

**Tax Incentive and Loan Programs
as Recycling Market Development Tools:**

Key Issues and their Application to Massachusetts

*A Study conducted by MassRecycle, Inc.
The Massachusetts Recycling Coalition*

*in cooperation with the Tufts University
Department of Urban and Environmental Policy*

May 1997

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Executive Summary

As increasing quantities of materials are diverted from landfills and incinerators through recycling collection efforts, there is growing recognition that sufficient market development is necessary to insure that recovered materials get remanufactured into new products. However, there are significant barriers to the development of markets for recovered materials, also known as market failures. In order to overcome the barriers to recycling market development many states are enacting policies to promote the re-manufacturing of recovered materials and to boost demand for products made from recycled materials. In addition to the environmental benefits gained by diverting waste from landfills and incinerators, recycling market development is considered a form of economic development with the potential to save resources and create jobs.

This study provides a qualitative assessment of two specific market development tools used to stimulate the remanufacturing of recovered materials: loan programs and tax credit programs. The study's main goals were to: survey certain state-run tax credit and loan programs used as recycling market development tools; identify issues and factors that played a role in both perceived and actual successes and failures of those programs, and; to compare and contrast the Massachusetts Recycling Loan Fund (RLF) with other recycling market development loan programs.

This report is intended for use by recycling market development officials in Massachusetts and nation-wide. Illustrative examples of the challenges faced and lessons learned through program and policy implementation are described throughout the document. States considering implementing or changing existing loan or tax credit programs should review the key issues identified in this report, because elements of each issue are essential to the viability of these programs.

Twelve loan and seven tax credit programs selected from across the United States were surveyed for information to help identify key issues for successful tax and loan programs. This sampling does not represent all recycling loan and tax programs. Information is derived from interviews conducted with program representatives, supplemented by individual program literature, as well as a general survey of recycling market development literature.

Summaries of how these issues apply to the Massachusetts loan program are included after each key issue for ease of reference. However, the Massachusetts Recycling Loan Fund was not examined to any greater depth than other programs reviewed.

Key Issues for Recycling Market Development Loan Programs

1. Assumption of Risk

In order to overcome barriers to recycling market development, loan programs should assume risks that the private sector is unwilling to accept.

Massachusetts:

The RLF program uses an above-market interest rate which makes loans more expensive than conventional bank financing. The high interest rate is designed to screen out all recycling business applicants that are able to obtain financing on more favorable terms elsewhere. According to the loan fund administrator, this serves to attract businesses that have both financial need and high risk characteristics.

The Massachusetts program also charges a success fee in conjunction with the interest rate. The success fee is levied as a percentage of recipient's revenues and is negotiated on a case-by-case basis. The fee acts to price the loan according to risk. Payments are smaller in the start up phase of a business and grow over time as the sales rise, thus increasing the success fee returned to the state. This market mechanism acts as a self-regulating tool of the loan program to deal with risk: the higher success fees returned cover the losses incurred from risky loans made to less successful businesses.

As stated in the *Massachusetts Recycling Loan Fund Loan Policy Statement*, "[t]he objective of success fees is to compensate the RLF for additional risk while keeping debt service at a reasonable level for the borrower. Loans perceived to be lower risk will carry lower targeted returns while loans perceived to be higher risk will carry higher targeted returns." Success fees are assessed by MBDC quarterly upon receipt of the borrower's quarterly financial statements. A portion of the success fee goes to the RLF and another portion goes to MBDC. This provides MBDC more resources with which they can take on riskier loans.

2. Leveraging Private Sector Funding

A primary goal of recycling market development loan programs is to leverage additional commercial financing. The long-term goal should be that government intervention in capital markets for the recycling industry will become unnecessary as it matures. In the short-run, states should use direct and indirect methods to leverage additional capital.

Massachusetts:

Direct Leveraging

Over the life of the RLF eight loans have closed for a total of \$1.275 million, leveraging an additional five million in other financing from: MBDC (such as SBA loan money); private banks; and, other economic development funds in the state not specifically targeted to recycling. In some cases the banks commitments were "subject to the RLF's participation." Recycling Loan Fund, Quarterly Reports through March, 1997.

Indirect Leveraging

The Massachusetts Business Development Corporation (MBDC), which serves under contract for Department of Environmental Protection to administer the Recycling Loan Fund, was selected based on their reputation as a national leader in business lending. MBDC's credibility as a lending institution bolsters the confidence of other banks to make loans to the recycling industry. This kind of indirect leveraging is central to the Recycling Loan Fund's mission. In fact, the main objective is less to provide direct assistance but more to "put recycling on the radar screen of other finance sources."¹ The program attempts to address the perception held by economic development agencies and private funding sources that the recycling industry is "risky" because of fluctuations in supply and demand for secondary commodities, regulatory uncertainty, and the infancy of the industry.

3. Consistent, Adequate and Reliable Funding:

Consistent, adequate and reliable funding should be maintained in order for loan programs to successfully carry out their mission of providing capital for recycling market development.

Massachusetts:

Funding for the Recycling Loan Fund (RLF) program is derived from the Clean Environment Fund which is generated by the unclaimed bottle deposits and dedicated to promoting solid waste management and recycling activities in Massachusetts. The RLF was created as a program objective of the Department of Environmental Protection (DEP). Funding is drawn from DEP's operating budget on an annual basis as appropriated by the legislature. For fiscal year 1995 the RLF program was budgeted \$350,000; in fiscal year 1996 it received \$1.2 million; and for fiscal year 1997 they have been allotted \$500,000 (to date). This method of funding is both a strength and a weakness. DEP has more control over funding for the RLF, but the money must come directly from the agency's budget. To date funding for the RLF has been consistent and reliable, however, it is difficult to assess whether this will be the case over the long term. In the program's first two years eight loans have closed for \$1.275 million.

4. Program Flexibility:

The continually changing field of recycling market development requires program flexibility to target priority markets and materials, work effectively with different sizes of businesses, and address re-use and source reduction.

Massachusetts:

The Recycling Loan Fund (RLF) is flexible in terms of targeting markets and materials. Based upon a needs assessment of the recycling industry conducted in 1994 and 1995, the Department of Environmental Protection (DEP) designed the program with the intent of being sensitive to the needs of recyclers. To insure flexibility in targeting different markets and materials DEP asked its contractor, MBDC, to "recommend changes in program design (in areas such as eligibility,

¹ Jeffrey Lissack, Director of Recycling Market Development, Massachusetts Department of Environmental Protection, interviewed by K. Mirza, 3 April 1997. Personal interview.

loan terms, and loan servicing requirements) to DEP as needed to meet changing market conditions.”² Assistance is directed toward businesses utilizing surplus diverted materials. To insure that loan funds are directed toward businesses that exhibit true financial need, specific markets and materials are not targeted. Loans which have closed to date, have addressed the needs of a cross section of sectors.

The Massachusetts RLF is dedicated solely to the financial needs of small recycling businesses. To be eligible, a business must have reported no more than \$10 million in sales in the latest fiscal year. Presumably this limited focus is based on the needs assessment survey. If the program is to remain flexible it will need to be sensitive to changing market needs including those of medium and large sized firms.

5. Mechanisms for Continuous Evaluation

Due to the political and technical nature of evaluation and the difficulty of defining success for loan programs, continuous improvement mechanisms are needed.

Massachusetts:

A needs assessment was conducted prior to the beginning of the RLF program. The Recycling loan Fund has been operable for under two years. The program administrator reports that client feedback will be solicited and a formal program evaluation conducted after the program matures for a few years.

6. Streamlined Funding Cycle

Loan funding cycles should be streamlined and approximate commercial lending standards.

Massachusetts:

The Massachusetts Recycling Loan Fund accepts applications on a continuous basis. The administrative elements of the RLF program are contracted to the Massachusetts Business Development Corporation (MBDC). This allows DEP to stay at arms-length from the approval process, therefore speeding the turnaround time for loan decisions. Applicants are notified of their eligibility within two weeks of initial application. Subsequently MBDC performs a complete financial analysis of approved businesses in order to provide due diligence of the law and negotiate the success fee required with payments.

7. Critical Areas of Expertise

Because recycling loan programs deal with cross-cutting issues, staff expertise and specialization is needed in the areas of financial analysis, environmental management and engineering.

² Massachusetts Department of Environmental Protection, Division of Solid Waste Management, *Request for Qualifications/Proposals to Manage the Recycling Loan Fund*, October 1995.

Massachusetts:

The Chelsea Center for Recycling and Economic Development serves to provide both business and technical assistance to Massachusetts businesses utilizing recovered materials to manufacture new products. The Chelsea Center was created by the Commonwealth of Massachusetts in February 1995 to "create jobs, support recycling efforts, and help the economy and environment by working to increase the use of recyclable materials used in manufacturing processes in the State."³ The Massachusetts Office of Business Development provides technical assistance for businesses. The Recycling Loan Fund has strong informal links to both of these organizations.

8. Loan Programs Nested within Larger Market Development Initiatives

The majority of loan programs examined in this report are integrated within larger recycling market development programs. These comprehensive initiatives typically integrate separate programs in financial assistance, technical assistance, and marketing assistance.

Massachusetts:

The Recycling Loan Fund is part of a series of market development programs provided by the Department of Environmental Protection, the Massachusetts Office of Business Development, the Chelsea Center for Recycling and Economic Development, and other governmental and public organizations. Recycling businesses in the state can call upon the expertise and services provided by these organizations. Although Massachusetts does not have one centralized arm providing assistance to recycling businesses, the loan fund was designed to fit within this decentralized structure of economic development organizations.

9. Marketing Matters

Marketing of loan programs is important not just to attract potential applicants, but to raise the profile of the recycling industry.

Massachusetts:

The Department of Environmental Protection (DEP) relies on its contractor, Massachusetts Business Development Corporation (MBDC), to provide marketing services for the Recycling Loan Fund. MBDCs goal is to provide financial services to small and mid-size companies. They promote the RLF as one of their many services, and because MBDC is well established in the financial sector, they are able to reach many potential clients through numerous channels. MBDCs brochure of services describes the RLF in conjunction with their direct loans, SBA 504 loans, Capital Access Program, and Mass Business Community Investment Group. When MBDC identifies a viable loan candidate but is unable to provide total requisite funding, they will actively market this candidate to private lending institutions in order to acquire total funding needed. They attempt to educate banks as to the growth potential of the recycling industry. MBDC hopes that once banks are educated, their willingness to provide loans to recyclers will grow. Marketing is also done through press releases, direct mailing to recycling industries, and

³ Chelsea Center for Recycling and Economic Development, *Description of Services*, March 1997.

through related economic development agencies, primarily the Massachusetts Office of Business Development.

10. Consideration of External Factors within each State

External factors such as: state diversion goals, statutory authority, and political and economic climate are important factors in the success of loan programs.

Massachusetts:

- A) *State Diversion Goal:* The diversion goal of Massachusetts is set administratively, not legislatively. They hope to reach a 46% diversion rate by the year 2000.
- B) *Statutory Authority:* There is no statutory authority for the Recycling Loan Program.
- C) *Political/Economic Climate:* There is an emphasis on market-based mechanisms in Massachusetts.

Future Considerations for the Massachusetts Recycling Loan Fund

One of the goals of this study was to compare and contrast Massachusetts' Revolving Loan Fund (RLF) with loan programs in other states. In the qualitative assessment of recycling market development loan programs, illustrations of the key issues identified were highlighted for Massachusetts. As stated earlier, this report did not examine Massachusetts loan program in any more depth than any of the other programs. Like other programs, we encountered questions for the Massachusetts RLF that require further research and analysis. Hopefully, the key issues identified in this report can serve as a starting point for future evaluation and improvement of the RLF. Towards that goal we can offer the following questions and issues to consider.

Risk

In addressing the issue of risk, Massachusetts chose to incorporate an innovative success fee as one lending term. This increases the cost of the loan to businesses and provides the RLF program with a way to offset loan losses. Key considerations:

- The success fee and the market interest rate make RLF loans expensive, thus ensuring that only those truly in need apply. Does addressing risk in this manner exclude recycling businesses that are experiencing access to credit difficulties, who may qualify for an RLF loan, but can't afford the high interest rates?

Leveraging

One indirect way the Massachusetts Recycling Loan Fund leverages additional private capital for recycling market development is by relying on MBDCs credibility as a lending institution to bolster the confidence of other private lenders. Some private funds are directly leveraged through more formal agreements. Key considerations:

- Is the RLF exploring the full range of opportunities to leverage private sector funds? MBDC administers a capital access program. Could this program be used to leverage loans for recycling businesses?

Funding

The amount allocated to the RLF from DEP's budget varies from year to year. The program has fairly conservative goals and to date, eight loans have been closed.

Key considerations:

- Are any recycling businesses being denied loans for lack of funding in the RLF?
- Is Massachusetts lending enough funds to recycling market development projects to make an impact on the state diversion goal?
- Are the goals of the RLF sufficiently linked to the state diversion goal?

Program Integration and Critical Areas of Expertise

Recycling businesses in Massachusetts benefit from the services provided by the Chelsea Center for Recycling and Economic Development, as well as the Massachusetts Office of Business Development (MOBD). The collaboration between DEP, MBDC, MOBD and the Chelsea Center prevent duplication of services, yet ensures that businesses have access to financial and or technical assistance. However, the upcoming evaluation would be an appropriate time to assess whether businesses are aware of, and utilizing, these different services. In some states, the "one-stop-shop" has proved convenient for clients. Key considerations:

- Is there sufficient integration of the various recycling market development programs?
- Is there enough technical assistance to support loan applicants?

Marketing

The RLF uses many of the standard program marketing techniques. Key considerations:

- Are these marketing efforts sufficiently high profile to attract applicants and to increase awareness of the recycling industry?

External Factors

The diversion goal of Massachusetts is set administratively, not legislatively. The goal is to achieve a 46% diversion rate by 2000. There is no statutory authorization for the Recycling Loan Program. Key considerations:

- Would a legislatively-mandated waste diversion goal strengthen state recycling market development efforts?
- What are the costs and benefits of giving the RLF statutory authority?
- Since market-based mechanisms are emphasized in Massachusetts, can the RLF be further enhanced to provide even greater market-based incentives to stimulate recycling market development?

Key Issues for Recycling Market Development Tax Credit Programs

Of the fourteen states examined for the purpose of this report, seven currently administer or formerly administered tax credit programs specifically geared toward recycling market development. The following five key issues were identified as important factors for a recycling related tax credit program:

1. Size of Tax Credit Offered

The size of the tax incentive should relate directly to the goal of the program. Tax credits of 25% or more have noticeable impacts (based on utilization) as a market incentive and serve to attract new businesses and assist those in the process of retrofitting equipment for recycling activities.

2. General Fund Impact

Programs should clearly assess the expected impact on the state's general fund resulting from a tax credit program.

3. Streamlined Implementation and Procedures

Simplicity in navigating through the application process and responsiveness of program administrators to client needs are critical issues.

4. Flexibility in Targeting Markets and Materials

Tax credit programs should be flexible enough to target different materials, markets, and sectors as the needs change in the marketplace and as the accumulation of surplus materials warrants greater attention.

5. Effect on Start-up Businesses

Since many start-up businesses have little or no profit during their first few years and thus have low tax liability, there is little incentive to file for an equipment tax credit.

Tax Credit Program Future Considerations

Massachusetts currently has no tax credit program targeted to recycling businesses, and we are unable to conclusively argue for or against starting one. Based on the information gathered from seven tax credit programs and from general literature, we identified five key issues related to these programs. Massachusetts should consider each identified key issue and weigh it in conjunction with the State's goals for increased recycling market development. Should Massachusetts choose to initiate a tax credit program, the following considerations should be kept in mind:

- Tax credits can be especially useful to existing businesses for reducing the cost of retrofitting plant and equipment to accommodate recycled feedstock.

- Targeting specific markets and materials can prevent tax credits from becoming economic windfalls to well-established recycling industries.
- State taxes represent a relatively small factor in the cost of doing business. Therefore large tax credits may be required to influence equipment investment decisions.
- Programs should be flexible and explore alternative avenues for the credit -- including equipment leasing, source reduction, and re-use as part of eligibility criteria.
- The program should be simple and easy to understand.

Requiring applicants to pre-file certification requests before they purchase equipment will help track whether the tax credit is a factor in equipment purchase decisions. This requires clear and effective marketing to make potential applicants aware of the program.

Purpose and Scope of Project

This research study was directed by MassRecycle in conjunction the Department of Urban and Environmental Policy at Tufts University. The study's main goals were: 1) to survey state-run tax credit and loan programs used as recycling market development tools; 2) to identify issues and factors that played a role in both perceived and actual successes and failures of surveyed programs; and 3) to compare and contrast the Massachusetts' loan program with those of other states.

A variety of recycling market development programs exist. However, substantial comparative documentation about the successes, lessons learned, or best practices of these programs is lacking. This report attempts to document some of this missing information by highlighting key issues of both tax incentive and loan programs from a variety of states. The goal, however, was not to evaluate these programs, but rather to survey them in an attempt to gain substantial information which could be synthesized into a set of key issues. The intention of this report is to provide Massachusetts, or any other state, with essential factors to consider when implementing or changing a tax credit or loan program.

The following assumptions were made in the presentation of this report: 1) there is a need for markets for recovered resources; and 2) that readers of this report are familiar with basic principles and concepts of recycling and market development.

Methodology

This report provides a qualitative analysis of tax credit and loan programs used by 14 states in the United States to stimulate recycling market development. Twelve loan programs and seven tax credit programs were surveyed. Programs were selected if they met either of the following criteria: a reputation within the recycling community as a noteworthy program; or an operational history with older programs receiving priority.

Information for this report primarily came from: 1) 20 telephone interviews with practitioners in the field, conducted with a standardized questionnaire (see Appendix A) that interviewees received prior to the interview; 2) written information about the programs, and; 3) a literature review of tax credit and loan programs both as they related to recycling market development and as general economic development tools.

Many of the key issue findings in this report are corroborated by a study of recycling market development tools conducted for the U.S. Environmental Protection Agency in 1993.⁴ Additionally, the EPA study provided substantial background information on policy and program options for developing markets for recycling materials.

Our methodology poses certain limitations. First, our data is drawn primarily from individuals currently or formerly administering the programs we examined. Printed materials supplied by program contacts were largely promotional and descriptive (i.e. program brochures, guidelines and applications). Several programs did provide mandatory reports to state legislatures which provided detailed data on program utilization and some result indicators, but this was the exception rather than the rule. Therefore our ability to analyze the strengths, weaknesses and successes of these programs was largely dependent on the contacts candid responses to our questions.

Second, due to limitations in availability of program evaluations and variability in measurements of program success the examples should not be considered a thorough evaluation of tax credit and loan programs.

Third, time was a critical factor in limiting the number of programs surveyed. Thus, this is by no means a complete survey and analysis of all existing recycling loan and tax programs.

Despite these limitations, this report should be helpful to current recycling market development officials and to managers of state and non-profit agencies considering adopting or modifying tax credit and loan programs.

⁴ Mt. Auburn Associates, Inc. and Northeast-Midwest Institute, *Developing Markets for Recyclable Materials: Policy and Program Options*, prepared for the U.S. Environmental Protection Agency, in connection with Grant No. X818723-01-0, July 1993.

Background

The last decade has brought about sweeping changes in legislated and voluntary recycling efforts. Whether its curbside or office-wide, more and more individuals, industries and municipalities are participating in efforts to reduce their waste. States have strengthened and guided community responses to recycling. As of 1994, 43 states had set waste diversion goals, 36 of which were authorized legislatively.⁵ All these recycling efforts have lead to growing supplies of secondary or recovered materials.

As increasing quantities of materials are diverted from landfills and incinerators, there is growing recognition that successful recycling depends on three critical stages of supply and demand: 1) the supply stage -- where recyclable materials are diverted and collected; 2) the industrial demand stage -- where recovered materials are processed and re-manufactured into products; and 3) the consumer demand stage -- where finished products made from recovered materials are purchased.⁶ State policies that affect recycling at these three stages are shown in Table 1.⁷

Table 1 Policies Affecting Recycling in Three Stages

Policies to Improve the Supply of Feedstock

- mandatory recycling collection
- deposit/refund systems
- advanced disposal fees
- unit pricing
- consumer education
- high tipping fees at landfills and incinerators
- burn and bury bans for certain recyclables
- ban sale of contaminant materials
- loan/grant programs for improved equipment
- technical assistance
- remove subsidies for virgin feedstock
- incentive programs giving cash/ton of recyclables collected
- state diversion goals
- flow control

Policies Aimed at Manufacturers

- grant and loan programs for start-ups and R&D
- tax incentive programs
- loan guarantees
- siting/permitting assistance
- business planning/market research assistance

⁵ Steuteville, Robert, *The State of Garbage in America*, BioCycle, May 1994, 30.

⁶ Mt. Auburn Associates, Inc., 1993, 1.

⁷ Taken in part from Institute for Local Self-Reliance, *Recycling Economic Development Through Scrap-based Manufacturing*, Washington, DC, 1994, 26.

Table 1 Continued

Policies Aimed at Manufacturers, continued

- fines for non-compliance with recycled content levels
- ban sale of products that are not recycled locally
- high environmental control costs to encourage recycling high energy costs to encourage recycling
- community joint ventures
- recycling market development zones

Policies to Increase Demand for Recycled Products

- government procurement
- government price preferences for recycled products
- pilot purchases/field testing
- consumer and business education
- technical assistance to businesses
- voluntary agreements with industry
- published directories of recycled products
- labeling laws

Imbalances between supply and demand cause price volatility. This volatility hurts both municipalities trying to collect recyclables and businesses trying to utilize them. This means that communities are losing out on valuable economic development opportunities. Policies focusing on the collection of recycled materials were a successful initial strategy. Based on this success, the focus has now shifted to industrial and consumer demand stage policies. If these programs don't result in a significant increase in demand for recovered materials, the result will be an abundance of supply.⁸ This could cause a drop in prices for secondary commodities, undermining the economic viability of recycling collection efforts.

When free markets don't provide for the efficient use and allocation of resources as in the case of the recycling industry, it is called market failure. The following have been identified as causes of market failure related to recycling: imperfect flow of existing information; uncertainty about future markets; undervaluing of the public costs and benefits of recycling; high transaction costs; an initial small market; and aversion to risk.⁹

In order to overcome the barriers to recycling market development and prevent recovered materials from going to waste, many states are enacting policies to promote the re-manufacturing of secondary materials. These policies attempt to close the recycling loop by adopting market development techniques. These techniques include, but aren't limited to, the following:¹⁰ information and technical assistance; *Buy Recycled* programs; financing; taxes and fees; and regulation of the collection, processing, re-manufacture, or purchase of secondary materials. The

⁸ Wingerter, Eugene J., *Urgent Responses by the States*, *EPA Journal*, July/August 1992, 38.

⁹ Mt. Auburn Associates, Inc., 1993, 4.

¹⁰ *Id.*, 11.

purpose of these tools is to attract and develop recycling businesses who will help absorb recovered materials, while promoting economic development within a state.

State governments are promoting recycling market development for reasons beyond the environmental benefits gained by diverting waste from landfills and incinerators. Recycling market development is a form of economic development. It is viewed as an emerging industry that saves resources and creates jobs, and as a way that could help communities offset the costs of curbside collection by increasing their overall revenues. In fact, in one study, one ton of processed post-consumer material generates \$120 in revenue while one ton of disposed material generates only \$40 in revenues, primarily from tipping fees.¹¹ A regional study conducted in the Baltimore, MD, Washington, DC, and Richmond, VA, areas determined that revenues from recycling-related enterprises “amount to more than \$2.1 billion, whereas revenues from waste disposal in the area come to less than \$404 million.”¹²

This report is an examination of certain state-level efforts to stimulate markets at the level of processing and remanufacturing recovered materials through the use of two market development tools: recycling tax credits and recycling loan programs. The purpose of these tools is to attract and develop recycling businesses that will help to absorb the supply of collected materials, while promoting economic development within a state.

¹¹ Platt, Brenda, *et al.*, *Recycling Boosts the Local Economy*, BioCycle, August 1995, 60.

¹² Platt, Brenda, *et al.*, *Recycling means Business in Baltimore, DC, and Richmond*, Institute for Local Self-Reliance, January 1995, 3.

Key Issues of Loan Programs

Of the fourteen states examined for the purpose of this report, twelve had loan programs that we examined. Ten key issues were identified as important for loan programs to consider. These ten issues include:

- 1) Assumption of risk
- 2) Leveraging private sector funding
- 3) Consistent, adequate and reliable funding
- 4) Program flexibility
- 5) Mechanisms for continuous evaluation
- 6) Streamlined funding cycle
- 7) Critical areas of expertise
- 8) Loan programs nested within larger market development initiatives
- 9) Marketing matters
- 10) Consideration of external factors within each state.

What follows is not a comprehensive evaluation of each state's loan program, but rather illustrative examples and analysis of each of these key issues. All information comes from interviews conducted with program representatives. Complete citations of these interviews are included in the bibliography. Massachusetts examples are highlighted at the end of each issue. It is important to note that Massachusetts was not examined any more thoroughly than other states – the same interview questions were posed to the Massachusetts program administrator. Because one of the goals of this report is to compare and contrast Massachusetts with other states, we chose to highlight this information.

1. Assumption of Risk

In order to overcome barriers to recycling market development, loan programs should assume risks that the private sector is unwilling to accept. When risk aversion and undervaluing of public benefits of recycling are the prime barriers to recycling market development, loan programs should foster marginal recycling industries by loaning at below-market interest rates. When the imperfect flow of information is the primary barrier to market development, programs should consider loaning at market rates. All programs should avoid lending to firms that do not face difficulties in accessing investment financing. Loan programs can address risk by their choice of interest rate and through explicit expectation of risk stated in their program guidelines.

A. Choice of Interest Rate

To encourage the development of markets for recovered materials, state loan programs grapple with the question of which interest rate best achieves that result.

Market-rate and high-cost loans

One assumption made by some loan programs is that the lack of access to capital for recycling businesses is primarily due to commercial lenders unfamiliarity with the industry. Thus, when the primary barrier is the imperfect flow of information, state loan programs should make loans at market rates that reflect actual risk. In doing so they are holding recycling loan recipients to market standards of performance and ultimately proving the industry's viability. Attracting applicants to a market rate or high-cost loan is one way a program can verify that it provides needed capital at a price the market can bear.

Low and no-interest loans

In contrast, many loan programs offer low or no interest loans. These programs attempt to overcome the access-to-capital barriers and the undervaluing of public benefits from recycling by providing an incentive to the recycling industry. These programs function similarly to market-rate programs, but they assume that recycling market development will occur more rapidly with financial incentives.

One possible down side to low interest loans is that they may attract strong applicants who would otherwise find financing in the commercial sector. Naturally, programs want their loan recipients to be successful. As a result there is political and fiscal pressure to both lower interest rates and loan to the most financially viable candidates. If this is the case, it raises the question whether state recycling market development loan programs are duplicating private sector financing.

Evidence from California's Recycling Market Development Zone (RMDZ) low interest loan program suggests that the program is serving recycling companies with limited private sector financing alternatives. The *RMDZ Loan Program Evaluation* (1995) reports that of the projects funded, only eight percent of total project costs to date have come from commercial lenders, thereby confirming that the program is not replicating the commercial lending sector. As of March, 1997, the programs made \$20.2 million in loans in its first four years. This is a very small amount of capital when compared to commercial and industrial lending in California which exceeds \$33 billion a year.¹³

B. Explicit Expectation of Risk

A primary goal of virtually all recycling loan programs is assuming risks the private sector is unwilling to accept. However, fiscal and political pressure for success can lead programs to act

¹³ CIWMB, 1995.

contrary to their stated mission. If risk is a central assumption, loan programs may want to factor in expected loan losses as a budget expense. Programs would be more likely to consistently take some risks if losses weren't stigmatized, but rather expected. This is standard operating procedure in private banks which hold loan loss reserves to cover bad debts.

For example, the enabling legislation for New Jersey's loan program never clearly articulated that the program should assume risks even though the explicit purpose of the recycling loan program was to provide financing for new or existing recycling businesses facing access-to-capital barriers. In the early years of the program some higher-risk loans were approved. However, an early default acted as a negative turning point and caused loan administrators to become more conservative and reject higher-risk loan applications. One way to avoid this is to explicitly mandate assumption of risk in the enabling legislation.

Administrators in the Finance Authority of Maine (FAME), which certified recycling loan applications for the Maine Waste Management Agency, report that firms who most needed loans were unable to meet the programs strict criteria, because they were considered very risky. Clients who could meet the strict criteria were able to get loans from other sources, thus undermining the need for a loan program targeted to the recycling industry.

Massachusetts: Assumption of Risk

The Massachusetts Business Development Corporation (MBDC) is under contract from the Department of Environmental Protection to administer the state's Recycling Loan Fund (RLF).

The program uses an above-market interest rate which makes loans more expensive than conventional bank financing. The high interest rate is designed to screen out all recycling business applicants that are able to obtain financing on more favorable terms elsewhere. According to the loan fund administrator, this serves to attract businesses that have both financial need and high risk characteristics.

The Massachusetts program also charges a success fee in conjunction with the interest rate. The success fee is levied as a percentage of recipient's revenues and is negotiated on a case-by-case basis. The fee acts to price the loan according to risk. Payments are smaller in the start up phase of a business and grow over time as the sales rise, thus increasing the success fee returned to the state. This market mechanism acts as a self-regulating tool of the loan program to deal with risk: the higher success fees returned cover the losses incurred from risky loans made to less successful businesses.

As stated in the *Massachusetts Recycling Loan Fund Loan Policy Statement*, "[t]he objective of success fees is to compensate the RLF for additional risk while keeping debt service at a reasonable level for the borrower. Loans perceived to be lower risk will carry lower targeted returns while loans perceived to be higher risk will carry higher targeted returns." Success fees are assessed by MBDC quarterly upon receipt of the borrower's quarterly financial statements. A

portion of the success fee goes to the RLF and another portion goes to MBDC. This provides MBDC more resources with which they can take on riskier loans.

2. Leveraging Private Sector Funding

A primary goal of recycling market development loan programs is to leverage additional commercial financing. The long-term goal should be that government intervention in capital markets for the recycling industry will become unnecessary as it matures. In the short-run, states should use direct and indirect methods to leverage additional capital.

Some state loan programs track the amount of loans leveraged as a key indicator of success. As of 1995, California's Recycling Market Development Zone (RMDZ) loan program had leveraged \$9.9 million in outside recycling-related investments (including private funds and equity) from the \$8.1 million loaned by the program up to that point (CIWMB 1995). As of 1996, the Recycling Promotion and Assistance Fund (RPAF) in Indiana had provided approximately \$6.3 million in 19 loans leveraging an additional \$12.7 million in private investment (Indiana Department of Commerce, 1996).

Loan programs can leverage additional capital for recycling market development projects both *directly* and *indirectly*. Loan programs can *directly* leverage additional capital investments by reaching agreements with banks and investors and by reducing banks risks in lending to recycling businesses. Several methods are described including *linked financing*, *subordinated debt arrangements*, and *capital access programs*. State loan programs *indirectly* leverage additional funds by building the success of the recycling industry which increases banks comfort level in lending to this industry and by establishing a track record other financiers can refer to.

A. Direct Leveraging

Linked financing

States can maximize their impact on the availability of finance capital by requiring applicants to match state-approved loans from other sources. An applicant's approved loan can bolster the confidence of outside capital and equity investors. In some programs there is an explicit agreement with banks involved with *linked financing* to allow banks to be paid back first in the case of a default. This is further described in *subordinated debt* below.

Subordinated debt

This type of debt has a claim on assets in the event of bankruptcy only after senior debt has been paid off. It is used as a further incentive to private creditors to loan to recycling businesses and reinforces the leveraging power of *linked financing*. This is achieved by the state lending authority assuming more risk than private investors. In Washington, the Clean Washington Center (CWC) is working to establish a \$12 million recycling investment fund, in which 80% of funds will be loaned to moderate risk ventures as part of *subordinated debt arrangements*

designed to leverage finance from private sources. By providing the subordinated portion of the debt, the CWC is agreeing to have their portion of debt be lowest in priority for retirement in the case of bankruptcy. The overall debt structure for a CWC contract would be 30% from the CWC fund, 40% from a bank, and the remaining 30% from all other sources including entrepreneurs and company equity.¹⁴

Capital Access Programs

The California Cal-Cap loan program is piloting a capital access program to leverage financing for recycling market development projects. The existing CalCap program leverages loans from banks for general economic development. This leveraging tool has strong potential to increase capital funds available to recycling market development projects. It compliments states direct loan efforts by offering an additional tool for capital leveraging. Typically in a capital access program, a state agency injects cash into a bank's loan loss fund, which is normally only 1-2% of outstanding credit. Loan loss funds are used by banks as a form of insurance against loan defaults. When states increase loan loss funds (to 8-14% of outstanding capital) they enable banks to make riskier loans to targeted industries such as recycling, thereby leveraging additional financial resources. Essentially, a higher loan loss fund raises a bank's risk tolerance, because the bank can afford to lose more money. Banks can only access a state-funded loan loss funds when actual losses have occurred, which gives them an incentive to take on riskier loans.

California's Recycling Market Development Zone (RMDZ) Loan Program Evaluation, 1995, estimates that placing \$500,000 of state money into a bank loan loss fund could leverage \$12.5 million in loans. Calvin Young, Regional Credit Manager for the California RMDZ loan fund, says that likely recipients will be smaller firms that have an even harder time accessing capital. Young reports that direct recycling loans have averaged \$383,000, while CalCap supported loans have averaged \$75,000. An additional benefit of using already existing capital access programs, Young says, is that they allow loan programs to leverage additional capital for recycling market development projects without "reinventing the wheel."¹⁵

B. Indirect Leveraging

Recycling Market Development loan programs *indirectly* leverage private financing by helping the recycling industry succeed. Loan programs can serve to raise the profile of the recycling industry and build a historical database that banks can analyze.¹⁶ As the credit-worthiness of the industry grows, banks will be more willing to provide financing. Or put simply by the administrator of Indiana's Recycling Market Development Program, "success builds upon success."¹⁷

¹⁴ Dougherty, interview, 6 March 1997.

¹⁵ Young, interview, 27 February 1997.

¹⁶ CIWMB, 1994.

¹⁷ Rhodes, interview, 7 March 1997.

In Delaware, for example, the Green Industries Initiative is a state program designed to give recycling businesses a chance to raise the profile of their industry.¹⁸ By qualifying as a “green industry,” recycling businesses gain recognition from regulators, government officials, and banks. This recognition is important for fostering further recycling business development in Delaware, and is intended to leverage additional capital through private sector financing.

Massachusetts: Leverage Private Sector Funding

Direct Leveraging

Over the life of the program eight loans have closed for a total of \$1.275 million, leveraging an additional five million in other financing from: MBDC (such as SBA loan money); private banks; and, other economic development funds in the state not specifically targeted to recycling. In some cases the banks commitments were “subject to the RLFs participation.”¹⁹

Indirect Leveraging

The Massachusetts Business Development Corporation (MBDC), which serves under contract for Department of Environmental Protection to administer the Recycling Loan Fund, was selected based on their reputation as a national leader in business lending. MBDCs credibility as a lending institution bolsters the confidence of other banks to make loans to the recycling industry. This kind of indirect leveraging is central to the Recycling Loan Fund’s mission. In fact, the main objective is less to provide direct assistance but more to “put recycling on the radar screen of other finance sources.”²⁰ The program attempts to address the perception held by economic development agencies and private funding sources that the recycling industry is “risky” because of fluctuations in supply and demand for secondary commodities, regulatory uncertainty, and the infancy of the industry.

3. Consistent, Adequate and Reliable Funding:

Consistent, adequate and reliable funding should be maintained in order for loan programs to successfully carry out their mission of providing capital for recycling market development. State loan programs are funded through numerous mechanisms and for varying amounts of time. Stable funding is important to enable programs to make loans. Minimizing political uncertainty associated with inadequate or inconsistent funding may contribute to a program’s legitimacy and overall effectiveness.

The California Recycling Market Development Zone (RMDZ) loan program receives an annual appropriation from the Legislature of \$5 million. This is high in comparison to other programs.

¹⁸ Giannini, interview, 4 March 1997.

¹⁹ Recycling Loan Fund, Quarterly Reports through March 1997.

²⁰ Lissack, interview, 3 April 1997.

Annual disbursements were authorized for the period from 1990 to 1996, and then re-authorized for 1997 to 2006. In June, 1996 the loan fund ran low and the solution to the shortfall was to pool and sell 17 loans to other investors. This re-capitalized the loan fund, allowing it make additional loans.

Several state loan programs are funded through taxes on solid waste disposal. For example, the New Jersey loan program receives funding generated by a \$1.50 per ton tax levied on solid waste disposed of at landfills and transfer stations. Revenues are placed into a general fund of which 35 per cent of the total is allocated for either recycling loans or recycling grants. On an annual basis the \$1.50/ton tax has consistently generated about \$3-4 million. However, the recycling financial assistance programs have not always received the full amount of their ear-marked funds, because the New Jersey legislature has exercised its power to remove money from this fund in order to fill holes elsewhere in the State budget. While adequate funds are available for the loan program, the money is unreliable.

The appropriation to Pennsylvania's recycling loan program varies from year to year and doesn't necessarily match the fluctuating demand for the program. Vince Tarentino, the program's administrator, points out the difficulty of running a program with suspect funding, "Interest in the program will fluctuate from year to year and you have to have financial consistency to deal with this."

The now sunsetted low interest Recycling Loan Program in Maine is an example of a program that was *never* adequately funded. The loan fund was capitalized with only \$400,000, and the loan amounts were small (up to \$50,000). Former administrators believe the program failed primarily because the fund was too small to adequately serve the capital needs of recycling businesses. In five years, the program did not loan out the original \$400,000.

Massachusetts: Consistent, Adequate and Reliable Funding

Funding for the Recycling Loan Fund (RLF) program is derived from the Clean Environment Fund which is generated by the unclaimed bottle deposits and dedicated to promoting solid waste management and recycling activities in Massachusetts. The RLF was created as a program objective of the Department of Environmental Protection (DEP). Funding is drawn from DEPs operating budget on an annual basis as appropriated by the legislature. For fiscal year 1995 the RLF program was budgeted \$350,000; in fiscal year 1996 it received \$1.2 million; and for fiscal year 1997 they have been allotted \$500,000 (to date). This method of funding is both a strength and a weakness. DEP has more control over funding for the RLF, but the money must come directly from the agency's budget. To date funding for the RLF has been consistent and reliable, however, it is difficult to assess whether this will be the case over the long term. In the program's first two years eight loans have closed for \$1.275 million.

4. Program Flexibility

The continually changing field of recycling market development requires program flexibility to target priority markets and materials, work effectively with different sizes of businesses, and address re-use and source reduction.

A. Targeting Priority Markets and Materials

Many states use their loan programs to target certain types of materials, particularly those not diverted from the waste stream due to lack of markets, and materials that are collected, but lack markets to absorb them. The ability for states to re-evaluate which materials and stages of market development are targeted is important for successful development of markets. The reason is that for certain materials, such as aluminum, strong markets have developed without much need for state intervention. For some materials, intermediate demand exists (demand for the remanufacture stage), but there are barriers to collection which limits supply, such as old corrugated containers. Then there are materials where recovery rates are strong, but demand is weak for secondary use, such as old newspapers, scrap tires, and leaf and yard waste. Finally, there are materials with barriers to separation and demand for mixed grades, such as paper and glass.²¹ States should tailor their recycling market development efforts to the materials and market stages most in need of intervention.

The descriptions of the following six states provide examples of different processes for targeting materials and markets. Most loan programs examined stressed the importance of targeting materials and markets.

New Jersey's loan program has evolved over time and currently attempts to determine priority sectors for targeting based on geography, materials, and markets. In the early years of the program investments in all sectors --collection, processing, and manufacturing-- were considered equally necessary. As collection became widespread, investment in the manufacturing and processing stages assumed greater priority.

When the Recycling Market Development Board (RMDB) was created in Wisconsin in 1995, it was given permission to set their own material priorities. The RMDB revisits the priority list yearly and bases all funding decisions on this. Materials are ranked in three categories: high, medium, or low. Standard loan amounts are determined based on the ranking of the materials to be processed on the priority list. For example, if the material is high priority, a loan can be made for up to 60% of the project costs up to \$600,000. If the material is low priority, only 20% of the project costs are eligible for a loan of up to \$200,000. This strategy has been viewed as very successful as the money loaned so far is directly in line with the priority list. Prior to this system, most applicants applied for the maximum amount of funding and there was no system for prioritization.

²¹ Mt. Auburn Associates, Inc., 1993, 31-33.

Minnesota's loan program is working to become more focused and targeted in their services, as they aim to prioritize desired results for the projects which they fund.²² Their Business Environmental Resource Center has targeted six areas (markets and materials) to focus on for the short-term, with the option to change these targets as needs change. Their current focus is on composite materials, mercury, office buildings, the hospitality industry, construction and demolition waste, and transport packaging (waste). Materials targeted here pose particular challenges to local markets which are not yet able to absorb them for re-use or re-manufacturing. The problem of toxicity associated with mercury carries a unique challenge in terms of collection (i.e. batteries) and proper disposal. Market sectors targeted here create a constant flow of diverse materials which comprise a notable portion of the waste stream which needs to be addressed.

Washington's Program (Clean Washington Center) offers technical and business assistance to organizations handling a wide range of material types. Staff engineering specialists have created best practices manuals for these materials. They have substantial expertise and understanding of the engineering properties of numerous materials and products. They believe that it is vitally important to develop vast and varied uses for recovered materials to increase and diversify demand. While the range of materials targeted is quite specific and not subject to significant changes in the short-term, the expertise and attention given to increased utilization of materials which make-up a sizable portion of the waste stream helps to stimulate demand.

The legislative requirements of the Pennsylvania Recycling Incentive Development Account (RIDA) put constraints on what materials can be funded under this loan program. Pennsylvania's loan program is limited to addressing eight materials: aluminum steel and bi-metallic cans; clear and colored glass; plastics; high grade office paper, newsprint, and corrugated paper. The program's administrator, Vince Tarentino, says these narrow constraints have caused confusion among business owners and have limited the program's flexibility to deal with emerging needs. Pennsylvania would like to see the scope of the program expanded, but the legislative mandate of the program may be prohibitive.²³

B. Working with Different Business Sizes

The majority of recycling businesses are small and medium sized companies. Some loan programs are geared towards these firms and lack flexibility to serve the needs of larger firms. In other cases programs intended to help small and medium sized businesses are in fact too complex to benefit their intended beneficiaries.

Both Pennsylvania and Maryland cite the need for flexibility in the cap on financing programs in order to be able to make larger loans when necessary. Pennsylvania's loan program is tailored for small businesses (85% of loan applicants are small business) but remains flexible for larger businesses and projects through a system of waivers. For example, the \$300,000 maximum loan amount can be waived with approval from the Secretaries of Commerce and Environmental

²² Benke, interview, 27 March 1997.

²³ Tarentino, interview, 12 March 1997.

Resources. Maryland would like to increase the \$1 million cap on loan size in order to accommodate emerging technologies.

C. Addressing Source Reduction and Re-use

The eligibility criteria for virtually all the loan programs examined by this report focus on projects that process and remanufacture recovered materials into new products. The mantra of the recycling hierarchy is often stated as “reduce, re-use, and recycle.” In terms of energy efficiency, reducing waste is top priority, because it reduces the need for recycling. Second in priority is re-using products that are durable and have life cycles beyond a single use, such as re-fillable containers. Since many loan programs cite waste diversion as a key goal of their programs, it stands to reason that loan programs should be used for source-reduction projects as well. Economic barriers to source reduction are primarily the undervaluing of the positive externalities.²⁴ In the case of re-use, barriers to the economic re-use of durable products can result in reusables entering the waste stream. Loans could be used, for example, for the purchase of cleaning equipment for re-usable bottles.

California’s loan program is the only program surveyed that explicitly factors source-reduction into criteria for funding priority. Out of a total scoring of 100 points, a project can score a maximum of 10 points for source reduction. Thus, source reduction is a marginal factor in funding criteria. Several states indicated an interest in source-reduction, but felt there were insurmountable challenges in defining criteria due to the broadness of source reduction.

Massachusetts: Program Flexibility

The Recycling Loan Fund (RLF) is flexible in terms of targeting markets and materials. Based upon a needs assessment of the recycling industry conducted in 1994 and 1995, the Department of Environmental Protection (DEP) designed the program with the intent of being sensitive to the needs of recyclers. To insure flexibility in targeting different markets and materials DEP asked its contractor, MBDC, to “recommend changes in program design (in areas such as eligibility, loan terms, and loan servicing requirements) to DEP as needed to meet changing market conditions.”²⁵ Assistance is directed toward businesses utilizing surplus diverted materials. To insure that loan funds are directed toward businesses that exhibit true financial need, specific markets and materials are not targeted. Loans which have closed to date, have addressed the needs of a cross section of sectors.

The Massachusetts RLF is dedicated solely to the financial needs of small recycling businesses. To be eligible, a business must have reported no more than \$10 million in sales in the latest fiscal year. Presumably this limited focus is based on the needs assessment survey. If the program is to

²⁴ Mt. Auburn Associates, Inc., 1993, 5.

²⁵ Massachusetts Department of Environmental Protection, Division of Solid Waste Management, *Request for Qualifications/Proposals to Manage the Recycling Loan Fund*, October 1995.

remain flexible it will need to be sensitive to changing market needs including those of medium and large sized firms.

5. Mechanisms for Continuous Evaluation

Due to the political and technical nature of evaluation and the difficulty of defining success for loan programs, continuous improvement mechanisms are needed. Indicators measured could include utilization, funds leveraged, tons diverted, client feedback, and marginal effect on firm investment decisions. A survey of banks or businesses to estimate the total amount of financial investment in the state would also be a useful indicator.

Of the 12 programs surveyed, only one (California) conducted a formal evaluation. Some common indicators tracked by other programs include: 1) number of loans made; 2) amount loaned; 3) amount leveraged; 4) number of jobs created; and, 5) tons of waste diverted. The first two indicators measure utilization which on its own can not be considered success. The next three indicators are important measurements of impact in areas very relevant to most loan program goals. A third category of evaluation is the more fundamental question of measuring the marginal impact of loan programs on recycling-related investment decisions. This report was used to recommend extending the loan program into the year 2006.

Both Minnesota and Washington considered client feedback as important parts of their programs. Minnesota utilizes surveys and focus groups, and additionally, they are considering adding one-on-one interviews with clients. Their program tries to incorporate different client perspectives when choosing strategies for program administration. A needs assessment that was conducted of recycling businesses in Washington was the foundation on which the loan program was structured.

Massachusetts: Mechanisms for Continuous Evaluation

A needs assessment was conducted prior to the beginning of the RLF program. The Recycling loan Fund has been operable for under two years. The program administrator reports that client feedback will be solicited and a formal program evaluation conducted after the program matures for a few years.

6. Streamlined Funding Cycle

Loan funding cycles should be streamlined and approximate commercial lending standards. Many loan administrators admit that the length of state recycling market development loan funding cycles is not ideal. Private sector recycling initiatives like most

businesses, require quicker decision making regarding finance than government is often prepared to give. The timing of funding cycle were often reported as program weaknesses. States varied in how often loan program decisions are made. The three main funding cycles are: continuous, quarterly, and annually.

When it was operable, the Maine loan program changed from an annual competitive Requests for Proposals (RFP) process to an on-going, continuous application process. This change was in response to client feedback.

Both California and Indiana have taken steps to streamline their loan application and approval processes which are reported as slow. Currently, both states review applications quarterly. The whole California process can take up to nine months. The program is considering changing to a continuous review process. Indiana's state signature process can add six to eight weeks to the process even after the Recycling and Energy Development Board approves a loan. The benefit of a long process is maintaining strong checks and balances. The California program is trying to cut down on the voluminous loan documentation requirements and design its printed materials more in line with commercial standards. In Indiana applicants submit a two to four page proposal letter. Then invited applicants submit a seven page application plus a business plan. The application was formerly 27 pages, when it asked for many types of information typically found in a standard business plan. The consolidation was to avoid redundancy.

Minnesota's funding cycle is an annual RFP process. The state seeks to provide financial assistance to projects which will help Minnesota reach its recycling goals. The average turnaround time between the announcement of the RFP and the awards decision is 6-8 months. Administrators feel that because the process is clear and standardized, applicants have something definitive and reliable to work with.

Massachusetts: Streamlined Funding Cycle

The Massachusetts Recycling Loan Fund accepts applications on a continuous basis. The administrative elements of the RLF program are contracted to the Massachusetts Business Development Corporation (MBDC). This allows DEP to stay at arms-length from the approval process, therefore speeding the turnaround time for loan decisions. Applicants are notified of their eligibility within two weeks of initial application. Subsequently MBDC performs a complete financial analysis of approved businesses in order to provide due diligence of the law and negotiate the success fee required with payments.

7. Critical Areas of Expertise

Because recycling loan programs deal with cross-cutting issues, staff expertise and specialization is needed in the areas of financial analysis, environmental management and

engineering. The application process for clients often includes submitting a standard loan application (similar to what you would find at a bank), as well as detailed information on the environmental relevance of activities or purchases to be funded by the loan. The review process, therefore, requires people who are knowledgeable in these different areas and are capable (and willing) to coordinate with other experts. In addition, the availability of technical assistance is often an important component for new or start-up businesses, or for companies trying to retrofit their outfit.

A. Financial Analysis

Many states cited the experience of loan officers or reviewers as being essential. In many cases, states partner with their economic development agency to have economic development experts handle the financial review of loan applications. If no such partnership exists, or the program is large enough, then programs have intentionally hired loan officers with private sector experience or hired outside contractors. In the California program, loan officers have substantial private sector lending experience. Clean Washington Center brought on a staff with substantial business experience in order to be more effective as business consultants. In addition, professional money managers from the private sector contribute to this program. When the New York loan program got off the ground, they quickly found that their new staff lacked experience in administering a loan program (though they were more than capable on the environmental assessment side of the loans). Minnesota found that having their professional staff with private sector experience in loan administration allows them to better serve client needs. Wisconsin has contracted out the financial side of the program to a business consultant.

B. Environmental Management and Engineering

California and Wisconsin both hire or contract out to commodity specialists who are intimately familiar with the technical and market aspects of specific recovered material commodities. In the California loan program staff engineers provide technical analysis of loan applicants. Washington's Program, Clean Washington Center, has put a great deal of energy into establishing a strong knowledge base of materials and products engineering. They believe this technical assistance is the key to the success of their program. Businesses are often challenged by the notion of incorporating technical changes in production to accommodate recovered material feedstocks. The technical assistance offered is critical to the success of both start-up firms using recyclable materials as inputs, and existing firms retrofitting their operations to utilize recovered materials. Technical assistance is also provided on the business development side of the coin. In Wisconsin, if a business applies for a loan and their business plan is not fully developed, there is an outside consultant who works one-on-one to help them get their plan up to snuff.

Massachusetts: Critical Areas of Expertise

The Chelsea Center for Recycling and Economic Development serves to provide both business and technical assistance to Massachusetts businesses utilizing recovered materials to manufacture new products. The Chelsea Center was created by the Commonwealth of Massachusetts in February 1995 to "create jobs, support recycling efforts, and help the economy and environment by working to increase the use of recyclable materials used in manufacturing processes in the State."²⁶ The Massachusetts Office of Business Development provides technical assistance for businesses. The Recycling Loan Fund has strong informal links to both of these organizations.

8. Loan Programs Nested within Larger Market Development Initiatives

The majority of loan programs examined in this report are integrated within larger recycling market development programs. These comprehensive initiatives typically integrate separate programs in financial assistance, technical assistance, and marketing assistance. States may want to consider the benefits of nesting loan programs within larger recycling market development initiatives. Evidence is not available to conclude that nested loan programs are necessarily superior. However, there are many implicit benefits to an integrated approach. A loan program integrated within a larger recycling market development program can enjoy the benefits of easy access to specialized technical and market information, greater coordination between programs, and enhanced credibility. Loan applicants and recipients can also benefit from specialized information, enhancing their chances for economic success.

In Wisconsin, it is difficult to separate the Recycling Loan Program from the seven funding programs administered through the Wisconsin Recycling Market Development Board (RMDZ). The mission of the Board is to promote the development of sustainable high-value markets for recovered materials on behalf of, and in cooperation with, waste generators, and to promote the orderly and efficient marketing of recovered materials. The Board was created after a 1994 audit determined that funds for market development were not being adequately distributed and that the variety of programs were not coordinated. The RMDZ integrated these initiatives, took over the \$8 million budget for recycling market development, and conducted a strategic planning process. By funding a variety of recycling projects under the sponsorship of the RMDZ, the state created a centralized authority dedicated solely to recycling market development. This organization provides easy access for businesses and organizations seeking financial assistance and enhances the emphasis on recycling market development programs throughout Wisconsin.

In Indiana, the Recycling Market Development Program administers the Recycling Promotion and Assistance Fund (RPAF), which is a loan program, but they also help businesses, non-

²⁶ Chelsea Center for Recycling and Economic Development, *Description of Services*, March 1997.

profits, and communities find market information for specific recyclable materials. They publish and distribute the *Recyclable Materials Market Directory*, as well as the *Status of the Markets Update*, a quarterly newsletter which reports on recyclable material market trends. The program promotes the use of products made from recovered materials by publishing the *Buy Recycled Indiana! Guide*. The program administrator emphasizes that the RPAF is "more than just a loan fund." Like all loan funds, applicants must meet financial viability criteria, but when applicants are experiencing technical difficulties the staff can provide technical assistance. According to the program administrator, "the staff is willing to step outside of the box, and help applicants through the process."²⁷

The Delaware Economic Development Office and the Department of Natural Resources and Environmental Control began the *Green Industries Initiative* to promote the use of recyclable materials and waste reduction within Delaware's manufacturing sector. Delaware's program targets specific businesses to receive both financial and technical assistance as an integrated package in order to further the above mentioned goals. Businesses that qualify as a *green industry* are offered a loan package complete with integrated services.

In some states, loan programs are offered in conjunction with grant and or tax credit programs, and are not part of comprehensive recycling market development programs. For example, the New Jersey loan fund is administered with a grant program for state institutions engaged in recycling oriented research and development. Maine developed a tax credit program and loan program together in 1989 to meet their market development goals.

Massachusetts: Loan Programs Nested within Larger Market Development Initiatives

The Recycling Loan Fund is part of a series of market development programs provided by the Department of Environmental Protection, the Massachusetts Office of Business Development, the Chelsea Center for Recycling and Economic Development, and other governmental and public organizations. Recycling businesses in the state can call upon the expertise and services provided by these organizations. Although Massachusetts does not have one centralized arm providing assistance to recycling businesses, the loan fund was designed to fit within this decentralized structure of economic development.

9. Marketing Matters

Marketing of loan programs is important not just to attract potential applicants, but to raise the profile of the recycling industry. Marketing to attract applicants is especially important in the early stages of a loan program. Standard marketing techniques employed by most states include partnering and sharing information with the economic development entities,

²⁷ Rhodes, interview, 7 March 1997.

chambers of commerce, trade associations, city government, non-profit organizations, and financial institutions. Often direct mail is used to get program information out. Brochures publicizing program logistics are usually available from the agency administering the program.

Indiana issues press releases when loans are approved and when major policies of the program change such as reducing the interest rate to zero percent. Pennsylvania is about to include information about their loan program on the states world wide web site. In Delaware and Wisconsin, the loan programs practically market themselves because of the larger statewide market development strategy. The Delaware *Green Industries Initiative* and the Wisconsin Recycling Market Development Board have larger marketing plans and the loan programs benefit from their marketing activities. These larger initiatives serve as a clearinghouse and publish a variety of marketing materials for their many programs. The Wisconsin Recycling Market Development Board hired a communications director, and they now advertise in business magazines. They have also published two brochures: one based on the success of the loan program and the other providing information about it.

Massachusetts: Marketing Matters

The Department of Environmental Protection (DEP) relies on its contractor, Massachusetts Business Development Corporation (MBDC), to provide marketing services for the Recycling Loan Fund. MBDCs goal is to provide financial services to small and mid-size companies. They promote the RLF as one of their many services, and because MBDC is well established in the financial sector, they are able to reach many potential clients through numerous channels. MBDCs brochure of services describes the RLF in conjunction with their direct loans, SBA 504 loans, Capital Access Program, and Mass Business Community Investment Group. When MBDC identifies a viable loan candidate but is unable to provide total requisite funding, they will actively market this candidate to private lending institutions in order to acquire total funding needed. They attempt to educate banks as to the growth potential of the recycling industry. MBDC hopes that once banks are educated, their willingness to provide loans to recyclers will grow. Marketing is also done through press releases, direct mailing to recycling industries, and through related economic development agencies, primarily the Massachusetts Office of Business Development..

In addition, the affiliation of the Massachusetts Director of Recycling Market Development with the Northeast Recycling Council (NERC) increases the visibility of the RLF throughout the region. NERCs mission is to ensure the long-term viability of recycling in the Northeast.

10. Consideration of External Factors within each State

External factors such as: state diversion goals, statutory authority, and political and economic climate are important factors in the success of loan programs.

A. State Diversion Goal

By setting state solid waste diversion goals, states indicate the need to find alternative waste disposal options other than incineration and landfilling. Diversion goals can help stimulate recycling market development by increasing the supply of recovered materials. State goals add imperative to recycling market development efforts. This can help programs plan and set targets. For example, in California the *RMDZ Loan Program Evaluation*²⁸ estimates that the loan fund has helped establish capacity to divert 1.5 million tons annually from the waste stream. This represents 14% of the material that must be diverted annually for California to meet its 50% diversion goal by 2000. Arizona has not set a diversion rate goal. This could be seen as an inhibitor of market development as residents and solid waste managers have little imperative to recycle.

B. Statutory Authority

Many loan programs are created by legislative statute. Advantages of this are that it gives programs legitimacy, adequate and assured funding, and clear mandates. The disadvantages are that sometimes the mandates can force programs to be very rigid. For example, Pennsylvania is limited to providing loans that target only eight materials. The inflexibility that this legislation imposes keeps Pennsylvania from supporting other materials that may be equally viable candidates for loans. Additionally, programs may be reluctant to seek legislative changes for fear of losing their authorization altogether..

C. Political/Economic Climate

The political climate of a state influences what type of financing programs are provided, and what is deemed as "the proper use of the public purse." Maryland was characterized as being "anti-grant and anti-free money" for industry.²⁹ Because of this, Maryland tends to support private industry initiatives through investment of capital that is not a hand out by emphasizing conventional loan programs over tax programs. New York on the other hand has moved completely away from conventional loan programs and provides direct grants to support waste prevention, reuse and recycling projects instead.

A State's economic climate helps determine the necessity and type of financing mechanisms. New York's Office of Recycling Market Development cited the existence of adequate debt

²⁸ CIWMB, 1995.

²⁹ Polk, interview, 3 March 1997.

financing as the reason for their low-interest loan programs demise, it simply was not needed. In 1995, Maine de-emphasized the focus on the private sector. They abolished the Waste Management Agency. This was in part because of budget issues and also because the program had met its goals.³⁰

Massachusetts: Consideration of External Factors

- A) *State Diversion Goal*: The diversion goal of Massachusetts is set administratively, not legislatively. They hope to reach a 46% diversion rate by the year 2000.
- B) *Statutory Authority*: There is no statutory authority for the Recycling Loan Program.
- C) *Political/Economic Climate*: There is an emphasis on market-based mechanisms in Massachusetts.

³⁰ Markovchick, interview, 5 March 1997.

Key Issues of Tax Credit Programs

Of the fourteen states examined for the purpose of this report, seven have or had state-run tax credit programs specifically geared toward recycling market development. Four of those programs are currently in operation (Arizona, Oregon, Minnesota and Delaware) and three have been sunsetted (Maine, New Jersey and California). It should be noted, however, that this is not a representative sample of tax credit programs in existence.

We identified five key issues that are important factors for a recycling related tax credit program. These five issues include:

- 1) The size of the tax credit
- 2) Impact to the state's general fund
- 3) Streamlined implementation and procedures
- 4) Flexibility within the program to target markets and materials
- 5) Effect of program on start-up businesses

What follows are illustrative examples of each of these key issues. All information comes from interviews conducted with program representatives. Complete citations of these interviews are included in the bibliography.

1. Size of Tax Credit Offered

The size of the tax incentive should relate directly to the goal of the program. Tax credits of 25% or more have noticeable impacts (based on utilization) as a market incentive and serve to attract new businesses and assist those in the process of retrofitting equipment for recycling activities. Arizona originally offered a 25% tax credit to companies that invest at least \$20 million in facilities that manufacture products with 90% recycling content or products that are powered by renewable energy resources. The program succeeded in attracting several recycling-based business expansions and new plant locations to Arizona. This program was sunsetted in 1996, however, and the current tax credit legislation authorizes only a 10% credit for the installed costs of equipment used for recycling. The maximum offset is \$5,000 (indicating a maximum equipment purchase of \$50,000). The Arizona program administrator says this 10% tax credit has had marginal impact.³¹

New Jersey's 50% tax credit exceeded expectations of utilization. The state originally estimated claims up to \$7 million, but by the time the program sunsetted in December 1996, \$70 million of

³¹ Fischer, interview, 7 March 1997.

credit had been issued. The program sunsetted because the time frame for legislative authorization expired.

The Delaware tax credit does not provide an incentive, as a stand alone program, to entice recycling business investors to the state. The program is a small part of the Green Industries Initiative whose mission is to target specific businesses to promote the use of recycled materials and to reduce waste generated in the Delaware manufacturing sector. Businesses must meet strict criteria to qualify for this minimal \$250.00 corporate income tax credit per employee and per \$100,000 investment. To the knowledge of the current recycling advocate at the Delaware Economic Development Office, there is no business in the state that is presently utilizing this tax credit.

On the other hand, Oregon's Business Energy Tax credit is substantial, as it covers 35% of eligible project costs. Credits are available for recycling, renewable resource, and conservation projects. Industrial conservation projects may receive up to a maximum of \$2 million and commercial projects are capped at \$100,000. The Business Energy Tax Credit may approve up to \$40 million in total project costs each calendar year, and they have reached this incentive cap every year since 1988. While Oregon's program is said to have increased economic activity and saved natural resources, they cannot easily quantify the environmental benefits as measured by waste diverted from disposal.

2. General Fund Impact

Programs should clearly assess the expected impact on the state's general fund resulting from a tax credit program. The impact to the general fund is often a critical issue for states deciding on a tax credit program. Because tax incentives result in an impact to the state's general fund when the credit is claimed, there is a loss of tax revenues to the state for the percentage of equipment and investments covered by the tax incentive program. Since there is generally a lot of competition for general fund money, it is important to clearly assess the expected impact on the state's general fund resulting from tax credit programs.

In New Jersey the tax credit program (with a 50% credit) creates a real incentive to invest because it effectively halves a businesses state tax rate. The state originally estimated that the program would credit \$7 million, but by the time the program sunsetted in December 1996, \$70 million of credit had been issued. However, because only 20% can be credited each year, any loss to the state is spread over a few years. It is not clear that these credits should be looked upon as a loss. For example, when a new business moves to a state like New Jersey to take advantage of the tax credit, the state experiences a net gain because of the additional revenue generated. A credit issued to an existing business can be justified in terms of gains in environmental quality or social externalities (such as job creation) that the business provides by its presence in the state.

Spreading the credit over a longer time period can reduce the impact to the state's general fund. Oregon structured their business tax credit so that it may be taken over five years: 10% in the first two years, and 5% in the third, fourth and fifth years. Additionally, the program is less costly than expected, as no expense is incurred by the state until the business goes through the process and claims the credit at year-end. Oregon has estimated that approximately 30% of the credits approved are not claimed at tax time due to staff turnover and programs not filing in consecutive years. Businesses that fail to claim the credit further lessens the impact on the state's financial coffers.

3. Streamlined Implementation and Procedures

Simplicity in navigating through the application process and responsiveness of program administrators to client needs are critical issues. The strength of any given program was witnessed in its ability to clearly define the process for clients, design the applications so that they are easy to use, and provide timely notification to clients hoping to incorporate this credit into their business plans.

Oregon's Business Energy Tax Credit is designed to be user-friendly, easing the process in order to stimulate economic development. A large majority of clients surveyed have indicated that the forms are easy to use and the customer service is excellent. Oregon processes tax credit applications quickly, generally turning them around in approximately one week. They utilize a two-step application process: the first step requires submission of a preliminary certificate before project implementation, and once approved the tax credit is reserved and the project may begin; the second step involves final certification, and a short form which is attached to the submitted tax return. This works well for businesses, for once the approval is given and the credit is reserved, it can reliably be budgeted into their business plan.

In New Jersey there is no time limit on an application for a credit, as long as the equipment was purchased since 1988. In profitable years many businesses came forward to claim the equipment tax credit. This resulted in misuse of the incentive, creating a windfall for some segments of the recycling industry that were already established.

California's experience provides many lessons for implementation and administration. Start-up of the tax credit program after legislative authorization was problematic for California. Staff were not hired for two years into the five year program and it was not fully implemented until the third year. Because of this delay, many eligible applicants who purchased equipment in the first three years were not aware of the credit until after the purchase. This may explain why 63% of the equipment purchased was prior to the applicant knowing about the credit. Thus it is difficult to determine the marginal effects of the credit on equipment purchasing decisions. A remedy would require pre-filing in order to ensure the credit becomes a factor in purchase or lease decisions. Finally, the process for determining eligibility was extremely complicated. Business and tax consultants were unfamiliar with the required material feedstock analysis and therefore

there was a high degree of uncertainty whether the application would be approved. This uncertainty affected the overall effectiveness of the program as an incentive to purchase equipment.

Maine's tax credit program, which no longer exists, illustrates the need for consistency in implementation and administration. The application process was a simple three-page application form and a list of relevant equipment. If approved, the client then submitted the approval letter with their tax return to claim the credit. The complications arose based on the legislative inconsistencies that affected the administration. The State Legislature ultimately decided if the program was "on" or "off;" meaning that it was difficult to count on the credit as a planning tool.

The other issue was the amount of time you could carry the credit forward – originally the credit could be carried forward for up to 15 years, but that was changed and the timeline was never clear.

4. Flexibility in Targeting Markets and Materials

Tax credit programs should be flexible enough to target different materials, markets, and sectors as the needs change in the marketplace and as the accumulation of surplus materials warrants greater attention. Flexibility in targeting alternative businesses, such as those in the reuse sector, can also help to meet the solid waste management goals as mandated by the states. None of the state programs reviewed indicated restrictions on flexibility in targeting markets and materials. Two states did, however, note the importance of flexibility in targeting markets as important to their success.

Oregon's program is designed to be flexible in order to make necessary changes as markets and needs evolve. As an example, the initial goal of the tax credit was to promote curbside recycling by giving haulers credits to buy containers and equipment. Once this goal was accomplished, the program grew to encompass more manufacturing and retrofitting projects. They now target projects which utilize waste materials as feedstock for new products.

When considering if a credit for replacement equipment should be given, New Jersey offers a good example of program flexibility. In some cases, recycling rates may not be increased by replacement equipment. However, it may be that allowing a credit for repairs on equipment used in a recycling firm would help an otherwise marginal business stay afloat. In this case, giving them a credit even though there was no increase in recycling rates helped to prevent the failure of a targeted business.

In most states surveyed, a flat tax credit of a designated percentage of project costs is offered to eligible and approved projects. However, some states have chosen to offer variable tax credit amounts based on the importance of the sector in meeting the state's recycling market development goals. In doing so, the higher percentage tax credits may encourage growth in specific markets where the needs are greatest.

Based on the results of an informal survey of clients, Maine changed the percentage of credit allowed for manufacturers, generators and third party collectors and processors. Originally, a flat 30% credit was offered to all approved projects. The change to a variable tax credit allowed manufacturers to take a 30% credit; generators a 25% credit; and third party collectors and processors a 20% credit.

New Jersey would like to consider staggering incentives for collection, processing, and manufacturing companies in order to address their relative importance. For example, manufacturing businesses are targeted to receive the largest tax credit because the highest value-added component occurs in this sector. Credits may also be based on incentives and innovation to recycling.

In California, 50% of the tax credits went towards the already established and profitable asphalt/concrete and metal recycling industries. The tax credit was a windfall for these industries, and appropriate targeting could have prevented this.

5. Effect on Start-up Businesses

A final issue that stands out in regards to tax incentive programs relates to start-up businesses. **Since many start-up businesses have little or no profit during their first few years and thus have low tax liability, there is little incentive to file for an equipment tax credit.** In addition, state taxes are a relatively small percentage of a business's costs. Thus tax credits may have minimal impacts as an incentive to start-up businesses.

Conclusion

This project focused on two specific types of recycling market development tools: loan programs and tax credit programs. The key issues identified in this document for both of these programs represent conclusions drawn from our qualitative assessment of selected programs across the United States. This information is intended to be useful to recycling market development officials in Massachusetts and nation-wide. Throughout our analysis, we described illustrative examples which may shed light on the challenges faced and lessons learned through program and policy implementation. States considering implementing or changing existing loan or tax credit programs should review the key issues identified in this report, because elements of each issue are essential to the viability of these programs.

In conducting this study, we encountered many questions and issues relevant to the field of recycling market development that were outside of the scope of this report. Further consideration and research will be necessary to clarify the following questions that arose from this inquiry. Some topics to address include:

- Quantifying in economic terms the positive environmental externalities and avoided costs derived from greater utilization of recovered materials;
- Identifying who is responsible for developing commercial uses of recovered materials.³² Should responsibility rest with free market forces or government intervention to take the lead in research and development and/or correcting barriers to recycling market development?
- Specify the role of government in reducing barriers to market development. If government plays a role, which barriers should it target and how should resources be allocated among the different barriers?

We also encountered several key issues related to tax credit and loan programs that we were unable to fully address. Further study and research should consider:

- How is "success" measured from state to state? Indicators of success vary, thus it is difficult to determine if a program has been "successful" unless the state has clearly defined its criteria for measuring success.
- Are stand-alone programs viable on their own merits, or do programs integrated within larger market development initiatives exhibit higher "success rates"?

³² Dougherty, interview, 6 March 1997.

- How are diversion rates measured from state to state and should this be a factor in which materials states choose to target within market development initiatives?
- Do loan and tax credit programs provide sufficient incentive for recycling firms to locate and retrofit plants in areas where this type of assistance is available? How do other external factors, i.e., adequate supply of materials, proximity to end markets, etc., affect their location decision?
- How can evaluations (including self-evaluations, outside evaluations, and/or client evaluations) be utilized by the program administrators to provide continuous feedback for improvements? As programs evolve can client evaluation guide program administrators as they target changing needs in the marketplace?
- If state programs take on the role of providing “high risk” loans to recycling entrepreneurs, how can programs be protected from termination in the case of default?

Future Considerations for Massachusetts

The Recycling Loan Fund

One of the goals of this study was to compare and contrast Massachusetts’ Revolving Loan Fund (RLF) with loan programs in other states. In the qualitative assessment of recycling market development loan programs, illustrations of the key issues identified were highlighted for Massachusetts. As stated earlier, this report did not examine the Massachusetts loan program in any more depth than any of the other programs. Like other programs, we encountered questions for Massachusetts’s RLF that require further research and analysis. Hopefully, the key issues identified in this report can serve as a starting point for future evaluation and improvement of the RLF. Towards that goal we can offer the following questions and issues to consider:

Maintaining support for supply-side collection efforts and increasing demand-side market development efforts.

As Massachusetts moves closer to achieving the 46% statewide waste diversion goal, utilization of collected materials should continue to be addressed through demand-side market development programs while maintaining strong support for the collection infrastructure.

Risk

In addressing the issue of risk, Massachusetts chose to incorporate an innovative success fee as one lending term. This increases the cost of the loan to businesses and provides the RLF program with a way to offset loan losses. Key considerations:

- The success fee and the market interest rate make RLF loans expensive, thus ensuring that only those truly in need apply. Does addressing risk in this manner exclude recycling

businesses that are experiencing access to credit difficulties, who may qualify for an RLF loan, but can't afford the high interest rates?

Leveraging

One indirect way the Massachusetts Recycling Loan Fund leverages additional private capital for recycling market development is by relying on MBDCs credibility as a lending institution to bolster the confidence of other private lenders. Some private funds are directly leveraged through more formal agreements. Key considerations:

- Is the RLF exploring the full range of opportunities to leverage private sector funds? MBDC administers a capital access program. Could this program be used to leverage loans for recycling businesses?

Funding

The amount allocated to the RLF from DEPs budget varies from year to year. The program has fairly conservative goals and to date, eight loans have been closed.

Key considerations:

- Are any recycling businesses being denied loans for lack of funding in the RLF?
- Is Massachusetts lending enough funds to recycling market development projects to make an impact on the state diversion goal?
- Are the goals of the RLF sufficiently linked to the state diversion goal?

Program Integration and Critical Areas of Expertise

Recycling businesses in Massachusetts benefit from the services provided by the Chelsea Center for Recycling and Economic Development, as well as the Massachusetts Office of Business Development (MOBD). The collaboration between DEP, MBDC, MOBD and the Chelsea Center prevent duplication of services, yet ensures that businesses have access to financial and or technical assistance. However, the upcoming evaluation would be an appropriate time to assess whether businesses are aware of, and utilizing, these different services. In some states, the "one-stop-shop" has proved convenient for clients. Key considerations:

- Is there sufficient integration of the various recycling market development programs?
- Is there enough technical assistance to support loan applicants?

Marketing

The RLF uses many of the standard program marketing techniques. Key considerations:

- Are these marketing efforts sufficiently high profile to attract applicants and to increase awareness of the recycling industry?

External Factors

The diversion goal of Massachusetts is set administratively, not legislatively. The goal is to achieve a 46% diversion rate by 2000. There is no statutory authorization for the Recycling Loan Program. Key considerations:

- Would a legislatively-mandated waste diversion goal strengthen state recycling market development efforts?
- What are the costs and benefits of giving the RLF statutory authority?

Tax Credit Program Considerations

Massachusetts currently has no tax credit program targeted to recycling businesses, and we are unable to conclusively argue for or against starting one. Based on the information gathered from seven tax credit programs and from general literature, we identified five key issues related to these programs. Massachusetts should consider each identified key issue and weigh it in conjunction with the State's goals for increased recycling market development. Should Massachusetts choose to initiate a tax credit program, the following considerations should be kept in mind:

- Tax credits can be especially useful to existing businesses for reducing the cost of retrofitting plant and equipment to accommodate recycled feedstock. A non-recycling business may be more inclined to collect and sort materials for recycling if tax credits are available for the necessary equipment, i.e. bailers in supermarkets to compress and pack corrugated cardboard.
- Targeting specific markets and materials can prevent tax credits from becoming economic windfalls to well-established recycling industries.
- State taxes represent a relatively small factor in the cost of doing business. Therefore large tax credits may be required to influence equipment investment decisions.
- Programs should be flexible and explore including equipment leasing, source reduction, and re-use as part of eligibility criteria.
- The program should be simple and easy for accountants to understand.
- Requiring applicants to pre-file certification requests before they purchase equipment will help track whether the tax credit is a factor in equipment purchase decisions. This requires clear and effective marketing to make potential applicants aware of the program.

Appendices

Appendix A: Interview Questions

- 1) What type of program?
Loan Programs: Loans (no interest or low interest), Loan Guarantees, other
Tax Credits: Investment, Sales, Consumption, Equipment, other
- 2) How is the program implemented? What is the timeline of the process?

ORIGIN AND EVOLUTION – The Development Process

- 3) In what context was the program initially set up?
 - a) **How does this program fit in with other incentives for market development in the state? (Is this a stand-alone program or is it part of a more comprehensive set of initiatives?)**
 - b) When was it set up?
 - c) How much time did it take to get off the ground?
 - d) Who were the key figures?
 - e) How was it funded?
 - f) With how much money?
 - g) **What were the initial expectations, mission and goals of the program?**
 - h) Who was the program originally aimed at? (*Small businesses, new businesses, manufacturers, processors, collectors*)
- 4) Have the goals or mission of the program changed? Why?
- 5) Was this program modeled on any other program (other state?) If so, were any changes made to that model?

ADMINISTRATION, IMPLEMENTATION AND EVOLUTION

- 6) Who administers the program (person and department)? Who advises it? Is this program the primary responsibility for that person, or one part of their job.
- 7) Why was it structured like this? (Or how was this decision made – political, functional?)
- 8) Has this administration structure changed since the inception of the program?
- 9) **Have there been any changes in the implementation of the program?**
- 10) How is the program marketed? How do you conduct outreach? Has this changed?
- 11) Do you have a mechanism in place to get feedback from clients? If so, what type? Would you share the responses with us?

STRENGTHS AND WEAKNESSES OF IMPLEMENTATION

- 12) What are the strengths of the program?

- 13) **What are the weaknesses/areas of improvement?**
- 14) What have been the obstacles/barriers to the program? (*Funding, administration, implementation, media . . .*)
- 15) What changes would you make (ideally) to address the problems or weaknesses identified (*if identified*)?
- 16) **Are there any anticipated changes or additions that are planned for the near future?**
- 17) **Overall, has it met your expectations? How do you measure success?**
- 18) Is there any information we haven't asked you about that you feel is important to add?

Specific to Tax Credit Programs:

1. Are tax credits difficult to administer? If not, why?
2. Is there a recall provision for a tax credit if a business moves or goes out of business?
3. Who were the ITC originally targeted toward? Who else benefits from it? In what ways do the targeted business benefit? Has this benefit reached your expectation?

Specific to Loan Programs:

1. How much, if any, private sector experience do the loan officers have?

General:

1. What is the diversion rate (or goal) of the state?

Appendix B: Summaries of State Loan Programs

CALIFORNIA	Loan Program
Administrating Agency:	California Department of Environmental Protection, California Integrated Waste Management Board (CIWMB), Waste Prevention and Market Development Branch, Recycling Business Assistance Branch, Recycling Market Development Zone (RMDZ) Loan Program.
Date Started:	1990
Date Ended:	Still in Operation
Top Three Funding Criteria:	1) The likelihood of each proposed project to increase market demand for post-consumer materials. 2) The impact on markets for the Board's priority materials. 3) The size, in tons per year, of the proposed project.
Terms:	Up to 10 years
Interest Rate:	4.85%
Maximum Loan Amount:	\$1 million
Maximum % of Total Project Cost:	50%
Minimum Equity Contribution:	NA
Funding Method:	Legislative Appropriation of \$5 million/year
Created by Statute:	Yes
Priority Materials, if applicable:	Mixed paper, high density polyethylene, mixed plastics, and compostable materials.
Eligible Uses:	
Other Market Incentive Programs Identified:	Limited Grant Program and a sunsetted tax credit program.
State Diversion Goal (%):	50% by 2000
Additional Information:	Started accepting loan applications in 1993 and have closed 52 loans for \$20.2 million. Expected to divert 1.5 million tons annually and expected to create 620 jobs.

DELAWARE **Loan Program**

Administrating Agency:	Delaware Economic Development Office
Date Started:	1992
Date Ended:	Still in Operation
Purpose:	To promote the use of recycled materials and a reduction in waste generation within Delaware's manufacturing sector.
Terms:	7 years
Interest Rate:	60% of prime interest lending rate
Maximum Loan Amount:	\$450,000
Maximum % of Total Project Cost:	DEDO provides 30%: >0% bank funds
Minimum Equity Contribution:	
Funding Method:	Legislative tipping fees
Created by Statute:	Yes
Priority Materials, if applicable:	
Eligible Uses:	To finance fixed assets, acquisition of land, buildings, machinery, equipment and augment working capital.
Other Market Incentive Programs Identified:	The loan program is part of the state's Green Industries Initiative
State Diversion Goal (%):	21% by 2000 (per 1994 BioCycle survey)
Additional Information:	Loans are available for businesses who qualify as Green Industries. There are four categories of eligibility: source reduction; utilization of recycled materials as inputs; processing of materials; collection & distribution of recycled materials.

INDIANA	Loan Program
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Administrating Agency:	Indiana Department of Commerce, Energy Policy Division, Recycling Market Development Program, Recycling Promotion and Assistance Fund
Date Started:	1990
Date Ended:	Still in Operation
Purpose:	To develop the State's industrial recycling infrastructure for re-use of materials; to help local government, non-profit organizations, and businesses identify and secure markets for their recyclable materials; and to help Indiana companies identify and develop reliable suppliers of quality recyclable materials.
Terms:	
Interest Rate:	0%
Maximum Loan Amount:	\$500,000
Maximum % of Total Project Cost:	50%
Minimum Equity Contribution:	10%
Funding Method:	Tipping Fees
Created by Statute:	Yes
Priority Materials, if applicable:	Paper, plastics, glass, metals, tires/rubber, urban wood waste/pellets, construction and demolition debris
Other Market Incentive Programs Identified:	Tire recycling market development Program (grants): for playground resurfacing, recycled tire products marketing and recycling tire product procurement.
State Diversion Goal (%):	50% by June 1, 2001
Additional Information:	RPAF has made 19 loans for \$6.3 million leveraging \$12.7 million. Expected to divert 196,625 tons from waste stream each year and expected to create 732 new jobs.

MAINE**Loan Program**

Administrating Agency:	Waste Management Agency in partnership with the Finance Authority of Maine
Date Started:	1992
Date Ended:	In 1995 The Waste Management Agency was abolished and administration was turned over to State Planning Office: program exists but no applications are being solicited.
Purpose:	To provide financing for projects dealing with recovery, separation, remanufacture or reuse of solid or hazardous waste, or for projects dealing with reduced generation of solid or hazardous waste.
Terms:	7 years
Interest Rate:	4% (if 50% of overall project cost is secured from other sources) 8% (if less than 50% is secured from other sources)
Maximum Loan Amount:	\$50,000
Maximum % of Total Project Cost:	50%
Minimum Equity Contribution:	NA
Funding Method:	State Appropriation
Created by Statute:	Yes
Priority Materials, if applicable:	NA
Eligibility:	Borrower is the owner/operator of a project which is: designed to substantially reduce or eliminate the production of solid or hazardous waste in a trade or business; devoted to the reuse of post-consumer materials; or devoted to recycling or composting solid wastes.
Other Market Incentive Programs Identified:	Four programs: loan program; tax program; Municipal Recycling Grants Program; Recycling Finance Workshops for State and Regional Economic Development Professionals. Just completed EPA project for expanding collection of small business wastepaper.
State Diversion Goal (%):	50% by 1994 (per 1994 BioCycle survey)
Additional Information:	

MARYLAND	Loan Program
Administrating Agency:	Maryland Industrial Development Financing Authority
Date Started:	At least 1989
Date Ended:	Still in Operation
Purpose:	To reduce financial risk for lending institutions, thereby stimulating their extension to credit; enable lending institutions to provide credit for longer financing terms; stimulating lower rates of interest to help make marginal projects economically viable.
Terms:	MIDFA does not make direct loans, but insures loans made by other financial institutions.
Interest Rate:	Low interest
Maximum Loan Amount:	\$1 million; or
Maximum % of Total Project Cost:	80% of obligation (whichever is lower)
Minimum Equity Contribution:	
Funding Method:	MD General Fund
Created by Statute:	
Priority Materials, if applicable:	
Eligible Uses:	
Other Market Incentive Programs Identified:	Tax Exempt Bond Financing (on amounts between \$2 million and \$5 million for the acquisition of capital assets, including real estate and equipment, and it is restricted to non-profit organizations and manufacturing facilities); Enterprise Zone tax credits
State Diversion Goal (%):	15% goal for counties under 100,000; 20% goal for counties over 100,000 (per 1994 BioCycle survey)
Additional Information:	Provides assistance for start-up acquisition and revolving loans, letters of credit and leasing transactions.

MASSACHUSETTS**Loan Program**

Administrating Agency:	Massachusetts Department of Environmental Protection
Date Started:	1995
Date Ended:	Still in Operation
Purpose:	To provide credit enhancement to small recycling-related businesses to enable them to take advantage of the state's other economic development programs and leverage private sector financing for expansion and new investment; to motivate the state's banking and economic development community to increase the attention they pay to recycling-related businesses; to finance recycling related businesses often perceived to have a high-risk profile.
Terms:	
Interest Rate:	Prime rate + negotiated success fee
Maximum Loan Amount:	\$150,000
Maximum % of Total Project Cost:	
Minimum Equity Contribution:	
Funding Method:	Recycling Loan Fund draws funds from DEPs operating budget, which is annually appropriated by the state legislature. Money from the Clean Environment Fund is also put towards the RLF.
Created by Statute:	No
Priority Materials, if applicable:	
Eligible Uses:	Recycling-related business whole primary purpose involves: collecting or separating recyclable materials for resale; Reuse, processing, composting, or converting recyclable materials into marketable products; Manufacturing end-products that use a significant percentage of recyclable materials. Eligible business activities should add economic value to solid waste materials.
Other Market Incentive Programs Identified:	Business and Technical Assistance
State Diversion Goal (%):	46% by 2000
Additional Information:	The RLF is administered and marketed by the Massachusetts Business Development Corporation.

MINNESOTA**Loan Program**

Administrating Agency:	Office of Environmental Assistance in partnership with the Business Environmental Resource Center and the Financial Assistance Team.
Date Started:	1987
Date Ended:	Still in Operation
Purpose:	To reach specified recycling goals and create markets to handle materials collected, and to increase capacity to manage materials locally.
Terms:	
Interest Rate:	Low interest
Maximum Loan Amount:	
Maximum % of Total Project Cost:	50%
Minimum Equity Contribution:	
Funding Method:	Sales tax on waste collection
Created by Statute:	Yes
Priority Materials, if applicable:	Six areas (markets and materials) have been targeted for the short-term: composite materials, mercury, office buildings, hospitality industry, construction and demolition waste, and transportation packaging (waste).
Eligible Uses:	To provide low-interest loans for recycling-related activities, including; collection (equipment), processing, and re-manufacturing. Projects must expand the manufacturing capacity of recycled products or expand the end markets for recycled products made in Minnesota.
Other Market Incentive Programs Identified:	Grants, loans, and other financial assistance; tax incentives; technical assistance; business assistance
State Diversion Goal (%):	50% metro (Twin Cities area) by 1996 35% non-metro (Greater Minnesota) by 1996 (per 1994 BioCycle survey)
Additional Information:	Assistance is available through counties for up to 50% of the capital costs of a project. The interest on the loan is calculated on the declining balance at a rate not less than the average annual interest rate on the state bonds of the issue from which proceeds of the loan were made.

NEW JERSEY**Loan Program**

Administrating Agency:	New Jersey Department of Environmental Protection (DEP)
Date Started:	July 1985
Date Ended:	December 1996
Purpose:	To provide low interest loans to help satisfy the requirements of the 1987 New Jersey Statewide Mandatory Source Separation and Recycling Act; to stimulate the private sector; and, to assist in the development of markets for recycled materials.
Terms:	
Interest Rate:	Fixed rate of three (3) points below the prime rate
Maximum Loan Amount:	\$500,000; or higher for certain projects that are deemed necessary by DEP
Minimum Equity Contribution:	
Funding Method:	By a tax on solid waste disposed of at landfills and transfer stations; 35% of these revenues are used for recycling loans and grants to municipalities
Created by Statute:	Yes
Priority Materials, if applicable:	
Eligible Uses:	Broad eligibility among recycling businesses includes converters, processors, and re-use companies
Other Market Incentive Programs Identified:	In order to stimulate the private sector the following economic development strategies and programs are available: business recycling loans and loan guarantees; tax credit on recycling equipment; sales tax exemption on eligible recycling equipment; market development studies; and, a state procurement program.
State Diversion Goal (%):	60% by 1995 (per 1994 BioCycle survey)
Additional Information:	This program sunsetted in 1996; it is currently in legislative committee where a decision is being made as to whether it should be re-authorized.

NEW YORK Loan Program

Administrating Agency:	Office of Recycling Market Development
Date Started:	Funded in 1987; Staffed 1989
Date Ended:	The loan program became inactive in the early 1990's. They still have the authorization to provide low-interest loans, but they do not currently use this as a financing mechanism.
Purpose:	To provide low-interest loans
Terms:	Flexible terms
Interest Rate:	Generally a percentage below prime but could go as low as zero, as determined on a project-by-project basis
Maximum Loan Amount:	
Maximum % of Total Project Cost:	
Minimum Equity Contribution:	
Funding Method:	Initially funding was from a special federal appropriation from the Federal Oil overcharge money. Later funds came through the State's Comprehensive Waste Management Initiatives.
Created by Statute:	
Priority Materials, if applicable:	Originally they primarily targeted post-consumer materials in an effort to address materials recovered through residential markets. The program later shifted to addressing materials from the commercial sector and industrial waste stream.
Eligible Uses:	
Other Market Incentive Programs Identified:	Grants for waste prevention, reuse and recycling
State Diversion Goal (%):	40%
Additional Information:	The loan program was not successful, so New York switched to granting funds. They are discussing whether the loan program should be initiated again.

PENNSYLVANIA**Loan Program**

Administrating Agency:	Department of Environmental Resources in partnership with the Department of Commerce: Recycling Incentive Development Account
Date Started:	1989
Date Ended:	Still in Operation
Purpose:	To stimulate the growth of recyclers of municipal waste and manufacturers using recycled municipal waste materials by providing low-interest financing for machinery and equipment.
Terms:	7 years, or life of the asset, whichever is less
Interest Rate:	3%
Maximum Loan Amount:	\$300,000
Maximum % of Total Project Cost:	50%
Minimum Equity Contribution:	10% company equity investment and 40% by commercial lending source
Funding Method:	Environmental Technology Fund
Created by Statute:	No
Priority Materials, if applicable:	The only eligible materials include: aluminum, steel, and bi-metallic cans; clear and colored glass; plastics; high grade office paper; newsprint; corrugated paper; and other municipal wastes
Eligible Uses:	Acquire and install new or used machinery and equipment (directly related to the manufacturing or recycling process); upgrade existing machinery.
Other Market Incentive Programs Identified:	Financial Assistance (low-interest loan program and grant program for local governments); Public Education; and a Media Campaign
State Diversion Goal (%):	25%
Additional Information:	Private sector match required on one-to-one basis, \$300,000 cap may be waived for larger projects by mutual consent of Secretaries of Commerce and Environmental Resources. Application process is continuous.

WISCONSIN**Loan Program**

Administrating Agency:	Wisconsin Recycling Market Development Board		
Date Started:	The Recycling Market Development Board took over the program in 1995. Market Development Initiatives were previously administered by the Department of Development between 1989-1994.		
Date Ended:	Still in Operation		
Purpose:	Provides low interest financing for projects using recoverables as raw material for products. Activities include equipment and working capital expenses for businesses that make products from recoverable materials, or make the equipment used to covert recoverables into new products.		
Terms:	7 years		
Interest Rate:	Currently 4%		
	High Priority	Medium Priority	Low Priority
Maximum Loan Amount:	\$600,000	\$400,000	\$200,000
Maximum % of Total Project Cost:	60%	40%	20%
Minimum Equity Contribution:	Outside financial sources including a commercial lender required.		
Funding Method:	Business Tax		
Created by Statute:	Yes		
Priority Materials, if applicable:	Separated Colored Glass, Mixed Broken Glass, C&D Debris, Carpeting, Food Waste - post consumer, Industrial By-Products, Mixed Residential Paper, Plastic Film, Scrap Wood, Textiles		
Eligible Activities:	To start or expand recycling business -- primarily for working capital.		
Other Market Incentive Programs Identified:	Market Development Education Grant Program; Recycling Early Planning Grant Program; Recycling Market Development Grant; Recycling Technology Assistance Program; General Rebate Program; Qualified Property Rebate Program; Recycling Loan Program		
State Diversion Goal (%):			
Additional Information:	Continuous application process Current loan portfolio is over \$5 million		

Appendix C: Summaries of State Tax Programs

ARIZONA		Tax Credit
Administrating Agency:	Arizona Department of Commerce, Arizona Recycling Market Development Program	
Date Started:	1992	
Date Ended:	Still in Operation	
Purpose:	To promote employment through the diversion, processing and re-manufacturing of Arizona's recovered and secondary materials.	
Terms:		
% Credit Allowed:	10% tax credit on installed cost of equipment used for recycling	
Financial Limits:	\$5,000 maximum tax credit	
Timeline:	Can carry unused credit to next tax year but must be claimed within 15 years of purchase.	
Created by Statute:	Yes	
Targeted businesses, if applicable:		
Eligible Uses:		
Other Market Incentive Programs Identified:	Waste Diversion Grants; Job Training Grants; Site Location Assistance; and Enterprise Zone tax incentives.	
State Diversion Goal (%):	None	
Additional Information:	In 1993 SB 1421 created a 25% Tax Credit Program for companies that invest at least \$20 million in facilities that manufacture products with 90% recycling content or products that are powered by renewable energy resources. This legislation is credited with generating several recycling based business expansions, including the new Arizona plant locations for North Star Steel (Kingman) and Wisconsin Tissue (Flagstaff). This program sunsetted in 1996.	

CALIFORNIA**Tax Credit**

Administrating Agency:	California Department of Environmental Protection, California Integrated Waste Management Board (CIWMB), Recycling Equipment Tax Credit Program.
Date Started:	1989
Date Ended:	1994
Purpose:	Equipment used to remanufacture secondary materials.
Terms:	
% Credit Allowed:	40% total credit
Financial Limits:	NA
Timeline:	20% can be taken in the 1 st year; 15% in the 2 nd ; and 5% in the 3 rd . Any unused credit is rolled to the following year, and succeeding years if necessary. Available for purchases made between January 1, 1989 and December 31, 1993.
Created by Statute:	Yes
Targeted businesses, if applicable:	
Eligible Uses:	Equipment used to remanufacture secondary materials.
Other Market Incentive Programs Identified:	Loan Program
State Diversion Goal (%):	50% by 2000
Additional Information:	IWMB received 194 applications for certification, issued 144 certifications and denied 28 (ten of the 25 denials were because the applicant leased the equipment and the statute required the applicant to own and operate the equipment). Estimated allowed credit for those certified was \$13.9 million. Expected annual tons of secondary materials used was 6.1 million.

DELAWARE**Tax Credit**

Administrating Agency:	Delaware Economic Development Office
Date Started:	1992
Date Ended:	Still in Operation
Purpose:	To promote the use of recycled materials and a reduction in waste generation within Delaware's manufacturing sector.
Terms:	
% Credit Allowed:	Not based on specified percentage. There is a maximum credit of \$250 allowed to qualifying firms per employee and per \$100,000 investment.
Financial Limits:	
Timeline:	
Created by Statute:	Yes
Targeted businesses, if applicable:	Industry credits are given to eligible firms who qualify as Green Industries. There are four categories of eligibility: source reduction; processing of materials; collection and distribution of materials; and utilization of recycled materials.
Eligible Uses:	
Other Market Incentive Programs Identified:	The tax credit program is part of the Green Industries Initiative.
State Diversion Goal (%):	21% by 2000 (per 1994 BioCycle survey)
Additional Information:	The legislation was passed in June 1996 to raise the available credit from \$250 to \$400. This increase became effective January 1, 1997.

MAINE**Tax Credit**

Administrating Agency:	Waste Management Agency
Date Started:	1989
Date Ended:	1995
Purpose:	The program was intended to be an incentive for small businesses to recycle as well as for the private sector to create markets.
Terms:	
% Credit Allowed:	30% for Manufacturers; 25% for Generators; and 20% for Third Party Recyclers.
Financial Limits:	
Timeline:	
Created by Statute:	Yes
Targeted businesses, if applicable:	Not Applicable
Eligible Uses:	Not Applicable
Other Market Incentive Programs Identified:	Municipal Recycling Grants; Recycling Finance Workshops for State and Regional Economic Development Professionals; an EPA project for Expanding Collection of Small Business Wastepaper.
State Diversion Goal (%):	50% by 1994 (per 1994 BioCycle survey)
Additional Information:	The Waste Management Agency was abolished in 1995. At least \$3.6 million in credits were approved, leveraging at least \$8.4 million through original investments.

MINNESOTA**Tax Credit**

Administrating Agency:	Department of Revenue in cooperation with the Office of Environmental Assistance
Date Started:	1987
Date Ended:	Still in Operation
Purpose:	To reach specified recycling goals and create markets to handle materials collected, and to increase capacity to manage materials locally.
Terms:	
% Credit Allowed:	Sales tax exemptions for recycling equipment.
Financial Limits:	
Timeline:	
Created by Statute:	Yes
Targeted businesses, if applicable:	Six areas (markets and materials) have been targeted for the short-term: composite materials, mercury, office buildings, hospitality industry, construction and demolition waste, and transportation packaging (waste)
Eligible Uses:	Tax exemption on equipment used for recycling activities.
Other Market Incentive Programs Identified:	Grants, loans and other financial assistance; technical assistance; business assistance.
State Diversion Goal (%):	50% metro (Twin Cities area) by 1996 35% non-metro (Greater Minnesota) by 1996 (per 1994 BioCycle survey)
Additional Information:	

NEW JERSEY**Tax Credit**

Administrating Agency:	New Jersey Department of Environmental Protection
Date Started:	1988
Date Ended:	December 1996
Purpose:	To provide incentives to help satisfy the requirements of the 1987 New Jersey Statewide Mandatory Source Separation and Recycling Act; to stimulate the private sector; and, to assist in the development of markets for recycled materials.
Terms:	
% Credit Allowed:	50%
Financial Limits:	There is no limit on the amount of this credit though only 20% may be used in a tax year and the company must pay at least half of it's state tax liability.
Timeline:	There is no time limit; applications can be made on any equipment purchased since 1988.
Created by Statute:	The Solid Waste Act (102-41)
Targeted businesses, if applicable:	
Eligible Uses:	The company's product must be composed of 50% recycled material, and the material must be generated in New Jersey.
Other Market Incentive Programs Identified:	In order to stimulate the private sector the following economic development strategies and programs are available: business recycling loans and loan guarantees; tax credit on recycling equipment; sales tax exemption on eligible recycling equipment; market development studies; and, a state procurement program.
State Diversion Goal (%):	60% by 1995 (per 1994 BioCycle survey)
Additional Information:	This program sunsetted in 1996; it is currently in legislative committee where a decision is being made as to whether it should be reauthorized.

OREGON**Tax Credit**

Administrating Agency:	Oregon Department of Energy
Date Started:	1979
Date Ended:	Still in Operation
Purpose:	The project must target conservation, renewable resources, recycling, transportation, or research, design and development.
Terms:	
% Credit Allowed:	35% Eligible Project Costs
Financial Limits:	\$100,000 limit for commercial and \$2 million limit for industrial conservation
Timeline:	The credit can be taken over 5 years with 10% taken in the first two years and 5% over the last 3 years.
Created by Statute:	Yes
Targeted businesses, if applicable:	The program targets businesses seeking to use recycled material as feedstock for new products. All businesses, trades and rental property owners are eligible. Project must save energy.
Eligible Uses:	The credit can be applied to costs related to equipment (processing and transportation), engineering and design, materials, supplies, and installation.
Other Market Incentive Programs Identified:	Tax credits for pollution control; tax credits for equipment or machinery used to manufacture products from reclaimed plastic.
State Diversion Goal (%):	50% by 2000 (per 1994 BioCycle survey)
Additional Information:	Final certificates have been issued for 946 projects representing some \$60.8 million in project cost of which the credit is 35%. This program sunsets on December 31, 2001.

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