also adapted recycled content laws for newsprint and phone books. Under the newsprint law, recycled content is required to increase from 12% to 40% between 1992 and 1998; the law for phone books requires the same percentage increases between 1994 and 2000. A Newsprint Recycling Board is also responsible for encouraging the siting of production facilities in the region, and for promoting the reuse of old newspapers.

The Baltimore Development Corporation's business retention and attraction efforts comprise a number of services, ranging from locating industrial or commercial warehouse space to assistance with permitting processes. Additionally, the Corporation administers a revolving loan fund of up to \$100,000, a working capital fund of up to \$75,000, as well as SBA loans. The corporation is currently developing an industrial strategy for the city which may include a recycling economic development component.

Sources: Institute for Local Self-Reliance, 1994; Institute for Local Self-Reliance, *Status of Recycling Market Development in the Mid-Atlantic Region*, Washington, DC, 1994, pages 11-16; Institute for Local Self-Reliance, *Recycling Procurement Programs: Analysis of Recycling Procurement in the Mid-Atlantic Region and Case Studies from Around the Nation*, Washington, DC, 1994, pages 15-21; Brent Coleman, Baltimore Development Corporation, personal communication, August 11, 1994.

## **STEPS TO INCREASE GOVERNMENT PROCUREMENT OF RECYCLED PRODUCTS**

The first step in developing a recycled product procurement program within a local government body is to establish a policy simply stating the government's intention to maximize the purchases of recycled products. This can be accomplished through a mayor's executive order or by approval of the city council. Definitions of recycled products that indicate acceptable post-consumer levels are helpful additions to the policy, as is a list of the types of products available in the region. These policies can encourage or require government procurement of recycled products through a number of mechanisms.

### **Requirements to Change Specifications**

Any language which unnecessarily discriminates against recycled products should be removed from purchasing specifications; procurement policies should be reviewed and specifications revised for this purpose.

For example, in 1990 the Philadelphia Water Department changed their specifications to allow the use of wood chips from secondary sources (e.g., wood pallets) as bulking agents for sewage sludge composting.

### **Price Preferences**

Some procurement policies allow for a government purchaser to pay an extra five to 20 percent for the purchase of a recycled product. These price preferences are intended to help offset any price differential that might result between non-recycled products with entrenched markets and the newer

recycled products that, upon entry to the market, may exhibit high initial costs. Some jurisdictions, such as Seattle, Washington, allow an extra five percent preference for products made from materials culled from the city's waste stream. This added incentive is intended to secure markets for locally-produced recycled products.

### **Set-Asides**

An even stronger approach is to set aside a specific portion of a budget for the purchase of particular recycled products, chiefly paper and re-refined oil. San Jose, California is one of a number of cities that have established what is, in effect, a 100 percent set aside for the purchase of recycled paper. The city has established a procurement policy that states that all the city's purchases of paper should be recycled paper.<sup>8</sup>

### **Education**

While the success of a government buy-recycled policy depends on a number of factors, such as price and availability of recycled products, programs can also suffer if purchasing officials are not well-educated about the importance of buying recycled. For this reason, a strong educational component should be a main priority of any recycled procurement program. An individual who is knowledgeable about recycled product purchasing should be assigned to coordinate the program. This person should distribute a recycled products guide to buyers, and provide updates on new products as they become available. In addition, procurement staff in individual agencies should be periodically notified of available city contracts for recycled products. Workshops and Buy Recycled

trade shows should also be coordinated to educate purchasers on the availability of recycled products in the region, and their suitability for certain applications.<sup>9</sup>

### Monitoring

To assess year-to-year success, purchasers should report product purchases to the official in charge of the Buy Recycled program. Officials should also monitor the availability of new products by surveying vendors and manufacturers to assess progress made in incorporating recycled materials into new product lines. Catalogues of recycled products, such as the *Recycled Products Guide* of American Recycling Market, Inc. (Ogdensburg, New York), should also be consulted.

### Closed-Loop Procurement Arrangements

One of the best methods available to municipalities for establishing recycled product markets is through the creation of closed-loop procurement arrangements. Through such arrangements, a municipality agrees to purchase recycled products from manufacturers who make their products from materials captured from the local waste stream. Closed-loop systems circulate money as well as recycled materials locally, thereby strengthening the local economy (see sidebar).

### BALTIMORE'S RECYCLED PURCHASES

As part of the City of Baltimore's commitment to creating markets by buying recycled products, the Bureau of Purchases reported that city purchases of recycled products were \$3,237,650 in Fiscal Year 1993. The purchases included:

\$1,724,000	in metals, such as aluminum poles, conduit fittings, circuit breaker panels and inside lighting fixtures;
\$190,000	in paving materials;
\$240,000	in ceiling tile, copper pipe and tubing, brass fittings, and bronze valves;
\$285,448	of retread tires and rebuilt auto parts;
\$189,700	worth of office papers and envelopes;
\$18,582	in toner cartridges;
\$461,420	in paper towel, toilet tissue, and paper bags; and
\$128,500	in trash can liners (plastic).

The products contained from 15 to 100 percent recycled material.

Sources: Institute for Local Self-Reliance, 1994; Institute for Local Self-Reliance, *Recycling Procurement Programs: Analysis of Recycling Procurement in the Mid-Atlantic Region and Case Studies from Around the Nation*, 1994, page 17.

## Product Testing and Evaluation

Any items purchased by the government in substantial quantity must meet specific performance criteria. To gain the information necessary to make knowledgeable assessments regarding the worthiness of a product's

performance, the lead recycling procurement official should help arrange performance tests for products within different agencies, or should obtain results of other tests performed on these products. This is necessary to convince buyers in both the private and public sector of the worthiness of

### EXAMPLES OF CLOSED-LOOP PROCUREMENT ARRANGEMENTS

Seattle has established a number of closed-loop recycling situations, whereby the city buys back products made from materials collected through its own recycling program. An arrangement with Recycled Plastics Marketing, Inc. (RPM) has diverted over 100,000 pounds of plastic collected through the city's curbside program. RPM buys the plastic from the city and manufactures it into compost bins, which are then sold back to the city.

Seattle's other closed-loop arrangements include the procurement of recycled paint, made from paint collected through the city's hazardous household waste program; recycled aggregate, made from sidewalk cement that is processed and sold back to the city; and recycled asphalt.

The city of Lancaster, California, has developed a closed-loop system with K&E Engineering for the manufacture of backyard composting bins from scrap tires. The manufacturer—a former defense contractor—developed machinery and dies to form parts that can be fitted to make recycling bins. The manufacturer uses tires obtained from the city yard and other local sources to make the parts. The parts are then assembled by local community groups for \$10 per bin, and are given to nonprofit organizations, schools, churches, and multi-family housing complexes, and sold to other parties. The project received a grant from the California Integrated Waste Management Board; Ray Olson, who works for the city, expects the project to become self-sustaining in the future, as new markets and uses develop for the tire components.

In Los Angeles, a company named Plastoplan and the city have entered into a closed-loop procurement arrangement (sometimes referred to as a "tolling" arrangement). The RFP issued by the city called for a Los Angeles-based company to make recycling bins with plastic recovered from the city's collection programs. Plastoplan was selected, and is currently building a plastics manufacturing plant to produce recycling bins ordered by the city.

In Texas, Champion Paper Company expanded its use of recycled paper in its mills based on a tolling agreement with a number of cities and counties. The company takes the paper collected in government recycling programs, earning a service fee for its efforts, and makes new recycled paper products for resale to the local governments.

The private sector is also beginning to develop closed-loop recycling systems. Cross Pointe Paper Corporation, located in St. Paul, Minnesota, allows companies the opportunity to convert used office paper into documents for company use.

Home Box Office (HBO) also has developed a closed-loop system. HBO's mixed office paper is hauled to a processor, then to a paper manufacturer, then a printer, where it is finally converted into HBO letterhead. The system provided better prices for the wastepaper, a guaranteed market for the paper manufacturer, and a twenty percent reduction in the cost of HBO's stationary.

Sources: Institute for Local Self-Reliance, 1994; Ray Olson, City of Lancaster, California, personal communication, May 31, 1994; Northeast Maryland Waste Disposal Authority, *Buy Recycled Training Manual*, December 1993, page 37.

recycled products for specific applications. Demonstration projects can also be used to educate the general public on the suitability of recycled products for any number of applications (see sidebar).

#### DISSEMINATING PROCUREMENT INFORMATION TO BUSINESSES

While substantial progress can be made on promoting recycled product procurement within government, efforts should also be made to reach private sector purchasers. Campaigns to encourage private sector recycled product procurement might feature a recommended recycled product procurement policy, mailings to local businesses on the types of recycled products available in the region, and a

campaign to get businesses to sign on to goals for the procurement of locally made recycled products.

Additionally, state and local governments can require that contractors and grantees use recycled products for work done for the government. This can include requiring the use of recycled paper for proposals, reports, or other printing jobs; the use of recycled building insulation in building renovations; or the use of recycled materials in capital improvements. States such as Florida, California, Illinois, and Texas have required that legal documents be filed on recycled paper.<sup>10</sup>

The National Recycling Coalition (NRC) established a Buy Recycled

#### SEATTLE'S SELECTED EXPERIMENTS WITH RECYCLED PRODUCTS

In Seattle, the Parks Department is conducting demonstration projects regarding the feasibility of using recycled plastic lumber for docks and boat launches. The Seattle Engineering Department is using plastic lumber and compost on a wetlands walkway and is constructing a "Greenhouse"—that combines energy efficiency and recycled products—as a model for low income housing.

Seattle has also undertaken a project to build five community centers made of 50 percent recycled products. Specifications were issued on a number of recycled products, including cement with fly ash, recycled asphalt, primer paint, toilet partitions, ceiling tiles made from recycled paper, wallboard with recycled gypsum, recycled plastic parking stops, fiberglass insulation, and roofing insulation containing recycled iso-cyanurate. Two of the facilities are currently under construction; the others will soon go out to bid. According to Vaughn Breaux, Senior Environmental Analyst of the Purchasing Services Section of the city's Department of Administrative Services, the process has improved with each new contract, making recycled product procurement more effective.

A number of recycled products will be specified for the renovation of the Seattle Center Coliseum as well, and a contract will be issued to recycle the construction and demolition debris produced during the project. The information gleaned from these projects will provide the basis for a revision of the specifications used in all citywide construction projects. (For more information, contact Vaughn Breaux, Senior Environmental Analyst for the City of Seattle's Department of Administrative Services, at 206-684-0457.)

Sources: Institute for Local Self-Reliance, 1994; Vaughn P. Breaux, Senior Environmental Analyst, Department of Administrative Services, Purchasing Services Section, City of Seattle, personal communication, March 1994.



Business Alliance in 1992 to encourage private companies to buy recycled products. The Alliance offers assistance to its members by identifying recycled products that are available, suggesting where to look for suppliers, and holding workshops around the country. Introducing local companies to the Alliance's services may help in increasing their recycled purchases. As part of a larger marketing strategy, local recycling-based manufacturers may send information on their products to the Alliance. (For more information, call the NRC at 202-625-6406.)

#### **DISSEMINATING PROCUREMENT INFORMATION TO THE PUBLIC**

Training citizens to be responsible consumers of recycled products is an ongoing challenge. Consumer education efforts can include labeling programs for recycled products, the publication and dissemination of consumer guides, or disseminating information on recycled products through an organized media campaign. In some places, campaigns have been developed to help inform consumers of the impact of their purchases on the recycling industry.

Recently in Portland, Oregon, a campaign by a citizen's group was launched to alert consumers to the difficulty of recycling polyvinyl chloride (PVC) bottles, which are coded with a "3." The "Bottoms Up, 3s Down" campaign is intended to bring attention to the difficulty that the PVC resin may cause in recycling other plastics resins successfully, and to discourage consumers from buying products made from the material.<sup>11</sup>

Another avenue that communities can take to develop markets for recycled products is to form a cooperative marketing group for recycled products. In the Whatcom and Skagit Counties of Washington State, a group of small businesses and entrepreneurs have formed Second Wind, which offers promotion and marketing assistance for members' recycled products. One aspect of the assistance is a shared database that gives access to common markets. Second Wind was established with the help of the Second and Third Arrow projects, which promote the manufacture and purchase of recycled-content products in the area, which were in turn established through funding from the Whatcom and Skagit County Waste Reduction and Recycling Programs. In 1993, the NRC recognized the two counties with an award for Most Innovative Local Market Development Program.<sup>12</sup>

#### **UTILIZING DEVELOPMENTS IN NATIONAL OR STATE POLICIES**

Local governments often do not have the resources available to implement local market development efforts. Yet many of these localities can turn to state and federal funds for assistance, as discussed above. A city's recycling market development official should familiarize him/herself with these funds and other sources of assistance available.

State and national government policies also can have a strong effect on recycling market development. Campaigns developed locally, or resolutions adapted by city councils, can be influential in the creation of state or national policies that stimulate markets

for recycled materials. In particular, citizens may want to support policies that require businesses to meet established minimum content levels for their products. To date, minimum recycled content laws have been passed in ten states and the District of Columbia. Among the materials covered in the various laws are: newsprint; plastic containers; phone directories; glass containers; plastic garbage bags; and fiberglass insulation.

A recent study on the effects of recycled content laws recommends that these laws be used as part of any state's recycling market development strategy.<sup>13</sup>

## CONCLUSIONS

The effectiveness of local recycling market development depends greatly on the types of incentives and programs administered and identified by the community and city, and the funding they can allocate to such efforts. To the

greatest extent possible, these programs should base their priorities on the establishment and retention of local businesses that use the greatest amount of post-consumer materials, or that produce high-value products from those materials. Financial incentives offered by state, local, and other sources are important, as are the technical assistance efforts that governments can provide to help the businesses navigate bureaucratic channels and connect with the local infrastructure.

To keep the economic benefits of recycling local, communities may want to develop incentive packages that tie businesses to the community. Encouraging joint ventures with community groups is one important method for keeping recycling benefits within a community. For more information on these initiatives, see the companion booklet entitled *Expanding Scrap-Based Manufacturing through the Joint Venture Process*.

## APPENDIX A: RESOURCES ON RECYCLING ECONOMIC DEVELOPMENT & SCRAP-BASED MANUFACTURING

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## APPENDIX B: CHECKLIST OF RECYCLING MARKET DEVELOPMENT ACTIONS

	Yes	No	Planned
1. Develop recycling collection program	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Issue RFPs favoring companies willing to develop local markets	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Survey waste stream and current and future markets	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Establish a market development task force	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Establish market development office in local government	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Identify existing financial incentives	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Develop additional financial incentives	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Create a recycling market development zone	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Revise zoning regulations to facilitate market development	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Change procurement specifications to favor recycled	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Create price preferences/set asides for recycled products	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Develop program to educate procurement officials about buy recycled program	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Develop program to educate businesses about the importance of buying recycled	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Develop monitoring system to assess buy recycled efforts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. Conduct tests on recycled product performance, disseminate findings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. Investigate viability of developing closed-loop procurement arrangements, and implement	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. Disseminate information on recycled products to general public	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. Identify national and state policies that can help to create local recycling markets	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Optional:**

Your Name: \_\_\_\_\_

City: \_\_\_\_\_

## GLOSSARY

**buy recycled program**

A program to purchase products that contain recycled material.

**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.

**co-collection system**

The collection of mixed waste and source-separated recyclables with one vehicle in one trip.

**co-generation facility**

A facility which produces two useful forms of energy from one fuel source.

**composting**

The microbial degradation of organic matter into a useful product.

**curbside recycling**

The generic term for scheduled recycling collection service to households. Some curbside recycling collection programs collect from alleys. Typically, curbside recycling does not refer to service to multi-family dwellings.

**drop-off collection**

The collection of recyclables at a facility where citizens can deliver separated secondary materials, such as newspapers, glass containers and metal cans. The typical center is unattended.

**end-product**

A product containing recycled material resulting from a remanufacturing process.

**equity**

A risk interest or ownership right in a property.

**feedstock**

Raw material input into a process.

**HBO**

Home Box Office.

**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.

**minimum content level**

The minimum level of recycled material in a particular product, established by law or a voluntary industry agreement.

**mixed paper**

A bulk grade of waste paper made up of papers from various sources. Generally regarded as a low grade.

**MN OWM**

Minnesota Office of Waste Management.

**MRF**

Materials recovery facility; a facility that separates and/or processes collected

recyclable materials and sells them to other processors or end users.

**NY ORMD**

New York Office of Recycling Market Development

**OCC**

Old corrugated containers.

**post-consumer**

Recovered materials that have passed through their end-usage as a consumer item.

**PVC**

Polyvinyl chloride; a family of co-polymers, also known as vinyl.

**recyclable**

When commonly used, refers to the technical ability of a material to be reused in manufacture. A more precise definition incorporates requirements that a recycling collection, processing and market system be in place and economically functioning in order for a material to be considered recyclable. Using this definition, many materials are technically capable of being recycled but are not considered recyclable due to the lack of a viable recovery system.

**recycling**

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

**recycling market**

A buyer of collected recyclable materials, or a buyer of end-products.

**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.

**RMDZ**

Recycling market development zone; an enterprise zone where assistance is provided exclusively to recycling-related businesses.

**RPM**

Recycled Plastics Marketing, Inc.

**SBA**

Small Business Administration.

**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-separation**

Separation by the waste generator of materials designated for some form of materials recovery or special handling.

**transfer station**

A centralized facility where solid waste and recyclable materials are brought before delivery to other destinations.

**virgin material**

The supply of materials, not made by man, that are used for making goods.

**waste stream**

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

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